Urban Conservation and Environmental Sustainability in Scottish Planning Policy and Practice

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Abstract

This thesis investigates the relationship between urban heritage conservation and environmental sustainability within the context of the sustainable development policy agenda. The unparalleled rate of urbanization in the 21st century, together with the escalating pressures to mitigate and address climate change have presented considerable challenges to the conservation and management of historic built environments in cities. Often sustainable urban development policies include the conservation and management of the historic environment as an integral part of the sustainability agenda. However, retaining the valued character defining elements of historic urban areas, while addressing the contemporary needs of a growing population within a system that values economic viability, social equity and environmental protection has led to tensions and value trade-offs. The existing literature on urban conservation and sustainable urban development largely explore the social and economic values and contribution of urban heritage, while the examination of the environmental values and contributions have focused primarily on improving building performance, and the value of retaining building in terms of embodied carbon, and the reduction of construction waste and greenhouse gas emissions, and improving resource efficiency. However, in examining value conflicts in policy implementation and the nuances of value-trade-offs during adaptation projects, more research is required.

This research contributes to these gaps by analysing the structure and local implementation of existing heritage conservation, sustainable development and environmental sustainability policies through the lens of values. Values underpin policies on heritage conservation and environmental sustainability, interrogating the implementation of policy during the planning process can illustrate whether the policy structure and underpinning values are compatible in delivering environmental sustainability within the sustainable development agenda.

Adopting a qualitative research strategy, a case study approach was utilised to examine policy implementation in the conversion of four listed school buildings in Glasgow. This was to investigate the extent to which environmental sustainability was considered in the policy and

practice of urban conservation in Scotland, and determine how urban heritage contributes to the environmental sustainability goals of the Scottish Government at the national and local level.

The research revealed that in the conservation of urban heritage, heritage values that guide conservation practice are incongruent with the environmental sustainability goals of the Scottish Government. The thesis contends that in order to include the contribution of heritage conservation to environmental sustainability, the significance of built heritage must go beyond its traditional focus on aesthetic and historic values, to include contributions to the environmental sustainability of cities and carbon reduction targets. And at a more global level, the understanding of built heritage conservation must move beyond the current values of historic, aesthetic, social and economic, to include environmental contributions and thus make heritage conservation a component of reducing the carbon footprint of cities and contributing to environmental sustainability. This would in turn assist in the development of meaningful indicators for the historic environment that would generate data aligned with those required for measuring environmental sustainability goals.

Table of Contents

List of Tables

List of Figures

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This thesis is dedicated to my parents and the two halves of my heart, I adore you.

Author's Declaration

I declare that, except where explicit reference is made to the contribution of others, this thesis is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.

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List of Abbreviations and Acronyms:

A+DS:	Architecture and Design Scotland
AHSS:	Architectural Heritage Society of Scotland
BREEAM:	Building Research Establishment Environmental Assessment Method
CIAM:	International Congress of Modern Architecture
C&D:	Construction and demolition
DETR:	Former UK Government Department for Transport, Environment and the Regions
DEFRA:	UK Government Department for Environment, Food & Rural Affairs
EIA:	Environmental Impact Assessment
EPC:	Energy Performance Certificates
EU:	European Union
GCC:	Glasgow City Council
GCCBW:	Glasgow City Council Building Standards Warrants
GCVSDPA:	Glasgow and the Clyde Valley Strategic Development Planning
GHG:	Greenhouse gas
HES:	Historic Environment Scotland (formerly Historic Scotland - HS)
HIA:	Heritage Impact Assessment
HUL:	Historic Urban Landscape
ICCROM:	International Centre for the Study of the Preservation and Restoration of Cultural property
ICIC:	International Commission for Intellectual Cooperation
ICOMOS:	International Council on Monuments and Sites
IMO:	the International Museums Office
IRP:	International Resource Panel (IRP) of the United Nations Environment Programme (UN Environment).
IPCC:	Intergovernmental Panel on Climate Change
IUCN:	International Union for Conservation of Nature
LEED:	Leadership in Energy and Environmental Design
LDP:	Local Development Plan
MDG:	Millennium Development Goals
MSW:	Municipal Solid Waste
NPF:	Scottish Government National Planning Framework
NPF3:	Scottish Government Third National Planning Framework
NPPG:	Scottish Government National Planning Policy Guidelines
OUV:	Outstanding Universal Value
PAN:	Scottish Government Planning Advice Note
RQ:	Research Question
RTPI:	Royal Town Planning Institute
SCT:	Scottish Civic Trust
SD:	Sustainable Development
SDG:	Sustainable Development Goal
SE:	Scottish Executive
SG / SPG:	Scottish Government Supplementary Planning Guidance
SIMD:	Scottish Index of Multiple Deprivation

SNP:	Scottish National Party
SPICe:	Scottish Parliament Information Centre
SPAB:	Society for the Protection of Ancient Buildings
SPP:	Scottish Planning Policy
SO:	Scottish Office
UK:	United Kingdom
UKG:	United Kingdom Government
UN:	United Nations
UNDESA:	United Nations Department of Economic and Social Affairs
UNEP:	United Nations Environment Programme
UNFCCC:	United Nations Framework Convention on Climate Change
UNESCO:	United Nations Educational, Scientific and Cultural Organization
UN-HABITAT:	United Nations Human Settlements Programme
WECD:	World Commission on Environment and Development.
WH:	World Heritage
WHS:	World Heritage Site
WWII:	Second World War

CHAPTER 1 INTRODUCTION

> "The historic environment has a significant role to play in addressing climate change and contributing to a low carbon future. We are strongly committed to maximising the historic environment's contribution to a sustainable Scotland and meeting Scotland's carbon reduction targets."
>
> (Historic Scotland, 2012: 8)

Background to the study: Urban Conservation and Environmental Sustainability

Sustaining a liveable planet continues to be one of the strongest global concerns shared amongst nations worldwide. This is evident in the adoption of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs) in 2015 by all 193 member states of the United Nations (UN, 2015). Sustainable development requires a balanced approach to economic viability, social equity and environmental stability. As of 2018, fifty-five per cent of the world's population were concentrated in urban areas, with a forecasted increase of thirteen percent by 2050 (UNDESA/PD, 2019). Being the sites of most built assets and economic activity, urban areas use an estimated eighty percent of the world's energy and contribute to approximately seventy percent of greenhouse gas (GHG) emissions (Hoornweg *et al*., 2012; UN-HABITAT, 2011; IPCC, 2014). The undeniable link between GHG emissions and climate change, proven in recent scientific studies (IPCC, 2014;2018; Wuebbles *et al.*, 2017), has increasingly focused urban policies on reducing emissions, and adopting mitigation and adaptation measures (Bulkeley, 2010) that support the goals of sustainable development.

Achieving sustainable development while addressing the needs of a growing urban population has created challenges for the conservation of historic urban environments. For many countries, including the UK, addressing pressing urban issues such as affordable and adequate housing, modern infrastructure, and the necessary services for an ever-expanding urban population are a national priority. In the UK, the supply of new housing has been 'one of the biggest political and societal challenges' (Payne *et al.,* 2019: 8). Addressing these needs in historic urban areas will inevitably result in changes to historic fabric and settings, placing the retention and protection of built heritage in a precarious position. Sustainability strategies such

as high-rise and high-density urban developments threaten the character, identity and historic vistas of low-rise historic places (Skrede and Berg, 2019; Logan and Labadi, 2016); while new energy efficient developments or modern infrastructure have replaced historic quarters (Turner *et al.,* 2012); and aggressive energy efficiency retrofit programmes have damaged historic fabric or negatively impacted architectural features that lend significance to historic urban areas (Sunikka-Blank and Galvin, 2016; Webb, 2017).

Most historic cities have unique character defining attributes that manifest in their layers of urban development, townscapes, vistas, architectural expressions, as well as cultural and traditional practices that activate these historic sites. These character defining attributes contribute to the values that lend significance to heritage assets. Assets which serve as repositories of cultural meanings that express unique identities, strengthen place attachment and support a sense of belonging (Graham *et al.,* 2000; Tweed and Sutherland, 2007). Historic cities and their heritage assets also 'express values that societies strive to preserve because these values are guardians of collective identity and memory, helping to maintain a sense of continuity and tradition, for aesthetic pleasure and entertainment' (Bandarin and Van Oers, 2012: ix). Values predominantly embodied in architectural features and the historic fabric that lend a sense of authenticity to the historic narrative of the city.

Character defining attributes, and their associated architectural and historic values, also contribute to urban regeneration and economic output by bringing 'an aura of respectability, continuity and artistic patronage' (Graham *et al.,* 2000: 166), and animating urban spaces by drawing 'people onto the streets, especially when other urban facilities are closed' (*ibid*, 167). As cities jostle for a more favourable position in the global economic competition for talent and investment, historic cities increasingly capitalise on their heritage assets for 'place marketing and place branding strategies' (Ashworth, 2014:10). Especially the type of talent that Florida (2004) labels as the *creative class,* who help develop the technology-intensive industries that power economic growth, and according to Florida, prefer to live in *interesting* and *authentic* places. Places which in turn become the focal point for businesses and economic investment. (Ashworth and Voogd 1990; O'Brien, 2012).

Moreover, the built heritage of historic cities, create unique urban landscapes that differentiate those cities from their competitors (Licciardi and Amirtahmasebi, 2012). This differentiation not only draws talent, but becomes a catalyst for tourism activities (Ashworth and Tunbridge, 2000; Salazar, 2010; Lillevold and Haarstad, 2019), and is used to booster a unique local, regional and national identity (Graham *et al.*, 2000; Orbasli and Woodward, 2009). The rich ensemble of monuments and heritage assets in UK's historic towns and cities are important economic factors for both domestic and international tourists (Ipsos, 2019). Thus, in national sustainable development plans, the well established economic and social values of heritage have galvanized the integration of heritage assets with development activities that aim to facilitate contemporary functions within the historic realm.

However, with growing concerns on climate change and planetary constraints, heritage assets have also become part of the environmental sustainability discussions in terms of embodied carbon and resource use (Wise *et al.*, 2019*)*, resilience (Rodwell, 2007), and sustainable building techniques (Carroon, 2010), highlighting the environmental values of heritage and advocating for the placement of heritage at the heart of sustainable development (UNESCO, 2015) and the sustainable development goals (Labadi *et al.*, *2021).*

Heritage Values in the Sustainable Development Agenda: An Uneasy Integration

The integration of heritage in sustainable development plans has not always been successful in preserving the valued character defining attributes that make historic places significant and worthy of protection. Often in the heritage versus development impasse (Labadi and Logan, 2016), compromises are negotiated, not just on the basis of protecting these values, but on a range of sustainable development policy objectives such as sustained economic growth, affordable housing, social cohesion, and climate mitigation which span the three pillars of economic, social and environmental sustainability. Research indicates that this unsuccessful integration is partially because interdependent regulatory policy environments often perform in separate policy silos (Vine, 2008; UNDP, 2015).

Furthermore, complex policy mixes[1] and incoherent policy goals have also complicated this integration, undermining the achievement of goals (Kern *et al.* 2017), or carrying negative impacts. Evident when development activities for improved economic output result in gentrification or uncontrolled tourism in historic urban districts, often leading to the displacement of established communities and local services that disturb social cohesion and place attachment (Ripp and Rodwell, 2015). Or when energy retrofit measures presented as 'a solution to the UK's energy trilemma: climate change, fuel poverty and energy security' (Swan, 2017; 1), either don't deliver the savings promised because the 'costs of retrofitting sensitively' in historic buildings tend to be higher (HS, 2013: 43) or are inappropriate for use in built heritage (HE, 2018). This is while there is a general assumption that '[b]etween all existing buildings, historic buildings present higher difficulties in energy retrofitting, since they are protected by heritage conservation laws and regulations' (Gravagnuolo *et al.*, 2020:243).

Indeed, according to Mazzarella (2015), many of the European incentivised energy efficiency technologies available for retrofits in existing buildings are for the most part inappropriate for historic buildings, and many of the standard energy models deployed to estimate energy use, considerably overestimate energy consumption within these buildings. Research in the UK indicates that some energy retrofits have essentially been counterproductive in reducing emissions, or have led to historic fabric deterioration, or both (Pender and Lemieux, 2020). Research in Sweden reveals that while retrofit measures such as new windows and façade insulations improved energy efficiency, the impact had been detrimental to the original character of the buildings, and their historic and architectural values (Legnér *et al.*, 2020). Thus retrofits and transformatory developments that go beyond basic improvements and threaten the integrity and authenticity of the heritage asset, damage historic and social fabric, and affect built heritage value, (Rodwell, 2003; Franco and Magrini, 2017) may well have been regarded as positive actions within the silos of economic and environmental policies.

Aside from the problems associated with policy silos, complex policy mixes and incoherent policy goals, there is the additional complexity 'of the issues involved in such [built heritage]

[1] Policy mixes are "complex arrangements of multiple goals and means which, in many cases, have developed incrementally over many years" (Kern and Howlett, 2009: 395).

projects and the difficult, nuanced judgements to be made at every level of building physics, design, and policy interpretation' (Smith, 2014: 130), which puts the values that underpin policy in heritage conservation and environmental sustainability into sharp focus.

This is especially true when owners, stakeholders, conservation professionals, planning authorities and policy makers differ in their understanding of what constitutes value in built heritage (Yarrow, 2016), or where heritage is more about meaning and use, than material. Graham (2002) states that it is meanings that give 'value, either cultural or financial' to heritage, and explain their selection from the 'infinity of the past'(1004).

Misunderstandings in *value* can arise when for instance energy efficiency retrofits include the removal of historic fabric in lieu of more energy efficient choices that reduce energy consumption and ensure the sustained use of the building. From the perspective of the local community or building owner, the continued historic use of the building in a more energy efficient mode could be considered as supporting the historic, social and environmental value of the asset (Yarrow, 2016). However, the planning authority or heritage professional may consider the loss of historic fabric as having a negative impact on the aesthetic and historic character of the built heritage (HS, 2007; Scottish Government, 2014b). Particularly when a view of authenticity as a value is based on the retention of historic fabric rather than the 'continuity of occupation or the continuity of [use]… and responsible stewardship' (Smith, 2014: 128).

Furthermore, well-informed decisions on built heritage conservation, such as restoration, adaptation, renovation, retrofit or reconstruction depend on the proper allocation of resources in terms of financing, time and specialised knowledge, as well as a close collaboration between clients, consultants, local authorities, civic groups and heritage specialists (Bell, 1997; BS, 2013; Yarrow, 2016*).* Where there are limited resources, or when the protection of one set of values, for instance the architecture or historic values embodied in historic fabric, come at the expense of facilitating a viable continued or new use that supports social, economic or environmental values; negotiations often lead to prioritisation of values and inevitably to value trade-offs. These trade-offs can at times leave planning officers uncomfortable about establishing a precedent (Smith, 2014: 129) that might lead to significant heritage loss in the future. Moreover, research by Leijonhufvud and Broström (2012) reveals that humans perform poorly when faced with

multiple criteria decision problems. This combined with the discomfort of setting potentially bad precedence for future heritage projects, further reiterates the nuanced challenges of heritage conservation within the realm of sustainable development. Particularly since values that determine heritage significance are subjective, and can be contested or misunderstood.

Heritage conservation is primarily the practice of protecting values that lend significance to heritage assets (ICOMOS, 1994). Heritage assets generally have a range of values, all of which are subjective and greatly dependent on the perspective of those who assess the asset and ascribe the values (Mason and Avrami, 2002; De la Torre, 2002). These values therefore are not intrinsic. Rather, they are identified as *value* by established institutional frameworks, predominately comprised of archaeologists and conservation architects (Smith, 2006), and reflect a choice in the selection, creation, and transmission of particular heritage values and practices which privilege certain aspects over others (Gibson and Pendlebury, 2009).

Thus, values can be contentious, conflicting and representative of particular points of view. But heritage values and the practice of heritage conservation are not static. From the early years of safeguarding monumental buildings significant for their historic and aesthetic values, the concept of heritage has broadened to encompass both tangible and intangible assets (Jokilehto, 2002). Concurrently, heritage values, as a reflection of what is valued by society, have also expanded beyond aesthetic and historic, to include scientific, evidential, economic, social, spiritual and more (ICOMOS Australia, 2013; Fredheim and Khalaf, 2016). The recognition of these broader values has transformed the practice of heritage conservation and management towards a values-led approach. In recent decades, the promotion of heritage as an enabler and driver of sustainable development (UNESCO, 2011; 2013; 2014; UN, 2016), further reflects the evolving nature of heritage and implies a broadening of heritage values to include economic, social and environmental values. In historic urban environments, the protection of these values plays an important role in urban development and heritage management decision making processes.

Urban conservation as a process of managing change in living cities, is often at the crossroads of urban change and continuity. Zancheti and Jokilehto (1997) describe continuity as the retention and adaptation of existing fabric by incorporating minor transformations, while

change on the other hand involves major transformations, radical modifications, or substitutions of such fabric. In historic urban settings, the processes that affect this continuity and change are fundamentally shaped by the urban culture and society, and therefore can only exist if society attributes value to the historic urban structure (*ibid*). That value underpins public policy on urban heritage conservation, determines the significance of the heritage asset and protects it from activities that might threaten its significance. While the values that lend significance to heritage in international discourse and global policy encompass a wide range, in the UK, the values that determine legislative protection for built historic fabric are listed as architectural and historic interest, first introduced in the 1882 Ancient Monuments Protection Act.

Stewart (2007:15) claims that in public policy 'values trump interest' and that policy performs a function that is values-based. Global concerns over environmental degradation and climate change (IPCC, 2018), which have gained greater international attention since the 1960s (Giugni and Grasso, 2015), position environmental sustainability as a value that is essential for a liveable planet. The prominence of this value is reflected in the global policy consensus on achieving sustainable development. Many countries and nations across the world, including the UK and Scotland, devised sustainable development strategies and policies, in which the conservation and management of the historic environment was noted to have an integral or contributing role in sustainability (UK Government, 2012; Scottish Government, 2014b; UN, 2016). Therefore, it can be argued that policies on heritage conservation and sustainable urban planning not only function to protect and preserve values that are in line with national objectives, but that there is a relationship between values that underpin conservation with those that support sustainable development and by extension, environmental sustainability.

It has long been recognised that the historic built environment contributes to environmental sustainability, in that much of the historic settlements and neighbourhoods are high density and mixed use, responsive to local climatic conditions, constructed of durable and locally sourced material, and their removal and replacement would require a major reinvestment of energy and resources (Rodwell, 2007; Historic England, 2008; Van Oers and Pereira Roders, 2012; Franco and Magrini, 2017). Furthermore, research has demonstrated that historic built environments generally perform better than newer developments when tested against a range of environmental

outcome measures such as embodied energy, climatic design suitability, walkability, resource efficiency, and construction waste (Bell, 1997; Rodwell, 2007; Caroon, 2010; Preservation Green Lab, 2011; 2014), highlighting the environmental value of retaining and reusing historic buildings.

Yet this knowledge has not fundamentally changed policy on heritage conservation. In the current values-led approach to heritage conservation, where the significance of a heritage asset is determined by analysing all the values ascribed by society (Mason and Avrami, 2002: 15; De la Torre, 2002), the value of environmental sustainability has not been formally reflected in the criteria determining significance (Guzman *et al.*, 2017).

Values are multifaceted and mutable and can be interpreted and evaluated differently given the context and circumstance, adding layers of complexity to a values-led decision-making process. The complexity becomes even more entangled when multidisciplinary teams and a variety of stakeholders, including politicians with conflicting interests become involved. In addressing these conflicts, heritage values may be sacrificed 'in favour of national finance, energy efficiency and alleged social concerns' (Tunefalk and Legner, 2019: 117), or when 'sustainability goals are described in relation to new development' (Pendlebury *et al.*¸2014: 10). At times, where there is a potential conflict between the conservation of listed buildings and sustainability, 'heritage protection goals are considered to have more weight and take precedence' over sustainability (*ibid*: 11). Whereas at other times, economic consideration override heritage values and the strict adherence to heritage protection goals are 'relaxed' to allow the installation of visually intrusive solar panels on listed public buildings (Yarrow, 2016: 344).

Therefore, where policy implementation takes place and value trade-offs are negotiated, values enshrined in legislation versus those that are largely accepted across heritage and planning - but do not have explicit mention - will have to be prioritized and their protection justified to determine why trade-offs occurred and why certain values take more prominence over others. It is during this process, and within the context of complex policies mixes, that the research aims to investigate how value trade-off occur when heritage conservation and environmental sustainability policies are implemented in the conversion of historic buildings, and if value trade-offs occur, which values take priority over others and why.

Since values underpin heritage conservation and environmental sustainability, and both are at the core of the Scottish development policy, the conceptual framework within which their relationship is investigated in this research is through a tripartite construct. This construct comprises of the *values*, *structure* and the *local implementation* of existing heritage conservation, sustainable development and environmental sustainability policies. Interrogating the implementation of policy during the planning process can illustrate whether the policy structure and values that underpin urban heritage conservation are compatible with the values shaping the environmental sustainability agenda.

Research Gap and Contribution to Knowledge

The existing literature on the values of heritage and its contribution to sustainable development largely explores the social and economic values of heritage (Waterton and Watson, 2015; Hølleland *et al. 2017;* Fouseki and Nicolau, 2018; Fouseki *et al.*, 2020). While research on the environmental values, either focuses on the financial burden of improving energy efficiency (Tiberi and Carbonara, 2016; Hilber *et al.*, 2017); or investigates more technical aspects, including the modelling and measuring of energy retrofit scenarios in historic buildings (Cornaro *et al.*, 2016; Akkurt *et al.*, 2020; Huerto-Cardenas *et al.*, 2020); improving historic building performance (Magrini *et al.*, 2016; Kisilewicz, 2019); adopting various energy efficiency solutions (Troi, A., & Bastian, Z. 2015); or assessing the impact of mitigation measures on architectural and historic heritage values (Pendlebury *et al.* 2014*;* Fouseki and Cassar, 2015; Fatoric and Seekamp, 2017).

Research on the environmental value of retaining historic buildings in terms of environmental policy objectives of reducing greenhouse gas emissions and waste, and improving resource efficiency (Lidelöw *et al., 2019;* Gonçalves *et al.,* 2020*),* fail to address how these values are prioritised and accounted for in urban development policies and during implementation. Where heritage values and environmental values are discussed, for instance in literature focusing on the micro-politics associated with policy implementation and decision-making processes in historic buildings energy efficiency improvements and retrofits (Yarrow, 2014; 2018; Leijonhufvud and Henning, 2014; Fouseki and Cassar, 2015; Legner, *et al.*, 2020.), the focus is not on the analysis of the details of policy instruments, their implementation and

resultant value trade-offs. Therefore, while tensions in value prioritization are discussed, with regard to specific perspectives shaped by specialised knowledge and professional training in determining such values, the details of policy instruments which guide decision-making processes; their development and connections with broader value sets in terms of sustainable development, environmental protection and heritage conservation; and the complex policy landscape in which competing values are prioritized, and policies are implementation is not investigated.

Furthermore, much of the policy literature on sustainable development and heritage is primarily focused on analysing the effectiveness of different types of policy instruments (Murphy *et al.*, 2012; Rosenow and Galvin, 2013; Rosenow *et al., 2016*), predominately around the impacts of single policy instruments (Magrini and Franco, 2016), or selected instruments, that often only capture a snapshot in time (HS, 2013; Kern *et al.*, 2016; Legner *et al.*, 2020). Therefore, the existing body of scholarship does not analyse the development of heritage conservation and sustainable development policies within the global context, and investigate their implementation in heritage conversion projects to interrogate: the valuation of heritage and the environment, the value conflicts that arise in policy implementation; and the nuances of value trade-offs during adaptation projects.

This research contributes to these gaps by combining the analysis of the development, structure, and implementation of existing heritage conservation; sustainable development; and environmental sustainability policies; within a historic urban setting through the lens of values. This is to not only reveal the complexity of policy mixes, and the issues that arise during implementation, but to reflect back on the underlying values that determine these policies. Since it is *values* that underpin policies, investigating value prioritization during the implementation of policy in the planning process can illustrate whether these values are compatible in delivering environmental sustainability within the sustainable development agenda. Examining policy implementation within the complex and multidisciplinary landscape of urban heritage conversion through the case studies discussed in this research will shed light on how values are prioritized, and trade-offs occur.

Research Aims, Questions and Objectives

This research examines the relationship between urban conservation and environmental sustainability in Scotland within the context of the delivery of a national sustainable development policy agenda. The aim is to investigate the extent to which environmental sustainability is considered in the policy and practice of urban conservation in Scotland to determine how urban heritage contributes to the environmental sustainability goals of the Scottish Government at the national and local level. It does so by conducting an in-depth examination of relevant national policies and practices and considers their implementation in Glasgow where a series of historic school buildings are the focus, hereon referred to as the embedded units of analysis.

The thesis aimed to address the following research questions:

RQ1: To what extent is environmental sustainability considered in the conservation of the historic urban environment in Scotland and how is this articulated in national planning and conservation policy?

RQ2: How are national policies implemented at the local level and how effective is the implementation process in Glasgow?

RQ3: What mechanisms are in place to measure, monitor and evaluate the contribution of heritage conservation to the environmental sustainability goals of the Scottish Government at the national and local level?

This research posits that since the introduction of heritage conservation legislation in the late nineteenth century, the values that determine the significance of built heritage have not changed. Furthermore, the development of a 'conservation planning system' (Pendlebury, 2002: 5) in the 1970s has firmly established a heritage orthodoxy that continues to shape the planning and management of urban heritage, thus limiting its capacity to effectively address the broader sustainability agenda.

The aim of this research is to bridge the gap between national policy rhetoric and policy implementation on urban heritage conservation and environmental sustainability by illustrating how urban areas adopt and adapt national and local urban planning and conservation policies. In doing so, not only did the research show the relationship between international discourse and national/urban policies in the domains of sustainable development and urban conservation but highlighted the complexity and issues that arose during policy implementation. Ultimately, the goal is to inform policy reform that effectively integrates urban heritage conservation within the broader sustainable urban planning practice.

Research Method

Public policy is messy and complex, with multiple policy areas and actors competing within a dynamic stage of fluctuating priorities, impacted by external and internal elements. Within this complex system, the implementation of policy will inevitably require a level of negotiation and value trade-off. Adding to this complexity is the general assumption that in the conversion of built heritage, there is no 'one size fits all' solution and therefore each case must be assessed, evaluated, and treated on a case-by-case basis. This approach further complicates the implementation of policy, especially in the UK, where planner discretion can be instrumental in the implementation of policy.

Therefore, to examine this complex mix of policies and value judgements, a qualitative approach was adopted to unravel the complexity and address the research questions, using the lens of values in public policy and set within the context of urban planning policy structure and implementation. A qualitative approach allows a deeper investigation into this complex policy landscape to unpick each policy instrument, situate its implementation in the planning process, probe its translation into concrete action, explore the resultant value-trade-offs and explain some of the underlying tensions.

As a first step, an in-depth literature and policy review was conducted, followed by the identification and selection of the embedded units of analysis in Glasgow (i.e., the schools). A total of 29 semi-structured interviews were carried out. The interviewees included heritage consultants, adaptation project architects, planners, surveyors, technical advisors from Historic

Environment Scotland (HES), members of the local heritage conservation organisations and local authority planning officers.

In the UK, the heritage sector is very well networked and those involved in the process of heritage adaptation, can potentially be easily identified. This is especially true in a city like Glasgow where heritage projects are in the domain of a limited number of architecture firms. To ensure that research participants remained anonymous, it became necessary to assign a numerical code for each participant and remove the participants' gender. However, the description of their profession has been provided to contextualise the interviewee's point of view and reveal the interplay of different values between parties with different agendas and professions. In this research project interviewees excludes property owners, occupants and nearby communities affected by the development as they were not part of the research. Primary data was complemented by an analysis of relevant planning application documents and grey literature.

Structure of the thesis

The thesis is divided into nine chapters. Chapter Two presents the concept of values in public policy, focusing on heritage conservation and urban planning policy. The chapter sets the framework for analysis through a two-part literature review. The first part examines the values-based approach of heritage conservation by reviewing international and national policies on heritage conservation. The second part focuses on the concept of sustainable development and the relationship between urban conservation and sustainable development. While urban heritage can be a driver for sustainable development (UNESCO, 2012), the thesis questions whether the 'values' that underline the policy frameworks for conservation and urban development support this rhetoric, and if so to what extent.

Chapter Three presents the research aim and objectives, describing the research design and methodology used to interrogate the relationship between heritage conservation and environmental sustainability. It provides the rationale for selecting a qualitative research strategy, as well as justifications for the selection of Glasgow as a case study and the listed school buildings as the embedded units of analysis, explaining how the empirical data was collected, processed, and analysed.

Chapter Four analyses the Scottish policy structure and landscape on urban conservation and environmental sustainability. The UK and Scottish legislation, policies and strategies are examined against international directives and frameworks to investigate their influence on national policy rhetoric and design. The focus of the analysis begins with the 1987 Brundtland report that sets the internationally accepted definition of sustainable development and continues to 2018 when the Scottish Government aligns its National Performance Framework Indicators with the UN Sustainable Development Goals. This chapter, together with Chapters Five and Six contribute to the conceptual framework that is used to analyse the implementation of policy in Glasgow.

With the conservation and protection of the historic environment, especially built environment, as a policy objective in the planning system since the 1970s, and sustainable development a critical policy focus since in the 1990s, the analysis of planning policies within this new policy context is conducted in Chapter Five. This is to tease out how planning policies address heritage conservation within the context of sustainable development and how environmental sustainability measures are designed to achieve policy goals and objectives. Especially since the adaptive reuse of the built heritage has been explicitly identified by the Scottish Government's Sustainable Development strategy as a contributing factor to sustainable development. Therefore, land use and planning policies in Scotland are analysed in Chapter Five to set the context on how national policy is then adopted and implemented on the ground when the units of analysis are presented in Chapters Seven and Eight.

The relationship between heritage conservation and environmental sustainability is echoed in *local* policy strategies and development plans. To interrogate this relationship in local policies, Chapter Six investigates Glasgow City policies and development strategies. The built heritage of Glasgow has at times been an asset for various urban planning, regeneration, and branding strategies, and at other times a victim of these activities. The city's rise following the Industrial Revolution in the UK, and its subsequent decline from deindustrialization has changed the urban landscape, leaving historic architectural gems alongside the scars of economic transitions.

In its latest effort to become Europe's most sustainable city, Glasgow's historic urban fabric is once again affected by urban policy measures and strategies designed to support this

ambition. Chapter Six will show that in much of Glasgow's policy rhetoric on sustainable development, terms such as sustainability, green, low-carbon, resilient, place-making are used interchangeably or within contexts that only reflect partial definitions. Within this ambiguous landscape, where does the conservation of urban heritage sit? To set the context of how the city's urban heritage has been used to support local policies– and in particular this latest push to become the most sustainable city– a historical overview of Glasgow and its urban profile is provided before sustainability policies are analysed.

Discussions on policy are focus more heavily on the period between 1988 to date, when the management of Glasgow's built heritage becomes part of the larger narrative of global efforts on regeneration, place making and sustainable development. The policy emphasis on reducing carbon footprint and emissions is discussed to explain how decisions on energy efficiency, and in the context of this research, in converting school buildings, results in conflicts, tensions and compromises with planning authorities and HES, described later in Chapters Seven and Eight.

Chapters Seven and Eight each constitute the study's empirical work on a selection of Glasgow's listed school buildings that have been adapted for social housing and private housing developments respectively.

Chapter Nine provides a summary of key research findings from addressing the research questions. Drawing conclusions on the current implementation of policy, the chapter recommends areas for future policy improvement and research and highlights the limitation of this investigation.

CHAPTER 2 VALUES IN PUBLIC POLICY

Values and public policy have a complex and intertwined relationship. Easton (1965:50) maintains that politics is predominantly 'oriented toward the authoritative allocation of values for a society' and public policy facilitates this allocation. This chapter critically engages with the concept of values in public policy to interrogate how they inform heritage conservation and environmental sustainability. This forms part of the conceptual framework used to analyse the implementation of policy in the conversion of the listed school buildings in Chapters Seven and Eight. The chapter draws on Western perspectives of heritage conservation, sustainable development and policy analysis literature to discuss the complexity and conflicts inherent in values as subjective and objective constructs. Values are multifaceted, mutable, and depending on context and circumstance, interpreted and evaluated differently. This complexity manifests both in the structure and in the implementation of policy, where value trade-offs occur, and certain values take more prominence over others.

An overview of international and national approaches to heritage conservation shows that the practice has evolved from the conservation of single monuments to a values-based approach that includes both tangible and intangible aspects of heritage. Through this evolution, the range of values that are used to ascribe significance to heritage in the international discourse has broadened, recognizing the role of external forces that shape perceptions of value. From this perspective, the discussion then focuses on the values that determine built heritage significance in the UK and Scotland to establish whether these values reflect national policy rhetoric on heritage and environmental sustainability. To understand why the management of built heritage and in particular urban heritage has become entangled in the sustainable development and environmental sustainability discourse and policy, it is important to position the rising importance of cities in sustainable development policies. While urban heritage can be a driver for sustainable development (UNESCO, 2012), do the *values* that underline the policy support this rhetoric?

Values in Heritage: Conflicts and Resolutions

Values are decisive in our private and public lives, influencing everything from everyday consumption choices to political leanings. In heritage, values justify what is selected as heritage and how it is cared for (Avrami and Mason, 2019), thus central to its inception and management. A similar parallel can be drawn with public policy, where value is the 'informing principle of collective action' (Stewart, 2007: 14). But how are values defined? Kluckhohn (1951: 395) relates values to motivation by defining it as a 'conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available modes, means and ends of action'. During the formative years of the Western heritage conservation movement, the motivation to define and conserve heritage arose from a fascination with antiquity, emphasising aesthetic features which conveyed artistry and age (Glendinning, 2013). The movement, largely founded by antiquarians and architects, defined heritage as a tangible object of the past with aesthetic and historic values. A traditional view of heritage that Smith (2006: 3) argues continues to persist and tends to 'emphasize the material basis of heritage, and attributes an inherent cultural value or significance to these things'.

The assumption that heritage assets have inherent value is a contested issue. Smith (*ibid)* contends that neither heritage assets nor the values that ascribe significance are *inherently valuable*. Rather this value is derived through what she terms as the 'authorised heritage discourse' (Smith, 2006: 4) This professional discourse 'privileges expert values and knowledge about the past and its material manifestations', and is 'often self-referential' selecting and normalising 'certain narratives and cultural and social experiences – often linked to ideas of nation and nationhood' (*ibid*, p.4). This discourse is amplified through international conventions and strategy documents, such as those published by UNESCO (1972;2003; 2011; 2013; 2014) and World Bank (2001; 2009; Licciardi and Amirtahmasebi, 2012), as well as national policy documents and strategies that link heritage with nationhood, identity, placemaking and sustaining or creating a sense of place. Scotland's first strategy document on heritage, *Our Place in Time* (2014) and the *Scottish Planning Policy* (2014), expressly link heritage with identity and placemaking. Values that motivate conservation activities are linked to materiality, meanings, associations, and narratives ascribed to the places, objects, and rituals selected for conservation

(De La Torre, 2014; Diaz-Andreu, 2017), all of which are subjective, mutable, diverse and can conflict with one another.

The subjective nature of heritage values contrasts against the idea of authenticity which – from a Western perspective – presumes that the historic value of a heritage asset is inherent or intrinsic, bearing witness to the passage of time and linking the past to the present. While the age of material, processes or ritual can be determined and dated as indeed belonging to a historic past, they are referenced as an inherent value *after* the asset has been selected and labelled as heritage (De la Torre, 2002; Rodwell, 2007). Before the attribution of significance, the asset, let alone its material or processes have no value. Therefore, it is through this attribution and subsequent selection that heritage assets and their attributes become valuable. The selection of what becomes labelled as heritage is a process guided by expert opinions, civic movements or political intentions, or a combination of these. In this process, certain attributes signify value and others don't. For instance, in built heritage, historic value is often determined by the building material or architectural style, and not its utility. In Scotland, the historic value is determined by the 'building's age, built form or location…, or its connection with a person or persons, or with local or national events or industry; or from a combination of these or other factors' (HS 2007a: 6).

In heritage practice, historic material and attributes are often referred to as original material or traditional practice. This perspective presumes a fixed point in time from which a heritage asset becomes heritage. In the UK for instance, buildings constructed prior to 1919 are referred to as *traditional*. Consequently, fabric associated with that time period acquires greater value as opposed to material that is added on in subsequent years. This is especially true where heritage conservation is influenced by civic groups such as the Society for the Protection of Ancient Buildings (SPAB), or the 'Georgian Group, the Victorian Society, and the Thirties Society' which favour certain historical periods and campaign 'for the value of a particular historical period' (Pendlebury, 2013: 713-714).

This assumption, places the historic value at odds with the notion of managing change in the historic built environment which sees each addition and new component as a layer that bears witness to the evolving nature of built heritage assets in thriving historic cities (UNESCO, 2011).

In thriving cities and places of human activity, heritage is continually being made, through new practices, new traditions, and new tangible and intangible manifestations of culture. However heritage is often referred to as a non-renewable, fragile asset from the past (UNESCO, 197; GHF, 2010; CHCfE Consortium, 2015), threatened by neglect, deliberate destruction or more recently by climate change. This is evident in the lists of threatened heritage assets compiled by international and national organizations such as UNESCO (List of World Heritage in Danger), English Heritage (Heritage at Risk) and Historic Environment Scotland (Buildings at Risk Register).

Easton (1953) contends that what shapes the political system is a structure and the authoritative element within that structure that allocates valued things amongst a community – especially those valued things that are scarce. In this system, there is an assumption that the value is universally accepted by the community (Mitchell 1961). But when values are contested, in conflict or unclear, there also needs to be a mechanism to shape the public perception of value or provide a framework to determine value. In heritage, this framework is largely shaped by the authorised heritage discourse (AHD), which has become 'a dominant way of thinking about, writing and talking about, and defining heritage' (Smith and Waterton, 2012: 4). AHD resolves conflict through legislation and guidelines on heritage conservation, favouring certain values over others. This is especially true where heritage conservation is entrenched within a long-established sector as is the case in the UK.

The conflicts in heritage value and meaning reveals that there is no universal agreement on heritage *value*. In Europe, the *Faro Convention on the Value of Cultural Heritage for Society* (2005) set a framework to help determine heritage values that more closely aligned with contemporary European values, such as human rights and sustainability (Council of Europe, 2005). This was in recognition that in Europe, *values* were not universal and had changed over time, and therefore a new framework was needed to account for these changes (ibid). Each new set of values brings new complications in the management of heritage assets, especially where assets have associations with contested narratives or difficult historical events. In UNESCO's *Declaration Concerning the Intentional Destruction of Cultural Heritage* (2003) heritage is regarded as an important component of the cultural identity of communities and social cohesion,

but in cities like Jerusalem access to heritage can create conflict and social division as seen in the events in early May of 2021 (Holmes and Beaumont, 2021).

The need for re-evaluating heritage values and changing conceptions of heritage is not new. A historical review of early international charters on heritage protection, reveals how the focus on the physical protection of cultural heritage (UNESCO, 1954; ICOMOS, 1964) has moved towards incorporating both the tangible and intangible aspects of heritage (UNESCO, 2003: 2011). This reflects the broadening of values ascribed to heritage assets, from their physical appearance and materiality to the meanings and spaces they inhabit.

In line with the change of values, the concept of heritage conservation, as understood and practiced within the framework of international charters and conventions, has also progressed. Developing from the preservation of isolated historic monuments, the practice has evolved significantly to include intangible as well as cultural landscapes. Not only has the scope of conservation expanded, the approach to heritage conservation has also undergone a dramatic shift as well, moving towards the *management of change* rather than the preservation of historic fabric (Bandarin and Van Oers, 2012; Rodwell, 2003; Taylor and Lennon, 2012). For heritage to continue to be meaningful, its values must resonate with the public, so that its management can be mainstreamed within the social realm and integrated with public policy effectively.

Modern Heritage Conservation: Historical Review

The emergence of architectural conservation practice in Europe can be traced back to the fourteenth century and the rise of the Italian Renaissance when classical antiquity was revered and used as inspiration for creativity (Rodwell, 2007). But understanding heritage through the lens of values was first introduced by Alois Riegl, the Viennese art historian whose ideas on the heritage values of monuments formed the foundations of the values-based conservation theories and practice today. In his 1903 essay *The Modern Cult of Monuments: Its Character and Its Origin*, he introduced two main categories of values. The first category related to memory and focused more closely to the past, highlighting the historic relativity and relevance of heritage assets, and the second category related to the contemporary or present day which focused on two aspects, one that referred to perceivable artistic qualities and the other regarded the unaltered appearance of

monuments (Bandarin and Van Oers, 2012; Glendinning 2013). As an art historian, Riegl presents a particular view on values that engages with historical and visual aspects of a heritage building. The fact that his categorisation of heritage values continues to persist over a century later strengthens the acceptance of historic and aesthetic (or artistic/architectural) values as legitimate concerns in the evaluation of heritage buildings. This approach to heritage values emphasises the 'viewer's subjective process' (Lamprakos 2014), which inevitably gives particular primacy to the appearance of built heritage. Even though Riegl identified inherent conflicts in his approach to heritage values, where for instance allowing the natural deterioration of a monument which would retain the historic evidentiary value conflicted with conservation work required to maintain the utility, or work that removed 'all traces of age' that were 'disturbing and displeasing' (Riegl, 1903: 81), the primacy of with these two values in heritage can overshadow other concerns or values. Evidence of this fascination with historic and aesthetic qualities continues to persist in conservations practices today, especially in the UK and Scotland, where *character* is attributed to a fixed historical period and described through particular visual qualities.

While heritage values was established in early 1900s, heritage conservation as it is currently addressed in international charters and conventions, entered the global discourse in the 20th century following two important conferences. The first was the *International Conference for the Protection and Conservation of Artistic and Historical Monuments* in 1931 which published the *Athens Charter for the Restoration of Historic Monuments*. Often considered as the key point in the modern approach to conservation, the charter not only focused on individual monuments, but called on the protection of the surroundings of the historic sites (Iamandi, 1997; Orbasli 2008). The recognition of the spatial relationship between buildings and surrounding areas laid the foundation for considerations of historic settings and contexts. The formalisation of this spatial relationship provided criteria on how new developments should take shape in historic cities so that they would respect the historic character of the urban area. This respect for the historic *character* remains a key guiding principle in UK legislation on the protection of the historic built form and setting, and similar to the 1931 Charter, centres on the external appearance and aesthetic value, that project a vision of the past that is partially frozen in time. Often times, the juxtaposition of historic fabric against new development presents a stylistic gap that is to be mediated through choice of material and colour, building height or complementary architectural style to provide a

level of continuity to the character or setting of the historic fabric. These restrictions on how new developments should look again pivots around aesthetic qualities and taste, highlighting the subjective values that drive urban conservation

The second important event that influenced heritage was the fourth *International Congress of Modern Architecture* (CIAM[2]) held in Athens in 1933. During this conference, a radically different approach was adopted for urban heritage conservation (Bandarin and Van Oers, 2012). The *Charter of Athens*, introduced during this congress, supported intrusive measures such as shifting central districts, slum clearances and the re-routing of major circulation routes in an attempt to modernise historic cities and improve urban development (CIAM, 1933; Iamandi, 1997; Jokilehto 2002). More than a decade later, this same approach was witnessed in the large-scale slum clearances and new circulations patterns introduced by Robert Bruce in Glasgow (Urban 2018). These two events encapsulate the continuous dilemma in urban heritage conservation. The valorisation of a past built form, in the context of contemporary urban lifestyles, where the current urban form, function, public values and policy priorities must be mediated in a way that protects the heritage assets for future generation. But this protection, ignores the very essence of human civilisations continuously evolving and dynamic nature that produced the heritage assets in the first place. Thus, the process of modern heritage conservation, has from its inception been faced with conflicting values. Selecting certain assets from the past as significant and in need of protection for future generations, without accepting the continuous changes in lifestyles, values and behaviours that shape current choices, and imposing contemporary values and choices on future generations on the assumption that the value of heritage assets will remain unchanged. Conflict in values come into sharper focus as the range of values associated with heritage assets expand to include social values. Jones (2016: 22) argues that 'social values are fluid, culturally specific forms of value embedded in experience and practice'. As heritage conservation is the preservation of assets for future generations, the fluidity of contemporary social values embedded in today's experience may not have any significance for the presumed future generation, especially since there is no clarity on 'when these future generations will live and how we can make the right decisions in the present with their best interests in mind' (Harrison *et al.:*10).

[2] Congrès internationaux d'architecture moderne (CIAM)

Since the two historic gatherings in Athens, a multitude of international organizations were founded to protect and promote heritage, and provide guidance and training on the management and care of such assets. The most notable of these include the International Council on Monuments and Sites (ICOMOS), the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM), and the United Nations Educational, Scientific and Cultural Organisation (UNESCO). While none of the charters, recommendations or guidelines issued by these organisations are legally binding, they provide frameworks which guide the discourse and practice of heritage conservation. However, *conventions* that are signed and ratified by member states are legally binding. The most notable of these conventions is The World Heritage Convention 1972 (UNESCO, 1972) whereby the UK as a member state of UNESCO is obliged to establish legislation and policy measures that fulfil treaty obligations with regards to the protection and management of World Heritage Sites in the UK, such as the Old and New Towns of Edinburgh.

The World Heritage Convention defines and sets out the framework for the identification and designation of cultural or natural heritage sites of *outstanding universal value* (OUV) as World Heritage Sites (UNESCO, 1972). For instance, Edinburgh's Old and New Town was inscribed as a World Heritage Site in 1995, for its 'outstanding architectural, historical and cultural importance' (Holmes, 2005: 6). This inscription obliges the UK, and by extension, the Scottish Government to ensure that a proper protection and maintenance plan of the *outstanding universal value* is adopted and integrated into the city's planning policies, even if the *values* ascribed to the site do not match contemporary public or national values. This not only reinforces the AHD but imposes external values that have the appearance of being objective, because they have been structured through international consensus by a panel of experts, under the auspices of the United Nations Educational, Scientific and Cultural Organisation.

The protection and maintenance of OUVs in thriving cities like Edinburgh that continuously grow, transform and adapt to contemporary life, pose specific challenges in balancing historic features with contemporary needs. These challenges were addressed for the first time in the Venice Charter 1964 where international standards for the conservation of architecture *and* sites were codified, recognizing the importance of the setting of built heritage (ICOMOS, 1964). However, the Venice Charter also stressed the importance of protecting the authenticity of heritage assets

based on credible and truthful knowledge of establishing the historical form of assets (*ibid)*. This narrow definition of what established authenticity was later modified in the Nara Document on Authenticity (ICOMOS, 1994), which challenged the universal standards established by the Venice Charter, in accepting conservation judgments based on 'the cultural contexts to which they belong' (*ibid:* 47*)*. With the introduction of each new charter, convention, and guideline, the scope, definition and practice of heritage conservation evolved. The most recent response being the publication of ICOMOS's *Heritage and the Sustainable Development Goals* (Labadi *et al*, 2021).

As the scope of conservation widened, further consideration was given to the relationship between people and heritage. The historic urban area of cities was viewed as part of a dynamic, ever-changing landscape. Therefore, the practice of conservation shifted from a static approach of preserving objects to managing heritage in an evolving landscape. With the introduction of the Historic Urban Landscape approach (HUL) in 2011, a more holistic approach to heritage conservation and management was introduced, with considerations for setting, context, modern urban trends and sustainable development becoming part of the dialogue (UNESCO, 2011). The HUL approach took account of both tangible assets and intangible heritage such as local norms, perceptions, and values. The approach recommended a seven-step process (see fig.1) that proposed to include heritage conservation with planning and development considerations through the use of tools such as civic engagement, regulatory systems, financial instruments, and knowledge and planning systems (UNESCO, 2011).

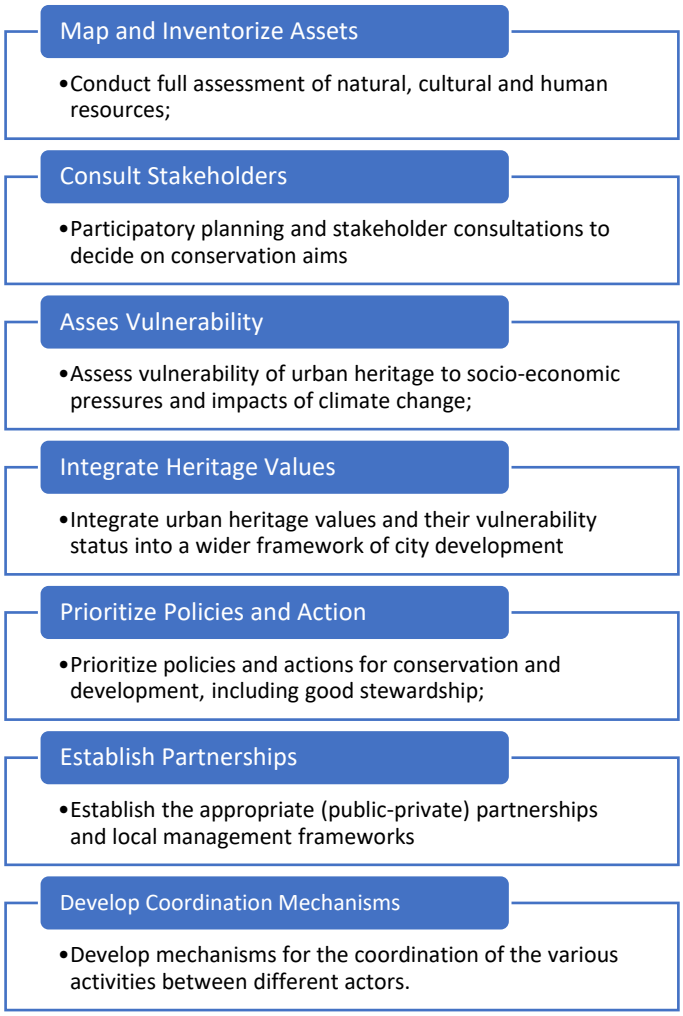


Figure 1. The Historic Urban Landscape Approach. Source: Adapted from UNESCO 2013b.

In this approach, urban conservation is encouraged to move beyond the restoration of monuments and certain assemblages of historic fabric. Instead, historic cities are viewed as part of a larger ecosystem that encapsulates layers of historical development, geomorphologic changes and social relationships characterized by complex meanings and expressions (UNESCO, 2011). These meanings and expressions add a layer of complexity that manifests in how values are attached to what is conserved. This further complicates the role that built heritage and its conservation plays in society. For some, urban conservation is about identity, for others it is a tangible reference to a social narrative, and for some others it holds the promise of economic gains (Avrami *et al.*, 2000; Glendinning, 2003; Licciardi and Amirtahmasebi, 2012). Hence, how heritage conservation is approached also varies and holds complexity.

For the UK Government, historic buildings reinforce a sense of community, strengthen national identity and are foundational in urban regeneration (ODPM, 2004). These are sentiments which are echoed in the Scottish Government's first national strategy on heritage, *Our Place in Time* (Scottish Government, 2014a), wherein the Scottish historic environment not only bears witness to a shared history and cultural identity, it is also linked to physical and social wellbeing. Holtorf (2011) reiterates these points, articulating the changing role of cultural heritage as one that benefits the society in its appeal for visitors, its ability to be thought provoking and insightful, as well as its capacity to improve quality of life and health by contributing to enjoyable and engaging spaces.

The evolving role of urban heritage has transformed the practice of heritage conservation to the *management of change* rather than the preservation of material remains (Araoz, 2011; Bandarin and Van Oers, 2012). *Managing change* in urban conservation implies the notion of time and the dynamism of cities. With every generation, as society evolves, so do the meanings and values associated with heritage, making its conservation a continual process of evaluating and reflecting on what constitutes heritage, how it is used and interpreted, for whom and by who (Mason, 1998; De la Torre, 2005). These decisions are largely defined by cultural contexts, societal trends, political and economic forces, which themselves are continuously changing. Many in the conservation field have recognized that heritage conservation must integrate and contextualise, and become part of the larger public discourse, while also reflecting social activities influenced by globalisation, migration, technological developments, cultural fusion, and issues of shared concerns (Rodwell, 2003; Rypkema, 2006; Jokilehto, 2010; Pendlebury, 2013). This will ensure that conservation continues to be significant for the society at large and remains relevant for the present while conveying those values to future generations. Within this shift to managing change, there is also a perspective shift to a *values-led approach* to heritage.

Values and Heritage Significance

The values-led approach now prevalent in the conservation field was established with *The Burra Charter* (ICOMOS, 1979) which articulated that for heritage to be meaningful to larger society, it should reflect the *values* that people attach to places, things and rituals. This valuing process continues to give *significance* to some things over others, making them *heritage*

(Pendlebury, 2013; Labadi, 2013; English Heritage, 2015). In the realm of built heritage therefore, buildings are not conserved just for the sake of preserving the historic fabric. Rather, they are conserved because they serve as testaments and tangible references to meanings and associations attributed to them. With such an approach, the values associated with the asset needs to be meaningful and relevant (Avrami *et al*, 2000).

The protection of cultural heritage requires a clearly defined set of criteria that determines the significance of a heritage asset. These criteria are based on values, which in turn shape the legislative protection mechanisms. In the UK, the legislative mechanism for the protection of cultural heritage is limited to tangible heritage and restricted to *architectural* and *historic* interest, in other words, the aesthetic and historic value of built heritage. But do these values represent the values of the nation and government? The following provides an overview of the history of heritage conservation legislation in the UK alongside international developments in heritage conservation, discussing the values that ascribe significance to heritage.

Origins of legislative protection for built heritage in the UK

The framework for legislative protection of built heritage in the UK was initiated with the passage of the Ancient Monuments Protection Act 1882. While the Act excluded habitable buildings, it introduced for the first time, the concept of devising a *list* of select monuments with statutory protection from damage and destruction. The Act allowed provisions for the transfer of ownership and care of monuments to the state, obligating the state as guardians of ancient monuments and eventually becoming responsible for conservation (Delafons, 1997:25). With state guardianship, monuments took on a new layer of meaning, evolving from objects of interest for antiquarian enthusiasts, to symbols of national importance.

The passage of the 1882 Act was against the backdrop of growing interest in historic buildings and debates on the proper restoration of built heritage. Two well-known heritage preservation theorists of the time, French architect Eugène Emmanuel Viollet-le-Duc (1814 –1879) and John Ruskin (1819-1900), held deeply opposing views on heritage conservation. On one end of the spectrum was le-Duc's obsession with stylistic purity. His belief that contemporary architecture could 'perfect' historic buildings resulted in restorations that destroyed historic fabric

in lieu of reproducing missing parts of previous epochs (Howard and Graham, 2008). Elements of this viewpoint on *stylistic purity* is still evident in conservation practice today, whereby later additions to a historic building are deemed invaluable or insignificant (for instance in the case of Greenview School in Chapter Seven).

On the other end of early heritage conservation practice was the anti-restoration movement of Ruskin, whose approach was one of minimum intervention. In *The Seven Lamps of Architecture* (1903), Ruskin admonished the alteration of historic buildings. In his view, historic buildings were an inheritance from previous generations, with documentary value of material authenticity and integrity that should be preserved for future successors. Ruskin's disciple, William Morris, founded the Society for the Protection of Ancient Buildings (SPAB) in 1877 on the same theoretical principles. It was a member of SPAB, Sir John Lubbock, who was responsible for introducing the Ancient Monuments Protection Act of 1882. This Act would pave the way for further legislation on determining the fate of monumental buildings, broadening both the scope of protection and the limits of state intervention. The view on the evidentiary value of unaltered heritage assets continues to be the basis on how historic value is assessed.

The Ancient Monuments Protection Act, 1900 amended the 1882 Act, extending protection to non-prehistoric sites and historic buildings for which preservation was 'a matter of public interest by reason of the historic, traditional, or artistic interest,' so long as the building was occupied by an employed 'caretaker' (63 and 64 Vict. Ch.34). While the mention of 'public interest' was previously introduced in the Ancient Monuments Protection (Ireland) Act, 1892, [55 & 56 Vict. Ch. 46.], for England, Scotland and Wales, this is the first time that public interest enters the legislative discourse on heritage, legitimising the national importance of monuments and therefore justifying public expenditure. By introducing public interest, there is now an assumption that heritage conservation is guided by *values* that the public hold dear.

The Act also expanded the powers of the Commissioner of Works to the newly formed County Councils, enabling them to purchase and preserve monuments. Furthermore, it provided a definition for 'monument' as 'any structure, erection, or monument of historic or architectural interest' (Section 6 (1.) introducing the language that still continues to determine the *significance*, and therefore the *heritage value*, of monuments and listed buildings today.

The Ancient Monuments Consolidation Bill 1913, combined the Acts of 1882, 1900 and 1910, and setup the Ancient Monuments Board as a government advisory body for the protection of monuments. The board was comprised of expert members from the Royal Commissions on Historical Monuments, the Society of Antiquaries, the Royal Institute of British Architects (RIBA), the Royal Academy of Arts, Trustees of the British Museum and the Board of Education (Fry, 2014, 5). Therefore, the dominant viewpoint on heritage conservation was driven by architects, antiquarians and historians, a tradition that continues to persist in today's heritage sector, perpetuating the *authorised heritage discourse* (AHD). The 1913 Bill further imposed provisions such as the compulsory preservation order followed by, if necessary, a compulsory purchase order, laying the foundation for the current system of heritage protection. These bills legitimise and legalise an already established view on heritage that had informally started in the previous centuries, formalising a traditional approach to conserving heritage assets. Thus, within the heritage sector which highly valorises the past, this history and traditional approach to conservation, in itself becomes part of the warp and weft of the movement, weaving the historic and aesthetic value of heritage assets into the fabric of conservation activities.

Meanwhile, in the international arena, from 1666 to 1881 Sweden, Portugal, Germany, Denmark, Greece, France, Spain, Italy, Hungary and Egypt passed legislation or prepared lists of 'national monuments,' followed by Finland, Bulgaria, Romania and Norway from 1883 to 1897 (Bell, 1997: 2; Delafons, 1997: 27). Legislation on the protection or identification of national monuments in the nineteenth century, during an era of industrialization and urbanization reveals the early tensions between rapid urban development and historic urban fabric conservation. Therefore, the tensions witnessed today on managing change in historic cities is not a new subject, however, the approaches to managing these changes have evolved significantly through time.

The early approaches to addressing contemporary needs against the existing built fabric, was driven by publications by conservation theorists and practitioners of urban conservation such as Alois Riegl (1903), Gerard Baldwin Brown (1905), and Hugo Conwentz (1909). These publications initiated international conservation conferences from which guidelines and charters began to emerge (Birabi, 2007). The very first of these conferences was the Sixth International Congress of Architects in Madrid in 1904, where members of thirteen countries discussed, among

other things, recommendations for architectural conservation commonly known as the Recommendations of the Madrid Conference, 1904. Notable among the recommendations was the importance of *continued use*, which highlights the value of *utility* in buildings (The Architectural Journal 1904). While the recommendations emphasised the importance of minimal intervention in historical or archaeological ruins, its recommendation for functional buildings followed the philosophy of Viollet-le-Duc's stylistic purity. These early recommendations were later used as a basis for guidelines and recommendations that followed. However, an important aspect to note is the primacy of the aesthetic value and the historicizing of urban fabric. As seen in the UK, during this stage of heritage conservation scholarship and activity, the stage is mainly occupied by historians, architects and archaeologists, therefore the values that drive discussions reflect this professional point of view.

In Europe, the wave of 19th Century industrialization saw a surge of rapid urban development threatening the historic fabric of cities. Compounding this destruction were the problems of industrial pollution, slum dwellings, urban waste management and declining public health in overcrowded cities. Concern for resolving these problems led to the development of urban development theories such as Ebenezer Howard's Garden Cities (Howard 1902), which envisioned the design of human habitats with immediate proximity to greenery, separate and away from industrial zones. This approach to urban planning would later lay the groundwork for eco-urbanism and concepts of sustainability and environmental considerations in urban planning (Sharifi, 2016). Implementation of these ideas was marked by an increase in town planning conferences during the early part of the 20th century and the growing realization that 'particular professional expertise' was required to manage transport links, housing developments, and industrial and commercial sites (Cullingworth et al., 2015: 19). The need for professional expertise led to the foundation of the Liverpool School of Civic Design in 1909, the first school of urban planning, as well as the formation of the Town Planning Institute in January of 1914 (Crouch, 2002).

Coinciding with these developments was the introduction of the first planning act, the Housing, Town Planning, Etc Act 1909 (Town Planning (Scotland) Act, 1909), with the primary objective of providing 'schemes' by local authorities for the development of new homes with health and sanitation in mind. While the Act was devised to address new home development, it did

require that local authorities preserve 'objects of historical interest or natural beauty,' and provide information on how monuments situated in the 'schemes' might be affected by proposed developments (Bentley and Taylor 1911, 41). With this Act, the initial structures of legislation to address the development vs conservation dilemma were established, with the values of heritage assets confined to historic and aesthetic.

The implementation of modern urban planning theories and environmental sensitivity was interrupted by the outbreak of the First World War in July of 1914. The shocking widespread destruction of buildings across major cities in Europe energized urban conservation on an international scale, leading to the formation of The League of Nations in 1919 which laid the groundwork for structured international cooperation on matters of urban heritage conservation. For the first time, dialogue on the conservation and reconstruction of historic urban heritage ensembles, as opposed to individual buildings and monuments, went beyond national boundaries. This culminated in the decision by the International Commission for Intellectual Cooperation (ICIC), an advisory organization for the League of Nations, to create the International Museums Office (IMO) in Paris in 1926 (Daifuku 1998). While initially, the IMO was only concerned with museum matters, in later years it expanded its scope to include the fate of historic buildings.

In 1931, the *First International Congress of Architects and Technicians of Historic Monuments* was hosted by Greece to discuss the ethics and methods of work on protected monuments (Iamandi 1997). The recommendations arising from these discussions resulted in the historic afore mentioned *Athens Charter for the Restoration of Historic Monuments* of 1931 – the first set of internationally accepted guidelines on built heritage conservation. The significance of the 1931 Charter was that the conference was attended by 120 professionals from 23 countries (mainly European), expanding the dialogue on built heritage conservation beyond regional countries and setting the foundation for organizations such as UNESCO (United Nations Educational, Scientific and Cultural Organization) in 1945, ICCROM (International Centre for the Study of the Preservation and Restoration of Cultural Property) in 1956 and ICOMOS (International Council on Monuments and Sites) in 1965 (Glendinning 2013).

In the UK, in the case of heritage policy, the early flurry of amendments (1900-1913) still did not extend protection to 'inhabited' historic buildings (Delafons, 1997: 32), but in the 1931

iteration of the Ancient Monuments Act, in addition to authorizing compensation for owners subject to a compulsory purchase order, control over further development expanded to include the surroundings and amenities of a monument by the means of a 'Preservation Scheme,' (Cleere, 1984: 55) laying the groundwork for *Conservation Areas*. Preservation Schemes came at time when council house developments and suburbanisation accelerated so rapidly that London outgrew the boundaries of County of London. The lowered interest rates of the early 1930s led to a housing boom (Cullingworth et al., 2015: 22), which meant that once again, new development threatened the historic fabric of the cities and the natural rural landscape.

With widespread destruction of built heritage during World War I and II, the discourse of urban heritage went beyond national identity and urban planning to become part of the geopolitical scene and topics of international discussion and cooperation. The approaches to heritage conservation during this time were primarily focused on the historic fabric. The primacy of materials and objects was driven by a top-down approach shaped by experts engaged in the fields of architecture, conservation, archaeology and history – without consulting local communities to define heritage values (Araoz, 2008; 2011; Veldpaus et al., 2013). As such, conservation ascribed significance to heritage's aesthetic, historical and scientific values, thereby underestimating the social, economic, and environmental values (Araoz, 2011: 57; Smith, 2006; Carroon, 2010). The legacy of this approach continues to influence perceptions of heritage conservation as an elitist activity separate and disjointed from local communities and public values (Avrami *et al.,* 2000; Bell, 2013).

The 1970s however proved to be a pivotal decade both in terms of heritage conservation, as well as environmental sustainability. Growing concerns over the state of the environment, coupled with the oil crisis of 1973 spurred international discussions and protest over development and the negative impacts on the environment (Commoner, 1972; DuPisani, 2006), eventually leading to Brundtland's 1987 landmark report on sustainable development. While in the European heritage sector, the *European Charter of the Architectural Heritage* (Council of Europe, 1975a) expanded the notion of urban heritage to incorporate all areas of towns and villages of historic or cultural interest (Council of Europe, 1975a). Meanwhile, the *Declaration of Amsterdam* (Council of Europe, 1975b) gave prominence to the conservation of vernacular architecture. The increasing

appreciation for vernacular architecture, as opposed to aristocratic mansions and castles, and interest in the narratives of public life also brought about an interest in industrial buildings (Pendlebury *et al.,* 2004) and a greater recognition of the social value of heritage. In recognising the cultural, social and economic values of heritage, both documents led the way to a more integrated approach to urban conservation. During this time the significance of heritage is only still regarded from social and economic perspectives, and while it edges towards the tripartite construct of sustainable development, there is no explicit mention of its environmental contribution.

The social and economic contribution of heritage was further reinforced with the adoption of the *Convention for the Protection of the Architectural Heritage of Europe* in Granada in 1985 (Council of Europe, 1985). While the convention highlighted the importance of integrating heritage in cultural, environmental and planning policies, the environmental aspect remained largely unintegrated. Culture and heritage conservation were given prominence in development activities as a means of promoting a unique sense of place and place making (Healy, 1992; Loftman and Nevin, 1995). This trend was also evident in planning policies in the UK during the 1980s, recognizing the economic and social value of heritage.

Almost a decade later, the integration of heritage conservation within urban development policies was reflected in the international discourse on urban planning. With the adoption of the 1996 UN Istanbul Declaration on Human Settlements (Habitat II), sustainable development and the 'conservation, rehabilitation and maintenance of buildings, monuments, open spaces, landscapes and settlement patterns of historical, cultural, architectural, natural, religious and spiritual value' were included in the Habitat Agenda (UN-HABITAT 1996, item 11). The two key areas of focus for the conference were the significance of providing adequate housing for all and the development of sustainable human settlement forms in urban areas, further supporting the integration of heritage conservation into the sustainable development discourse. While the international discourse calls for this integration, in the UK policies on housing, heritage conservation and environmental sustainability remain separate policy areas. This was especially true following the Housing Market Renewal Pathfinder programme that was launched in 2003 as part of the *Sustainable Communities: Building for the Future* (ODPM, 2003), which led to the large-scale destruction of existing dwellings. This is while the House of Commons ODPM:

Housing, Planning, Local Government and the Regions Committee report published in 2004 stated that there 'was overwhelming evidence to the Committee that improving the environment and securing the reuse of buildings which have historic value can make an important contribution to the regeneration of the urban areas' and achieve 'better use of natural resources' (p. 6). Therefore, while on the one hand historic buildings were extoled for their economic, social and environmental values, on the other hand their large scale demolition for economic reasons were sanctioned by the same government.

Throughout the course of these heritage conservation debates and developments, tensions have always occurred between protecting the remains of the past against transformations that accommodate contemporary needs in human settlements and spaces of activity. But in terms of environmental concerns, urban areas have acquired a more prominent role in the 21st century discourse on sustainability and addressing these concerns while protecting urban heritage has given rise to new challenges.

Urbanisation and the Values of Urban Conservation

The modern city emerged from innovations in technology that harnessed the power of fossil fuels. In the span of 200 years up until the 1950s, rapid large-scale urbanization largely occurred in Europe and North America (Elliott and McCrone, 1982). Recent decades have witnessed a similar transition in the developing world, especially in Asia, Africa, and Latin America (Hall and Pfeiffer 2000). Throughout this time, fossil fuels have continued to power the world economy, with cities being its 'physical articulation' (Droege, 2008:9). The reliance on fossil fuels has – among other impacts, led to alarming increases in greenhouse gas emissions linked to global climate change, threatening the sustainability of the planet (IPCC, 2014; 2018; UN, 2015).

Today more than half of the world's population lives in cities, making cities the principal foci of economic production, distribution and exchange (Pacione, 2009). Cities are also the centres of scientific, cultural and social innovation, and the scene of cultural reproduction and consumption (Pacione, 2009; Glaeser, 2011; Hall, 1998). This concentration of activity and the proximity of actors and stakeholders that directly or indirectly shape the success of cities has

created a unique political system (Davies and Imbroscio, 2009), that have made cities increasingly significant economic and political actors (Scott, 2001; Harrison, 2012; Storper, 2013).

Peterson (1981) argues that cities fail if people and businesses leave in large enough numbers, therefore it is imperative for cities to attract and retain businesses and residents. This has propelled city administrators to compete against each other, devising strategies that improve local circumstances for economic development and employment growth (*ibid).* Within this competition, culture and the historic urban environment have become tools in the production of unique selling points (UPS). The social and economic values of culture in placemaking have long been argued by academics, giving rise to concepts such as creative cities adopted by UNESCO as a unique branding mechanism,[3] and urban regeneration strategies based on the 'creative class' popularised by Florida (2004). However, with the rise in global population and the corresponding growth in urbanisation, increased demands on energy and natural resources have had detrimental impacts on the environment (Hossain, 2019). Therefore, while cities compete to attract talent and economic activity, the implication of these have also led to the provision of policies that address environmental concerns with urban development strategies. In balancing urban economic growth and social equity with environmental sustainability, cities have become instrumental in developing policy (UN, 1992; Kamal-Chaoui and Robert, 2009; Bulkeley and Betsill, 2003). However in historic urban environments, this balancing act encounters heritage values that require protection if they are to retain their character defining attributes which make them unique and attractive centres for sustainable urban development.

In balancing conflicting and competing values, the role of urban conservation becomes complex and contested. Historic urban areas generally support environmental concerns such as embodied energy and walkability (Carroon, 2010; Rypkema, 2006), as well as economic and social concerns in attracting talent and sustaining liveable neighbourhoods. Yet urban conservation is often perceived to be anti-development (Pereira Roders and Van Oers, 2011; Labadi and Logan 2016) and relegated to the side-lines in managing sustainable growth as new development without the restrictions of retaining heritage values takes precedence.

[3] Glasgow is UNESCO Creative City for Music (UNESCO, nd.b).

Sustainable Development and the United Nations' 2030 Agenda

The collective importance of cities in combating climate change has been further emphasised in a United Nations' report predicting an anticipated rise of global urban population from 54% to 66% by 2050 (UNPD, 2014). This rise in the urban population will, based on current trends, further increase the consumption of fossil fuels, leading to an increased concentration of greenhouse gases (GHG) in the atmosphere. The increase in GHG emissions has, based on the conclusion of the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC, 2014; 2018), induced anthropogenic climate change. Reports by the International Union for Conservation of Nature (IUCN) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) consider climate change as the most prevalent threat affecting both natural and cultural World Heritage sites (Osipova *et al.*, 2020; UNESCO World Heritage Centre, 2007). The GHG Protocol for Cities states that more than 70 percent of global energy-related CO_2 emissions are generated in cities, therefore as major contributors to GHG (especially CO_2) emissions, cities play a key role in climate change (Fong *et al.*, 2014). It is thus imperative to identify ways to effectively reduce urban GHG emissions; an urgency echoed in the landmark adoption of the 2015 United Nations Framework Convention on Climate Change (COP 21 Paris Agreement), whereby 197 parties gathered to address climate change, and of which 191 Parties have now become signatories of the agreement (UNFCCC, 2021).

Even though the international movement to reduce GHG emission began with the 1992 United Nations Framework Convention on Climate Change and the 1997 Kyoto Protocol, the Paris Agreement is the first to garner such strong international support. The Paris Agreement which was devised to achieve Goal 13 (*Take urgent action to combat climate change and its impacts*) of the UN Sustainable Development Goals (the *2030 Agenda for Sustainable Development*), provides guidelines that will reduce emissions and support climate resilience (UN, 2015).

Sustainable development, as an internationally accepted concept was first defined in 1987 in the Brundtland Report *Our Common Future* as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987: Chapter 2, IV). This malleable definition provided the necessary flexibility to facilitate global

consensus, yet the imprecision also made policy design and implementation difficult (Strange, 1997; Jenkins, 2002; Waas *et al*., 2011).

The concept of sustainable development has acquired a wide array of meanings since its introduction in 1987. A review of the literature on sustainable cities shows that it has generated a plurality of interpretations (Broto, 2011), each reflecting different philosophies (Guy and Marvin, 1999). Attempts at addressing conflicts between environmental protection and development, and encapsulating the social dimensions of sustainable development, has led to the emergence of concepts such as liveability, walkability and resilience. These interpretations and shifts in the understanding of sustainable development and by extension, sustainable cities, followed shifts in urban environmentalism in recent history (Holt, 2014).

Echoes of conflicts in the interpretation of sustainable development are also seen in literature addressing heritage conservation. As more and more attention was given to sustainable development and its various definitions and expanded interpretations, the focus increasingly shifted towards the economic aspects of sustainable urban development (Abakerli, 2012). Evident in the Economist (2016) list of most 'liveable cities' such as Melbourne, Vancouver and Vienna, which rate high on the five domains of liveability indicators of: stability, health care, culture and environment, education and infrastructure. In these cities, not only are the residents' rates of consumption in terms of ecological footprint very high, but the common factor in all these cities is that they are all mid-sized, wealthy and relatively low-density cities (James, 2015). The influence of consumerism also filtered into heritage as it became associated with consumable experiences. The economic value of heritage became increasingly tied with sustainable development and urban regeneration, both for wealthy countries as well as developed or underdeveloped countries. Examples of this trend can be seen in the UK's Heritage Lottery Fund's Townscape Heritage scheme (HLF, 2013) and the informal cooperation between UNESCO and World Bank on themes such as Culture Counts, which focused on the economic values of culture and heritage (UNESCO 2011b). The HLF (2013:3, 11) report valorises the aesthetic and historic value of heritage assets, stating that '[t]he exterior builds an expectation of the quality of the goods inside', while 'new economic growth – might fundamentally depend on cities possessing a good stock of old, distinctive buildings'.

While conflicts in the interpretation of sustainable development exist, the global consensus on the 1987 definition laid the foundation for the landmark principles and action plans that came out of the 1992 United Nations Conference on Environment and Development (UNCED), also known as the Rio Earth Summit. The Rio Declaration established 27 principles that defined the relationship between states, and the relationship between states and their citizens, with regards to development and the environment, by applying the precautionary principle, and introducing an action plan for the improved quality of life within the carrying capacity of our ecosystems (UNCED, 1992). This action plan, known as Agenda 21 called upon UN Member States to prepare national strategies for sustainable development that included appropriate criteria and indicators to measure progress 'across economic, social and environmental dimensions' (UNCSD, 1992: 66). With global concerns focused primarily on environmental degradation and its impact on developing countries, the inclusion of heritage in the international discourse on urban sustainable development did not happen until more than a decade later with the emergence of UNESCO Creative Cities and Agenda 21 for Culture (UCLG, 2008). Again, the role of heritage in sustainable development is a later add-on, revealing that in urban development discussions and policies, there was a lack of joined up thinking and a holistic view of existing urban assets. their values, and how various values in public policy could play complementary roles in achieving policy objectives.

The need for better mechanisms to measure and monitor progress towards sustainable development was emphasised in the United Nations Millennium Declaration (2000), and the UN Millennium Development Goals (MDG), adopted in 2000. While the MDGs, which were eight time-bound targets with a deadline of 2015 provided a common language that facilitated a clearer means of measurement and monitoring, the focus was primarily geared towards poverty eradication (UNGA, 2000). The experience gained from monitoring the MDGs however, demonstrated how effective the use of data was to implementing successful targeted interventions, measuring performance, and improving accountability (UN, 2004). The creation of appropriate indicators to measure and evaluate progress on sustainable development became a key policy focus in countries across the globe, chief amongst them being the UK. As will be discussed in the following chapters, the UK becomes one of the countries that took the lead in developing indicators to monitor and measure the achievement of sustainable development.

Twenty years after the Rio Earth Summit, the UN Conference on Sustainable Development (UNCSD) of 2012 further clarified the three core dimensions of the tripartite construct of sustainable development as 'economic growth and diversification, social development and environmental protection' (UN, 2012, para. 19). It was during this meeting that UN Member States began developing a new set of goals explicating the commitments made in the expiring MDGs.

In 2015, the new goals were introduced in the UN General Assembly resolution *Transforming our world: the 2030 Agenda for Sustainable Development*, re-emphasizing the afore mentioned three core components of sustainable development. This time, the approach was to present goals that formed an integrated and indivisible whole, balancing all three dimensions (economic, social, and environmental) of sustainable development. The Sustainable Development Goals (SDGs) comprised of 17 goals, 169 targets and 230 indicators (UNCTAD, 2017). Among the goals, Goal 11 *Make cities and human settlements inclusive, safe, resilient and sustainable* reflected the growing importance of urban areas both in terms of addressing the needs of its growing population, but also on their impact on environmental sustainability issues. While cities had been part of the larger sustainable development discourse, this is first time that their role in sustainable development is tied directly to a global indicator to track progress.

As part of Goal 11, Target 11.4 *Strengthen efforts to protect and safeguard the world's cultural and natural heritage* explicitly links heritage to sustainable development. However, the indicator designed to measure this target, Indicator 11.4.1[4], uses total per capita expenditure on heritage preservation, protection and conservation as a means of measuring progress towards the protection of heritage, again failing to recognise heritage's contribution to the environmental aspects of sustainable development. The economic importance of heritage is further reiterated in two other indicators, namely Indicator 8.9[5] and Indicator 12.b[6], both of which focus on the links between tourism and heritage in terms of job creation and related economic activities. While mass unsustainable tourism has proven to be detrimental both to the environment and to heritage assets,

[4] **Indicator 11.4.1:** Total per capita expenditure on the preservation, protection and conservation of all cultural and natural heritage, by source of funding (public, private), type of heritage (cultural, natural) and level of government (national, regional, and local/municipal). (UN, 2017)

[5] **Indicator 8.9** By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products (*ibid*)

[6] **Indicator 12.b** Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products (*ibid*)

these indictors reveal the primacy of economic, historic and aesthetic values above environmental values and indeed the long-term sustainability of heritage assets (Buckley, 2012; Schmutz and Elliot, 2016).

The 2030 agenda was a call to action for global partnership in developing strategies for improved health, education, reduced inequality, and greater economic growth (UN, 2015). These activities were to be addressed 'while tackling climate change and working to preserve our oceans and forests' (UN, 2015:np). The original concerns for planetary boundaries that prompted global action towards adopting sustainable development now shifted towards sustaining *economic growth* based on available technologies and current social organizations, rather than prioritizing the *environment* (Sachs, 2015; Aseeva, 2018). This shift towards the primacy of economic growth *within* environmentally sustainable and socially inclusive parameters comes after the 2007-2009 global financial crisis, which pushed economic recovery above environmental concerns (Thakor, 2015; Bowen and Stern, 2010).

Heritage and Sustainable Development: Competing Values?

In the realm of heritage conservation, the most significant study echoing the role of economics in heritage is the study commissioned by the World Bank (Licciardi and Amirtahmasebi, 2012), which highlights the immense potential of the economic values of cultural heritage as a tool for economic development. Campbell and Fainstein (2003: 247) elaborate on the role of tourism in urban planning policies, recognizing tourism as an important economic sector while also stressing the importance of unique identities that can transform 'ordinary places and times into extraordinary tourist worlds'.

This attitude shift towards prioritizing the economic aspect of sustainability is also seen in discourses on contributions that built heritage make in sustainable development as an agent of urban regeneration and tourism, where *aesthetic and historic* values play an important role in creating the *image* of the city (Ashworth and Voogd, 1990; Ritchie and Crouch, 2000; Rodwell 2008). Lynch (1984), for example finds that cities with memorable cityscapes are more successful in projecting an effective recognisable image to attract tourism. In this regard UNESCO World Heritage designation plays an important role in driving tourism and defining identify.

Ironically, the focus on the economics of heritage in generating revenue from tourism and urban regeneration further exasperate threats to built heritage in historic urban landscapes. These threats, such as encroachment of new developments, especially in cities with UNESCO designation, highlights the conflicts that Cullingworth and Nadin (2006) assert are at the core of land use planning. The UK planning system reconciles conflicts in land use that result from the various competing demands and the uneven distribution of cost and benefit with some flexibility to interpret public interest. In the case of the World Heritage Site of Liverpool Maritime Mercantile City, the planning system was unable to effectively reconcile these conflicts and the new urban developments ultimately led to the revocation of the city's UNESCO World Heritage Site designation (UNESCO, 2021).

These threats, in addition to the impacts of climate change and unprecedented urban population growth trends, continued and still continue to threaten the historic urban fabric of cities. While the 2030 Agenda links the resilience and sustainability of cities with the protection and safeguarding of cultural heritage, it is still heavily framed from an economic perspective. But the historic urban fabric also shapes the identity of cities and provides tangible representations of the evolution and development of cities through time and space. UNESCO identifies urban heritage as a source of inspiration that represents past legacies for present generations, and one that should be passed on to future generations (UNESCO, 2011). In attaining Goal 11, the UN delegated the devising of a framework for including heritage conservation in sustainable development to UNESCO, which has used the Historic Urban Landscape (HUL) approach to guide conservation and protection of cultural heritage in cities. This holistic approach attempts to align sustainable values (economic, social and environmental) with heritage values by accounting for the existing built environment, as well as intangible qualities and urban context.

In parallel with the adoption of the HUL approach, and in response to the growing reliance on indicators in tracking progress, UNESCO, amongst other organisations has developed frameworks for cultural indicators (Sung, 2014; UNESCO, 2014; 2019). However, recent research on heritage indicators reveals that assessment and measuring methodologies still do not accurately reveal the contribution of heritage to sustainable development (Guzman *et al.*, 2018). For instance, the UNESCO Culture for Development Indicators (CDIS) present 22 qualitative and quantitative

indicators across seven policy dimensions. These dimensions are 1) economy, measured in terms of the contribution of culture to GDP, employment and household expenditure; 2) education, measured by type of education and professional training; 3) governance, assessed through policies, infrastructures, and commitments by the civil society to strengthen cultural process; 4) society, measured by social participation, identity-building, trust 5) gender equity; 6) communication, measured by freedom of expression, internet use and diversity of media content; and 7) heritage, measured by frameworks established to enforce standards and policy measures directed at protecting and promoting heritage (UNESCO, 2014). None of these dimensions address the environmental aspect of sustainability. Therefore, the environmental value of heritage is still not a serious consideration in heritage management.

The international discourse that continues to link urban heritage conservation with sustainable development, has also been reflected in the UK. Historic England, the public body that looks after England's historic environment recognises that sustaining heritage values contributes to environmental sustainability, in that much of the historic settlements and neighbourhoods are high density and mixed use, constructed of durable and locally sourced material (Historic England, 2008). Furthermore, it acknowledges that their removal and replacement would require a major reinvestment of energy and resources (*ibid*). *Climate Change and the Historic Environment*, (Historic England, 2012) concludes that upgrading the energy efficiency of traditional buildings can play a fundamental role in meeting emission reduction targets. However, it contends that there is a lack of reliable data on the performance of historic buildings and that most assessments of energy use have been based on theoretical models that produce inaccurate results. On the other hand, research conducted by Hilber *et al* (2017) conclude that restrictions on alterations to Listed Buildings or dwellings in Conservation Areas have resulted in increased domestic energy consumption between 2006 and 2013 in England, revealing that the protection of heritage values have come at the cost of reducing GHG emissions and therefore at the expense of environmental values.

In attributing significance to built heritage, Historic England lists values adapted from the Burra Charter (ICOMOS, 2013). These values have been articulated as aesthetic, historic, communal, spiritual, and evidential values, but the main emphasis is set on aesthetic and historic

values (English Heritage 2008). In Scotland, the National Trust for Scotland, has also used the Burra Charter for guidance, but the terminology differs slightly, opting for aesthetic, historic, scientific and social values (National Trust for Scotland, 2011). However, HES 'the lead public body established to investigate, care for and promote Scotland's historic environment' (Historic Environment Scotland, n.d.a.), has selected to attribute significance only to the building's special architectural or historic interest, again broadly understood as its aesthetic and historic values. This attitude reflects legislation on the protection of listed buildings, where significance is attributed to *special architectural or historic interest*.

Sustaining a liveable planet is now one of the strongest global concerns shared among nations worldwide as evident in the strong support garnered in the COP21 meeting in Paris (UNFCCC, 2015). The overwhelming evidence on the link between greenhouse gas (GHG) emissions and increased global warming has galvanised a global movement to increase energy efficiency. This is evident in the myriad energy efficiency rating systems currently used for consumer goods such as appliances and cars, homes and commercial buildings (EPC, EnergyStar®, LEED™, BREEAM™), etc. The importance of increasing energy efficiency in built heritage is a practice supported by the Scottish Government, and guidance on implementing measures to achieve efficiency is published in *Sustainable Energy in the Built Environment* (Energy Saving Trust, 2010). HES has also conducted extensive research to provide the proper information and guidance necessary to inform implementation (Historic Environment Scotland, n.d.d.). These include technical papers ranging from U-value[7] measurements to energy modelling analysis of built heritage, although so far none have been reflected in how built heritage is *assessed*.

The push to sustain a more liveable planet has also led to awareness on consumption and waste generation levels. Based on the paper published by the World Bank, global levels of municipal solid waste (MSW) are expected to rise to approximately 2.2 billion tons per year by 2025 (Hoornweg and Bhada-Tata, 2012: 10). This study reveals that there is a direct correlation between the rate of urbanisation and waste generation. A significant portion of this waste, approximately 40%, is attributed to *construction and demolition waste* (*ibid.:* 16). Therefore, the

[7] U-value is a measure of how much heat is lost through a given thickness of a particular material through conduction, convection and radiation. (The Green Age, nd).

need to reuse existing building stock, including built heritage, has been gaining increased momentum within the discourse of sustainable urban development (Birkeland, 2008; Wilkinson and Reed, 2009; Preservation Green Lab, 2011; 2014). In Scotland, the severity of the negative impacts of waste on resource and carbon prompted the Scottish Government to launch the Zero Waste Plan in 2010, an ambitious strategy that aims to recycle 70% of all waste by 2025 and reduce landfill waste to a maximum of 5% (Scottish Government, 2010b).

The saying that the *Greenest building is the one that's already built* (Elefante, 2007) implies that all built heritage is covered under the green or sustainable building umbrella. Perhaps in some instances, some buildings are inherently sustainable, passive and have a reduced impact on climate change. But in most other cases, to make historic buildings useable, interventions are required, and with the mandate to reduce CO^2 emissions (Scottish Government, 2009), those interventions require careful consideration and planning. Foremost, a better understanding of the building, its fabric, setting and orientation, and its changes through time, and how those changes have affected the performance of the building is required. In short, the types of information sustainability experts rely on when using sustainability rating tools such as BREEAM and LEED (Shetabi, 2015).

Elizabeth McCrone (2016), Historic Environment Scotland's Head of Designations, believes there is a gap between the traditional way of looking at heritage and what people are interested in. She admits that the boundaries of what is recognised as *cultural heritage* includes aspects of history that designation hasn't traditionally focused on, such as the stories and experiences associated with different places ('Historic Environment Scotland Asks,' 2016). But buildings are not just tangible assets with stories and history; they are also evidentiary examples of sustainable and bioclimatic architecture. This evidentiary information, such as the building's siting, material and thermal properties, and design rationale is generally only available or accessible to architects and conservations specialists, and not included in the assessment of historic buildings. This information can play an important role in appreciating the building's design features, and guide proper use and intervention. However values that inform designation and legislation on protection still follow the traditional view of heritage conservation and prioritise the aesthetic and historic values.

Since the life-cycle of a building, from its inception to all the activities that take place in it, consumes resources and significantly contributes to greenhouse gas emissions, extending the use of the building through adaptive reuse, as well as increasing energy efficiency in buildings is an immediate and measurable way of reducing impact on the environment. This is a particularly important consideration in built heritage, especially buildings constructed before the advent of electricity, where considerable attention was given to the local climate in designing and constructing the building. The siting, layout and construction techniques, together with the choice of material in terms of durability, performance and availability generally make these buildings bioclimatically suitable and durable, in harmony with local ecosystems and available resources (Shetabi, 2015).

Beyond these factors, studies show that the embodied energy of existing buildings often outweigh the benefits of constructing new and energy efficient buildings (Empty Homes Agency, 2008; Preservation Green Lab, 2011). In Scotland, technical research conducted from 2008 to 2015 for HES by Changeworks and various universities (Historic Environment Scotland, n.d.d) illustrate the need for a more comprehensive profile of built heritage that goes well beyond the historic and aesthetic aspects of the building.

Key to developing a sustainable city within the reality of rising urbanisation is providing the necessary infrastructure, affordable housing and basic services. This development will inevitably result in changes to the urban fabric and settings. With the rising profile of built heritage within the discourse of sustainable urban development, it is important that the values associated with defining significance reflect the role historic buildings play in sustainable urban development.

Urban Planning, Heritage Conservation and Sustainable Development: Confused Values

In shaping a sustainable urban development, urban planning sets the strategy for the attainment of said objectives (Bracken, 2007). Gabor (1963, 1969) generalizes that in society, there is a basic ambivalence towards planning. While it is customary to plan for the future, there is a general aversion to limiting opportunities by imposing strict and detailed prescriptions. Urban planning, very much like heritage conservation is a complex process. Bracken (2007) argues that the purpose of planning rests on two concepts. The first lies in the pursuit of efficiency and the

desire for the careful management of resources. In a social context, this is defined in terms of values held within a society. Values in public policy attributed to abstract ideals such as sustainability, evoke reactions generally expressed in terms of desirability or avoidance, usefulness, and/or monetary value. Stewart (2007) contends that policy values that shape particular policy areas are related to political values which underpin the principles of government. However, an important distinction is that political values remain largely unchanged, while policy values tend to change over time (ibid). Although political values may remain largely unchanged within a political party, the different values of competing political parties can impact policy direction. This is especially true in the case of sustainable development where 'utopian visions constantly surge forth' (Harlow et al., 2013:.277) and policymaking 'involves proposing a new, improved version of the world along with the means to achieve it' (Beveridge, 2012: 54). An example of this is highlighted in Chapter Four, where changes in government in the UK and Scotland from Conservative to New Labour, and Labour to the Scottish National Party (SNP) respectively, led to changes in each government's sustainable development strategy focus. While many factors such as political persuasions, the economy, and national security impact policy design, structure and implementation, Keeney (1999) contends that fundamentally, policy is designed to make decisions in the public's interest and is informed by the public's values.

This activity does not happen in a vacuum. Facts can set the foundation for policy, but facts themselves are mediated by prior beliefs and presuppositions shaped by values (Sabatier, 2007). As such, the process of policy making involves the selection of options, influenced by situations, negotiations and available solutions, all in an environment that is not value-free (Steward 2007, Ronit and Porter, 2015). In short, values play a key role in creating public policy, and public policy in turn performs a function that is values-based (Stewart, 2007). With changes in circumstances, values – as representations of beliefs or emotions – can evolve. Certain values may take precedence over others, and trade-offs occur. From this position it could be argued that policies on heritage conservation, urban planning, sustainable development and environmental sustainability all function to protect and preserve certain values that are presumably in line with national objectives that represent the nation's values. Where these policies converge, the prioritization of values will inevitably result in trade-offs. Examples of these value trade-offs during policy implementation are discussed in Chapters Seven and Eight, where decisions that

support environmental sustainability come against the conservation of heritage values. For instance, the installation of photovoltaic panels that support national objectives of providing renewable energy for zero energy dwellings are not allowed on listed building elevations that are viewable from public streets because of their visual impact. In this case, the aesthetic value of a heritage building protected by legislation in Scotland takes precedence over environmental sustainability values that support the Scottish Government's sustainable development policies aiming to reduce greenhouse gas emissions.

As discussed earlier, the discourse on heritage is not a static one. It has evolved from valorising monumental architecture to the inclusion of intangible heritage and managing change in historic urban landscapes. Values as the foundational basis for assigning significance, and as a reflection of what is highly regarded by society, need periodic assessment. The current global concerns with climate change generally reflect a society that sees good stewardship as an essential component of a liveable planet, therefore *environmental sustainability* has gained public *value*.

According to Bracken (2007) the second concept that drives planning is rationality – reasonableness in the exercise of choice, and comprehensiveness by which an adequate understanding of the nature of the problems has been achieved. An area where the science behind climate change supports rational choices in selecting proper indicators and frameworks. Therefore, any sustainability appraisal of historic building stock should not only be informed of the cultural, economic and social significance of the existing stock but take into account all the attributes that support its whole-life cycle. This appraisal should then be compared with an analysis of new buildings' whole-life energy costs, lifespan and durability.

CONCLUSION

The chapter discussed the importance of values in shaping policy. Within the realm of heritage conservation, values determine the criteria that attribute significance. These values and the attribution of significance, in legislation and urban planning, lends protection to built heritage. Protection afforded to urban heritage, at a time of unprecedented urbanization is pivotal, as growing contemporary needs come face to face with existing historic fabric. What further exacerbates these tensions are growing concerns for the environment, demanding a sustainable

development that balances economic, social and environmental needs. Therefore, at the most abstract level, sustainable development emphasizes the values of economic development, environmental protection, and social equity. And although international approaches to managing urban heritage have vastly evolved from the conservation of single monuments to a values-based approach, the value of urban heritage within the international discourse leans heavily on the economic and social. In the UK and Scotland, the values that continue to attribute significance to urban heritage have remained unchanged since its introduction in 1900s. This is while, Scotland as one of the early adopters of the sustainable development agenda has set ambitious environmental targets.

In the legislative mechanisms for the protection of urban heritage, where protection is limited to tangible heritage and limited to *architectural* and *historic* interest, do the values support sustainable development policy objectives? To interrogate the relationship between urban conservation and environmental sustainability within the context of the Scottish sustainable development agenda, this research analyses current conservation and environmental sustainability policies, with a review of their historical development, to investigate their implementation during the adaptation of historic listed buildings. The research method adopted to facilitate this inquiry is outlined in the following chapter.

CHAPTER 3 METHODOLOGY

This chapter describes the methodological approach of the research. It begins by discussing the philosophical underpinnings that justify the choice of a qualitative research strategy and a case study research design, before detailing the research method, data sources and data analysis strategy. The chapter continues with an overview of the ethical issues and limitations, concluding with an introduction to the embedded units of analysis.

In the current values-led approach to heritage conservation, where the significance of a heritage asset is determined by analysing all the values ascribed by society (Mason & Avrami, 2002: 15; De la Torre, 2002), the value of environmental sustainability has arguably not yet been reflected in determining significance. Since values underpin heritage conservation and environmental sustainability, and both are at the core of the Scottish development policy, this study investigates their relationship through the lens of values, analysing the structure and local implementation of existing heritage conservation, sustainable development and environmental sustainability policies. Interrogating the implementation of policy during the planning process can illustrate whether the policy structure and values that underpin urban heritage conservation are compatible with the values shaping the environmental sustainability agenda.

Research Aims, Questions and Objectives

This research examines the relationship between urban conservation and environmental sustainability in Scotland within the context of the delivery of a national sustainable development policy agenda. The aim is to investigate the extent to which environmental sustainability is considered in the policy and practice of urban conservation in Scotland to determine how urban heritage contributes to the environmental sustainability goals of the Scottish Government at the national and local level. It does so by conducting an in-depth examination of relevant national policies and practices and considers their implementation in Glasgow where a series of historic school buildings are the focus, referred to as the embedded units of analysis.

The thesis aimed to address the following research questions:

RQ1: To what extent is environmental sustainability considered in the conservation of the urban environment in Scotland and how is this articulated in national planning and conservation policy?

RQ2: What mechanisms are in place to measure, monitor and evaluate the contribution of heritage conservation to the environmental sustainability goals of the Scottish Government at the national and local level?

RQ3: How are national policies implemented at the local level and how effective is the implementation process in Glasgow?

Philosophical Underpinning of Research Strategy

Policy responses to real-world problems come in complex multidisciplinary bundles that are political, social, economic, legal, historical and more. Therefore, the study of these policies and problems, which engages with sociology, political science and history cannot adhere to the tenets of objective 'sciences' in the strict positivist sense of the word. The social world, which is in part constructed of physical entities, is more importantly shaped by the ideas, values and beliefs concerning those entities and what those entities signify in the minds of people (Jackson and Sorensen, 2006). Within this realm, a social constructivist philosophy can present a more holistic basis on how the 'material world shapes and is shaped by human action and interaction' (Adler, 1997: 322).

From a constructivist perspective, structure is institutionalised 'patterns of social order that reflect historical context' (Klotz and Lynch, 2006: 356). Within this perspective, individuals or agents develop procedures, vocabularies and practices which are redefined over time as socio-historical contexts evolve (Klotz and Lynch, 2006). This is particularly true in the case of built heritage conservation. As Smith points out, heritage is not simply an asset defined by intrinsic meanings and values, but is inherently political (Smith, 2006; 11). The selection of what is conserved and protected is solely based on values assigned by agents at a particular point in time.

In the UK, the roots of heritage conservation policy can be traced back to the landed gentry who had influence and presence in the legislative landscape (Delafons, 1997). Constructivists argue that agency and structure are mutually constituted, therefore in the study of heritage policy, agency (actors) and structure (institutions, policy and guidelines) have a reciprocal influence. A reciprocal influence which Avrami (2009) contends is driven by cultural beliefs, as well as economic and political agendas. In heritage conservation, this influence happens within a process that valorises a heritage asset to signify a particular idea or narrative about a place or people (*ibid*). In the context and setting of historic cities, these influences permeate in the relationships and processes of urban planning, urban conservation and environmental sustainability, which in themselves are interconnected and interrelated, affecting everyday life.

Other key elements in constructivism are identities and interests. Constructivists argue that states can have multiple identities that are socially constructed by collective meanings, interpretations, assumptions and through interaction with other actors (Adler, 1997). Identities are formed by an actor's understanding of who they are, which in turn forms the basis of their interests (Zehfuss, 2002). In this thesis, the State's (Scottish Government) identity in terms of heritage is represented by HES. However, HES's identity in terms of how it frames its interests is not wholly Scottish, as the structures it incorporates to construct this framework are influenced by international heritage guidelines such as those produced by UNESCO or ICOMOS, which in turn are designed to be adapted to fit varying geo-political environments. While the actions of a state should be aligned with its identity, in the current geopolitical environment of global frameworks on urban policy like HABITAT III and international heritage conservation conventions, that identity is not only constructed by local and national influence, but by global movements and agreements. Within this relativist reality and subjectivist epistemology, a quantitative research strategy would not have been the most suitable approach.

Research Strategy: A Qualitative Research Strategy

Since this research is primarily focused on policy implementation and adopts a values-based approach to policy analysis, a research strategy well-aligned with the research aim and objective had to be selected from the onset. Although formal quantitative methods are favoured by those seeking analytical rigour and evidence-based policy, there is growing acceptance on adopting a

wider variety of methods that can address the various complexities of the policy process (Ukeles, 1977; Mayer *et al.*, 2013; Scott, 2017). Therefore, studies in policy implementation use both qualitative and quantitative research strategies, generally with a greater emphasis on qualitative case studies (Nilsen *et al.*, 2013; Einbinder, 2019).

Creswell contends that qualitative research is particularly useful when an in-depth understanding of an issue lies within the context and setting in which participants 'address a problem or issue' (Creswell, 2007: 40). Policy is designed to address real-world problems embedded within complex systems. This research engages with two strands of national policy, namely heritage conservation and environmental sustainability, within the larger framework of sustainable urban development. Inside this complex web of policy strands, international frameworks and directives guide and influence national policy, while practical constraints such as competing interests and resource availability have direct and indirect impacts on the ground. The flexibility of qualitative research allows the researcher to develop an information-rich description in response to a particular problem and corresponding research question (Yin, 2014). Therefore, qualitative research provided the flexibility to engage with this complex system of policies, identify the multivariant factors, contextualize the setting, and then present rich details that offer nuanced insights about the processes of policy implementation (Pal, 2005; Creswell, 2014). Nuances that could not be accommodated through quantitative research strategies.

The inflexibility of quantitative research limits the research participant responses to closed-ended or fixed responses, whereas the flexibility of qualitative research allows the participant to respond in greater detail and elaborate on issues. In the context of this research, where multiple strands of policy, numerous actors and international influence each play a part in local planning decisions, this elaboration provided important insights into how policy was interpreted and competing values prioritised on the ground. For example, qualitative interviews are well suited to capture the complexity of a policy sphere that is densely packed with a mosaic of tools and public agencies that interact with a host of third-party partners within a complex, interdependent network. Therefore, qualitative approaches are particularly appropriate for policy research because they enable the researcher to explore the interpretation and implementation of policy by actors in greater

detail, revealing factors, barriers and complexities that might affect implementation and in turn impact outcomes.

Research Design: A Case Study Approach

Examining policy implementation within this complex multidisciplinary landscape of contested values and interests, requires depth, details and real-life examples. Case studies provide the opportunity to contextualise problems with rich details and examples. This is especially true in the adaptation of historic buildings, where policy, actors and real-life constraints all influence approval decisions made by the local planning authority and choices made during project delivery. Case studies have the potential to unveil the relationships, interactions and influences of the relevant multidisciplinary strands to reveal particularly rich policy problems (Dunn, 2008; Flyvbjerg, 2011). According to Yin (2014), a case study allows the researcher to understand a real-life phenomenon in depth. Flyvbjerg (2011: 392) contends that the depth and 'closeness of case study to real life situations and its multiple wealth of details' are fundamental in understanding and conveying a nuanced view of reality, while engaging with the environmental inputs that Hill (1997) asserts influence and impact policy. The urban context appropriate for the interrogation of policy implementation that revealed these details was selected through the following process.

Selecting the Case Study City

With the adoption of a case study approach, it was important to determine a case that would facilitate the collection and analysis of the data, based on a clear, strong and substantive rationale (Yin, 2014). The strategy to select the case study was based on an information-oriented approach, aligned with specific criteria that would yield useful information in addressing the research aims (Flyvbjerg, 2006). The top three criteria for selecting the case study city were a) having 'sustainability' as a strategic objective, b) a robust urban heritage adaptation environment c) ease of access to adaptation sites and documents. An early scoping document was produced, identifying potential cities in the UK, which after many discussions and deliberations with supervisors was narrowed down to Scotland, and the two cities of Edinburgh and Glasgow.

Glasgow is Scotland's largest, and the UK's fourth largest city by population (table 1). Located in west central Scotland along the River Clyde and its estuary, Glasgow forms an independent council area of 176 square km, with twenty-five conservation areas and over 1,800 listed heritage assets mostly from Glasgow's Victorian era (LGBCS, 2016). The historic urban fabric of Glasgow has been and continues to be a complex multi-dimensional and multi-valued asset greatly impacted by policy trends throughout the history of the city.

1	London	8,982,000.00
2	Birmingham	1,149,000.00
3	Leeds	**792,525.00**
4	**Glasgow**	**633,120.00**
7	**Edinburgh**	**524,930.00**
28	**Aberdeen**	**228,670.00**
33	**Dundee**	**149,320.00**
58	**Stirling**	**94,210.00**
56	**Inverness**	**51,000.00**
57	**Perth**	**47,180.00**

Table 1. Scotland's seven cities' (shaded in blue) population ranking in the UK. Source: Office for National Statistics and National records of Scotland (2019).

The most recent trend is the city's ambition to become one of the most *sustainable* cities in Europe (GCC, 2015). It was therefore possible to conclude that the fate of the city's historic urban fabric should in part be determined by how sustainability guides the management of change. Furthermore, in 2014 the £1.13 billion Glasgow City Region Deal, the largest of its kind, was awarded (Scottish Government, 2015a). This package of funding and decision-making powers agreed between the UK and the Scottish Government was designed to improve regional economies. Investment areas included – among other things– housing, energy efficiency, and regeneration (*ibid*). In managing change within the historic urban fabric, this type of funding, in addition to national and international directives, influence decisions on the urban built heritage. In the case of Glasgow, this is especially true, since Glasgow's historic assets have been used as instruments for regeneration, urban development and rebranding throughout, and more so recently as Glasgow's pushes for a prominent position in the global arena (Madgin, 2019).

Amongst Scottish cities, Glasgow has the second highest number of listed heritage assets after Edinburgh (see fig. 2). The designation of Edinburgh's Old and New Town as a World Heritage Site adds a unique layer of complexity during the planning decision process. Since the research is investigating the extent to which environmental sustainability is considered in the policy and practice of urban conservation, the unique complexity that a World Heritage site would bring to the discussion would not have been applicable to urban heritage conservation across other cities in Scotland or indeed in the UK. Therefore, within Scotland, Glasgow provided a substantial selection of choices for analysis compared to the remaining cities in Scotland, and together with the city's ambition to be the most sustainable city in Europe, met the selection criteria.

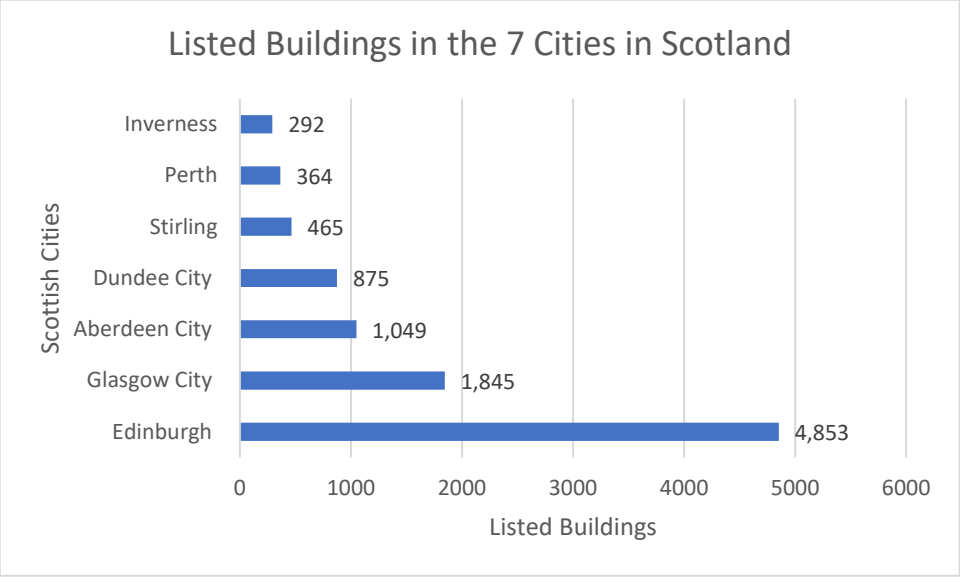


Figure 2. The number of listed buildings in the seven cities of Scotland (source: HES portal).

Architecture of the case study

To structure the case study approach, a blueprint of the different phases of research was developed (see fig. 3) The first phase of the research involved a desktop review of grey literature and international guidelines on urban planning, heritage conservation and environmental sustainability. Following that an in-depth and comprehensive review of the UK and Scottish legislation and policies on urban conservation, sustainable development and environmental sustainability was conducted to understand the historical context and chronology of current policies. As a first step, a chronological timeline was developed to understand the evolutionary process of policy development and to position the policies within the larger environmental and

heritage conservation discourse. Thereafter, the result of the policy review was compared with parallel international policy frameworks, guidelines and discussions on heritage conservation, sustainable development and environmental sustainability. These included publications by the United Nations and its affiliated organizations, the World Bank, the European Union, and other international coalitions concerned with urban development and environmental sustainability. The reason for this comparison was to investigate correlations between international policy trends and national policy.

<table>
<tr><th colspan="5">Architecture of the Case Study</th></tr>
<tr><td rowspan="2">Phase 1: Understanding National Policymaking Frameworks</td><td>Policy review/analysis</td><td colspan="3">Identification of key agencies / actors</td></tr>
<tr><td>Sources: Internet and archival research</td><td>Sources:</td><td colspan="2">• Internet searches
• Informal discussions with local heritage actors
• Participation in local heritage discussions and debates</td></tr>
<tr><td rowspan="2">Phase 2: Local case study of Glasgow</td><td>Understanding local policy frameworks</td><td colspan="3">Understanding local heritage attitudes/practices</td></tr>
<tr><td>Sources: Internet and archival research, Glasgow City Council Planning Portal</td><td>Sources:</td><td colspan="2">Semi-structured interviews</td></tr>
<tr><td rowspan="2">Phase 3: Embedded Units of Analysis</td><td>Step 1: Classifications of listed buildings in Glasgow</td><td>Step 2: Review of Buildings at Risk in Glasgow</td><td>Step 3: Selection of building typology for analysis</td><td>Step 4: Analysis of the status of all listed school buildings in Glasgow and the selection of adaptation projects that had been completed and had defined environmental sustainability aspects in planning documents</td></tr>
<tr><td>Source: HES Portal</td><td>Source: BARR website</td><td>School Buildings</td><td>Source: Planning application documents, internet research, interviews</td></tr>
</table>

Figure 3 Structure of case study approach

The actors involved in heritage conservation in Scotland are many and diverse, therefore it was important to understand the landscape, structure and the role that each actor played. This was done through general discussions with heritage specialist during local conferences and debates, and a careful desktop review of Scottish conservation news, publications and events. These also helped identify potential candidates and gatekeepers.

The second phase of the research began upon securing ethical approval. Five exploratory interviews were conducted with international scholars and specialists (some of whom reside in Scotland), on heritage conservation and sustainable development, with a particular focus on environmental sustainability to keep abreast of international discourses and practical concerns. In the meantime, eight local heritage specialists were interviewed to gain further insight into the national and local practical issues, as well as the political and social arena of planning and conservation. These exploratory interviews highlighted the various levels of bureaucracy within agencies, as well as a lack of clarity on often used terminology such as sustainable development, environmental sustainability, culture, cultural heritage, amenity, and the like.

As a result of these exploratory interviews, it became apparent that a key starting point for the next phase of interviewing was to start from a clear understanding of terminology such as sustainable development and environmental sustainability. Some of this ambiguity stems from the Scottish Government use of particular terms such as 'green' to indicate environmentally friendly development, 'zero carbon' to indicate development that is partially carbon neutral, historic environment that includes both built heritage and natural heritage, and cultural heritage that at times also incorporates intangible elements such as the arts, music and food. Although technically the context should help identify which meaning was inferred where, this was not always the case. Furthermore, national policy documents and strategies were often littered with terminology that were not necessarily interpreted the same way by local authorities and those who were in charge of implementing strategy, providing guidance on planning issues, or involved in built heritage adaptation.

During this phase a comprehensive policy analysis was conducted. Policy analysis is generally defined as a scientific inquiry that guides and influences decision making about policies using quantitative methods, qualitative methods, or both (Einbinder, 2019). With the growing complexities of the policy process, the definition for policy analysis has also broadened. In the academic study of the policy process, various stages of the process have been identified and labelled (Lundin and Öberg, 2017). Although labels may vary, the process can generally be structured as initiation (agenda setting), information gathering, formulation, decision making

(policy adoption), implementation, evaluation, and termination (fig. 4) (Hill, 1997; Lundin and Öberg, 2017).

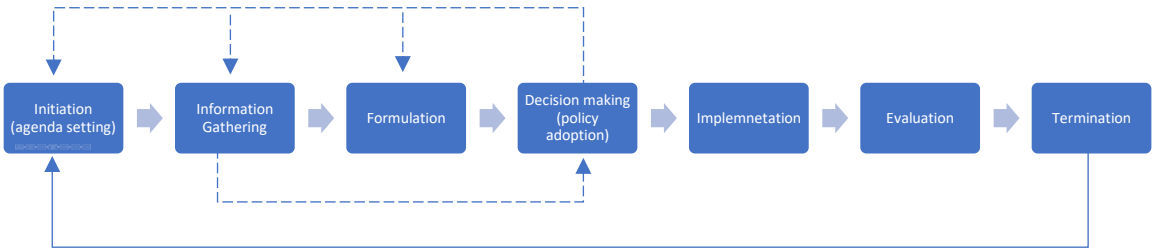


Figure 4. Rational policy process adopted from Hill (1997) and Lundin and Oberg (2017)

However, this sequential model is an oversimplification of the actual process. In the real world, stages often overlap, and the procedures may not be as rational as this linear process suggests (Hill, 1997; Lundin and Öberg, 2017). Hill (1997) contends that a more realistic process is one that takes the environment within which policy operates into consideration. According to Hill, this environment consists of 'individuals, groups and organisations with values and interests, operating alone or together over time' (ibid: 36). Within this social environment, actions, interactions and perceptions shape and construct reality. This helped form the researcher's understanding of the policy process and draw parallels with the heritage sector and its activities to situate the context within which policy and practice relate in policy implementation.

Hill's description of the policy process and its environment can also appropriately describe the heritage sector and its activities. The heritage sector, nationally and internationally, is also comprised of individuals, groups and organisations with values and interests, operating alone or together over time. What's more important is that in both the policy process and the heritage sector, values themselves, change over time. Therefore, in the context of this research, the focus will be on a specific window in time, or what Kingdon (2014) refers to as a 'policy window', where the three streams of policy problem, policy stream and political stream meet. According to Kingdon, the problem stream embodies perceptions of public problems where government action is needed. The policy stream incorporates output from experts and analysts who examine these problems and propose solutions. And finally, the political stream includes factors that influence the body politic,

such as elections, executive or legislative turnover, advocacy campaigns and widespread public concern for particular issues (Kingdon, 2014; Beland and Howlett, 2016).

In the context of this research, that particular window in time (fig. 5) was when Scottish political rhetoric deemed heritage conservation as a 'fundamental element of environmental stewardship and sustainable development' (Scottish Office, 1999, np). This followed a decade of new policies introduced by the UK and later the devolved Scottish Government, on sustainable development, while international debates on the role of heritage in sustainable development was being debated. The convergence of international debates and national policy on sustainable development and heritage conservation resulted in a series of strategic and legislative changes in Scotland. This convergence delineates the timeframe of this research, covering two decades of policy starting from the devolution of Scotland in 1998 to 2018, with a specific focus on heritage adaptation projects that commenced after the passage of the Climate Change (Scotland) Act 2009. The selection of this timeframe will be further elaborated later in this chapter.

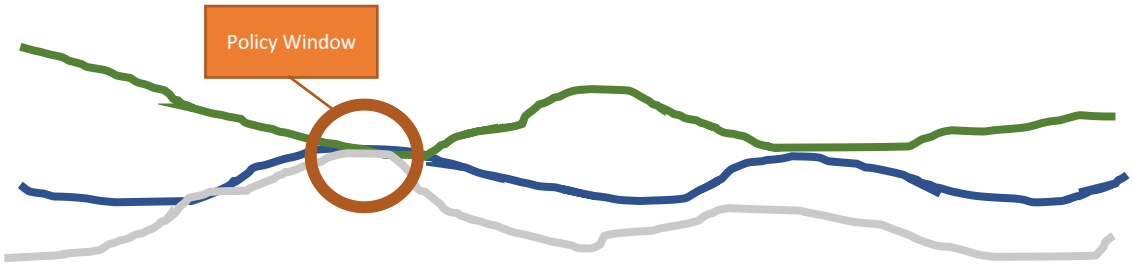


Figure 5. The convergence of international debates and national policy on sustainable development and heritage conservation.

Historical Scope of Research

Since the scope of the research is limited to Scotland, the starting point for policy analysis was devolution, which occurred in 1997. As a result, the planning legislation most relevant to this research is the Town and Country Planning (Scotland) 1997, and the Planning (Listed Buildings and Conservation Areas (Scotland) Act 1997, which together with the Scotland Act 1998 acted as the starting point of the research.

While policy analysis can be categorized in a variety of ways, in the context of this thesis, it was important to examine existing policies to determine whether policy objectives set out by the Scottish Government could be met. Knowledge about present policy is essential to determine what policies might be successful in the future (Thissen and Walker, 2013). To facilitate this examination a systematic investigation of existing policy and its implementation at the local level was carried out with the view of recommending policy improvements (Ukeles, 1977; Dunn, 2008, Weimer and Vining, 2017; Milovanovitch, 2018). However, in the course of the policy analysis it was necessary to refer to early policies to understand the historical evolution and context of current policy. Once the historical context and evolution was understood, the next step was to review the historical evolution of the built environment in Glasgow. While the 1945 Bruce Report resulted in the destruction of a large section of Glasgow's built heritage, environmental sustainability was not a policy concern and not linked to heritage conservation, therefore that period of heritage conservation or a lack thereof was not part of this research (Urban 2018). Furthermore, since the focus of the research was to determine how national policy guided local decision making, two key dates were used to review planning applications.

1999 to 2008 The selection of Glasgow as UK City of Architecture and Design in 1999 galvanised a series of adaptation projects. However, at this point, the link between environmental stewardship and heritage conservation was not internationally debated, even though discussion on environmental concerns was quite robust.

2009 to 2018: In 2009, the Scottish Government passed The Climate Change (Scotland)Act and therefore this period would have provided the context to determine how the climate and environment translated into decisions on planning applications. This period also coincided with many HES technical documents on climate change and environmental concerns.

During this period the positive role of built heritage conservation in supporting environmental sustainability was documented in *The Greenest Building: Quantifying the Environmental Value of Building Reuse,* research conducted in the USA by the Preservation Green Lab at the National Trust for Historic Preservation (PGL, 2011). In the global arena, discourse on environmental sustainability took on greater significance with the 2015 Paris Agreement (COP 21)

and the introduction of the UN Sustainable Development Goals, and the subsequent publication of Habitat III's *New Urban Agenda* in 2016.

On the heritage conservation side, the Historic Urban Landscape Approach (HUL, 2011), was introduced as a means of integrating urban heritage management with sustainable urban development. This is while the Hangzhou *Declaration Placing Culture at the Heart of Sustainable Development Policies* made the connection between heritage conservation and sustainable development explicit (UNESCO, 2013). Nationally, 'place making' became an important aspect of spatial planning and heritage conservation was linked to 'building a sustainable Scotland' (Scottish Government, 2013d: 18).

The Embedded Units of Analysis: The Listed School Buildings

To improve the resulting theory of this research, an embedded case study approach was selected. Embedded case studies consider multiple units of analysis that allow the researcher to focus on different aspects of the policy landscape (Scholz and Tietje, 2002). This allows for deeper exploration within the units, teasing out differences and similarities while maintaining a focused and holistic view on research objectives. The comparison between the units, and the distinguishing characteristics provide an opportunity for 'theoretical reflections about contrasting findings' (Bryman, 2016: 68). These studies are especially useful in analysing how and why policies work or fail, as well as explaining how the 'features within the context influence the success of a policy initiative' (Goodrick, 2014: 1). Furthermore, the comparison itself yields results and concepts that can be relevant to emerging theories on sustainable heritage conservation and sustainable urban development. Adopting Yin's approach, qualitative research allowed for the examination of the practice of urban conservation and planning implementation in the context of environmental sustainability within its natural setting (Yin, 2014), which in this case was Glasgow. This allowed for a deeper understanding and interpretation of heritage conservation in terms of the meanings the actors (planners, conservation practitioners, and politicians) brought to them and vice versa, as well as its relation to national and local policy.

In identifying how policy on heritage conservation and environmental sustainability is implemented, conversions of listed buildings into new use provide an interesting opportunity.

Conversion into a new use requires architectural and structural interventions to accommodate spaces which were not originally planned during the design and development of the building. These interventions regularly alter the layout and architectural features and could impact those elements which are considered as character defining elements. Therefore, the decision on how interventions are introduced into the existing fabric, will require engagement with heritage conservation policy and guidelines. On the other hand, the drive to achieve environmental sustainability means that all developments are now required to meet sustainability standards. The conversion of listed buildings thus engages with both heritage conservation policy and environmental sustainability policy, providing an excellent opportunity to discover how values are assessed and policy is interpreted and implemented.

In the conversion of listed buildings in Glasgow, a great number of churches have been adapted for new uses such as entertainment venues/restaurants or housing. But they have been exempted from this research for two reasons: a) legislation on ecclesial buildings is different than other listed buildings and b) in comparison to the number of listed buildings, take up a much smaller percentage.

The largest listed typology in Glasgow is residential units, with red sandstone tenements being a significant housing typology. However, the use of these buildings generally continues to be housing and while deferred maintenance and improving energy efficiency are pressing issues in Glasgow, improvement and maintenance interventions do not always require full engagement with the planning department.

The next largest types of listed building were what are categorized as *commercial* and *healthcare* (see fig. 6). Most of the commercial buildings were in continued use. Of those that were vacant, the size, layout and structure varied significantly, as some were designed as warehouses and others as factories, with many being located in contaminated areas, or indeed some having contamination issues themselves. From the hospital typology, again some were in continued use while others were heavily damaged. At the time of the study, there were no active conversion projects for these two typologies that would have provided the similarity in size, layout and condition to support a suitable selection. Therefore, the next largest typology, *schools*, was selected.

Listed school buildings are the next largest typology of listed buildings that have considerable historic and architectural significance for Glasgow and have seen a recent surge in conversion activity. Schools are generally buildings of architectural significance, aesthetically designed to 'sell' education to the public (Donovan, 1921) and showcase the society's attitude towards education (Engelhardt, 1942). In Scotland, the passage of the Education Act of 1872 led to the establishment of locally elected school boards to manage the funding, construction and operation of local schools. This resulted in a construction campaign by the School Board of Glasgow and Govan Parish School Board that delivered a total of 107 new schools between 1873 to 1919 (Hamilton, 2009-10; Worsdall, 1981). The early architects chosen by the Glasgow School board were required to have had experience in school design and included well known prominent architects such as John Honeyman, John Burnet, James Salmon, James Sellars, H and D Barclay, Andrew Balfour and Charles Rennie Mackintosh (Worsdall, 1981). According to Wood (2019: 7), school buildings provide visible and tangible 'evidence of the state's work, past and present' and helped maintain the relationship between society and government. The Board School buildings reflected the nation's aspiration for a modern, civilised, and progressive social order that valued its human resources. Today, many of those buildings are listed and are in continued use as schools.

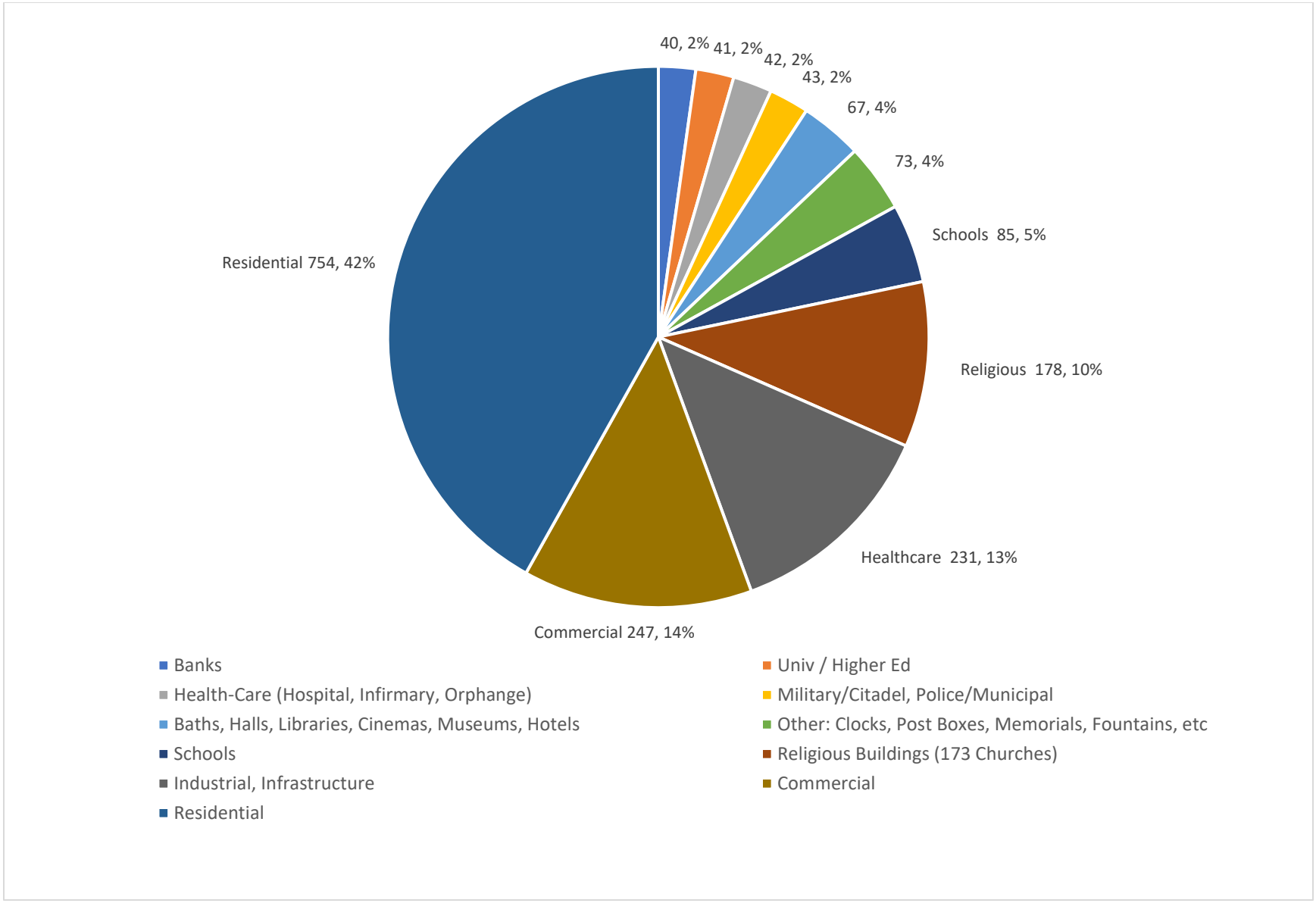


Figure 6. Categorization of listed assets in Glasgow (source of data: HES Portal).

These buildings were not only reflective of architectural taste and state aspirations, but the quality of construction and choice of material resulted in durable structures, evident in the continued use of some of these buildings more than a century after their construction. Durable structures with a *long life* and *loose fit* were virtues that Sir Alexander John Gordon (1972), President of the Royal Institute of British Architects (RIBA) defined as good architecture. Gordon argued for buildings designed for long life, loose fit and low energy, meaning that they are built with permanence in mind while incorporating flexibility to accommodate future change and minimising energy footprint throughout their operational life – objectives known today as durable, adaptable, and sustainable (Langston 2014). The aesthetic and socio-historical significance of schools together with the last criteria make this typology favourable for retention and adaptation. Furthermore, the schools built during this campaign followed a similar style and overall layout, making the comparison between buildings more practical.

School buildings, in terms of material and durability, as well as the expansive floor spaces and iconic architecture make for attractive choices for conversion and adapted reuse. This is true both from an environmental perspective as well as social and economic. Yet the number of school buildings constructed during the School Board building campaign that have been demolished so far (fifty-five in total most of which were not listed), as well as those that have fallen into dereliction without securing a viable use is of concern. As properties of the city, where the responsibility of maintaining a viable use or sustaining regular maintenance lies with the local authority, they provide unique opportunities to investigate how policy implementation occurs. This supports Flyvbjerg's position on reorienting towards a 'less idealistic, more grounded view of planning, to develop strategies that improve the planning process (Flyvbjerg, 1996: 393).

Once this typology was selected, the status of every listed school building in Glasgow was investigated. This systematic review revealed that the majority were B listed, of which most were in continued use as educational facilities (see fig. 7). The schools that were in continued use as educational facilities were eliminated from the list. Of the remaining listed school buildings, nine were on the Buildings at Risk Register and the remaining 37 were either converted into new uses or were in the process of being converted. Those that were not originally designed as school buildings but were described as schools in their designation description were eliminated to

maintain uniformity in the original layout and use of the building. From the remaining school buildings, eight had already been converted to dwellings or had applications for change of use to dwellings. These were selected for further investigation and the planning applications for each of these schools were reviewed.

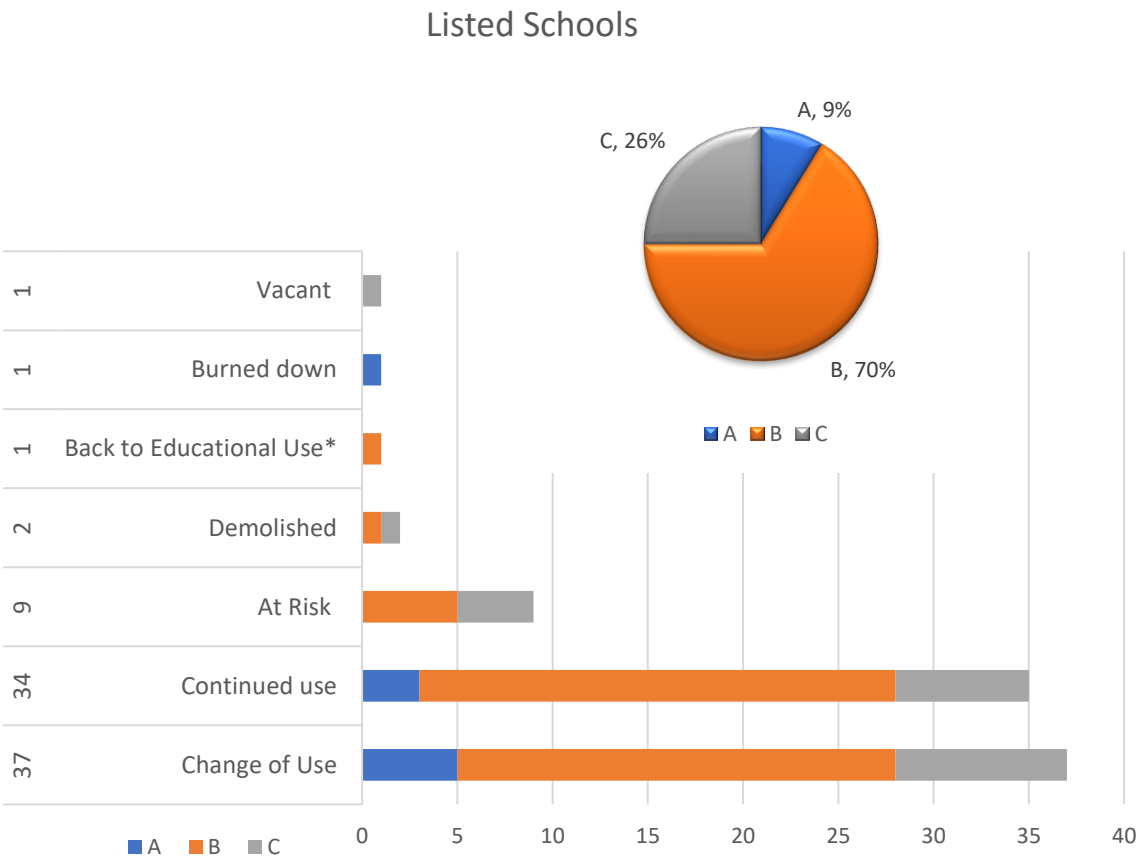


Figure 7 Listing category, condition and use of listed school buildings in Glasgow.

Since this research is focused on policy implementation, the schools where planning permission had been applied for and were in the process of being converted or were recently converted provided the greatest opportunity to engage with current policy. Therefore, those that had mentioned sustainability in their planning applications and had been already converted to dwelling or had started construction and were near completion were selected. Of these, four schools were selected, two of which were B listed buildings and two were C listed buildings. This allowed the investigation of how the level of heritage significance impacts policy implementation and where. Of the four schools, two were converted into social housing and two were converted into private housing. In Scotland, social housing development is guided by strict building standards which include higher environmental sustainability standards as compared to private housing. This provided the opportunity to assess how priorities were negotiated to achieve the higher environmental standards. Finally, the four schools are geographically dispersed in Glasgow. While replicability is not always the main objective of a qualitative case study, in selection of the units of analysis the geographical variations within the city allowed to gain a more general view of how conversions were carried out regardless of whether the buildings were in affluent areas or in conservation areas. See table 2 and fig. 8 for details on the selected units of analysis. Once these schools were selected, the relevant planning applications were analysed, and the sites were visited. After site visits, architects and a surveyor involved in the projects were interviewed. Following those interviews, the Glasgow City planning officers and staff were interviewed.

Name	Category	Address	Year Built	New Use
Greenview Primary School (aka: Balmore, Parkhouse)	B Listed LB33751	165 Glenhead Street G22 6DJ	Built: 1929-31 Modified: 1960	28 Units - Social housing for the eldery and supported accomodation
Holmlea Primary School	B Listed LB33807	362 Holmlea Road G44 4BY	1908	49 Units – Social Housing
Willowbank Primary School	C Listed LB48628	2A Willowbank Crescent G3 6NB	1900	178 bed spaces – Private Premium Student Accomodation
Balshagray Public School	C Listed LB51044	27 Broomhill Avenue G11 7BF	1904	68 Units –Luxury Private Flats

Table 2.Description of the of the units of analysis; listed school buildings.

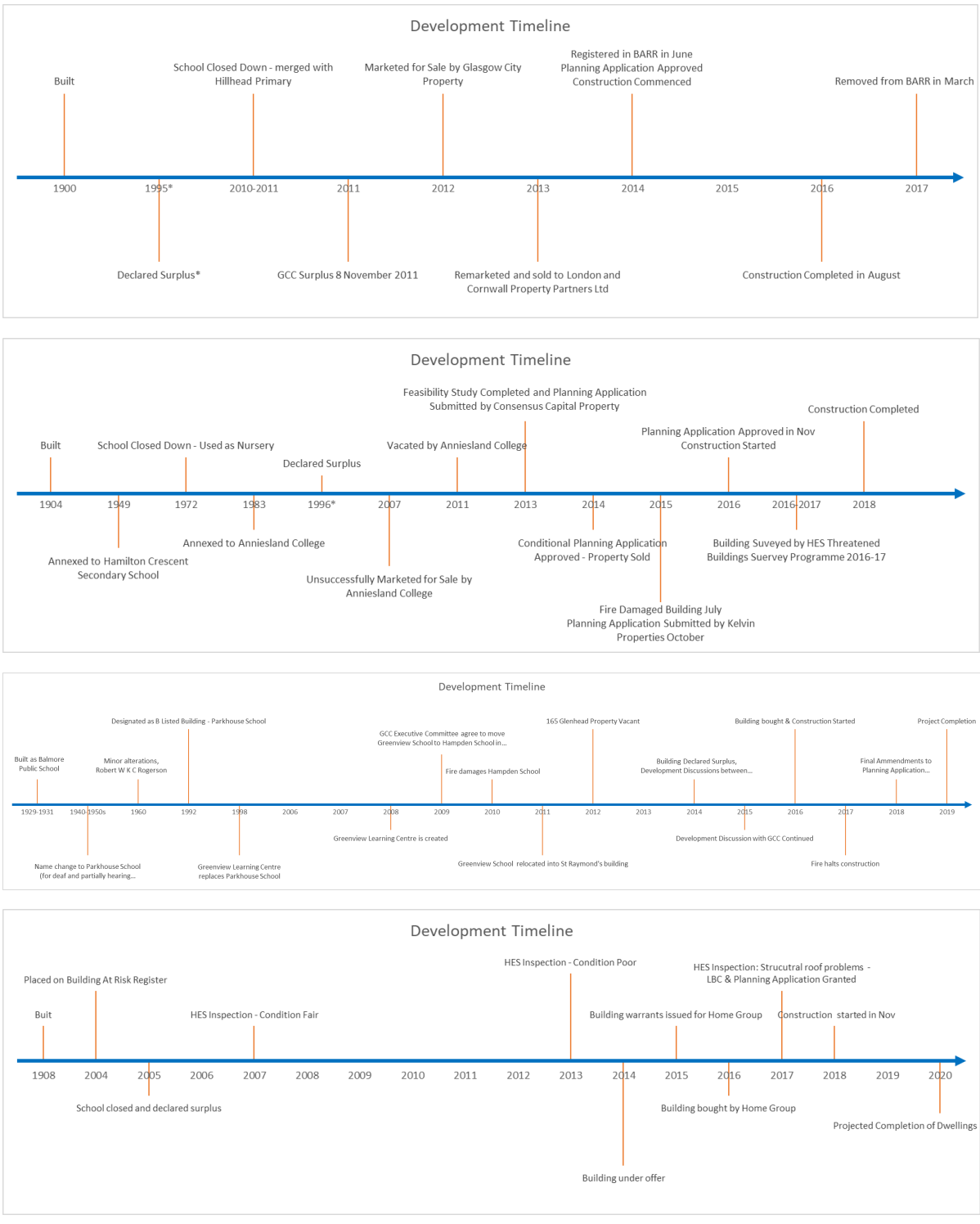


Figure 8. The development timeline of each of the schools is outlined above, from their original construction and use as school, to the time they were vacated and conversion to dwelling commenced.

Data Collection and Analysis

The final stage of the research strategy was data collection and analysis. The holistic scope of enquiry within a case study led design permits rich data collection using multiple methods. A more robust evidence base develops by triangulating between these methods (Yin, 2018). The data collected for this research from documentary analysis (planning documents for the adaptation projects) and semi-structured interviews, were analysed against policy documents and grey literature. A total of twenty-nine participants were interviewed (see fig 9). These included heritage consultants, adaptation project architects, planners, surveyors, technical advisors from HES, members of the local heritage conservation organizations and local authority planning officers. The first round of interviews included five exploratory interviews with international heritage conservation professionals and academics and eight local heritage professionals. The international heritage professionals were identified and selected from their publications and research on international heritage conservation. The eight local heritage professionals were selected based on their research and their direct involvement in local heritage policy discussions. Of the remaining sixteen interviewees, thirteen were selected because of their direct involvement with the adaptation projects, and three were selected because of their knowledge on environmental sustainability issues of heritage conservation in Scotland. Each semi-structured interview lasted between 45 to 90 minutes. While most were conducted face to face, a few were conducted over the telephone or Skype. These interviews were arranged at a time and place convenient for the participant and recorded with the participants' consent. Although the interviews were conversational, and the participants were encouraged to elaborate on issues (Bryman, 2012), it is also important to note that in these types of situations, responses can be partial and subjective. Therefore, all the themes and issues that emerged from the interviews were cross referenced with relevant policy and planning documents, as well as grey literature.

These interviews helped shed light on how national and local policy were interpreted and implemented at the local level, and the types of information that was missing from the discourse between various actors. Documents outlined in fig.6 and Appendix I provided the basis for the thematic analysis and served to guide the interviews. Planning documents for each unit of analysis and grey literature was used to augment and complete areas where further evidentiary data was required.

Document Analysis: Scope: Heritage Conservation, Urban Planning & SUD (with specific emphasis on Environemental)	UK Gov Legislation & Policy Documents Scottish Gov Legislation & Policy Documents Non-departmental public bodies, charitiies: HES; A & D S Trusts: Prince's Foundation; EST; SCT; NTS; GCHT; GBPT; Local Authority Strategic Plans, Polcies, etc United Nations:UNESCO;UNDP;IPCC	
Interview (29)	Private Sector: Architects/Conservation specialists; Planners; Energy efficiency specialists HES Staff LA: Planing Department Members of Charities, Trusts and ALEOs UNESCO/ICOMOS: Advisors	
Identification of Embedded Units of Study and Scope:	Typologies: Educational **Change of Use**: School to residential	
Thematic Analysis (in no particular order):	Impacts on Building Significance/Heritage Values Energy Efficiency Waste Management Embodied Energy Transportation Sustainable Development Environmental Sustainability	
Evaluation of Case Study Units	Implementation & Outcome	Alignment with Policy Deviation from Policy

Figure 9. Data sources, units of analysis and key emergent themes.

Data analysis

The type of analysis selected for this research was thematic. According to Braun and Clarke thematic analysis allows the researcher to identify, analyse and report on patterns and emerging themes within the data (2006). These themes are issues that capture important aspects of the data in relation to the research question and show patterned responses or meanings within the collected data set (ibid). The usefulness of this method is in identifying areas of similarity and difference in the data set to generate insights that can be used to 'inform policy development' (Braun and Clarke, 2006: 97). Triangulation was used to assess the credibility of the research (Patton, 2002) by converging information from the interviews, planning application documents, policy and grey literature. All interviews were recorded, and the recordings later transcribed. While transcription was a time -consuming endeavour, it provided the opportunity to revisit literature and policy documents and reflect on the themes which arose from the grey literature and documentary analysis. Transcripts and notes were coded by hand, then compared with policy documents, grey literature and planning application documents.

Ethics

Before commencement of research involving human participants, material or data, approval from the College of Social Sciences Ethics Committee was obtained. All data collection, handling and storage was in accordance with the ethical guidelines set out by the University of Glasgow. This research did not include the participation of any children or vulnerable members of public, therefore posed minimum risk to human subjects. Since the heritage sector is very well networked, it was possible that research participants would have at some point knowingly or unknowingly revealed information or opinions that could affect the processes of urban conservation, urban development or planning decisions. To mitigate any potential problems, an introductory letter, plain language statement and consent form was provided to each research participant detailing the nature of the research and scope of interview. The consent form clearly outlined that each individual participant would be anonymised, and all identification details kept confidential. All research participants were required to read and sign the consent form *before* the interview.

To facilitate anonymity, a numerical code was assigned for each participant and references to gender were removed. However, the description of the participant's profession has been provided to contextualise the position from which issues are discussed and to reveal the interplay of professional perspectives and values. In this research project interviewees excludes property owners, occupants and nearby communities affected by the development as they were not part of the research. Primary data was complemented by an analysis of relevant planning application documents and grey literature.

Problems and risks, and management of such

As part of the research includes policy analysis, Bracken cautions on relying too heavily on policy documents as the documents alone may not reveal policy intentions (Bracken, 2007). His advice is to use the questions arising from policy analysis in the interview process. He further advises that if access to individuals proves difficult, a useful strategy is to employ polite persistence. However, even polite persistence proved fruitless in gaining access to individuals in the building's warrants department, and other individuals involved in the conversion process. Further hampering the research process was the onset of COVID-19, making future attempts at reaching these individuals very difficult.

A typical problem with a case study approach is the ability to identify case studies whereby the findings and conclusions can be representative of the general phenomenon being studied (Yin, 2009). However, Flyvbjerg contends that finding a representative case may not always be the best strategy (Flyvbjerg, 2006). In weighing these two points of view, it was determined that school buildings provided the typology that best represent 'loose fit, long life' (Gordon, 1972), generally well suited for adaptation. This refers to buildings that are built for permanence, incorporating designs that allows for flexible use while minimising energy footprint. The school buildings built during the late 1800s to early 1900s were robustly built and the large classrooms with high ceilings made the interior spaces flexible for adapted use.

In the consideration of the unit's locations, access to and knowledge of the city played an important part. Living in Glasgow during the course of the research provided the opportunity to spend sufficient time identifying the area, conducting in-depth interviews, and accessing a larger group of stakeholders. Furthermore, networking with local heritage conservation societies both in

Glasgow and Edinburgh introduced me to some of the nuances of heritage and sustainability concerns within Scotland and the city that were of importance to the research but did not immediately emerge from the literature and documentary analysis. While providing a fully comprehensive picture of issues facing urban conservation in Glasgow is not possible in the limited time of the PhD, the aim is to present a research that can be replicated by other scholars to further enhance the understanding of issues at hand.

As a first step in understanding sustainable development policies in Scotland, a policy analysis of UK and Scottish sustainable development and heritage conservation policy will be presented in the next chapter, followed by an analysis of planning policies in Scotland. Where relevant, these analyses will refer to international policy discourse that shaped or influenced national policies.

CHAPTER 4 SCOTTISH POLICY LANDSCAPE – URBAN CONSERVATION AND ENVIRONMENTAL SUSTAINABILITY

> The Scottish Government recognizes that the conservation of the historic environment is '***a fundamental element of environmental stewardship and sustainable development***' (Scottish Office 1999).

Examining the relationship between urban conservation and environmental sustainability policies requires the portrayal of the policy landscape in which the devolved Scottish Government policies are designed and implemented. This landscape is shaped and influenced by broader United Kingdom (UK) policies as well as international frameworks. The reason for this is because some policy matters such as energy and foreign policy, which have reciprocal influence on international agreements and EU directives on sustainable development and environment, are matters reserved to the UK government (Reid and Edwards, 2017).

This chapter begins by discussing the UK's approach to delivering sustainable development, briefly touching on devolution and its implication for Scottish policies. Following that will be a review of the historic evolution of policies that form the basis on which decisions about urban conservation and environmental sustainability were taken during the approval of the case study planning applications. This will lay the groundwork for arguments on the relevancy of such policies in light of the Scottish Government's environmental and heritage conservation goals and objectives.

The chapter will show that in terms of urban heritage conservation and environmental sustainability, there are four key areas of intersection, namely energy efficiency; waste management; resource use; and transport. As the Scottish Government sets ambitious goals towards achieving sustainable development and relies on indicators and scientific data to monitor progress, the chapter will tease out policies designed to facilitate this monitoring and will then investigate their implementation in the conversion of historic school buildings in Chapters Seven and Eight.

An important precursor to this discussion however is to examine the definition of *sustainable development* in the UK and Scotland, before mapping sustainable development policies against areas where urban heritage and environmental sustainability converge to demonstrate where they sit within the Scottish policy landscape.

Defining Sustainable Development

'Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs' (WCED, 1987: 8). Since the introduction of this formal definition in the Brundtland Report, sustainable development (SD) has been a political objective in the UK and its devolved administrations. (UKG, 1990; DETR, 1999; Jenkins, 2002; DEFRA, 2005; 2011a; Jones, 2006; Ross, 2007; 2012) The Brundtland's broad definition of SD allowed for countries and organisations to interpret sustainable development based on their particular circumstances. Consequently, this vague and imprecise language has led to interpretations, reinterpretations, and debates on the precise meaning of SD in policy circles and academia to facilitate better policy design and implementation (Kates *et al.,* 2005; Redclift, 2009; Lombardi *et al.,* 2011; Shi *et al*., 2019). The outcrop of these activities has been the introduction of concepts such as *weak* and *strong* sustainability which debate the value of human-made capital vs natural capital and their relationship in achieving sustainable development (Rowan-Robinson *et al.,* 1995). Other emerging concepts include market values for *environmental quality,* an expanded notion of *development* to include *human* and *social* development, and anthropocentric versus ecocentric views of nature (Daly *et al.,* 1995; Kates *et al.,* 2005; Du Pisani, 2006; Purvis *et al*., 2018). Whilst this malleability has facilitated global acceptance of the concept of SD, the imprecision and variation has made policy design and implementation difficult (Strange, 1997; Jenkins, 2002; Waas *et al.,* 2011).

In the UK and Scottish policy, the Brundtland definition continues to persist as the overriding definition. However, with changes in public concern, political leadership, and economic conditions, the emphasis of policy focus has oscillated between environmental limits, societal justice, and sustainable *economic* growth, with ramifications for policy and implementation. Nevertheless, in this research, the Brundtland definition, generally expressed through the interdependent tripartite model of environmental, social, and economic dimensions, will be adopted to define sustainable development.

One of the key mechanisms for delivering sustainable development objectives is the planning system (Rowan-Robinson *et al.,* 1995; Scottish Government, 2014b; Cullingworth *et al.,* 2015). Land use and development decisions, as well as urban heritage conservation and environmental sustainability are processed within this planning system. Therefore, to

understand how urban heritage conservation contributes to sustainable development, and how environmental considerations are factored into this decision process, first UK and then Scotland's post devolution approach to delivering sustainable development will be examined. This will then be followed by a discussion on conservation policies that guide planning decisions. These will provide the context for Chapter Five which focuses exclusively on planning, and the environmental sustainability mechanisms structured within the planning system.

Sustainable Development in the UK

The 1992 UN Rio Declaration on Environment and Development, supported by the *Agenda 21* action plan, called upon UN Member States to prepare national strategies for sustainable development that included appropriate criteria and indicators to measure progress 'across economic, social and environmental dimensions' (UNCSD, 1992: 66). In the UK, that strategy was *Sustainable Development: the UK Strategy* (UKG 1994). As one of the first countries to produce a sustainable development strategy, the UK incorporated research from other countries and organisations such as the UN Commission on Sustainable Development (UNCSD), the Organisation for Economic Cooperation and Development (OECD), and European institutions, to develop a set of 120 indicators to monitor progress (Hall, 2005: 3). These were published in 1996 as the *Indicators of Sustainable Development for the United Kingdom* (UKG, 1996) and were based on key issues and objectives addressed in the sustainable development strategy.

Since the overarching global concern leading to the Brundtland Commission report was environmental degradation, environmental concerns took centre stage in policy rhetoric and strategy. As such, the main criticism of the UK's first strategy and its indicators was that most of the emphasis was on protecting the environment, and reconciling opposing economic and environmental objectives, with little attention given to the social dimension of sustainable development (Jenkins, 2002; Hall, 2005).

The environmental focus of the UK's sustainable development strategy was the outcome of two important legislative and strategic developments. First, the passage of the Environmental Protection Act of 1990 established an integrated framework which combined the responsibilities of environmental management with pollution control (Fry, 1997). Second,

the UK government published its first environmental strategy *This Common Inheritance* (UKG, 1990), which outlined the government's environmental strategy over a range of policy areas, making sustainable development a cross governmental priority. '*Green Ministers'*[8] were appointed to all government departments to oversee the environmental implications of departmental functions and policies (Jenkins, 2002; Hope and Owens, 1991; Cullingworth *et al.,* 2015).

To streamline compliance with these new environmental policies, the Scottish Office announced its intent to establish the Scottish Environmental Protection Agency (SEPA) as 'a single, independent agency with executive powers' (Lloyd, 1999: 32). Up until this announcement in 1991, the responsibilities for environmental management and pollution control in Scotland were fragmented and piecemeal, drawing criticisms from the Scottish Office on their 'potential duplication, waste, and inefficiency' (Lloyd and Ross, 1994: 194). Eventually, in 1996 with the passage of the Environment Act of 1995, SEPA was established and granted legislative powers to guide and regulate the implementation of the principles of sustainable development (Lloyd, 1999).

While global discussions at the United Nations were instrumental in shaping the UK's sustainable development policy, much of the environmental legislation introduced during the 1990s was to comply with EU directives set in place by the Maastricht Treaty (Owens, 2011; 2015). Just as environmental concerns are not bound by geographic boundaries and national borders, in the implementation of environmental policy, local considerations are also entangled with larger international policy objectives.

Adding to this complexity was the balancing of the three pillars of sustainable development. As noted above, the initial emphasis on the environment and economy overlooked the social pillar of sustainable development. Additionally, the language in both the Environmental Protection Act 1990 and the *Sustainable Development: the UK Strategy* adopted a precautionary approach, while on the ground a contradictory attitude was adopted by

[8] In this context, Green does not refer to the Green Political Party. Rather 'Green Ministers' have special responsibility for environmental issues and department policy on sustainable development (HL Deb 18 June 1992). The adoption of 'green' to refer to 'environmental' concerns or 'environmental sustainability' continues to percolate into Scottish policy rhetoric as well, inferring that sustainability is not based on the interdependence of environment, social and economic, rather it can be divided into 'economic sustainability' and 'green', thus separating environmental concerns from 'sustainability' discussions.

the government. In practice, sustainable development meant encouraging development, unless it was identified that it would cause harm (Rowan-Robinson 1995).

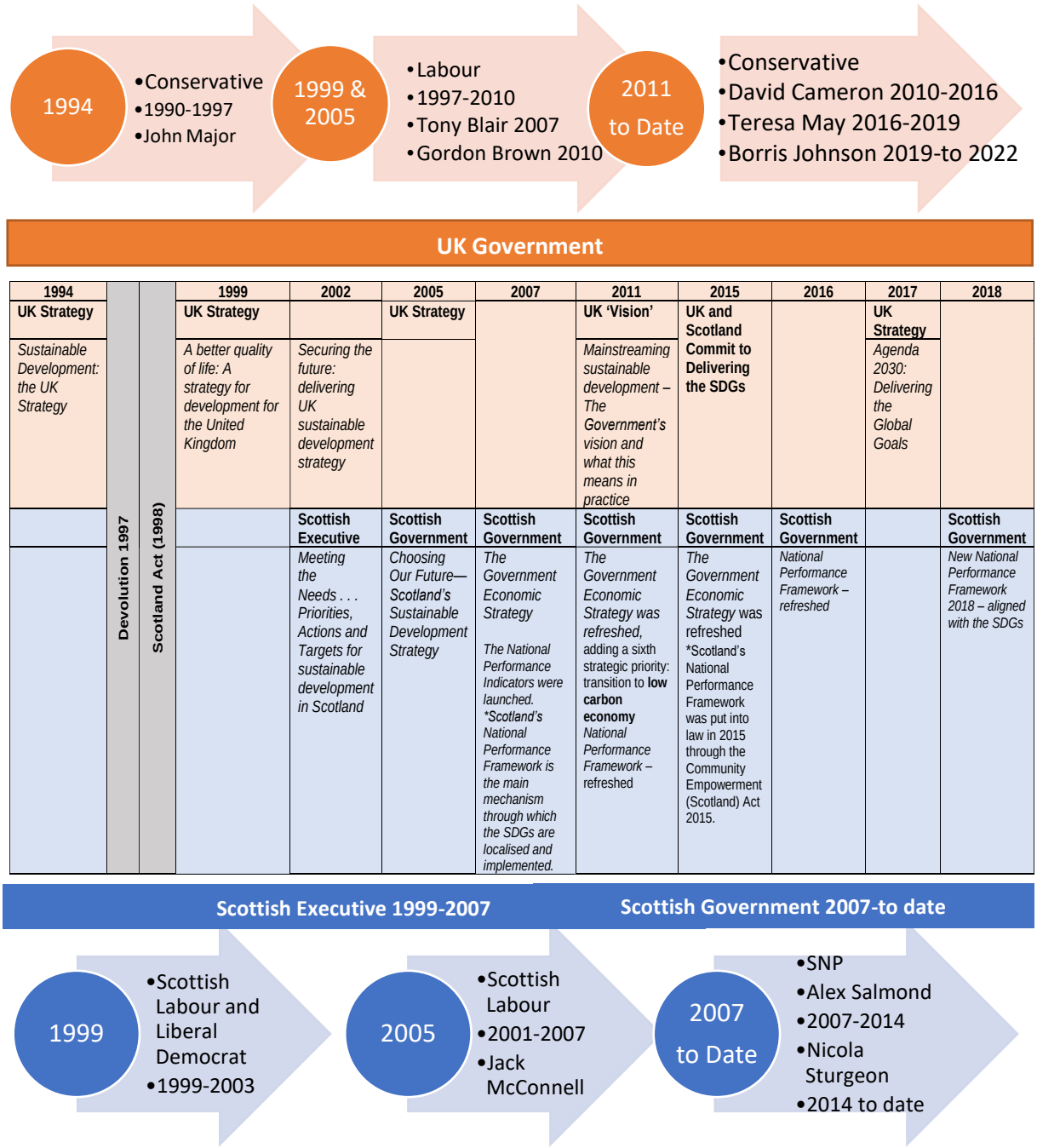


Figure 10. UK and Scottish Government Strategies for sustainable development and political timelines.

Politics in Delivering Sustainable Development

Delivering sustainable development was and continues to be a statement of political intent, in response to the value that the public places on sustaining a liveable planet. It is therefore inextricably linked with party politics and values, shaped during particular moments in time and influenced by internal and external factors. In the UK, the victory of the 'New Labour' government over the Conservative Party in 1997, led to a shift in government priorities (Owens, 2011). The full context in which this shift took place is wide ranging and complex, however a few key factors are pertinent to this research.

One of these contextual factors was rising problems with environmental pollutants and the oil crises of the 1970s, culminating in what Kingdon (2014) frames as problem streams, resulting in a subsequent slew of stringent environmental and energy efficiency policies (Owens, 2011). A second key issue lay within the urban context. Most UK cities witnessed a 'continuous process of counter urbanization' from the 1960s to the early1990s, partially led by deindustrialization and a changing economic landscape (Colomb, 2007:1). This counterurbanization led to a change in demographics in inner cities. Coupled with substantial increase in poverty and social inequality in Britain during the 1980s, a concentration of deprivation and exclusion developed in inner cities (Gordon et al., 2000: Tunstall, 2021). These last two factors would impact housing policies, both in terms of delivering units and in terms of maintenance and quality control, eventually resulting in higher required standards for social housing. The implications of which will be further discussed in Chapters Five and Six.

Within this changing socio-economic and environmental context, the 'New Labour' Government embarked on a series of policy initiatives that marked the convergence of energy and climate policies (Lovell *et al.*, 2009; Owens, 2010). These initiatives were led by a push for a stronger local government, more democratic partnerships, and greater community-led regeneration, a push that would eventually lead to devolution (Colomb, 2007). Devolving decision-making to the regional and local level was to promote growth across the UK by tailoring response to the different regional opportunities and challenges.

The New Labour's sustainable development strategy shifted policy priorities to social justice and a market-based approach to delivering economic efficiency (Allmendinger and Tewdwr-Jones 2000). An updated and more robust strategy on sustainable development was

published in 1999. *A better quality of life: A strategy for sustainable development for the United Kingdom* (UKG, 1999) placed greater emphasis on the social aspect of sustainable development and instituted mechanisms to monitor progress in support of a more integrated approach to policymaking (Jenkins, 2002).

One such mechanism was the establishment of the Sustainable Development Commission (SDC)[9] in 2000. The SDC was an independently appointed advisory body charged with monitoring and appraising government's performance. Additionally, an Environmental Audit Committee (EAC) comprised of cross-party MPs was setup to provide parliamentary scrutiny on government policies and hold government to account (Jenkins, 2002). Since having indicators to track progress was 'an integral part of the development of the new strategy', fifteen headline indicators and 132 core sustainable development indicators were established (Hall, 2005; 4). A Sustainable Development Unit (SDU) was founded within the Department of Environment, Transport and the Regions (DETR) to conduct annual reviews with reference to the fifteen headline indicators (Jenkins, 2002; Ross, 2005).

Devolution and Sustainable Development

It was during this same time that the New Labour government approved referendums on devolution in Scotland and Wales (Referendums (Scotland and Wales) Act 1997). Devolution transferred power from the central UK government district of Westminster, to the nations and regions of the United Kingdom (Torrance, 2019: 4). This process allowed each nation to form the capacity to address regional concerns with more effective and tailored policies. With Scotland becoming a devolved administration, and the passage of the Scotland Act 1998, some of the powers previously held at the UK Parliament were transferred to the newly established Scottish Parliament (Torrance, 2019). Through the Scotland Act, the Scottish Parliament holds the power to introduce new laws on *devolved matters*, while the UK Parliament retains control over *reserved matters*[10]. In this arrangement, Scotland is a devolved nation *of* the United Kingdom. Thus, in the international policy arena,

[9] The Labour government replaced the Conservative government's Government Panel on Sustainable Development (GPSD) and Roundtable on Sustainable Development (RTSD) with the SDC. The GPSD and RTSD were both advisory bodies with the former focused on government activities and the latter focused on other actors in society (Jenkins 2002).

[10] The UK Parliament at Westminster retains power to legislate on any matter, but the convention is that it will not normally legislate on devolved matters without the consent of the Scottish Parliament. Appendix III lists the complete list of devolved and reserved matters.

for instance where European Union (EU)[11] policies and United Nations frameworks are concerned, it is the UK that is the recognized *member state*. This in turn impacts which matters remain reserved, and that affects legislation on devolved matters. Value Added Tax, environment, emissions, waste and Building Standard regulations, which will be discussed in more detail later in the thesis, are examples of matters that are influenced by EU directives and international agreements, and impact conservation work in Scotland.

Devolution and the Implementation of Sustainable Development Strategy

Although by 1999, when *A Better Quality of Life*, was published, Scotland and Wales were already devolved administrations, the strategy covered all four UK nations. Chief among the principles of this UK-wide strategy was taking account of costs and benefits, creating an open and supportive economic system, respecting environmental limits, making the polluter pay and using scientific knowledge (UKG, 1999).

Conducting cost benefit analysis was one of the remits of the Environment Agencies (EA and SEPA), helping to determine how economic and social benefits could be achieved without harming ecosystem services (UKG, 1995, s4(1) and S39). In addition to the Agencies, the UK Government also reviewed its performance through the Sustainable Development Commission (SDC) and the Environmental Audit Committee (SDC, 2004). Additionally, the National Audit Office and the Audit Commission, with parallel bodies in the devolved administrations, were tasked with reviewing sustainable development indicator data for central and local governments (Jones, 2006).

The two reviews conducted by the SDC on the implementation of the national sustainable development strategy during 2003 and 2004 established that while some progress had been made, commitment to the principles of sustainable development was inconsistent throughout government departments (Jenkins, 2002). Devolution had introduced more layers of complexity, as sustainable development became a devolved matter. The Scottish Government published its own strategy in 2002[12]—including separate definitions, objectives, indicator sets, and monitoring mechanisms (SE, 2002; HC, 2004). In addition to these

[11] At the time of this research Brexit negotiations had yet not finalized and therefore policies were still subject to EU laws.

[12] *Meeting the Needs . . . Priorities, Actions and Targets for sustainable development in Scotland* (SE 2002).

complexities, the 2003 and 2004 reviews concluded that both 1994 and 1999 UK strategies had weak delivery mechanisms and were unclear in defining SD (Ross, 2000; Jones, 2006).

The need for greater clarity on the definition of SD and clearer mechanisms for measurement and monitoring was not only an issue in the UK. In the larger international policy arena, this need was reflected in the 2002 World Summit on Sustainable Development in Johannesburg, and the UN Millennium Development Goals (MDG) adopted in 2000. The MDGs, for the first time, provided a common language that facilitated global agreement on goals that were easy to communicate and had clear measurement and monitoring mechanisms (UNGA, 2000).

Therefore in 2005, the UK published a third strategy, *Securing the Future Delivering UK Sustainable Development Strategy*. This new strategy was published after the release of UK's 2003 Energy White Paper *Our Energy Future - Creating a Low Carbon Economy.* Therefore, it not only focused on key areas that needed more decisive action, (UKG, 2005: 13), but addressed the need to confront 'the greatest threat: climate change and energy' by moving towards a low carbon economy (UKG, 2005:7). Important to clarify that the word carbon in policy documents is used as an umbrella term to include carbon dioxide (CO_2) emissions, GHG emissions (where all the other gases that also contribute to global warming are often expressed as the carbon dioxide equivalent), and embodied carbon. However, in discussions on a low carbon economy, the reference is generally to opportunities and costs associated with removing fossil fuels from the energy supply chain. By excluding embodied carbon, the expended carbon involved in the production, manipulation, deconstruction, recycling or destruction of material is effectively removed from the equation. Thus, low carbon strategies only address part of the total expended carbon and present an incomplete account of the total impact.

While the first two UK strategies for sustainable development encompassed all of the UK, the third strategy was presented after devolution. Each devolved administration was responsible for embedding sustainable development as appropriate for their own policies and operations. To facilitate a coordinated response to SD, a shared framework comprised of five guiding principles (see fig. 11) were agreed upon by the UK government and the devolved administrations of Scotland, Wales and Northern Ireland (UKG, 2005).

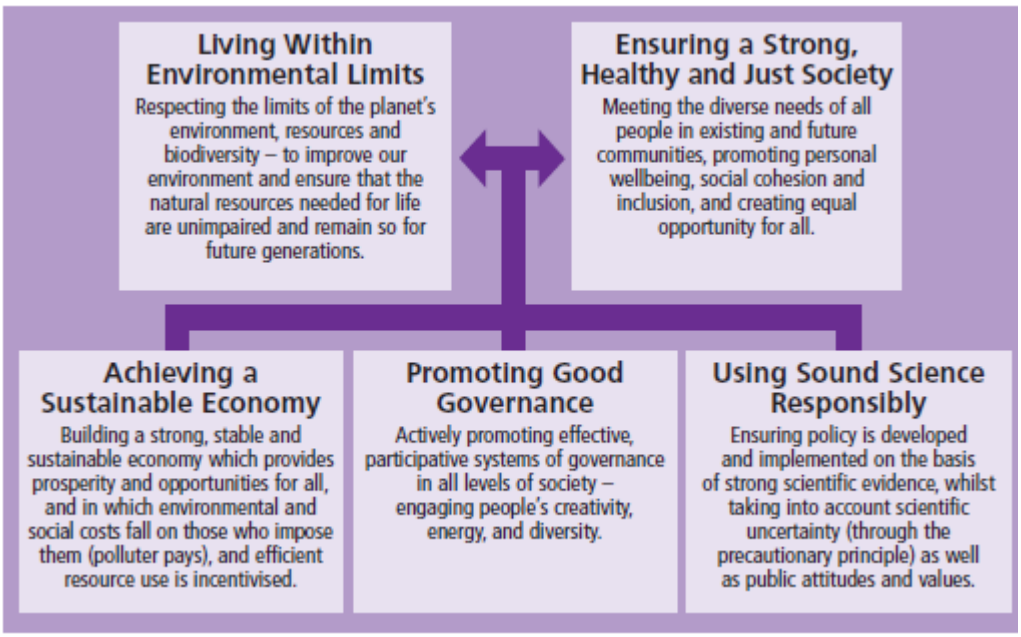


Figure 11. Securing the Future Delivering UK Sustainable Development Strategy (UKG 2005, 16).

The 2005 UK strategy outlined what the government proposed to do in England and in relation to reserved matters (UKG, 2005; Jones, 2006). Twenty UK-wide indicators, reflecting the shared framework priorities were introduced (see table 3). These became the 'headline indicators' for areas where the UK Government and devolved administrations have shared responsibility. In addition to the UK Framework Indicators, a further 48 indicators were introduced. These related to the priority policy areas covered by the strategy and primarily focused on emission control, consumption, resources (water, energy), natural environment (biodiversity and ecosystems), land use (housing, transport), society (education, crime, poverty) and the economy.

UK GOVERNMENT STRATEGY INDICATORS	Indicators within the UK's shared framework for sustainable development *One future – different paths*		
Environmental equality: (*environmental measures to be developed*)	**Resource use:** Domestic Material Consumption and GDP	**Social justice:** *(social measures to be developed)*	**Economic output:** Gross Domestic Product
Greenhouse gas emissions: Kyoto target and CO2 emissions	**River quality:** rivers of good (a) biological (b) chemical quality	**Health inequality:** (a) infant mortality (by socio-economic group) (b) life expectancy (by area) for men and women	**Pensioner poverty:** pensioners in relative low-income households a) before housing costs b) after housing costs
Ecological impacts of air pollution: area of UK habitat sensitive to acidification and eutrophication with critical load exceedances	**Bird populations:** bird population indices (a) farmland birds* (b) woodland birds* (c) birds of coasts and estuaries* (d) wintering wetland birds	**Crime:** crime survey and recorded crime for (a) vehicles (b) domestic burglary (c) violence	**Childhood poverty:** children in relative low-income households a) before housing costs b) after housing costs
Waste: arisings by (a) sector (b) method of disposal	**Fish stocks:** fish stocks around the UK within sustainable limits	**Education:** 19 year-olds with level 2 qualifications and above	**Employment:** people of working age in employment
Mobility: (a) number of trips per person by mode (b) distance travelled per person per year by broad trip purpose	**Active community participation:** informal and formal volunteering at least once a month	**Wellbeing:** *(wellbeing measures to be developed)*	**Workless households:** population living in workless households (a) children (b) working age

Table 3. UK Government Shared Framework for Sustainable Development: One future – different paths (UKG, 2005: 169-175). Green shading indicates areas which relate most closely with environmental concerns.

That same year, the Scottish Executive published its strategy for SD, *Choosing our Future: Scotland's Sustainable Development Strategy* (SE, 2005a). In accordance with the UK's shared framework, *One Future – Different Paths,* the strategy set out Scotland's action plan for achieving sustainable development (SE, 2005a). The priorities that became the foundation for the action plan were (1) sustainable consumption and production, which took a whole lifecycle approach to products and materials; (2) climate change and energy, aimed at reducing greenhouse gas emissions; (3) natural resource protection and environmental enhancement, with a view of environmental limits; and (4) sustainable communities. While a whole lifecycle approach was adopted, the explanation provided for this approach was to draw attention to the 'impacts of products and materials across their whole lifecycle', raise public awareness on 'social and environmental concerns' and improve resource efficiency (SE, 2005a, 11). This language separates carbon from the equation and presents a gentle nudge towards environmental sustainability rather than a robust operational approach to reducing impact on the environment.

However, this is the first time that an explicit link was made between the built environment and SD in terms of (1) overall environmental impact of construction and demolition waste, (2) resource efficiency, and (3) and the need to improve energy efficiency. More significantly, there was specific mention of how 'Historic Scotland[13] encourages' the reuse and maintenance of buildings of architectural or historic interest (SE, 2005a: 61). However, at the time, indicators to monitor progress were being finalised and not published with the strategy. Therefore, while there was mention of Historic Scotland and the built environment, it was not clear how built heritage was integrated into the monitoring system.

Meanwhile, internationally, three key frameworks influenced national sustainable development policy at this time. Firstly, in 2001, European Union Directive 2001/42/EC, known as the *Strategic Environmental Assessment* or *SEA Directive,* required the integration of environmental considerations into the preparation and adoption of plans and programmes promoting sustainable development (DoE, 2005). In Scotland, the Environmental Assessment

[13] Historic Scotland was the responsible government agency for the safeguarding of the historic environment in Scotland from 1991 to 2015. First as an executive agency of the Scottish Office and later, the Scottish Government, HS was also responsible in fostering the understanding and enjoyment of the historic environment (Audit Scotland, 2004). Following the passage of the Historic Environment Scotland Act 2014, HS was dissolved and its responsibilities transferred to Historic Environment Scotland.

(Scotland) Act 2005 requires that every qualifying public plan[14], programme, and strategy be assessed for possible environmental effects with the aim of avoiding adverse impacts and enhancing positive results.

The second important framework, *Agenda 21 for Culture* (UCLG, 2004) highlighted the contribution of culture in sustainable development. And finally, the United Nations Framework Convention on Climate Change (UNFCCC) Kyoto Protocol took effect in 2005, whereby the UK as a signatory to the legally binding agreement, committed to reduce greenhouse gas emissions (DEFRA, 2006). While these international frameworks guided national policies, the Kyoto Protocol set the stage for the later introduction of the Climate Change Acts in the UK and Scotland in 2008 and 2009.[15] These Acts were instrumental in setting the standards for environmental sustainability in urban developments. The Climate Change (Scotland) Act and its significance for the built environment will be discussed in further detail later in the chapter.

Delivering Sustainable Development in Scotland: Shift to Economic Sustainability

Meanwhile in Scotland, with the change of government from Scottish Labour to the Scottish National Party (SNP) in 2007 and discussions on Scottish independence setting the political background, the policy focused on creating a more 'successful country' (Jones, 2007). The sustainable development strategy of the previous government was replaced with an *Economic Strategy* (Scottish Government, 2007a), prioritising economic values above social and environmental. The means to achieve this strategy were published in the *Scottish Budget Spending Review 2007,* which set the foundation for Scotland's current approach to sustainable development (see table 4). The new strategy placed a greater emphasis on the economy[16] and the health of the nation, with *environmental* values headlined under a greener Scotland (Scottish Government, 2007b). The strategic objective of *Greener Scotland* focused on

[14] Under Section 5(3)(a) of the Act these plans include local authority development plans relating to agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use; and/or Section 5(3)(b) plans which require an Appropriate Assessment under the Habitats Directive.

[15] UK Climate Change Act 2008 and Climate Change (Scotland) Act 2009.

[16] The focus on economy was also partly due to the reduction in public spending in the UK, as well as the global financial crisis of the 2007-2008 (Scottish Government, 2007a, 2015a)

reductions in waste, travel emissions, energy and water use, and supporting biodiversity, all of which is in the remit of the planning process.

One Purpose: Creating a more successful country, with opportunities for all of Scotland to flourish, through increasing economic sustainable growth				
Five Strategic Objectives				
Wealthier & Fairer	**Smarter**	**Healthier**	**Safer & Stronger**	**Greener**
High Level Targets				
Indicator	**Target**			
Economic Growth (GDP)	Raise the GDP growth rate to the UK level by 2011			
	Match the growth rate of small independent EU countries by 2017			
Productivity	Rank in the top quartile for productivity amongst our key trading partners in the OECD by 2017			
Participation	Maintain our position on labour market participation as the top performing country in the UK and to close the gap with the top five OECD economies by 2017			
Population	Match average European (EU15) population growth over the period from 2007 to 2017, supported by increased healthy life expectancy in Scotland over this period			
Solidarity	Increase overall income and the proportion of income earned by the three lowest income deciles as a group by 2017			
Cohesion	Narrow the gap in participation between Scotland's best and worst performing regions by 2017			
Sustainability	**Reduce emissions over the period to 2011**			
	Reduce emissions by 80 per cent by 2050			

Table 4.Scottish Government National Performance Framework from Scottish Budget Spending Review 2007 (Scottish Government 2007b, Part 9). Green indicates aspects most closely related with environmental concerns

To achieve these objectives, nine high-level targets were set as benchmarks for sustainable economic growth, with fifteen National Outcomes outlined to guide government priority areas, and forty-five National Indicators (NI) to track progress. These outcomes and indicators structured the National Performance Framework (NPF), the main mechanism through which sustainable development and more currently, the Sustainable Development Goals are localised and monitored (Scottish Government, 2007b). The NPF was refreshed in 2011, retaining the same purpose and strategic objectives, but adding a new national outcome[17] and refreshing the indicator set to feature 50 indicators (see table 5). The NPF, enshrined in statute through the Community Empowerment (Scotland Act) 2015, now requires Scottish ministers to review the National Outcomes every five years.

[17] This new indicator is: *Our people are able to maintain their independence as they get older and are able to access appropriate support when they need it* (SG 2016c).

Refreshed National Indicators 2011				
Reduce alcohol related hospital admissions	Reduce crime victimisation rates	Improve people's perceptions of the quality of public services	Increase physical activity	Improve mental wellbeing
Reduce Scotland's carbon footprint	Reduce deaths on Scotland's roads	Improve the responsiveness of public services	**Improve the condition of protected nature sites**	End of life care
Improve the skill profile of the population	Improve people's perceptions about the crime rate in their area	Reduce the proportion of individuals living in poverty	**Improve the state of Scotland's marine environment**	Increase the proportion of babies with a healthy birth weight
Improve children's services	Improve access to suitable housing options for those in housing need	Improve people's perceptions of their neighbourhood	Reduce traffic congestion	Reduce children's deprivation
Improve children's dental health	**Reduce waste generated**	**Increase renewable electricity production**	Improve Scotland's reputation	Increase the number of new homes
Increase exports	**Improve the state of Scotland's historic sites**	Increase people's use of Scotland's outdoors	Improve knowledge exchange from university research	**Increase the proportion of journeys to work made by public or active transport**
Reduce reconviction rates	Increase cultural engagement	Increase the proportion of graduates in positive destinations	Widen use of the Internet	Increase research and development spending
Increase the number of businesses	Increase the proportion of young people in learning, training or work	Increase the proportion of healthy weight children	Increase the proportion of pre-school centres receiving positive inspection reports	**Increase the abundance of terrestrial breeding birds: biodiversity**
Improve digital infrastructure	Improve the quality of healthcare experience	Improve self-assessed general health	Increase the proportion of schools receiving positive inspection reports	Reduce emergency admissions to hospital
Reduce premature mortality	Reduce the percentage of adults who smoke	Improve support for people with care needs	Improve levels of educational attainment	Reduce the number of individuals with problem drug use

Table 5.Scottish Government National Indicators from Scottish Budget Spending Review 2007 (Scottish Government, 2007b: 47). Green areas indicate those most closely related with environmental concerns, with the indicator for historic environment shaded blue.

Within this indicator set, there is one indicator for the historic environment which was established in 2007 as *National indicator 38: Improve the state of Scotland's Historic Buildings, monuments and environment.* This indicator monitored the number of listed buildings registered on the Buildings at Risk Register (Scottish Government, 2007b: 47). The Buildings

at Risk Register (BARR) was established in 1990 and maintained by the Scottish Civic Trust on behalf of Historic Scotland but is currently being maintained by Historic Environment Scotland. At a national level, the *State of Historic Sites* was linked to the strategic objectives of a *greener, smarter, wealthier and fairer* Scotland. The strategic objective of a *greener* Scotland aimed to improve the natural and built environment and facilitate the transition to a low carbon economy by reducing the environmental impacts of consumption and production.

A close inspection of how data for this indicator was reported and what it represented reveals that the 2007 and 2011 indicator included non-habitable structures such as bridges, sundials and fountains. The reason for this inclusion lies in how 'building' is defined in the listing process. HES defines building at 'anything made by people, such as houses, schools, factories, boundary walls, bridges and sculptures' (HES 2019b: 11). While the difference between the number of assets (269 vs 238) is nominal (see table 6), it represents the first layer of complexity in measuring the contribution of built heritage conservation to environmental sustainability. HES defines the historic environment as the physical evidence of past human activity that connect people with place, traditions, stories and memories (HES, nd.c). These include not only those tangible structures protected through listing and scheduling, but also artefacts that contribute to identity and sense of place. How does the conservation of sundials, fountains, and artefacts contribute to environmental goals?

Considerations for 2007/2011 Indicators	**Historic Environment - Protected by Legislation**	**All Assets**		**55,873**
	Historic Marine Protected Areas	8		
	Battlefields	40		
	Gardens and Designated Landscapes	388		
	Scheduled Monuments	8,308		
	All Listed Buildings - Minus Category A Listed that are also Scheduled Monuments	47,129		
	A- Listed Buildings (Minus Scheduled Monuments (average from 2009-2013)	3,279	As a percentage of all listed Buildings	7%
	All At Risk A-Listed Buildings (including fountains, sundials, etc) (average from 2009-2013)	**269**	Units assessed in 2007 & 2011 National Indicators	
	At Risk A-Listed Building that could be occupied (average from 2009-2013)	**238**	As a percentage of all listed Buildings	1%
	B-Listed Buildings	23,624		
	C-Listed Buildings	20,249		
Units Assessed for 2018 Indicator				
☐	All Dwellings Scotland	2,640,000		
	Pre 1919 Dwelling	**467,000**	Assessed in 2018 National Indicator	

Table 6. A comparison between the units assessed for 2007/2011 and 2018 Indicators.

The next issue arises from methodology. If removal from BARR indicates improvement in the overall state of the historic environment, are A-listed buildings truly representative of the historic environment since they represent such a small section of all listed buildings and by extension the entirety of the historic environment? Additionally, almost half of A-listed buildings on BARR (2009-2013) are in rural areas. In the context of the built environment, urban areas contribute significantly more to greenhouse gas emissions and therefore addressing urban sources of carbon emission is a more effective means of addressing emission concerns. Including rural *habitable* buildings in the indicator does not provide a suitable unit of measure in reducing carbon emissions. It also doesn't address the housing demands of urban areas, an area of concern for the Scottish Government. Even if all new housing performs with optimal energy efficiency and achieves the net zero carbon goals that the Scottish Government aims for, the process of construction has a significant impact on the environment. The conservation and adaptation of rural buildings to housing will not address urban housing needs and by extension will not contribute to environmental goals in terms of the resource efficiency, reduction of waste or transport (see fig. 12).

The NPF is periodically reviewed, updated and refreshed –with a new SDG-aligned framework introduced in 2018 (Scottish Government, 2018a). In this new NPF, the indicator for the historic environment continues to focus on the condition of historic building, albeit with the focus shifting solely on 'dwellings'. This indicator measures the percentage of historic dwellings (not buildings) classified as having disrepair to critical elements that make the building weather-tight, structurally stable and prevent further deterioration (see table 7). The source of the data is generated through the annual Scottish House Condition Survey. In this sense, the shift in 2018 to monitor historic (pre-1919) dwellings appears to be a move in a better direction. First, these buildings represent a larger number of occupiable units, where their continued use and maintenance expends energy, and improvements in operation can be monitored through building standard mechanisms and housing policies. Their continued use would also mean that they would continue to address some of the housing needs, eliminating the need for resources to construct new dwellings. Furthermore, their continued use would mean no demolition waste would be generated, contributing to the Zero Waste agenda.

However, not all of these dwellings are listed, and therefore they are not protected from demolition or unsympathetic intervention. Unsympathetic intervention such as modern insulation techniques, might improve energy efficiency in the short term, but can cause fabric

damage, threatening building operation, use or stability. While the 2018 indicator monitors for critical disrepair to building elements, in pre-1919 unlisted buildings, where there is no requirement to apply for a Listed Building Consent, critical disrepair may lead to demolition, or interventions that might have higher environmental costs in terms of materials used and/or impact on building fabric. Furthermore, the building might be in good condition but rate poorly from an energy efficiency perspective. Therefore, neither the initial indicator nor the refreshed version generates data that can make a clear connection between environmental sustainability goals and the conservation of the historic building stock. Therefore, in terms of national indicators, the historic environment does not generate clear data to measure its contribution to environmental sustainability goals in terms of reduction in carbon emissions, waste management, or energy and resource efficiency, therefore its value remains siloed and limited to the historic and aesthetic.

A-listed buildings on the BARR and building use type

Building use type	Number of A-listed entries on BARR		
	2009	**2011**	**2013**
Residential	**97**	**98**	**90**
Farming	51	48	44
Religion	24	22	28
Commercial	18	19	18
Industrial	20	18	17
Administration	1	1	2
Defence	7	7	7
Education	7	6	7
Fishing	1	0	1
Funerary	14	13	12
Health	6	6	10
Law	3	4	2
Monuments	2	2	2
Public Service	2	2	1
Recreation	9	6	7
Transport and Communication	15	15	14
Total	277	267	262

A-listed buildings on the BARR by location

Location type	A-listed BARR entries by location		
	2009	**2011**	**2013**
Urban	109	108	104
Small town	9	7	9
Rural Settlement	26	26	26
Rural	130	123	122
Remote	3	3	1
Total	277	267	262

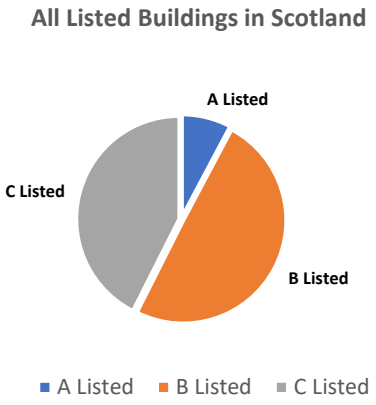


Figure 12. A detailed look as listed buildings, and the type and location of A-listed building on BARR between 2009-2013.

<table>
<tr><td colspan="2">Current Indicator</td><td>Previous Indicator</td></tr>
<tr><td colspan="2">State of Historic Sites</td><td>Scotland Performs National Indicator 38 - Improve the state of Scotland's Historic Buildings, monuments and environment</td></tr>
<tr><td colspan="2">Description:</td><td>Description:</td></tr>
<tr><td colspan="2">This indicator measures the percentage of historic (pre-1919) dwellings classified as having disrepair to critical elements.</td><td>Our measure of success will be to decrease the percentage of A-listed buildings on the Buildings at Risk Register (BARR). The condition of A-listed buildings provides a good general indicator of the state of Scotland's historic environment, and provides a starting point. Monitoring trends over time will show how well the historic environment is being preserved and cared for. To be at risk, a building does not necessarily need to be in poor condition, it may simply be standing empty with no clear future use. Many buildings at risk are in this latter category.</td></tr>
<tr><td colspan="2">Source of Data:</td><td>Source of Data:</td></tr>
<tr><td colspan="2">The source is the Scottish House Condition Survey (SHCS), which is a National Statistics publication.</td><td>The Buildings At Risk Register is maintained by the Scottish Civic Trust on behalf of Historic Scotland (who fund and manage). BARR can be consulted at www.buildingsatrisk.org.uk</td></tr>
<tr><td colspan="2">It is the largest single housing research project in Scotland, and the only national survey to look at the physical condition of Scotland’s homes as well as the experiences of householders.</td><td></td></tr>
<tr><td colspan="2">Strategic Objective(s) to Which Indicator Relates</td><td>Strategic Objective(s) to Which Indicator Relates</td></tr>
<tr><td colspan="2" rowspan="2">National Outcome: Environment</td><td>Greener Scotland: the built heritage is a non-renewable resource with significant embodied energy which should be conserved (i.e. through sensitive re-use of traditional buildings)</td></tr>
<tr><td>Wealthier and Fairer Scotland: Tourism, regenerating places</td></tr>
<tr><td colspan="2">Critical element disrepair refers to disrepair to building elements central to weather-tightness, structural stability and preventing deterioration of the property. These elements are as follows:</td><td></td></tr>
<tr><td>Roof covering;</td><td>Foundations;</td><td></td></tr>
<tr><td>Roof structure;</td><td>Damp-proof course;</td><td></td></tr>
<tr><td>Chimney stacks;</td><td>External doors and windows (dwelling only);</td><td></td></tr>
<tr><td>Flashings;</td><td>Doors, screens, windows and roof lights (common areas – flats only);</td><td></td></tr>
</table>

Roof gutters and downpipes;	Internal walls/partitions;	
External walls – finish;	Floor structure;	
External walls – structure;	Floor finish;	
Access decks and balustrades (common areas – flats only);	Dry rot/wet rot;	

Table 7. Indicator for Historic Sites (Adapted from National Indicator Performance and Technical Note for Scotland Performs Indicators and Targets)

When the latest framework for Sustainable Development was introduced by the United Nations in 2015, *Transforming our world: the 2030 Agenda for Sustainable Development* (UN 2015a), the achievement of the 17 SDGs became the responsibility of not just governments, but communities and stakeholders alike (UN, 2015a). As such, national strategies must reflect local context and in Scotland, this resulted in the afore mentioned new National Performance Framework which is more closely aligned with the SDGs (see fig. 14).

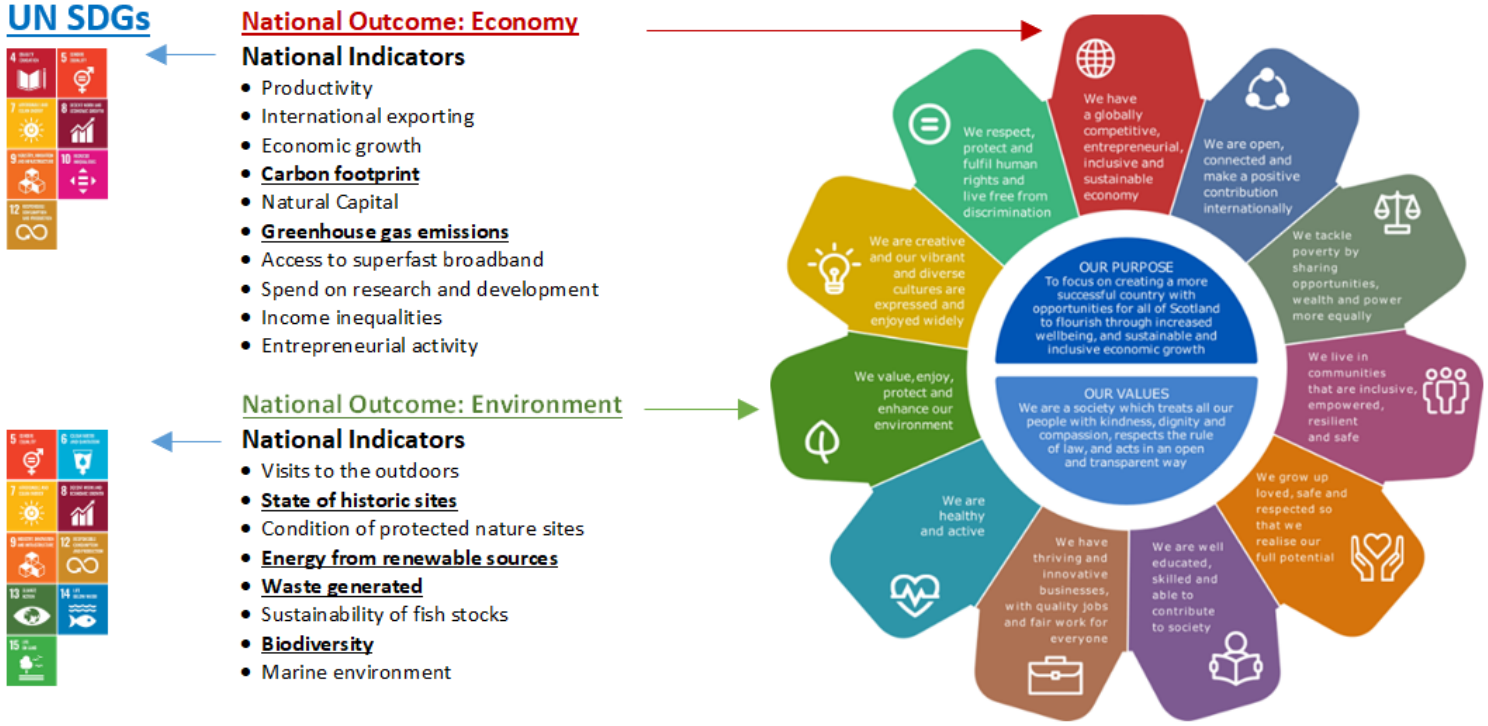
In the same year as the introduction of the SDGs, the 2015 Paris Climate Change Agreement adopted at the 21st United Nations Climate Conference (COP21) committed countries to 'formulate and communicate long-term low greenhouse gas emission development strategies' (UN, 2015b: 6). The Agreement required signatories to submit their plans for climate action by 2020.

Both these global agreements were instrumental in shaping the recommendations in the New Urban Agenda (NUA) introduced at the 2016 United *Nations* Conference on Housing and Sustainable Urban Development (Habitat III). As a global roadmap for sustainable urban development, it offered guidelines in terms of urban spatial planning, design, management, governance and finance to achieve the sustainable development goals. Adopted by one hundred and sixty-seven countries including the UK (UN, 2017), the New Urban Agenda (NUA) complements SDG 11: *Sustainable Cities and Communities*, target 11.4 *strengthen efforts to protect and safeguard the world's cultural and natural heritage* by placing culture 'as a priority component of urban plans and strategies in the adoption of planning instruments, …., zoning

guidelines, building codes, … and strategic development policies that safeguard a diverse range of tangible and intangible cultural heritage … from potential disruptive impacts of urban development'(UN, 2017: 32).

Figure 13. The United Nations 17 Sustainable Development Goals (UN 2015).

Figure 14. The 2018 NPF: Outcomes and Indicators Related to Historic Environment and Environment Sustainability and alignment with the SDGs (Adapted from National Performance Framework: Resources) →



The NUA also reinforces the Paris Agreement by committing member states to involve local government, communities, and stakeholders to limit 'the increase in global temperature to well below 2 degrees Celsius' (UN, 2017, 22). Strategies to achieve this include promoting climate change adaptation and mitigation, reducing greenhouse gas emissions, improving resource efficiency and reducing waste, as well as incorporating climate-effective designs. None of these are new ideas, since the principles behind these strategies have been incorporated in systems such as LEED or BREAMM[18]. However, what the New Urban Agenda (NUA) promotes, as compared to its predecessors is *local* follow-up and review mechanisms, which allows closer integration with existing national and local frameworks.

While these latest international agreements have been influential in *new* policy developments and show the direction of travel, in the context of this research, UK obligations to previous agreements such as the Kyoto Protocol and EU directives are the fundamental international frameworks that guide policy in the domain of urban conservation.

Climate Change and Sustainable Development

As mentioned earlier the *Kyoto Protocol* took effect in 2005. The UK was one of fifteen member states of the European Union (EU) that were signatories to a legally binding commitment to reduce greenhouse gas emissions. The UK's commitment was to reduce emissions by 5% relative to 1990 levels over the first commitment period of 2008 to 2012 (DEFRA, 2006; DECC, 2015). Facilitating this commitment was the Climate Change Act of 2008, which set the legislative framework to reduce greenhouse gas emissions and a system of carbon budgeting. Advising the government on such matters is the Committee on Climate Change, established through the same Act.

While the UK Government is responsible for meeting the *Kyoto* targets, the devolved administrations' approach to this collective responsibility is determined through each nation's own legislation. The Climate Change (Scotland) Act 2009 amended the Town and Country Planning (Scotland) Act 1997 to require all new buildings reduce their greenhouse gas

[18] LEED (Leadership in Energy and Environmental Design) is a widely used green building rating system developed by the U.S. Green Building Council. The rating system providing a framework for healthy, efficient, and cost-saving green buildings. BREEAM (Building Research Establishment Environmental Assessment Method) is another leading sustainability assessment method for masterplanning projects, infrastructure and buildings, developed by Building Research Establishment (BRE).

emissions through the use of low and zero carbon generating technology. It further mandated that the energy performance of residential buildings be assessed and improved, reducing related emissions. To guide this mandate, *Conserve and Save: The Energy Efficiency Action Plan for Scotland* was published in 2010 (Scottish Government, 2010a). The action plan provided a framework for energy efficiency and microgeneration, and outlined programmes that provided support, incentives, and funding to improve energy efficiency in existing housing. In historic buildings, these improvements were guided by a two-part guide for the conversion of traditional buildings published by Historic Scotland (HS, 2007).

Strategies to reduce building emissions were previously introduced in 2007 *'A low-carbon building standards strategy for Scotland (The Sullivan Report)*'. A panel of experts, chaired by Lynne Sullivan, set out a series of recommendations for new and existing buildings, aimed at reducing carbon emissions through building regulations in support of national climate change objectives (Scottish Government 2007b). Providing a route map towards 'net zero carbon' new buildings, the key recommendation of the report was to gradually introduce improved energy standards in 2010 and 2013, with the aim or reaching net zero carbon buildings in terms of emissions for space and water heating, lighting and ventilation in 2016/17 (Scottish Government, 2015b).

As mentioned earlier, energy efficiency in the conversion of historic buildings is guided by research and guidelines provided by Historic Scotland. Generally, a flexible approach is advised in implementing energy standards. Where there are incompatibilities between the retention of historic features and building standards, alternative means can be sought. However, there is no relaxation in the *essential* standards set out in sections on fire safety, environment and the like (HS, 2007). Therefore a common sense approach is encouraged to implement improvements as reasonably practicable. This provides challenges for conversion projects, since all existing buildings will have to be *improved* if it is not practically possible to meet the full standard. In this regard listed buildings pose greater challenges as there is a requirement to retain character defining elements. Since the historic and architectural value of listed buildings is in their materiality and outward appearance, interventions that could improve their performance but change the fabric and aesthetic qualities pose challenges. This is especially true when the authenticity of building fabric is one of the key features linked to historic value. This indicates that in evaluating the value of historic buildings as a whole, traditional views on heritage continue to influence the direction of policy implementation.

In May 2013, following the economic impacts of the 2008 global recession on the Scottish economy, ministers requested that the Sullivan Report recommendations be reviewed. This time the panel were constrained by the Climate Change (Scotland) Act's legally binding emission targets, as well as the European commitment to achieve nearly zero energy for all new buildings from 2021 (SG 2013b, 08). Weighing the impact of the recession on the construction industry against emission targets, the panel recommended a more moderate approach to emission reductions, allowing carbon targets to be met at a slower pace. Furthermore, in delivering net zero carbon buildings, developers were allowed to offset some carbon emissions by improving existing building stocks elsewhere (SG, 2013b). Finally, recommendations were made to introduce financial incentives for householders of low energy buildings. Chapter Six and Seven will show how these recommendations impacted the timing of developments and the process through which applications were submitted to the planning department to avoid the more stringent energy efficiency requirements.

The Historic Environment and Sustainable Development

The adaptive reuse of the built environment has been explicitly identified by the Scottish Government's Sustainable Development Strategy as a contributing factor in terms of resource efficiency, and reductions in waste, carbon footprint and greenhouse gas emission. Since these are directly linked with environmental sustainability, the remainder of the chapter will focus on policy areas where built heritage conservation and environmental sustainability intersect. A precursor to this discussion will be a brief overview of heritage conservation legislation in the UK and Scotland. This is to set the context for *values* that lend *significance* to built heritage and determine the character defining elements that are to be protected in listed buildings. As these matters are in the remit of planning and devolved to the Scottish Administration, references to the UK wide policy and international agreements will only be made where applicable and necessary.

Legislation on Ancient Monuments and Historic Buildings- An overview

In Scotland, ancient monuments and historic buildings form part of the *historic environment*. The historic environment is 'the physical evidence of past human activity', connecting people with place, and its associated traditions, stories, and memories (HES, n.d.a). It includes sites and places that are designated as scheduled monuments, listed buildings,

garden or designed landscapes, historic battlefields, or historic marine protected areas (HES, 2019). Such designations ensure legal recognition by the planning system and other regulatory bodies and determine the provision of protection and management frameworks.

Scotland's current framework for the legislative protection of built heritage is the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. In this Act, the listing and protection of built heritage is determined by the building's 'special *architectural or historic* interest' (c.1), which has its origins in the Ancient Monuments Protection Act of 1882. While the Act excluded habitable buildings at the time, it introduced the concept of devising a *list* of select monuments with statutory *protection* from damage and destruction[19]. It also included provisions for the transfer of ownership and care of monuments to the state. This obligated the state to become guardians of ancient monuments, and eventually responsible for their conservation (Delafons, 1997: 25). Further legislation on determining the fate of historic buildings soon followed, broadening the scope of protection, and defining the limits of state intervention. As discussed in Chapter Two, current international discourse on heritage attributes a wider range of values to built heritage. This is reflected in UK and Scotland heritage discourse as well, however, legislative protection on listed building is still limited to the *architectural* or *historic* value of the building defined in The Ancient Monuments Protection Act of 1900.

In 1931, the passage of the Ancient Monuments Act authorized compensation for properties subject to compulsory purchase order, and control over further development expanded to include the surroundings and amenities of a monument by the means of a 'Preservation Scheme' (Cleere, 1984: 55). This led to the establishment of *Conservation Areas* through the Civic Amenities Act of 1967, championed by the Civic Trust. The Civic Amenities Act recognized the importance of the context within which historic buildings existed. The physical setting of historic buildings and their relationship with other buildings, streetscape and townscape was considered to lend meaning and context, and therefore protection expanded beyond individual buildings. Attention was given to attributes that contributed positively to the quality of the townscape and the identity of places, defining local distinctiveness which made it unique and different from the next. In other words, attributes that define the *character* of a particular area. The Act also addressed environmental concerns arising from the modern

[19] In Scotland, for instance, twenty-one monuments of mostly prehistoric significance were scheduled on that list (*Ancient Monuments Protection Act 1882* c73).

lifestyle choices of the mid-century and a car centric approach to urban planning. These environmental provisions included the preservation and planting of trees, as well as the regulated disposal of bulky waste and derelict automobiles that were impacting the urban and rural landscapes (Civic Amenities Act 1967).

The most significant change in the statutory protection of built heritage however took place after the Second World War. The Town and Country Planning Act of 1947, which structured much of the contemporary planning system introduced the requirement of planning permissions for development and expanded legislative protection beyond monuments to *listed buildings.* The Act required the Secretary of State (or other persons) to prepare a list of buildings of special *architectural* or *historic* interest and distribute that list to relevant planning or local authority. Listed buildings would then be protected from demolition or any works that would 'seriously affect its character' (Town and Country Planning Act 1947, S30, 6) Thus ownership alone did not confer development rights.

However, mechanisms for protection were weak and it was not until the Town and Country Planning Act 1968 that *listed building consent* was introduced, giving planning authorities the mechanism that ensured changes to listed buildings were appropriate and demolition was fully justified. The Act required local authorities to integrate the protection and conservation of architectural heritage with planned and new development. Owners of listed building were now required to obtain Listed Building Consent (LBC) from the local planning authority for works which would alter the building's character. Failure to do so would result in an offence with potential imprisonment and/or fine (Town and Country Planning Act 1968, (Part V, (40) (7).

In Scotland the corresponding legislation was Town and Country Planning (Scotland) Act 1969. Regulations accompanying the Scottish Act required planning authorities to consult with the Scottish Civic Trust and the Scottish Georgian Society [20] before deciding on applications that involved the demolition of listed buildings (Gerrard, 2011). This allowed civic amenity groups to influence official decisions on built heritage. The Civic Trust, which was founded in 1957 in England, campaigned to improve urban life by improving the quality of new and historic buildings, and public spaces (Cullingworth *et al.,* 2015). Ten years later in

[20] In England, notification was sent to five amenity societies; SPAB, Georgian Group, Ancient Monuments Society, Victorian Society and Council for British Archaeology, as well as the RCHME (HE, nd).

Scotland, the Scottish Civic Trust was established to help connect built heritage with people and take a leading role in guiding development activities following the passage of the 1969 Town and Country (Scotland) Planning Act. Today, the Architectural Heritage Society of Scotland (AHSS)[21], in addition to local civic amenity groups, review planning applications that include listed buildings and/or conservation areas and provide written feedback on proposals[22]. Thus, the protection of the historic and architectural value of listed buildings became a more serious concern, impinging on personal liberties. The acceptance of this hierarchy of values is echoed in sentiments on the protection of listed buildings today.

> 'Somebody might buy a historic property because they like where it's located, they don't actually care too much about the building and treat the building as an obstacle, that it's something they want to live there, they want to live in a particular way. They want open plan kitchen living, dining, sitting. Actually the way it is planned is cellular and there are particular features that need to be retained, they won't like it if the AHSS says these alterations are not appropriate for this building, [AHSS] recommend that this [planning application] is refused and supposing planning process takes the same view, it is going to frustrate the owner. But it's because they bought something that isn't really appropriate to what they want by way of a place to live. It is the wrong owner ultimately' (interview 7467).

From the 1970's the conservation and protection of built heritage not only became a policy objective in the planning system, its economic value for placemaking and urban regeneration led to the development of a 'conservation planning system' (Pendlebury 2002, 5). While the economic value of built heritage and the historic environment continues to be a well-recognized and much discussed value, legislative language still attributes value to *architectural* or *historic interest*, even in conservation areas[23] (Licciardi *et al.*, 2012; Historic England 2019, HES, 2019). Thus the evolution and expansion of values in heritage discourse is not reflected in the designation or management of the built historic environment.

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[21] The Architectural Heritage Society of Scotland, which was initially established as the Scottish Georgian Society in 1959 originated from the 1956 Edinburgh Georgian Society. In 1984 the organisation became the Architectural Heritage Society of Scotland (AHSS, n.d.).

[22] From 2017-2018 I was a member of the AHSS and alongside other members of the group served on the Strathclyde Cases Panel, reviewing planning applications for listed buildings and developments in conservation areas in Glasgow.

[23] As discussed in Chapter Two, heritage values now encompass a much broader range that include social, communal, evidential and more.

Current legislation on conservation areas, the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997, defines conservation areas as 'areas of special *architectural* or *historic* interest, the character or appearance of which it is desirable to preserve or enhance' (s.61). Once again, the value determining significance is *architectural* or *historic*, with explicit reference to *character* and *appearance*. Notable to consider is that what lends *character* to a conservation area includes choice of material, height, layout, and configuration of space, all of which maintain a *visual* townscape or landscape. Therefore, the *visual* quality becomes a more important value as it is more clearly articulated in the Conservation Area Appraisal, a management tool used to identify the special interests and changing needs of an area (SE 2005b). While vehicular routes, green spaces, landscapes, and trees contribute to the character of a conservation area, the appraisals of these areas do not consider how these elements impact environmental sustainability. Therefore, in policy documents and heritage practice, there are no provisions for environmental values and the traditional values from 1882 continue to dominate policy and practice.

The Broader Values of the Historic Environment

Although the legislative language on what determines heritage value has not changed since the 1900s, the approach to managing change in urban heritage has been updated to reflect the international discourse on urban conservation. This change was recently reflected in Scotland's first ten-year strategy for its historic environment, *Our Place in Time* (OPiT), published in 2014. In addition to acknowledging the broader values of the historic environment, it presents a more integrated approach to heritage conservation and management.

Our Place in Time (OPiT):

Our Place in Time (OPIT) set out Scotland's ten-year strategy for the historic environment. It outlined out how the historic environment was to be understood, protected, and valued. The key outcome of the OPiT was to ensure that the 'cultural, social, environmental and economic value of Scotland's historic environment continues to make a strong contribution to the wellbeing of the nation and its people' (Scottish Government, 2014a: 7). The historic environment is thus not only attributed values beyond *architectural* or *historical*, but also linked to the tripartite model of sustainable development, as well as culture's contribution as the fourth pillar. (Hawkes, 2001; UNESCO, 2010; ICOMOS, 2011; UN, 2011; UNESCO,

2013). The attribution of values beyond the architectural or historic was further echoed in the Scottish Government's Planning Policy (SPP) published the same year. The historic environment was recognised as a 'key cultural and economic asset', contributing to quality of life and well-being, a sense of identity, and integral to 'creating successful places' (Scottish Government, 2014b: 33). The SPP outlines policies aimed at delivering the objectives of the National Policy Framework (NPF) which in turn, sets out the Scottish Government's spatial development priorities.

In Scotland, as in the rest of the world, this recognition of the broader range of heritage values is not new. Publication by Historic Scotland in 1997 acknowledged the *environmental value* of built heritage conservation as a means of economising resources and reducing waste (Bell, 1997). It further recognised the contribution of heritage conservation to 'cultural, economic, and social development' and the 'improvement to human environment' (Bell, 1997:16).

OPiT not only reflects international heritage discourse, as discussed in Chapter Two, but more importantly, addresses growing concerns over the impacts of climate change (Stern, 2007; IPCC, 2012), its threats to Scotland's heritage (SEPA, 2011; SPD, 2013; Dawson, 2014), as well as the Scottish Government's ambitious climate change strategy outlined in the Climate Change (Scotland) Act 2009.

Among the top strategic priorities of the OPiT was to encourage high-quality leadership and collaborative partnerships (Scottish Government, 2014a: 9). But more importantly, it emphasised the need to base decision making on the 'best available evidence, supported by robust data', that was readily available 'at all levels of decision making' (Scottish Government, 2014a: 9). At the time of the publication of OPiT, the responsible government agency for the historic built environment was Historic Scotland. From 1991 to 2015, Historic Scotland was an executive agency of the Scottish Office and later, the Scottish Government (Audit Scotland, 2004). The call for evidence-based decision making in OPiT built upon research already conducted by Historic Scotland following the publication of the 2007 Stern Report *Economics of Climate Change*, as well as the 2010 Scottish Government's energy efficiency action plan's mandate for Historic Scotland to research and promote 'energy efficiency in traditional housing' (Scottish Government, 2010a: 31, 36).

Furthermore, the rising significance of sustainable development in policy discourse and the need to reduce carbon emissions led to the passage of the UK Energy Act of 2011. The Act established the UK Green Deal and the Green Deal (Acknowledgment) (Scotland) Regulations 2012-2015. These policy developments prompted Historic Scotland to conduct a series of targeted research (interview 8267). Indeed, a review of technical publications by Historic Scotland (and subsequently Historic Environment Scotland) reveals that between 2006 and 2019 forty-eight out of the one hundred and forty-four publications focused on energy efficiency and environmental sustainability issues (see appendix VI for full list of publications). More specifically, research conducted from 2008 to 2015, focused on measuring the performance of traditional buildings (those built prior to 1919). While some of these studies also included strategies to improve energy efficiency in traditional buildings that were sympathetic to the historic fabric, others specifically looked at the Green Deal and its implications on historic buildings. '….So the Green Deal was a big deal and probably the busiest time [for HES]. This particular time is probably 2010, 2011 when we were going through a lot of demonstration projects working with housing associations on upgrades' (interview 8267). These research activities revealed that in terms of sustainability, the historic building stock were durable and resilient if they were regularly maintained and appropriately repaired by those who had the correct technical knowledge and skills. Many of the energy efficiency solutions that resulted from the Green Deal initiative had high embodied carbon and were inappropriate for historic buildings (interview 8267, HS, 2013). The value of the historic building stock in the context of the sustainability agenda was thus proven to go beyond its historic and architectural value. Chapter Seven and Eight will investigate whether this is reflected in the implementation of conservation and environmental sustainability policy.

The Historic Environment as an Asset

With the passage of the Historic Environment Scotland Act 2014, Historic Scotland was dissolved, and HES [24] took over the functions of Historic Scotland and the Royal Commission on the Ancient and Historical Monuments of Scotland. Therefore, the delivery of OPiT became the responsibility of HES, an executive non-departmental public body[25]. This meant that HES would have the lead statutory responsibility for undertaking designation and

[24] HS functions were transferred to HES on 1 October 2015.

[25] An NDPB is defined as a "body which has a role in the processes of national Government, but is not a Government Department or part of one, and which accordingly operates to a greater or lesser extent at arm's length from Ministers"(Cabinet Office, 2007; Scottish Government 2018).

associated regulatory work. As a result, Scottish Ministers were no longer directly involved in day-to-day operational matters, and instead were granted strategic oversight and the operation of appeals (Historic Environment Scotland Act 2014).

The Act also gave a statutory basis for collaboration between HES, Scottish Natural Heritage and the Scottish Environment Protection Agency (SEPA), to ensure that all aspects of Scotland's natural and historic environment were protected and managed as an *asset* for the benefit of all of Scotland. The strengthening of this collaboration came on the heels of increased environmental concerns over climate change and the economic impacts it was projected to have on the historic environment.

The 2012 *UK Climate Change Risk Assessment* (DEFRA, 2012) reported on the financial impacts on historic buildings. These impacts were described in terms of asset loss, outlining the relevant impacts climate change would have on direct and indirect income generated from historic buildings and associated businesses. This not only reflects the economic value of heritage, but reinforces the narrative that heritage is vulnerable and non-renewable and thus in need of protection. Other areas of concern highlighted in the report were related to the maintenance and operational requirements of the historic environment in light of changing climatic conditions and temperatures. The 2016 report by HES revealed that since 2012, there had been a strong demand for building services for listed buildings (HES, 2016b). In 2017, an estimated £1.2 was spent on the repair and maintenance of the historic environment (HES 2019c). Both reports not only reaffirm the economic value and potential of the historic environment in terms of revenue generation, but also reveal that the built environment can be a durable and sustainable asset if it is cared for and maintained.

This is while SEPA's 2011 *National Flood Risk Assessment* reported on the significance of surface water flooding in Scotland, threatening an estimated 125,000 properties, including built heritage (SG 2013a, 4). Further research by HES confirmed that the primary threats to Scotland's built heritage were severe weather patterns, rising sea levels and flooding (HES 2018; 2019). Therefore, the immediate and pressing environmental concerns were primarily on the *impact* that climate change would have on heritage assets. Concerns over the loss of heritage threatened by climate change and environmental impacts, further reinforces the idea of its vulnerability and the need for its protection as objects of value, rather than the impact that heritage assets could have in mitigating climate change.

Conclusion

The analysis of sustainable development policy in the UK and the devolved Scottish Government demonstrated that, with regard to environmental sustainability, the focus of national policy is heavily geared towards reducing emissions and improving resource efficiency as a means of achieving sustainable development and tackling climate change. Where emission reductions are concerned, legislative policies have put into place ambitious targets, which are to be delivered through policies and strategies aimed at reducing energy consumption and emissions generated both through the production of energy, as well as in its uses such as building operations, transport and waste management. The unifying theme across the sustainable development strategy and the historic environment strategy was the call for data and evidence to support informed decision-making. While the sustainable development strategy relies on the National Performance Framework (NPF) indicators to measure performance, those indicators that measure environmental sustainability do not account effectively for the historic environment. Since the emissions generated by building construction are not part of this equation (Pomponi *et al.*, 2020), the embodied carbon of built heritage is not a consideration in measuring the environmental contribution of built heritage. Even though research conducted by HES has provided data on the environmental performance of historic buildings, that data has not filtered into the NPF indicators.

In terms of urban heritage conservation and environmental sustainability, there are four key areas of intersection, namely energy efficiency, waste management, resource use and transport. But national frameworks and mechanisms in place to assess, monitor and measure environmental sustainability do not corelate with the indicator for urban heritage. Therefore, at a national policy level on sustainable development, it is difficult to assess the relationship between heritage conservation and environmental sustainability. The OPiT, Scotland's first strategy on the historic environment, stressed the need for a 'proper understanding of the significance and values' of heritage assets as a strategic priority. Indeed, this priority has been followed through with continued research from HES, revealing the value of heritage assets across the three dimensions of sustainable development (social, environmental and economic). However, the overriding values associated with heritage continues to be on their appearance, authentic historic fabric and the resulting economic and social values. While concerns over rising GHG and climate change threatens the existence of heritage assets, the environmental values of built heritage does not feature in the legislative policy structure.

However, since the conservation and protection of built heritage has been a policy objective in the planning system since the 1970s, and the adaptive reuse of the built heritage has been explicitly identified by the Scottish Government's Sustainable Development strategy as a contributing factor to sustainable development, the next chapter will look specifically at land use and planning policies in Scotland to identify how heritage conservation and environmental sustainability converge.

CHAPTER 5 PLANNING AND LAND USE POLICY IN SCOTLAND

The previous chapter described how the UK and subsequently the devolved administration of Scotland's approach to sustainable development has evolved. While the initial focus on delivering sustainable development had a greater emphasis on environmental concerns, changes in the political and economic landscape shifted this emphasis towards *economic* sustainability. The shift towards economic sustainability was in part due to the global financial crisis of 2007-2009, and the impact it had on development activities in Scotland. This chapter will show how economic pressures brought the aspirational carbon reductions targets of the Scottish Government into sharp focus, resulting in changes to policy and building standards that extended the timeline for achieving emission reduction target.

As discussed in the preceding chapter, sustainable development strategies rely on indicators to measure performance and evaluate progress. However, the *National Indicator: Improve the state of Scotland's Historic Buildings*, which was developed for the historic environment does not reflect the research conducted by HES on the environmental sustainability aspects of built heritage. Furthermore, it does not correlate with key environmental sustainability areas of energy and resource efficiency, waste management, and transport. The ambiguous relationship among national indicators, and their connection with policy outcomes was reflected in the Budget Process Review Group's (BPRG) final report in 2017. One of the recommendations of the report was for the Scottish Government to provide a 'clear narrative explaining the link between a particular priority, policy or initiative and the expected impact on outcomes (including differential performance by protected characteristic), making direct reference to the NPF' (BPRG, 2017: 42).

This chapter will review planning and land use policies, and the buildings standards that guide sustainable development. The national indicator for the historic environment provides data on the condition of the historic built environment at the national level. As discussed in Chapter Four, the data generated from this indicator does not reveal the extent to which it supports the objectives of the Scottish Government's environmental sustainability goals in terms of reducing greenhouse gas emissions or improving resources efficiency and waste management. However, the contribution of built heritage at the local level can, in instances of adaptation, repairs and upgrades, be monitored through the planning system and

building warrants. This could in turn reveal some of the potential impacts on environmental sustainability.

In guiding the planning system, local development plans are an important consideration. The chapter will show that the Building Standards for sustainable development do not offer appropriate environmental assessment mechanisms for the adaptation of historic buildings. This reveals that there is a lack of integration between processes dictated by Building Warrants and those recommended by Historic Environment Scotland. It further brings into focus the public policy values protected through legislation. On the one hand, the historic and architectural values protected through the Historic Environment legislation, and on the other, the environmental sustainability values protected by land-use planning legislation. In terms of conversions of listed buildings, the Sustainability requirements for Building Standards do not apply, and in terms of energy efficiency, measures are more effectively directed at new build rather than existing buildings. Furthermore, the focus on waste management is primarily for recyclable household waste. The next section will explore planning and land use policies in greater detail, highlighting the incompatibility of guidelines for built heritage.

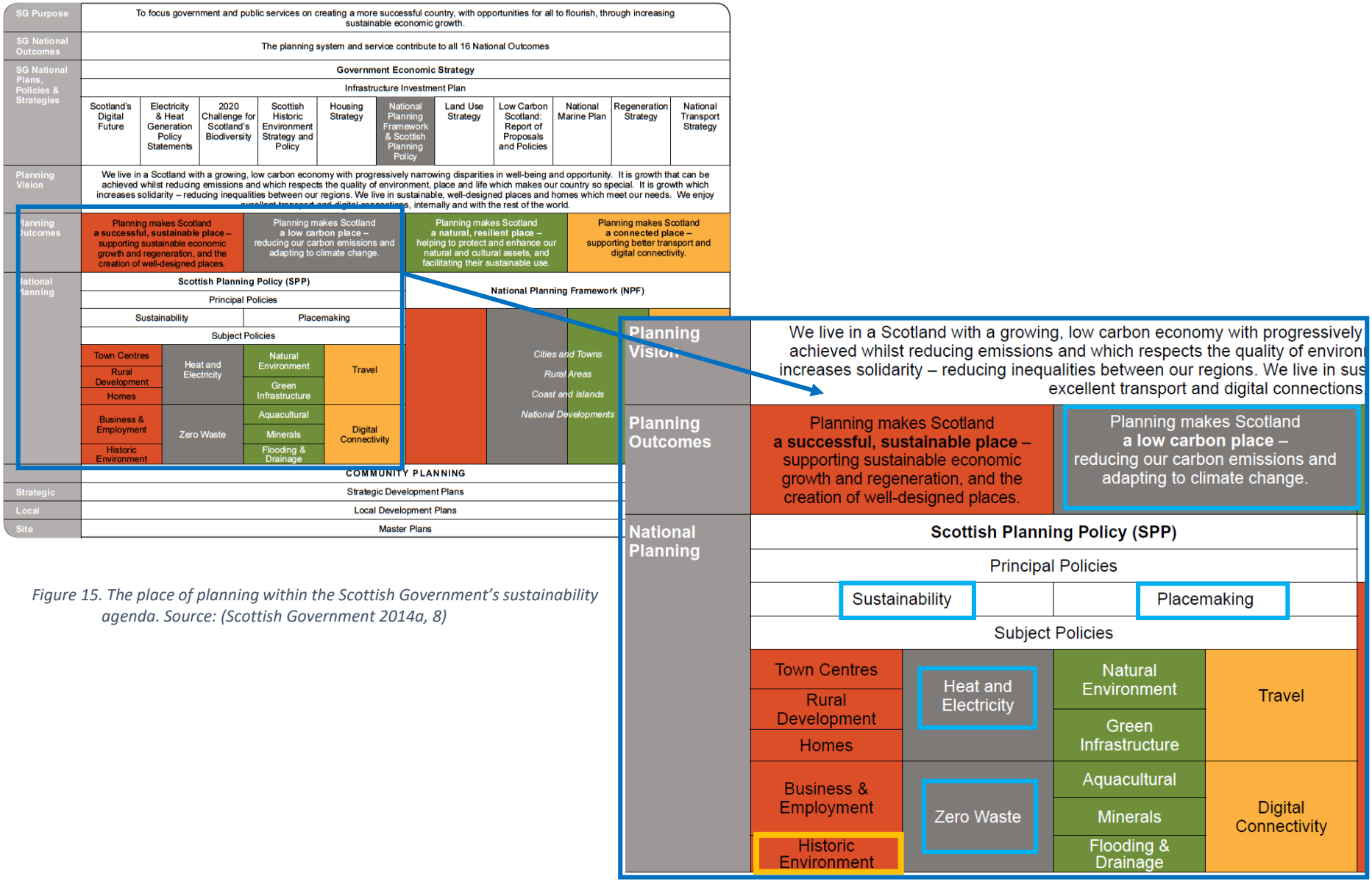


Figure 15. The place of planning within the Scottish Government's sustainability agenda. Source: (Scottish Government 2014a, 8)

Land Use and Planning in Scotland

Land use and planning in the United Kingdom is *plan-led* (Cullingworth *et al.*, 2015: 33). The plan shapes strategies to accommodate for growth in the population, address housing and business needs, while managing, controlling, and directing resources. This means that formal development plans determine what developments are permitted and how land is protected to ensure a balanced approach to development and environmental protection. The local council is responsible for most planning decisions. While each local council has a planning committee and planning officers to make decisions about local and major applications, decisions on the approval or rejection of planning applications for listed buildings is generally delegated to one officer as per the amendments put into force by the Planning etc. (Scotland) Act 2006 (Scottish Government, 2009b). Therefore, the approval or rejection of applications can be influenced by the discretion of that planning officer. All four nations of the UK have similar basic structures, but the details and approach can vary in each nation (Cave *et al.*, 2013).

Legislation that governs the operation of the Scottish planning system are The Town and Country Planning (Scotland) Act 1997 and The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997. This legislation directs the Scottish Government to set out the purpose of the planning system in the *Scottish Planning Policy* (see fig. 15) and define the spatial aspects of policies in the *National Planning Framework* (NPF). The Scottish Government's 16 national outcomes described in the previous chapter inform how the country will achieve sustainability. Since planning cuts across many sectors and has a broad scope, it contributes towards the achievement of all sixteen National Outcomes through national plans, policies and strategies that are reflected in the SPP and NPF (Scottish Government, 2014b).

The SPP and NPF provide the broad structure for the development and management of land, while Planning Advice Notes (PAN) and Planning Circulars outline the specific advice and guidance required to achieve outcomes and enforce planning regulations. In the context of this research, the Scottish Government Planning Advice Note (PAN) 71 *Conservation Area Management* outlines how conservation areas should be preserved and managed. While the Historic Environment Circular 1 describes the functions of HES regarding listing and scheduling, consents, and appeals (HES, 2015b).

In terms of sustainable development, the *Scottish Planning Policy* highlights the economic and social the value of the historic environment in terms of its role in enriching lives and contributing to 'our sense of identity', as well as its value as a 'key cultural and economic asset…. integral to creating successful places' (Scottish Government, 2014b: 33). The economic and social values are however preserved through the protection of architectural and historic values since positive change to the historic environment is articulated as '[c]hange should be sensitively managed to avoid or minimise adverse impacts on the fabric and setting of the asset, and ensure that its special characteristics are protected, conserved or enhanced' (*ibid*). But where the strategy focuses on the environmental aspects of sustainable development, such as the reduction of carbon, the focus is entirely on new build and the historic built environment is not mentioned as a mitigating factor.

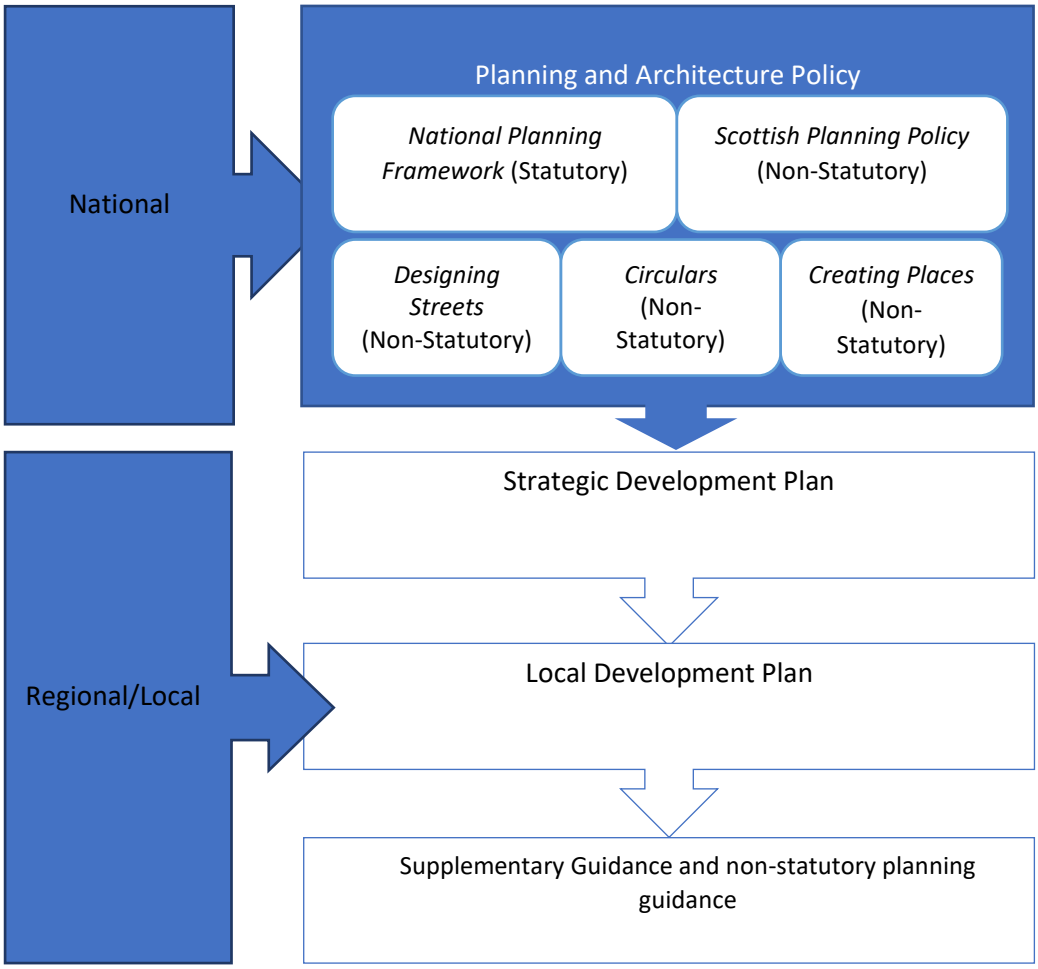
Development Plans

In 2006, The Planning etc. (Scotland) Act 2006 introduced a new statutory basis for development planning in Scotland. Ministers were now allowed to designate strategic development planning authorities (SDPAs) that prepared and reviewed strategic development plans (SDPs). The purpose for the SDP was to cover land issues that cross more than one local authority boundary or involve strategic infrastructure, critical to economic progress and Scotland's long-term development. These included transport infrastructure and strategic energy sources (GCVSDPA 2012). Four SDPAs[26] were designated to set out the vision for long term housing developments, major business and retail developments, infrastructure provisions and green networks for Scotland's four main city regions, namely Aberdeen, Dundee, Edinburgh and Glasgow. Each Strategic Development Plan contains a vision statement that addresses how a development would impact the physical, economic, social and environmental characteristics of the area. To monitor the environmental changes of developments, each SDP requires a Strategic Environmental Assessment (SEA) as required by the Environmental Assessment (Scotland) Act 2005 and in compliance with EU Directive 2001/42/EC. In developments where

[26] These SDPA are East Dunbartonshire, East Renfrewshire, Glasgow City, Inverclyde, North Lanarkshire, Renfrewshire, South Lanarkshire and West Dunbartonshire Councils; Aberdeen City and Aberdeenshire Councils; Angus, Dundee City, Fife and Perth & Kinross Councils; City of Edinburgh, East Lothian, Fife, Midlothian, Scottish Borders and West Lothian Councils.

the historic environment can be impacted, HES performs a dual role in both carrying out SEAs as well as being a consultation authority.

In addition to strategic development plans (SDPs), all planning authorities are legally required to prepare a Local Development Plan (LDP) that is updated and replaced every five years (Scottish Government 2013g). The LDP will usually be accompanied by supplementary guidance (SG) on issues such as sustainable strategy, green network provision, historic environment, design standards, transport and housing needs. In the case of Glasgow for instance, the Local Development Plan (LDP) is accompanied by supplementary guidance for the Historic Environment. As such, the historic environment SG should be read in conjunction with the Glasgow Local Development Plan. Historic Environment SG reflects the *Scottish Planning Policy* (Scottish Government 2014), the *Scottish Historic Environment Policy* (HS, 2011) and the *Managing Change in the Historic Environment* guidance note series published by Historic Environment Scotland. In determining all planning application decisions, the law requires that decisions be in accordance with the development plan unless there are 'material considerations' to indicate otherwise (Scottish Government, 2013d: 1).



The *National Planning Framework* provides a statutory framework for Scotland's spatial development for the next 20 to 30 years.

The *Scottish Planning Policy* (SPP) sets out policy that will help to deliver the objectives of the *National Planning Framework* (NPF).

Creating Places contains policies and guidance on architecture and design.

Designing Streets describes the policies and guidance on the design of new or existing streets and their construction, adoption and maintenance

Circulars contain policy on the implementation of legislation or procedures.

Together, these policies guide land use planning in Scotland.

Figure 16. Planning System in Scotland (Source: Scottish Government 2014a)

Figure 17. The Scottish planning system since devolution and relevant to this PhD. Source: (Scottish Government 2014a).

Planning Application Process

The planning system determines where and how developments and sites are developed. According to Scottish law, any 'building, engineering, mining or other operations in, on, over or under land' is considered a development (Scottish Government, 2009b: 6). A planning permission is required for all new development, changes in building and land use, and changes to listed buildings. In Scotland there are three categories of development, these include national developments which are at the top of the hierarchy of developments. National developments are set out in the *National Planning Framework* and include developments that would make a significant contribution to Scotland's overall success or its international role. The next category of developments are major developments and can include housing of 50 dwellings or more, or fewer that 50 dwellings but in an area that exceeds 2 hectares. These types of developments require a pre-application consultation with the community, a *Design and Access Statement*, and may need an *Environmental Impact Assessment* as directed by the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011. The final category of development is local development, and these are all developments that are not national or major developments (Scottish Government, 2009b). All Listed Building Applications require a *Design and Access Statement* which outlines design solutions in terms of sustainability and energy efficiency, as well as strategies that address accessibility for disabled people (SE, 2003).

Planning permissions are granted after the review and approval of planning applications. All planning permission should have a description of the plan, address, details of the applicant and owner, as well as architectural drawings and relevant documents which vary according to the type of development. Where listed buildings are concerned, there is a requirement to apply for a listed building consent as well. Fig. 18 outlines the planning process for listed buildings.

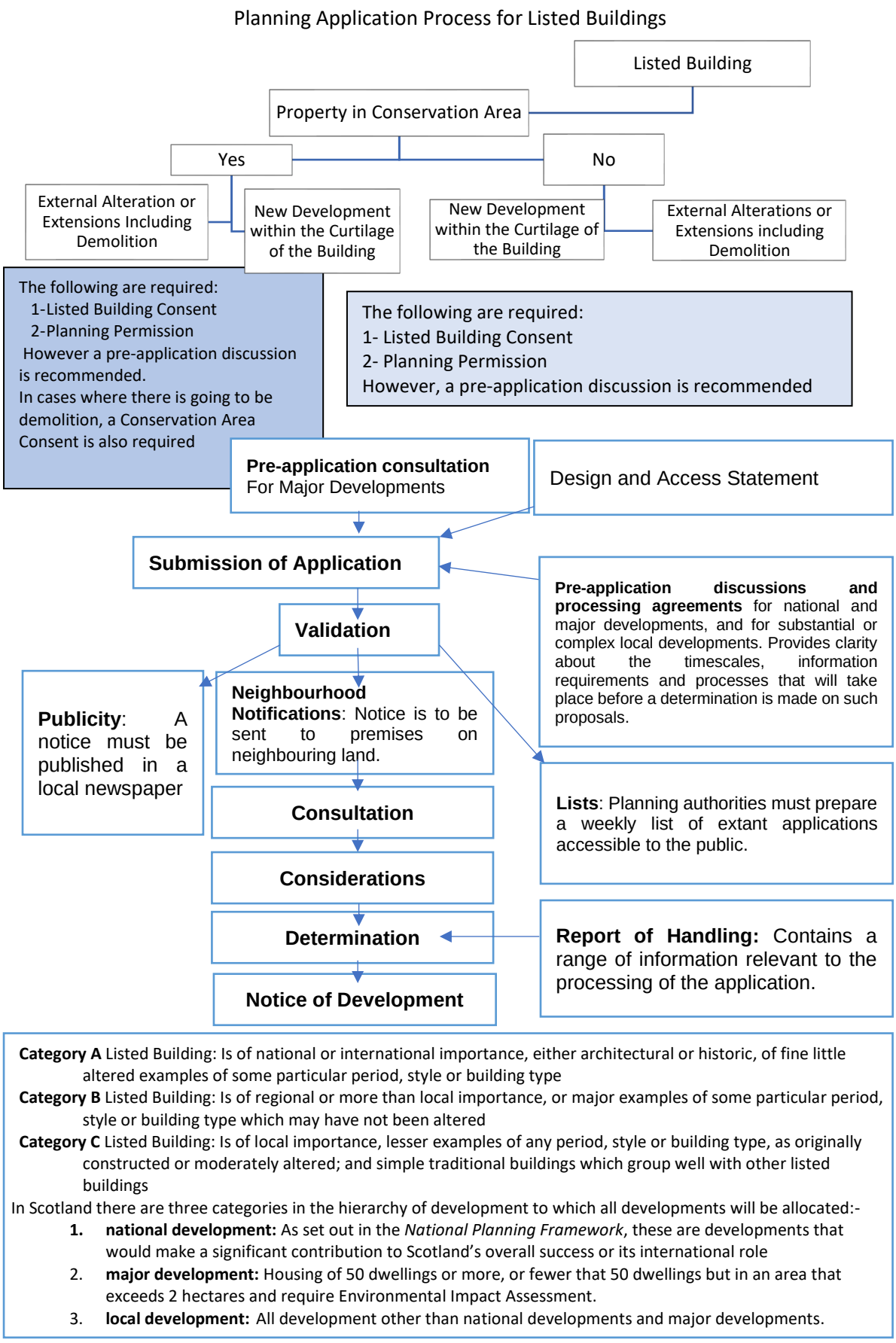


Figure 18. Planning application process for Listed Buildings adapted from Development Management Procedures and Hierarchy of Developments (Scottish Government 2009b, 2013f, 5)

Advisors and Actors in the Planning Process

Due to the nature and scope of planning, there are a wide range of public bodies and agencies that participate in the planning process and decision-making at the local level, offering specialist advice to planning authorities. For example, the SG for the historic environment that was mentioned earlier. Some of these organisations have statutory responsibilities for particular areas, which in turn have implications for planning decisions. In the context of this particular research, they include HES, SEPA and Scottish Water. In addition, there are voluntary or private organisations that offer advice which might have implications on the planning process. The key voluntary group for this research would be the Architectural Heritage Society of Scotland (AHSS), who as described earlier in the chapter, review planning applications for listed buildings and developments in conservation areas. The table below (table 8) lists these publics bodies, agencies, and voluntary organisation with a brief explanation of their duties and responsibilities[27].

Public Bodies and Agencies	
Historic Environment Scotland (HES)	HES has statutory functions within the planning system as part of a wide range of responsibilities for the historic environment, including regulatory and advisory roles in relation to Listed building consent (LBC) and conservation area consent (CAC) applications. HES are also consulted on Environmental Impact Assessment and advise on the Strategic Environmental Assessment of development plans.
Scottish Environment Protection Agency (SEPA)	SEPA is Scotland's environmental regulator and adviser. In addition to its role in controlling pollution, it also provides formal environmental advice in relation to development plans and on a wide range of development proposals across Scotland. They provide advice to planning authorities on development plans and in relation to larger planning applications that could impact the environment or planning applications that might have implications for flood risk. Planning authorities must seek SEPA advice on planning applications that might increase flood risk or is supported by an Environmental Impact Assessment.
Scottish Water	Scottish Water provides water and wastewater services throughout Scotland. It is also a statutory consultee within the planning legislation and is required to comment on all outline or full planning applications referred by a Local Authority.
Voluntary Organisation	
The Architectural Heritage Society of Scotland	AHSS is dedicated to the protection and study of the built heritage of Scotland. Its five regional groups are responsible for commenting on planning applications in their areas. They also provide educational activities, lectures and tours

Table 8.List of Public Bodies and Agencies that participate in the planning process in this research (IS 2017).

[27] The full list can be found in Appendix V

Beyond the advisors listed above, in development projects and land use changes, other actors are involved or can be impacted. These range from property developers, property owners, neighbourhood communities, amenity groups, businesses and the like. In the process of change, there will inevitably be conflicts between competing interests. While the policy documents and strategies provide guidelines on the direction of change, councils, and elected members, representing wider public interest mediate these conflicts through the planning system. In mediating these conflicts, pre-application meetings are often encouraged to discuss areas of particular concern. There are particularly pertinent to conversions of historic buildings.

The conversion of historic buildings often requires a careful balancing between the retention of key character defining elements and implementing required interventions for a viable development. This balance requires the protection of historic or architectural values of the asset, so that the significance of the building can remain intact. Some of these required interventions are determined by the Scottish building standards system established by the Building (Scotland) Act 2003. These standards not only regulate building safety but are instrumental in delivering the environmental sustainability targets set by the Scottish Government in terms of energy and resource efficiency, as well as waste management. These environmental considerations protection the value the public places on sustaining a liveable planet. Therefore, in the conversion process of historic buildings, not only are impacts on the historic environment and fabric evaluated, but compliance with building standards need to be determined as well. The process of applying for building warrant from the local authority building standards service is outlined below (fig. 19). Building standards offers guidance on how to address value trade-offs between environmental values and heritage values, but as will be examined in Chapters Seven and Eight, the result during policy implementation is not always successful in protection some of all these values.

Staged warrants

In some projects, particularly for commercial buildings, a building cannot be fully designed until the eventual occupant is identified. Specialist sub-contractors, who are often needed to complete the detailed design of parts of the building, may also not be identifiable at the outset. The Act allows for warrants to be granted in stages.

Duration of warrants

A building warrant is valid for three years, commencing the day it is granted.
The applicant must either finish the work within that period or apply for an extension of the warrant.

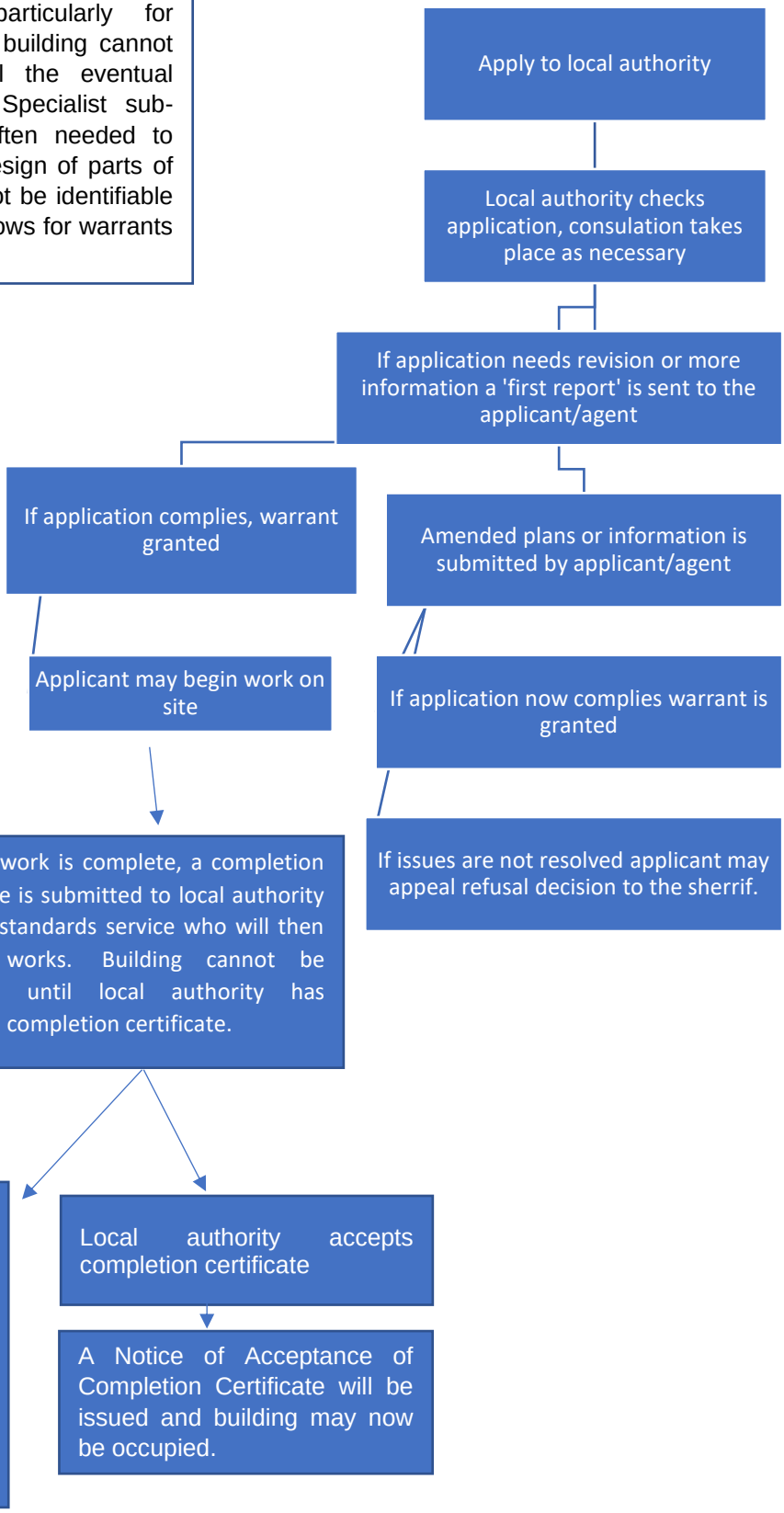


Figure 19. Process of applying for building warrant permission to commence work on listed buildings from local authority like Glasgow (Scottish Government, 2017c).

The following section will discuss the Building Standards in Scotland in greater detail to set the background on how standards are implemented in the case study chapters, and how the implementation squares against heritage conservation guidelines that are shaped by the traditional emphasis on historic and architectural values.

Building Standards: Energy Efficiency

The Scottish building standards system operates under the Building (Scotland) Act 2003. This Act gave Scottish ministers powers to write secondary legislation to support the Act, including the Building (Scotland) Regulations 2004. This new legislation introduced significant changes, reducing the number of mandatory requirements while allowing for more flexibility in interpretation (Wilson 2005). The changes were designed to improve construction standards, and the conservation of fuel and power, while making the approval process more straightforward. These measures not only aligned the standards more closely with EU directives, but also supported the objectives of sustainable development (Wilson, 2005). Two Technical Handbooks, one for domestic and the other for non-domestic buildings provide guidance. Since the case studies are classed as domestic buildings[28], the focus will remain on standards for domestic buildings only.

According to research conducted by the Scottish Government, 85 percent of existing homes in Scotland will continue to be in use by the 2050 emission target deadline of 80% reduction on the 1990 baseline (Scottish Government, 2012b). Energy consumption in Scotland is attributed largely to three sectors, transport, domestic and non-domestic (industry and commerce). Excluding transport, the energy consumption of the domestic sector in 2012 was 42%, followed closely by the non-domestic sector which was 58%, most of which was from natural gas (Scottish Government, 2015b). The majority of energy consumption is used for heating which is equivalent to 55% of total energy use (ibid). Modelling performed by Arup on behalf of the Scottish Government suggests that in terms of emissions from heating buildings, over a third of greenhouse gas emissions are from dwellings (Scottish Government, 2014e). Therefore, to achieve emissions targets while addressing fuel poverty, considerable focus has been put on improving the energy efficiency of homes. In the context of emissions,

[28]Domestic building is a building that serves as a dwelling or dwellings and includes the associated common areas (SG 2013c).

CO_2 constitutes the significant portion of greenhouse gas emissions in the UK[29] (see fig. 20). In the built environment, the bulk of CO_2 emissions is associated with building use (see fig. 21). Therefore, carbon from emissions is the key focus of carbon reduction strategies, and not *embodied carbon*.

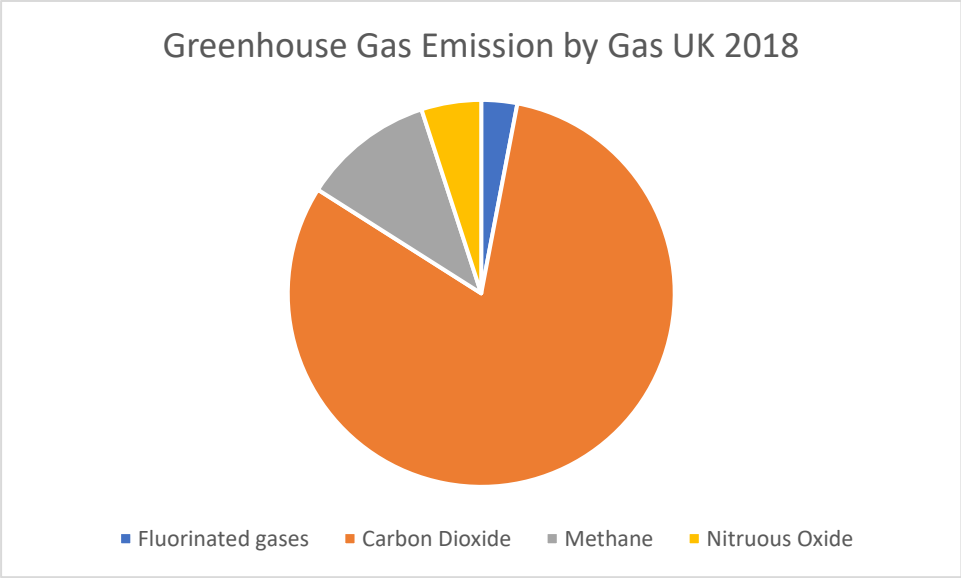


Figure 20.Greenhouse Gas Emission by Gas UK 2018. Source: BEIS, 2020.

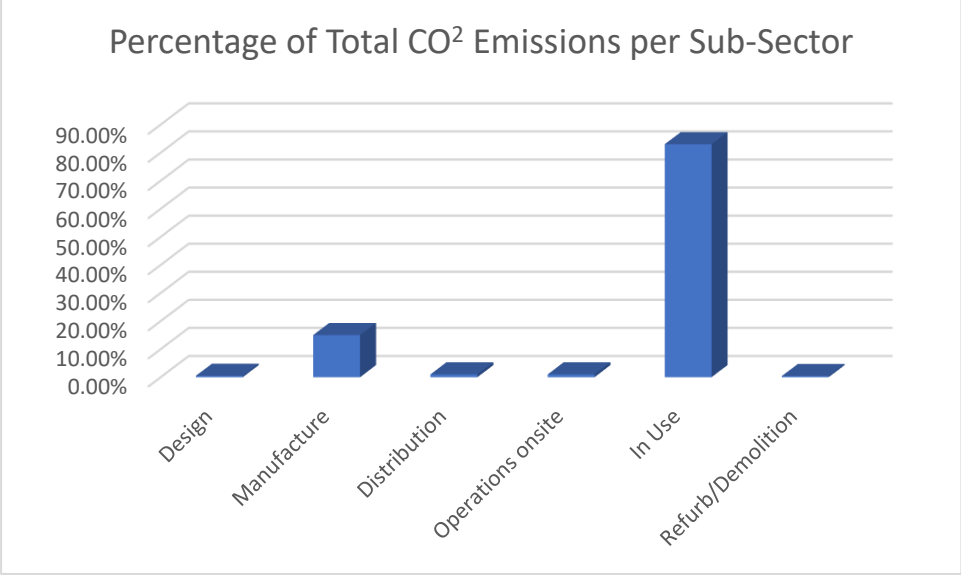


Figure 21. Percentage of Total CO2 Emissions per Sub-Sector. Source: DBIS, 2010

[29]The percentages for Scotland are almost identical.

In the construction sector, there are various ways in which *embodied carbon* is calculated (Pomponi *et al.*, 2020). These range from the calculation of GHG emissions associated with the extraction and processing of construction materials and products (cradle to gate). In other calculations, transport emissions are added on to the previous calculations (cradle to site). Others include emissions generated from the construction process (cradle to practical completion) and finally all emissions generated from the repair, maintenance, demolition and disposal are added to all the previous calculations to give total emissions of a building to its end of use (cradle to grave). Or they can go beyond these calculations to include the processes involved in the recovery and recycling of disposed products (ibid: 5). Although embodied carbon has had traction in policy discussions for more than a decade, the 2007 Sullivan Report recommendations on including the consideration of embodied energy was set aside in anticipation of the European Commission review of the Construction Products Directive. However, the heavy impact of the financial crisis of 2007-2009 on the construction industry influenced the Sullivan panel to define zero-carbon for operational emissions in its review in 2013 (SG, 2013b; Pomponi, 2020), effectively excluding embodied carbon from the calculations.

A review of the Scottish Government's statistics on greenhouse gas emissions reveals that residential emissions (generated from building use) have remained relatively unchanged from 1990 to 2015 (see fig 22).

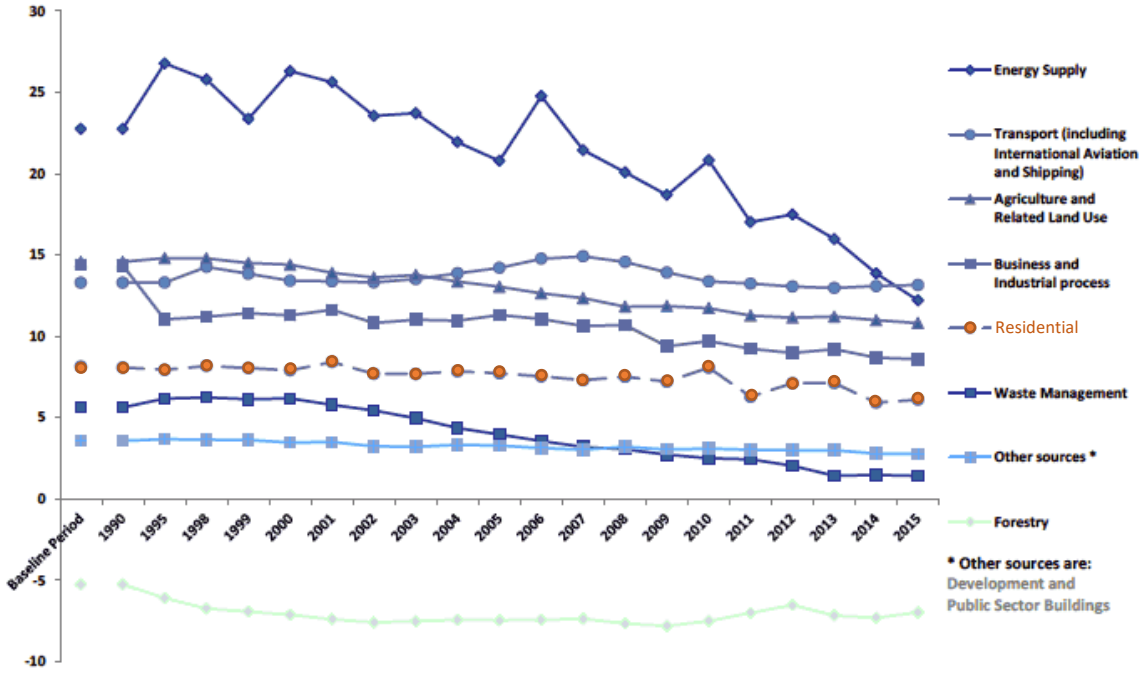


Figure 22. Sources of Greenhouse Gas Emissions in Scotland, 1990 to 2015. Values in MtCO 2e. Residential emissions are associated with use (Source: Scottish Government, 2017a: 15).

Since emissions from Business and Industrial Processes and the Residential sector are the next largest net emissions sources after Transport and Energy Supply, an improvement in energy efficiency in the residential sector can make a significant contribution to the overall decrease in emissions. In the residential sector, control over emissions is much more regulated in social housing that then in private dwellings.

In cases where the domestic building is a social housing, there are additional and specific standards. The provision of social housing in Glasgow dates back to the 1919 Housing & Town Planning Act, which placed a statutory duty on local authorities to build public housing for its working-class population (Damer, 2019). Today that statutory requirement is outlined in the Housing (Scotland) Act 2001, whereby local authorities are required to produce a Local Housing Strategy (LHS), supported by an assessment of existing housing provisions and services. While LHS is generally bound by local authority boundaries, in Glasgow, the housing delivery targets are derived from the Glasgow and Clyde Valley Strategic Plan (GCC, 2011a). Historically, strategies implemented to meet the demands for social housing have not always resulted in adequate or well-designed homes (Kintrea, 2007; Robertson 2009; GCC 2017; Crawford *et al*., 2007). Therefore, social housing developments are guided by a specific

set of legislation, different and separate from other types of dwellings such as student housing or privately rented dwellings.

The specific standards that regulate social housing were introduced through the Scottish Housing Quality Standard (SHQS) in 2004 (Tweed, 2017). This required that all social landlords meet a minimum Standard Assessment Procedure (SAP) rating of 50 by 2015 (Scottish Government, 2011). This rating system is based on the Building Research Establishment's (BRE) procedure designed to estimate Energy Efficiency and Environmental Impact (or the CO_2 emissions) of a dwelling[30]. The SHQS required that all social housing properties exceed the statutory tolerable standard, provide modern facilities and services in a healthy, safe and secure environment. Additionally, the properties were required to be free from serious disrepair and as mentioned before, meet energy efficiency measures. These measures were gauged against the quality and specification of insulations, the provision of efficient heating, and where possible, additional energy efficiency measures such as energy efficient appliances (Scottish Government 2011).

In 2015, the Energy Efficiency Standard for Social Housing (EESSH) replaced the energy efficiency criteria of the Scottish Housing Quality Standard (SHQS). This new standard was based on the 2012 Standard Assessment Procedure (SAP) methodology for energy rating of dwellings. The purpose was to improve the energy efficiency of social housing, thus reducing greenhouse gas emissions and alleviating fuel poverty. This was also to help meet the 42% cut in greenhouse gas emissions by 2020, and 80% by 2050 as per the requirements set in the Climate Change (Scotland) Act 2009. The standard set the required minimum Energy Efficiency (EE) ratings landlords had to meet by December 2020. Depending on dwelling type and fuel used for heating, the required target rating varied between 47 (EPC band E) for homes using oil for heating, to 69 (EPC band C) for gas heated dwellings (Scottish Government 2014c). In achieving energy efficiency, emissions for the operation of the building are based on calculations that are designed for modern buildings, using modern building material. These are not compatible with pre-1919 building stock and therefore the SAP calculations fail to produce an accurate measure for emissions (Scottish Gov 2019).

[30] During the research of this thesis, private owners and private landlords were not obligated to improve the energy efficiency of their properties, although the Scottish Government had planned to introduce regulations in the Parliament in 2019 to implement these requirements (Berry 2019). Due to the COVID-19 crisis these regulations have been delayed (Home Energy Scotland 2020).

In addition to meeting energy efficiency standards, Building Standards also requires that developments comply with resource efficiency and waste management regulations in alignment with the government's sustainability goals.

Building Standards: Resource Efficiency and Waste Management

In addressing resource efficiency and waste management, three key government strategies directly impact the building regulations division of the planning department. The first one being the *National Waste Plan* (2003) that set the target for stopping municipal waste growth by 2010. The second strategy was the *Zero Waste Plan* (2010) refined by The Waste (Scotland) Regulations 2012. The third strategy was *Making Things Last – A Circular Economy Strategy for Scotland* published in 2016, explicitly aimed at reducing construction sector waste which accounts for about 50% of all waste in Scotland (Scottish Government, 2016a: 3).

As seen in fig. 23, construction and demolition waste (C&D), year on year constitutes a significant portion of all waste. *Scottish Planning Policy* (SPP) requires that all new developments are designed 'to limit likely greenhouse gas emissions, particularly by limiting resource and energy requirements' (Scottish Government, 2010c: 8). In the 2014 SPP, the efficient use of resources was linked with living 'within … environmental limits,' citing the reuse of 'existing resources' and selecting 'durable materials for building' as a means of resource efficiency (Scottish Government, 2014b: 7).

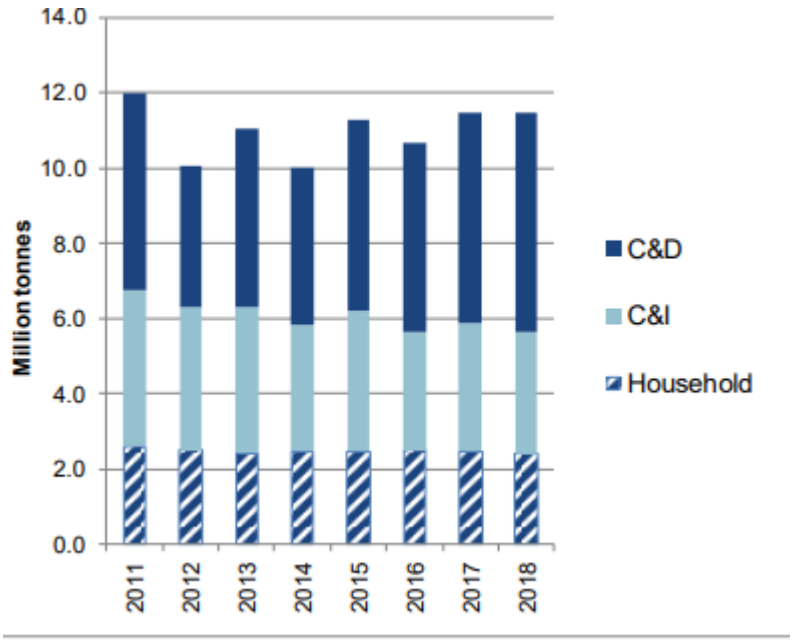


Figure 23. Construction and demolition (C&D) waste in comparison to commercial and household waste (SEPA Summary Data, 2018)

The Scottish Government launched its ambitious Zero Waste Plan in 2010 to support resource efficiency, recycling, and minimise waste generation. With the adoption of Zero Waste as a goal, the Scottish Government recognised that the unnecessary use of raw materials should be avoided. Additionally, policy on waste management, shaped by EU Waste Framework Directive (EU, 2008) and the Landfill (Scotland) Regulations (2003), required that the proportion of recycled or composted municipal waste increase to 50%. Under such a framework, waste management which previously aimed at prevention has been modified to strengthen the economic value of waste. By adopting a life-cycle approach to resources, the focus has shifted to the environmental impacts of waste generation and management. Thus, to conserve natural resources, emphasis is placed on the recovery, recycling and reuse of material rather than disposal (EU, 2008). This approach to recovering, recycling and reusing building material is also promoted by Historic Environment Scotland. In addition to the environmental benefits, incorporating the historic fabric retains the aesthetic qualities and historic patina associated with the building (HS 2007). However, HES advises against the stripping of the historic fabric from other buildings for reuse in adaptation and restoration projects, as material may not be appropriate or structurally sound (HS 2007). This caution raises specific concerns in terms of financial (i.e. mortgage requirements) and insurance coverage, especially in certifying structures as being fit for purpose (interview 8476), which in turn can prevent the recycling and reuse of existing materials. In literature and theory, the reuse and recycling of

existing material is considered an environmental contribution of heritage building during adaptation processes, however in practice, these theoretical values do not conform with practical and legal requirements, or can cause tensions. Often, in resolving these tensions, the path of least resistance and lesser implications are adopted and building materials are not re-used.

Another consideration in the Zero Waste Plan in support of a low carbon economy is the concept of designing out waste (2010). This reduces landfill waste, which in turn has a positive impact on the landfill tax levy. Landfill tax is well recognised to be one of the most successful environmental taxes, driving material away from landfills and into productive use. However, the greenhouse gas emissions for extraction and transport are not calculated. Instead, a devolved tax (the Scottish Landfill Tax or SLfT) is charged on unusable construction waste transported to landfills (Landfill Tax (Scotland) Act 2014). The tax, which is based on weight rather than volume incentivises the extraction and reuse or resale of heavier waste. Therefore, on construction sites there are financial incentives for the developer to extract reusable materials such as timber, slate and metals for resale or reuse to avoid landfill tax levies (interviews 7365, 7387).

Regulations also require that waste be 'dealt with as close as possible to where it is produced' (SG, 2010b: 45). Where possible, appropriate C&D waste is crushed and used on site for construction or infill (interviews 7387, 7083). In the conversion of historic building, the reuse of building material not only has financial incentives in terms of lower landfill tax, it also contributes to conservation guidelines that promote the use of the historic fabric. However, the emissions from these activities are not accounted for during the development process.

Another important consideration in terms of the environment is that the national indicator for waste measures the amount of household waste. Which is also the type of waste factored in Building Standards regulations on waste management. Construction and demolition waste (C&D) on the other hand, which is monitored by SEPA, is measured based on landfill waste weight. The data for this landfill waste is provided by licensed/permitted landfill and waste management operators (SEPA & NS, 2017). Therefore, environmental considerations for C&D falls outside of Buildings Standards regulations and is not factored as part of the conversion process of historic buildings.

As mentioned in Chapter Two, an often cited environmental contribution of the adaptive reuse of historic building is that their existence removes the need to use new building resources, and reduces the generation of C&D waste (Elefante, 2007). However, by separating the calculations of C&D waste generated in the conversion of historic buildings from building standard requirements, determining the extent to which a conversion project actually contributes to the reduction of C&D waste becomes difficult. Additionally, there are no mechanisms within the building standards framework to determine how much of the historic fabric is reused in any given conversion project. Consequently, while the objectives of conservation policies and environmental sustainability support the recovery, recycling and reuse of material, there are no clear monitoring mechanisms in place similar to SAP calculations or the like.

In addition to the environmental sustainability aspects mentioned above, other tools are used to assess the level of sustainability for new build developments which fall outside the scope of the building regulations department but are still in purview of the planning authority. These include location, orientation on site, and transport. Since the conversion of historic buildings, often includes new build elements, as is the case in this research, the next section will review the transport component[31].

Planning, Transport and Environmental Sustainability

Between 1990 and 2004, emissions from the transport sector and residential sector grew, in sharp contrast to all other sectors in Scotland (SE, 2006). To generate significant carbon savings, a key task for the Scottish Government was to reduce transport emissions. One measure aimed at achieving reductions was the promotion of alternative modes of transport to single occupancy car use (SE, 2006). These included the promotion and encouragement of using public transportation, car clubs and car sharing schemes, as well as cycling and walking. Additionally, car free housing zones and teleworking were also encouraged. In development plans, the *Scottish Planning Policy* endorsed these measures in order to 'promote opportunities for travel by more sustainable modes' (Scottish Government, 2014b: 62). The order of priority for these measures favoured walking, cycling, and public transport over cars. Although these measures are much broader than the remit of building regulations, during the planning process

[31] Since the location and the orientation of the historic buildings remain unchanged, these two elements will not be taken into consideration..

concessions are made in terms of reducing total number of car parks permitted, thus increasing density. Therefore the car-free and low-car housing policies promoted by the government as means of reducing car journeys (Parkhurst *et al* 2013), improved the financial return on investment for developments that increase density in urban areas. The implications of this policy will be discussed in more detail in the case study chapters.

Conclusion

In terms of national planning policy and strategy, environmental concerns play a key role, and measures such as EIA and SEA have been introduced to assess the impact of developments on the environment, reflecting the Scottish Government's focus on sustainability and placemaking and the increasing recognition of environmental values within sustainability. In the land use and planning realm, the sustainability measures put into place through building standards do not apply to building conversions. These are the regulations that govern environmental sustainability in terms of emissions, waste management and resource, none of which have appropriate measures suitable for historic buildings. In terms of energy efficiency, the Simplified Assessment Procedure routinely used during the planning process (interview 8267) does not produce an accurate representation of the performance of a historic building. This is because the simplified energy performance (SAP) calculation method in place to monitor improved energy efficiency is designed to assess improvements in modern buildings that use modern construction design, techniques, and material. As such, SAP is not compatible with historic buildings, therefore in terms of energy efficiency, it is often advised to *improve* performance rather than achieve a particular benchmark. Even with the installation of energy efficiency solutions, user behaviour can have an impact on overall performance (Paone and Bacher, 2018). The combined factors of *improvement* over the achievement of particular benchmarks and *user behaviour* makes the measurement of built heritage adaptation to reduced emissions difficult to assess.

Therefore, there are currently no mechanisms in the planning system that could measure and monitor the contribution heritage conservation makes to the environmental sustainability goals set by the Scottish Government towards achieving sustainable development. What mechanisms are in place do not corelate with urban heritage conservation, revealing the mismatch between values and policy rhetoric.

In terms of waste management and resource use, national frameworks and mechanisms in place to assess, monitor and measure environmental impacts do not have a means of assessing the retention of built fabric, and how that retention directly or indirectly impacts waste and resource efficiency. While HES has conducted numerous studies on U-values, embodied carbon and the performance of historic buildings, the result of those research has not yet helped shape an appropriate framework for environmental assessments in building standards to measure the impact of built heritage conservation. Therefore, at a national level, it is difficult to assess the relationship between heritage conservation and environmental sustainability. However, this relationship is further reiterated in local policy strategies and development plans. Therefore, the next chapter will analyse local policies and strategies to investigate this relationship by first reviewing historical evolution of Glasgow, followed by an analysis of the city development policies to determine how the management of built heritage supports the city's sustainable development ambitions.

CHAPTER 6 GLASGOW: A SUSTAINABLE CITY?

In the UK, London dominates the urban hierarchy to a significant extent compared to the rest of the UK cities (Naylor *et al*., 2018). This gap led to the formation of the Core Cities[32] group, an association of eleven of the UK's largest cities, to lobby, advocate and develop policies aimed at advancing the cause of urban economies outside of London (OECD). The Core Cities group include: Belfast, Birmingham, Bristol, Cardiff, Glasgow, Leeds, Liverpool, Manchester, Newcastle, Nottingham and Sheffield. With the passage of the Localism Act 2011, the group received formal recognition, granting them greater control over economic development and planning. As Scotland's largest city, and the only Scottish city in the UK's Core Cities group, Glasgow has a privileged position in the UK's urban economy and wields political influence. This influence was evident in the awarding of the £1.13 billion Glasgow City Region Deal in 2014, which was the largest of its kind (Scottish Government, 2015a). This funding and the decision-making powers that came with the deal were designed to improve Glasgow's regional economy, with investments in housing, energy efficiency, and regeneration, among other things (*ibid*). These activities fall within the realm of planning and therefore influence decisions on the management of Glasgow's built heritage, which has been, and continues to be, a valued asset greatly impacted by policy trends throughout the history of the city. The most recent trend has been the ambition to become one of the most sustainable cities in Europe (GCC, 2015). With the second highest number of listed heritage assets after Edinburgh, Glasgow thus provides an excellent opportunity to investigate how sustainability policies are implemented through conservation decision-making and how values are prioritized in the management of urban heritage.

The previous chapters discussed sustainable development policy in the UK and devolved Scottish administration, as well as urban conservation and environmental sustainability policies that influence decisions on planning applications where listed buildings are involved. The chapter demonstrated that with regard to environmental sustainability, the focus of national policy is heavily geared towards reducing emissions and improving resource

[32] Core cities are the principal cities of their regions that have the high-level services and anchor institutions which attract investment and people (Pike et al 2016).

efficiency as a means of achieving sustainable development and tackling climate change. Where emission reductions are concerned, legislative policies have put into place ambitious targets, which are to be delivered through implementation plans, actions, and directions aimed at reducing energy consumption and emissions. These reductions address both the production of energy, as well as in its uses in industry, building operations, transport and waste management. The emissions generated by building construction and embodied carbon considerations are not part of this equation (Pomponi *et al.*, 2020), and as of yet not part of the metrics. As a result, the embodied carbon of built heritage does not factor in national policy.

However, in terms of urban heritage conservation and environmental sustainability policies, there are four key areas of intersection, namely energy efficiency, waste management, resource use and transport. But national frameworks and mechanisms in place to assess, monitor and measure environmental sustainability do not corelate with the indicator for urban heritage. Therefore, at a national level, it is difficult to assess the relationship between heritage conservation and environmental sustainability. As this relationship however continues to be reiterated in *local* policy strategies and development plans, this chapter will analyse local policies and strategies in Glasgow to investigate the relationship between conservation and environmental sustainability within the context of the city's sustainability ambitions. The chapter will show that in much of local policy rhetoric, terms such as sustainability, green, low-carbon, resilient, place-making are used interchangeably or within contexts that only reflect partial definitions. This could be a reflection on how sustainable development continues to be an ill-defined concept, or how those definitions are shaped to respond to political or socioeconomic factors and values. Within this ambiguous landscape, the contribution of Glasgow's urban heritage in supporting *sustainable communities* or *sustainable economic growth,* continues to perpetuate this disintegrated view of sustainability. To set the context of how the city's urban heritage has been used to support local policies– and in particular this latest push to become the most sustainable city– a brief historical overview of Glasgow and its urban profile will be provided in the next section.

Urban profile

Glasgow's urban heritage has been both a victim and a celebrated asset of the city's various urban planning, regeneration, and branding strategies. The city grew rapidly following the Industrial Revolution in the UK, becoming a key transatlantic port supported by a heavy

industrial base in shipbuilding, engineering and manufacturing. With deindustrialization, and significant declines in heavy industry, Glasgow like many other cities across Europe, sought to transition to post-industrialism through a series of regeneration and rebranding policy initiatives. As part of this transition, the economic focus shifted to a more service-based economy, with a growing financial sector, light industry and manufacturing, creative arts, research and education (USP, n.d.). Glasgow became UK's 2nd most important retail and financial centre (GCC 2016) and the hub of many national and international funding initiatives and programs, some of which are listed in table 9.

Date		Event / Funding Initiative
1988	Emphasis on Culture, Arts and Architecture	Garden Festival
1990		European Capital of Culture
1999		UK City of Architecture & Design
2008		UNESCO City of Music – Part of UN Creative Cities Network
2010		Sustainable Glasgow initiative pairs the City Council with private and not-for profit partners to reduce carbon emissions by 30 % by 2020 and build a more sustainable future for Glaswegians
2011		New Riverside Museum drives waterfront renewal; refreshed economic strategy for City Region
2012	Emphasis on Smart City, Resilience and Sustainability	City Council joined the Covenant of Mayors and *Sustainable Glasgow Report* was submitted as its Sustainable Energy Action Plan (SEAP).
2012		Glasgow becomes one of the four cities involved in the European Commission's 'Strategies Towards Energy Performance in Urban Planning' (STEP-UP) project.
2013		Major expansion of SECC into UK's largest exhibition & conference centre;
2013		Glasgow received £25m Innovate UK funding to become UK Future Cities Demonstrator
2014		Commonwealth Games;
2014		Glasgow named one of the first 32 members of the Rockefeller Foundation's 100 Resilient Cities Network, supporting the production of Glasgow's strategy for resilience in tackling fuel poverty, and improving health, economic growth, civic participation and place-based solutions
2014		Glasgow City Deal over 1B£, largest of its kind, £100m of which went towards University of Glasgow Clyde Waterfront Innovation Campus & waterfront accessibility
2015		Commitment to the United Nations Sustainable Development Goals
2016		RUGGEDISED project: a smart city project funded under the European Union's Horizon 2020 research and innovation programme. Rotterdam, Glasgow, Umeå, Brno, Gdansk and Parma join together to test, implement and accelerate the smart city model across Europe, demonstrating how to combine ICT, e-mobility and energy solutions to design smart, resilient cities.

Table 9. An example of some of the key funding initiatives and programs in Glasgow up until 2016. (Source: Clarke et al, 2018; GCC, 2016; 2020).

While Glasgow is the main economic engine for Scotland (GCC, 2016), the transition to a service-based economy has not been entirely successful and the city continues to grapple with the legacy of deindustrialisation in long term high unemployment rates, poor health and troubling poverty levels (Cowley *et al.*, 2016; Livingston and Clark, 2019). According to the findings of the Scottish Index of Multiple Deprivation (SIMD, 2020) which identifies deprivation across aspects such as employment, income, crime, housing, health and education, Glasgow as a local authority has the highest levels of deprivation across Scotland.

Throughout this process of industrialisation and deindustrialization, the city's urban fabric evolved, bearing witness to the waves of urban evolution and transformations, all of which have had impacts on its value and significance. The following provides a very brief overview of the development of Glasgow's existing urban heritage. This will frame the context to interrogate the significance and value of urban heritage to Glasgow's sustainability goals.

Historical background-Early Years

The early origins of Glasgow can be traced to the sixth century with the establishment of a religious community by St. Kentigern (St. Mungo) near present day Glasgow Cathedral (Maver, 2000). By the 12th century, Glasgow was designated a burgh and granted trading privileges with the four main streets of Tronegait, Gallowgait, Walkergait and High Street laying the foundation of the market town (Maver, 2000; Haynes, 2013).

With the establishment of the University of Glasgow in 1451 and the designation of the city as a royal burgh in 1611, Glasgow flourished from its ecclesiastical beginnings to a market town and academic centre (Mayer 2000). The predominant building material during this period consisted of wood and thatch (Devine *et al.*, 1995). However, during the 17th century, a series of devastating fires led to the destruction of significant sections of the city (*ibid*). The post-fire reconstruction provided an opportunity for the merchant-dominated civic leadership to encourage the replacement of wood with stone as the preferred construction material. Financed by the considerable wealth flowing into the city from the boom of the transatlantic trade and Industrial Revolution, the urban form adopted a uniform pattern showcasing townhouses, mansions and civic buildings constructed in stone and slate (MacGregor, 1881). The transition from wood and thatch to stone and slate arguable marked the first wave of urban developments in which much of the medieval fabric was lost to urban *improvement*s. Manifestations of this

urban development not only set into motion Glasgow's next development trends but facilitated ease of transport and commerce (Glendining *et al.*, 1996; Maver, 2000; Young, 2015).

Glasgow's easy access to natural resources such as iron and coal, as well as its expanding railway and shipping networks, aided the continued industrial growth and economic boom through the nineteenth century (Jackson, 1995). Glasgow became one of the only British cities of its time with both a major seaport and an industrial complex, supported by a robust financial sector (Jackson 1995). With the industrial economy maturing, the population grew to over 395,000 in 1861 (Mever: 83). As with recent mass urbanisation, this population boom led to the development of multi-occupancy dwellings in the form of tenements that emphatically shaped Glasgow's urban landscape. While impressive examples such as the St Vincent Crescent and Grosvenor Terrace housed the rising middle class, property speculation and the phenomenal influx of immigrants led to inappropriate and poor-quality tenements (Gomme and Walker, 1987). Rows of poor-quality tenements and former homes of the mercantile elite divided into multi occupancy dwellings served numerous families, giving rise to cramped, unsanitary housing and living conditions, fuelling the mid-century fever, typhus and measles epidemics which claimed the lives of many (Fraser and Maver, 1995).

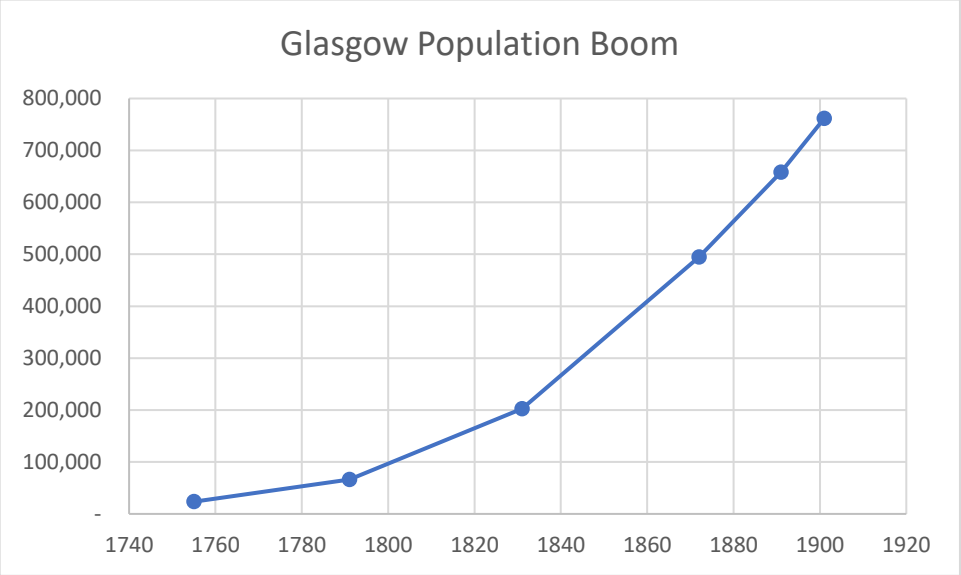


Figure 24. Source: Glasgow City Archives and National Records of Scotland.

Epidemics and serious housing shortages in the inner city led to the formation of the municipally controlled City Improvement Trust in 1866 (Maver, 1995). The Trust, inspired by visit to Paris and Georges-Eugène Haussmann's approach to urban planning led to the city's

new regeneration efforts (Glendinning *et al.*, 1996). These included the clearing of the inner city for a more efficient transport plan and railway network terminus, parks, and developments with Classical and Venetian-style buildings, much of which form the historic fabric of Glasgow's conservation areas today (Glendinning *et al.*, 1996).

This approach of looking outside for answers to domestic urban problems is a reoccurring theme throughout much of Glasgow's history, often resulting in the demolition of existing urban fabric, in an attempt to rid the city of some of its urban problems. For instance, urban clearances to develop multi-occupancy dwellings as means of addressing housing shortages, similar to what was done in the USA (Comerio, 1981), is repeated during the post war period (Abrams et al 2020), resulting in the destruction of well-established urban neighbourhoods and the insertion of ill-designed high rise buildings that ultimately resulted in demolitions. While not unique to Glasgow, it underscores the values for which structures are saved or lost. Without legislation to identify existing buildings and urban areas as significant, they were destroyed, even though they might have had historic, architectural or social value.

By 1870, shipyards operating along the river Clyde employed half of the British shipbuilding workforce (Fraser and Maver, 1995). Glasgow became 'one of Britain's pre-eminent industrial cities' (Turok and Bailey, 2004: 171) producing most of the world's ships and locomotives. While shipbuilding was only a part of Glasgow's extensive industrial profile, it proved to be an enduring identity, becoming a potent metaphor for Glasgow's expanding commercial power and cementing the 'Clydebuilt' reputation. (Maver, 2000,113). This identity was celebrated almost a century later, with four shipbuilding cranes becoming part of the listed building assets of Glasgow (HES LB33285, LB32281, LB22993, LB34175). An identity that forms Glasgow's urban skyline in marketing campaigns. Urban skylines are considered as prominent representations of a city's cultural, social, economic, and global character (Al-Kodmany and Ali, 2013; Gassner, 2009) with the Finnieston Crane along the river Clyde becoming an icon for Glasgow (Visit Glasgow, 2019), shaping the *visual* representation of the city.

The prosperity of the 19th century faltered with the decline of ship building and Glasgow's heavy industries (Lee, 1979). The short-lived stimulus of wartime production during World War I only generated temporary demand for Glasgow's heavy industries (Pacione, 2009). With high unemployment rates and increasing demands for public assistance,

the Board of Glasgow and District, which was formed in 1930, endeavoured to portray a positive profile of the city (Maver, 2000). Following on the success of Manchester's 1926 Civic Week held during the British Empire Exhibition, the Board of Glasgow and District launched a similarly high-profile campaign in 1931(Hulme, 2017). Civic publicity promoted during Civic Weeks aimed at boosting local economies and stimulating civic pride by presenting 'visions' of the city to national and international audiences alike (Hulme, 2017: 274). This type of place promotion was initially meant to boost tourism in resort towns, however the passage of the 1931 Local Authorities (Publicity) Act, expanded the promotional powers to non-resort towns.

Historical background-The Twentieth Century and Deindustrialisation Struggles

During the Civic and Empire Week of 1931 (Maver, 2000), using slogans such as 'Make Glasgow Flourish', the Board of Glasgow and District sought to portray an enduring and resilient Glasgow despite the economic crisis (*ibid*). Held at the Kelvin Hall exhibition centre[33], the event marked the beginning of a series of such campaigns throughout the rest of the 20th and 21st century with 'People Make Glasgow' it's latest iteration. Placing culture and creativity at the centre of local development strategies to support urban regeneration, job creation, social cohesion and economic diversification becomes another reoccurring theme, with urban fabric playing an important part as manifestation of culture and representations of cultural identity (Tretter, 2009). The economic importance of culture led to the rise of culture led urban regeneration strategies in the UK during the second half of the 1980s, inspired by examples from the USA cities of Pittsburgh, Baltimore and Boston (Landry, 1991). In the process of these urban regeneration strategies, built heritage such as the B listed former Tram depot (HES LB33365) which was slated for demolition became 'one of Scotland's most internationally acclaimed venues for contemporary visual and performing art' (Tramway, 2021).

Similarly, the current B listed Kelvin Hall building has featured in major Glasgow events as a prominent civic space, where in 1949, the Bruce Plan was presented in the exhibition *Glasgow Today and Tomorrow* (1949). More recently, it was the 2014 Commonwealth Games

[33] Designed by Gilmour and Somers 1926-1927. Gilmour worked for the Glasgow Office of Public Works Architectural Department and helped design public buildings in Glasgow, while Somners oversaw the work as the Glasgow Master of Works and Engineer (Kelvin Hall 2016). The building is currently a B listed building and underwent a multimillion pound renovation as a cultural, research and sports centre (RICS 2017).

official uniform and accreditation centre (Lebas, 2007; The Herald 2014). Both events were catalysts for urban change, however the Bruce Plan would have demolished buildings like the Kelvin Hall in the name of modernity, while the Games used the same space as a reference to Glasgow illustrious history before the building underwent a multimillion-pound renovation as a cultural, research and sports centre (RICS, 2017: Salisbury, 2017).

Events such as the Civic Week were designed to boost Glasgow's profile, using culture as means of attracting investment. Similar strategies are employed decades later through the European City of Culture designation which integrated culture into urban policy, rebranding Glasgow's image from industrial to creative (O'Brien, 2014). The designation as City of Culture helped continue the urban regeneration project of the 1980s and the renovations of urban heritage like the aforementioned Tramway and the Royal Theatre, eventually leading to Glasgow winning the title of British City of Architecture and Design in 1999 (Garcia, 2007, Papanikolaou, 2012). While Glasgow's culture led urban policies of the 1990s was largely heralded as a success story (O'Brien, 2014), similar to the efforts of the 1930s, the underlying and fundamental problems of economic decline were not adequately addressed (Young, 2015; Pike, 2017).

By 1934, the scale of depression compelled the national government to intervene with the 1934 Special Areas Act which brought new initiatives to increase the role of the Scottish Office in addressing the challenges. While it did not cover the city of Glasgow, it did promote the city's interest, with initiatives such as the 1938 Empire Exhibition held in Bellahouston Park (Maver, 2000). However, the underlying scale of economic problems were much more severe and none of these initiatives were able to provide a suitable post-industrial transition for Glasgow's economy. Population decline, social deprivation and dereliction of land continued at a steady pace, leaving Glasgow's infrastructure ill-prepared for the modern economy. Large swaths of working-class tenements that had defined Glasgow's urban landscape, fell into disrepair. Poor living conditions together with a rise in social problems and gang violence rendered inner city housing as slums.

Therefore, during the interwar years, the reconstruction policies stressed the need for better homes. With a population of over a million representing 22 percent of the national total, Glasgow became the focus of planning reformers (Mave, 2000). Large-scale slum clearances gathered momentum. What was deemed as slum included unfit housing where demolition was

the only option, to housing that was structurally sound but required repair and modernization (Rodwell, 2018). Slum clearances corresponded with the dominant planning attitudes that prioritized car centric suburban lifestyles over urban residency, typical for inner-city working-class communities (Rodwell, 2018). Urban transformation schemes were introduced by Sir William Whyte and Patrick Abercrombie to relocate the urban population to new towns with the introduction of the 1946 Clyde Valley Regional Plan (Urban, 2018). While a year earlier, Robert Bruce, the City Engineer also produced plans for the wholesale redevelopment of Glasgow. Based on North American ideals and functionalist modern planning championed by Le Corbusier, the redevelopment would obliterate the Victorian urban heritage of the city centre, pushing housing developments to the city periphery and creating a modern metropolis of high rises and transport networks to accommodate private cars (Urban, 2018; Kintera and Madgin, 2020). This is while the Town and Country Planning (Scotland) Act 1947 initiated the listing process for built heritage, which by 1969 resulted in over 30,000 listed buildings (Glendinning 2013).

With statutory protection of listed buildings on the one hand, and rise in car ownership, the tension between protecting built heritage and providing adequate infrastructure to support transportation started the heritage versus development dichotomy. The primacy of private car ownership as a marker of affluence was partly due to the rapid growth of automobile production and exports after WWII. The industry stabilized the British economy and car ownership increased five-fold between 1950 and 1970 (Gunn, 2013). Eventually, private car ownership became possible for manual workers and their families (Gunn, 2013). Both the Bruce Plan and the Clyde Valley Regional Plan plans envisioned rerouting the five major roads of Glasgow's centre onto radial and arterial bypass roads, that ultimately produced the city's (partly built) Inner Ring Road (Mass, 2019). While considerable stretches of the planned motorway network were built by the 1970s, the legacy of car primacy left large parts of the inner city with condemned buildings and empty sites (Kintera and Madgin, 2020), especially south and east of the River.

For Glasgow's councillors, the motorways enabled urban modernization and revitalization, while civic amenity groups bemoaned the destruction of 'places and landscapes that gave Glasgow its intrinsic character' (Mass 2019, 316). Therefore, while car-centric urban planning gained value and significance over the historic urban fabric, legislation and civic amenities groups also helped maintain Glasgow's iconic buildings and remaining tenements.

With the publication of Buchanan's *Traffic in Towns* (1963), discussions on urban planning brought the built and lived environment into sharp focus (Beesley and Kain, 1964). The report highlighted the negative environmental impacts of traffic in towns and cities in terms of noise and pollution traffic and urban management. The report introduced environmental capacity to determine the volume of through traffic while maintaining good environmental conditions (Rodwell, 2007).

Meanwhile the passage of the Town and Country Planning Act (1968) gave all listed buildings statutory protection, spurring nationwide resurveys of listed buildings. In Glasgow, Lord Esher was engaged by the Planning Committee to prepare a full conservation strategy (Miles, 2013). His praise for Glasgow's Victorian architecture elevated the significance of an architectural aesthetic (Esher, 1971) that continues to be valued and protected through policy measures and celebrated by civic amenity groups.

This was at a time of two opposing ideas on urban planning. On the one hand, the 1960s separation of land uses through zoning introduced by Abercrombie echoed international theories of CIAM[34] which as mentioned in Chapter Two called on radical interventions in historic cities (Lehmann 2019). On the other hand, international debates on historic city centres celebrated urban built heritage, not as a collection of isolated monuments, but components of the urban setting (Venice Charter 1964). These contradictory and contentious ideas led to the obsoletion or destruction of built heritage, or inappropriate interventions that resulted in fabric decay. Many of the modern public buildings and residential towers constructed during this era were either poorly constructed or lacked sufficient funding for regular maintenance, eventually rendering them unsuitable for habitat or worse than the housing units they were meant to replace (Lehman 2019, White 2020). These factors coupled with the partial failure of the modernist planning ideals resulted in a negative perception of the buildings that replaced historic fabric. These fuelled regret and nostalgia for the lost built heritage, and brought the historic and architecture value of the built environment into sharp focus.

[34] Congrès internationaux d'architecture moderne (CIAM) or International Congresses of Modern Architecture (1928-1959) was founded by a group of European architects including Le Corbusier to disseminate the principles of the Modern Movement in architecture and urban design (Mumford, 2000).

City Image and the 'Creative' City

As energy prices escalated in the 1970s and policies on pollution tightened in the UK, many pollution-intensive industries were outsourced to developing counties with weak environmental regulations (Mani and Wheeler, 1998). This coupled with policies adopted by the Scottish Office to shift economic activities away from Glasgow, continued to hamper economic stability throughout the 1970s and early 1980s (Levitt, 2020). Thus, the city revenue required to maintain the built environment continued to shrink, leading to the postponement of regular routine works necessary for government owned buildings. These included schools built in the early 20th century that, by this time, needed upgrading and routine maintenance, but their architectural and historic value were not fully appreciated. The lack of maintenance became a problem that eventually resulted in the mothballing of some of the listed school buildings in Glasgow, a typology that will be reviewed in Chapter Seven and Eight.

From the early 1980s onwards major metropolitan cities in the UK such as London, Birmingham, and Glasgow launched cultural strategies reflecting the importance of the arts and culture in urban policy (Bassett, 1993). While these strategies were prompted by government policy, they arose from a much broader shifts in patterns of cultural consumption and the prominence of discussions on economic, social and cultural capital (Bourdieu, 1984). Artists, intellectuals, media professionals, and academics became important mediating links between economic restructuring and cultural change (Featherstone, 1991). Post-industrial cities like Glasgow, faced with the need to attract private investment in growth sectors launched campaigns highlighting the city's cultural assets, such as its architecture and events to attract the skilled workers, professionals, and managers for the new service class (Basset, 1993, Evans 1999).

In this sense, the built heritage previously seen as an obstruction to modernity and progress became the unique selling point of historic cities (Licciardi and Amirtahmasebi, 2012). By this time the historic and architectural values of built heritage and their economic contribution is well recognised. By the mid-1980s, the economic development of Glasgow city centre pivoted around high-end office developments to develop and export local services, while enhancing retail and tourism experiences (Evans, 1999). However, this time, the movement for urban development echoed user-centred and aesthetically informed approaches championed by Kevin Lynch and the UK's Townscape movement proposed by Gordon Cullen (Lynch, 1960,

Cullen, 1961). Within this scheme, the urban fabric, both old and new, formed an aesthetic ensemble to be modernized and developed (Evans, 2013). The recognition of the importance of the city's image to the service sector economy led to a series of campaigns reflecting the changing discourse in urban regeneration on promoting the cultural highlights of the city. To this end, the 1980s and '90s UK wide strategy provided government economic regeneration funds that directly or indirectly facilitated a broad range of cultural-economic activities. In Glasgow, consultancy reports such as *Potential for Glasgow City Centre* (McKinsey *et al.,* 1986) and *Continuing the Renaissance* (Gillespies, 1990) led to the rehabilitation, renovation and adaptation of built heritage as part of place-marketing projects. These projects, leaning on the economic value of built heritage, meant to lure post-industrial investments in building economic prosperity (Gomez, 1998). This is while Glasgow was developing an assertive tourism strategy, with conferences playing a key role in the urban regeneration projects along the River Clyde (GTDG 2002). Dotted with designer 'statement buildings', Glasgow created a new city skyline along the Clyde in keeping with its new reimagined vision of a creative smart city, yet never fully achieved the objective to create a vibrant waterfront district.

With events such as the (Glasgow Garden Festival (1988), European City of Culture (1990) and the UK City of Architecture and Design (1999), Glasgow not only sought to change the city's image, but mobilized culture as a means of supporting development plans for service industries and consumer services. This mobilization was accompanied by strategies that rehabilitated old warehouses and tenements, supported community-based housing schemes, and introduced innovative employment and training projects (Newlands 2004). In the city centre, a combination of housing improvement and local enterprise grants together with Historic Building Repair Grant enabled the redevelopment of Merchant City between 1981 and 1988, which involved the restoration and conversion of existing buildings or rebuilding behind existing facades (McCrone, 1991). These and other restoration and conversion activities in city centre became precedents for later interventions in the historic urban fabric that changed the character of historic buildings, and, for example, included the removal of historic roofs to enable rooftop extensions seen in the case study buildings discussed in the following chapters.

'Smart', 'Resilient' and 'Sustainable' City

During Glasgow's City of Architecture and Design, exhibition of the Smart City, representing a virtual interactive platform focused on innovative technology (Matheou, 1994),

established the direction of the city's aspirational policies during the first decades of the new millennium. Aspiring to become a *smart* or *future* city, Glasgow competed and won a UK-wide 'Future cities demonstrator competition' in 2013 (UK Government, 2017). The concept was to develop a demonstrator project that would provide evidence of the city's economic, social and environmental performance (Leleux and Webster, 2018).

Glasgow's Future City programme (February 2013 to August 2015) included the creation of an integrated Operations Centre for traffic, security, and public space CCTV; as well as the development of a City Data Hub for easy access to open datasets. In addition to these, Glasgow developed individual innovative demonstrator projects such as Active Travel (cycling and walking); Social Transport; Energy Efficiency, and Intelligent Street Lighting; and infrastructure for integrated city systems (ibid). These activities were aligned with the Sustainable Glasgow Initiative which started in 2008 (Bellingham, 2010).

The initiative sought to deliver economic and social benefits, and not just 'environmental' issues (Bellingham, 2010: 67). This reflected the Scottish Government's push towards 'economic' sustainability. The tangible result of this initiation however is vague, and it is unclear how the experience and knowledge gained from the programs filtered into the city's sustainability strategies and monitoring mechanisms. For instance, the demonstrator project for energy efficiency which aimed to improve energy efficiency in buildings and dwellings through the use of integrated technology that would feedback data into improving energy planning for the city, however the numerous difficulties encountered during the development– while valuable as a learning experience– did not result in an actual usable tool (Future City Glasgow, 2015).

The concept of sustainability, although first introduced five years earlier in the Glasgow's City Plan 1 (2003-2007), was much less ambitious than its later iterations. The city plan's focus geared towards cleaning up the image of the city and tackling unemployment and crime (GCC, 2003). On environmental concerns, the target was to reduce the Council's own energy consumption, decrease the city's landfill waste, improve city centre air quality by controlling vehicle emission and the expansion of quality greenspace areas. The city plan envisioned the creation of a Council Energy Policy 2004 and a Sustainable Construction Policy 2005, but the provisions for sustainable construction were postponed to the next city plan with agreements meant to be made by mid-2005 (*ibid*.). The contribution of the historic urban fabric within this

strategy was primarily in service of supporting placemaking to attract economic and tourism activities, and therefore built heritage becomes assets with economic value. In terms of waste reduction, the aim was to achieve the Scottish Executive's target of diverting 25% of landfill waste, however, this was mainly to be achieved through an increase in recycling and the built heritage is not viewed as a mitigating factor.

Coming on the heels of the Sustainable Glasgow Initiative, sustainability took on a more central role in City Plan 2 (2009-2014), recognizing the role of sustainable resource use as means of achieving sustainable development. The guiding principle in shaping the city's development strategy had a stronger social emphasis, stressing equality, opportunity and health (GCC, 2009a). The Development and Design Policies section of this strategy provided detailed information on the historic fabric and conservation areas, as well as environmental issues such as protecting open space and biodiversity, and energy consumption (*ibid.*). In this strategy, the historic environment maintains its earlier position as an asset in improving the 'image' of the city. In terms of buildings, the strategy to reduce greenhouse gas emissions to tackle climate change was seen though the design and building of *new developments*. The 2009 Glasgow City Council Air Quality Action Plan, which was published during the same period, suggested the use of development control processes that encouraged developers to provide transport infrastructure as part of their new developments. This was to improve circumferential movement through the city (GCC, 2009c, RIA7). At this point there are no mentions of car free developments as a means of improving air quality.

As assets contributing to the image of the city, the City Plan 2 offered extensive guidance on what was and was not permissible in listed buildings and conservation areas. Particular emphasis was placed on retaining original features, including roofs and windows. This emphasis reinforces the traditional values of architecture and historic, and reflects the importance of authenticity in retention of *original* features. However, as will be discussed in the following chapters, in practical terms and during policy implementation, the value of authenticity and the originality of features creates conflicts with the viability of the project and in addressing environmental values. In reference to roof extensions on listed buildings, unacceptable extensions are those that 'harm the architectural integrity, character and setting of a building or the unity of a building group, or where the existing original roof warrants preservation due to its architectural or historic interest' or where the roof forms 'views from public spaces and the proposed roof extension would adversely affect those views' are deemed

unacceptable (GCC 2009a, 280). However, as will be discussed in Chapter Eight, the value of original features will be challenged in the face of the *economic* viability of urban heritage conversion projects.

The explicit guidance provided in DG/DES 3 - *Design Guidance for Listed Buildings and Properties in Conservation Areas*, that was to be read in conjunction with policy DES 3: *Protecting and Enhancing the City's Historic Environment*, focuses entirely on the aesthetic qualities of listed buildings and conservation areas with no reference to the contribution of heritage to environmental sustainability in terms of resources, construction waste reduction or prevention of GHG emissions. While the presumption is in favour of retaining listed buildings, façade retention or demolition would be considered if the condition of the building and cost of repairing it is unreasonable or no alternative use is found. Therefore, in balancing and prioritising values, economic values can trump heritage and environmental values. Given that historic buildings, not unlike modern buildings, require regular maintenance, and specialised skills to repair minor damage in a timely manner with appropriate material, a conservation management plan and adequate funds is required. While these are practical heritage conservation requirements to protect the value of heritage assets, in practice, as will be discussed in Chapters Seven and Eight, these requirements are not fulfilled.

What is revealed from these early strategies and initiative is the continued struggle with the definition of *sustainable development.* Rather than having a clear and integrated approach that equally incorporates all three aspects of environmental, economic and social, there is a divergent and unintegrated approach with each aspect siloed into a particular strategy area.

The next local development plan, Glasgow City Development Plan (GCDP, 2017) which replaced Glasgow City Plan 2 (2009) and is the current statutory local development planning framework continues with the same siloed approach. Although a Local Development Plan must be adopted within five years of the previous plan, in practice, these plans can be delayed, as was the case in Glasgow that due to local elections, the plan was not adopted till 2017. This GCDP assesses development and planning applications with the aim to meet the objectives of the Strategic Development Plan (SDP) for the wider City region, or the Glasgow and Clyde Valley Strategic Development Plan.

In addition to City Plans, Glasgow City Council also produced a Strategic Development Framework for the spatial strategy for 6 key districts across the City, namely the River Clyde Corridor, Govan Partick, City Centre, Glasgow North, Inner East, Greater Easterhouse due to their socio-economic indicators and opportunities in terms of growth and inward investment (GCC 2017m, 4). This framework is designed to deliver the key aims of Glasgow City Development Plan and the City Council's Strategic Plan 2017 to 2022, with the objective of 'reduce inequality across Glasgow by creating inclusive growth - a thriving economy' and 'developing a compact city form that supports sustainable development' (GCC, 2017m: 3).

Areas where these issues significantly intersect with the historic fabric in GCDP are listed under the headings: *Environment* and *A Green Place*: Key issues include enhancing the city's compact and sustainable form by addressing the significant areas of vacant and derelict land; delivering access to better quality open spaces; addressing the significant number of car borne journeys and promoting active travel and reducing the need to travel; and ensuring that the city is in a resilient position to respond to environmental and water management challenges in coming years.

To address these challenges the GCDP envisions four strategic outcomes: (1) a vibrant place with a growing economy (2) a thriving and sustainable place to live and work (3) a connected place to move around and do business in (4) a green place. In other words, the strategic outcome is to achieve 'sustainable urban development' (SUD) but with great emphasis on 'place' and 'place making'. This echoes the Scottish Government's key policy documents that promotes 'place' perhaps in an attempt to infuse urban geography with intangible qualities and facilitate greater collaboration with communities for a more responsive urban planning outcome.

The overarching policies to achieve SUD are CDP1 which focuses on *placemaking* and CDP2 covering *sustainable spatial strategy*. As part of the placemaking principle, the contribution of the historic environment is once again described in terms of its qualities and character, in other words, the traditional values of architectural and historic (GCDP, 2017, 32). Even though CDP2 prioritises the 'remediation and reuse of vacant and derelict land' (ibid, 40), the retention and reuse of built heritage is not considered a mitigating factor.

The guidance on the historic environment is to protect, preserve and, where appropriate, conserve and/or enhance the historic environment (GCC, 2017) which in this context includes listed buildings, scheduled monuments and conservation areas, *inter alia*. To assess the impact of proposed new developments, the Council would refer to the principles set out in the relevant supplementary guidance. While the historic environment's contribution in terms of economic and social *values* are ascribed to projecting quality of place, sense of identity, and supporting economic growth and development, in terms of environmental sustainability, the contribution of historic environment is through the 'conservation of resources' (ibid: 93), implying the *environmental* aspect of sustainability separate from the economic and social. This could be a reflection of the Scottish Government overarching strategy towards achieving sustainable whereby a greater emphasis is placed on the economy and health and framing environmental concerns under a 'greener' Scotland (Scottish Gov, 2007b). This separation is in contradiction with the Brundtland definition of sustainable development, where all three aspects are to be integrated, interrelated and indivisible.

In Glasgow City Council Strategic Plan (GCCSP) 2012-2017, the council's first key priority was economic growth, followed by creating a sustainable city by reducing the city's carbon footprint and improving public transportation and green transport. Another pathway to achieving sustainability was supporting green building skills and creating the Energy Trust. (GCCSP, 2012-17). By the next Strategic Plan, the 2017-22 GCCSP, the means of achieving a sustainable and low carbon city is envisioned through first and foremost, better transport, becoming carbon neutral by 2037, green energy initiatives, flood management and enhancing nature resources (nature reserves and parks). Does the omission of reference to green building then suggest that it is already well established and therefore no longer a consideration?

While heritage is recognized as a key asset for 'A Sustainable Place,' and built heritage is considered to be 'a core asset of a vibrant and distinctive place' which must therefore be protected and enhanced in Glasgow City Development Plan, in the Council's Strategic Plan, sustainability is regarded primarily through the transportation strategy, and the protection of conservation areas in this new strategy document is listed under 'Resilient and Empowered Neighbourhoods where the emphasis is on the social aspects of sustainability, like well-being and inequality. Furthermore, in GCCSP, heritage is still seen as an economic - and to some extent - a social asset in creating a 'vibrant' city and a 'thriving' economy, but the links to

reducing the city's carbon footprint, and 'a sustainable and low carbon' city are not recognized (GCCSP, 2012-17: 6,11, 19).

While research shows that in the UK, approximately half of the total CO_2 emissions[35] are the result of energy consumption from fossil fuels during the construction and operation of buildings (Stubbs 2008, Section 2, 5), one of the pathways of environmental sustainability, in practice, seems to focus on zero carbon new builds which excludes the carbon produced during construction. *Sustainable Energy in the Built Environment: Best practice for Scottish Planners* (Energy Saving Trust 2010, section 3.3.3) as well as *Planning and Climate Change: Key agency and Scottish Government resources and guidance* (SG, 2012a: 5), supports the retention of buildings, including built heritage, and increasing energy efficiency (where possible) is encouraged and outlined, highlighting the prioritization of refurbishment over demolition and new construction (Scottish Government 2012, 18), in practice, economic incentives such as zero VAT for new buildings and 20% VAT for refurbishments of historic buildings suggests otherwise (HM Revenue & Customs, 2016).

As an economic asset, the historic environment contributes an estimated £2.3 billion (2.6%) to Scotland's national gross value added (GVA) and accounts for 2.5% of Scotland's total employment (HS, 2010). Additionally, a third of the construction industry's annual £9.6 billion turnover derives from the repair and maintenance of existing building stock (HS 2014). The economic importance of the historic environment is well recognised at the government level. With twenty-five Conservation Areas varying in character, 1830 listed buildings, and twenty six Scheduled Monuments – nine of which are also listed, Glasgow's historic environment has also been an asset in attracting tourism, contributing to the afore mentioned figures. In the 2006-2014 tourism visitor survey, for example, cultural heritage was shown to be the main driver of an estimated one third of the visitors to Glasgow. In addition, research by the Heritage Lottery Fund revealed that commercial businesses based in historic buildings were more productive and generated more wealth than the average across the whole economy (HLF, 2013). In later research conducted in 2015, HLF found that residents of Glasgow believed heritage was important for the country, their local area, and for them personally in terms of improving the quality of life by providing cultural and entertainment opportunities in an

[35] CO_2 constitutes 65% of GHG globally (IPCC 2014, 123).

attractive setting and thus contributing to economic development (GCC, 2016). Therefore, maintaining historic properties in use and in good condition is a vital economic and social asset.

Under the terms of the Planning Acts, the Council as the planning authority has a statutory duty to preserve and enhance these assets. Meanwhile, the city has also been determined to lead the way in terms of energy efficiency standards for new-build domestic developments. It aims to improve energy efficiency by 27% against the Target Emissions Rate (TER) over the 2015 Building Regulations, required for all new-build applications. Therefore, in September 2018, all domestic planning applications submitted to Glasgow City Council will be required to demonstrate a minimum 27% reduction in carbon emissions (Gold Level Aspect 1), over current standards plus a minimum 20% carbon reduction abatement through the use of renewable technologies (LZCGT), to fulfil statutory requirements of delivering lower carbon development (GCC -SG5 Resource Management). While this approach can reduce emissions, in the conversion of heritage project these strategies contradict the requirements set into place to protect the traditional architectural and historic values of heritage assets, resulting in exceptions from adhering to the strict requirements.

Conclusion

One of the key issues that arises from all these strategy documents is how terms such as sustainability, green, low-carbon, resilient, place-making are used interchangeably or within contexts that only reflect partial definitions. Perhaps this is partially due to a continued struggle in defining sustainable development. This ambiguity seems to play a key role not only in determining exactly *how* heritage and historic fabric can be instrumental in achieving these goals, but what the terms sustainability, place making, resilient, and green really mean. While sustainable development has been included in the language of planning since 2004, the inclusion of terms such as green, low carbon, resilient seem to muddy the waters.

The recurring theme in Glasgow's urban development since the 18th century has been the projection of a progressive, modern and forward-thinking city, representing innovation and change inspired both by local features, as well as international ideas and developments. Regeneration, restructuring and development have been tools of economic revival with the latest trend being the promotion of *sustainability*, championing sustainable development and placemaking as the underpinning planning strategy. As has been discussed, the approach to

protecting the traditional values of heritage has been pragmatic, fluctuating with the socio-political and socioeconomic context of the time. This reinforces the subjectivity, mutability and conflicting nature of heritage values, yet in heritage practice and policy, the values are often presented as objective and fixed. But in practice, the value of the historic environment has never been fixed in time or place. Rather it has mutated and evolved primarily to serve the economic aspirations and development of the city. While the inclusion of the historic fabric within planning strategies is reiterated in government rhetoric, is it effectively incorporated? To address this question the next two chapters will review the implementation of Scottish and Glasgow's policies in the conversion of four listed school buildings for residential use. The chapters will investigate how policy is implemented at the local level and interrogates the relationship between heritage conservation and environmental sustainability in addressing the environmental sustainability goals of Glasgow and the Scottish Government. The first set of conversions to be analyses are two B-listed school buildings which were converted to social housing.

CHAPTER 7 GLASGOW SCHOOLS: CONVERSION TO SOCIAL HOUSING

Introduction

This chapter provides an analysis of the first two school buildings converted to social housing. In addition to heritage conservation polices, these conversions also had to meet the social housing standards discussed in Chapter Five. Both buildings had suffered extensive damage due to neglect. While Greenview Primary also suffered from arson, the overall damage to the fabric was less than Holmlea. In the case of Holmlea, fabric damage due to prolonged neglect was such that only the shell of the building was conserved.

As a precursor to the analysis of the school building, a brief historical context on school buildings in Glasgow will provide the necessary context to understand how these buildings came to be declared surplus and marketed for sale and ultimately conversion.

Glasgow School Rationalisation Program:

The four school buildings analysed in this thesis all suffered from deferred maintenance while in use as a school. The historical reason for this was due to financial restraints as a result of a weak economy, as well as the capital expenditure and borrowing restrictions of 1980s and 1990s in Scotland (Bailey and Asenova, 2011). Prior to that and up until the 1960s, local authorities could use mortgages to secure loans and borrow from the Public Works Loans Board (ibid). However, after the 1970s, the public deficit continued to increase and so too did the public sector borrowing requirement (PSBR), with public deficit reaching an post war high of 7.3 per cent of GDP in 1975 (Clark and Dilnot, 2002). Therefore, from the 1980s to early 2000s, the central government imposed controls over local authorities' capital expenditures. This resulted in councils using other means of borrowing such as Private Finance Initiative/Public Private Partnerships (PFI/PPP), which allowed the private sector to finance public sector capital expenditures without it being recorded on public sector balance sheets (Bailey and Asenova, 2011).

As has been discussed, the various strategies deployed to boost Glasgow's economic prospects had not been able to adequately address the long-term problems of deindustrialisation. An outcome of these financial problems was the poor condition of Glasgow school estates. The review of primary and secondary school estates in the mid-1990s reveals that a major

restructuring, modernisation and improvement programme was required to meet modern educational standards (GCC, 2004/05a). In 2000, Glasgow City Council planned an ambitious rationalisation of secondary schools, followed by a similar program for its pre-12 school estate (Bailey and Asenova, 2011). These rationalisations aimed at tackling the £24.6 million backlog of investment in the Council's Primary Schools (GCC, 2004/2005a) on the one hand and addressing the falling pupil numbers on the other.

Some of these rationalisations were made possible through the use of 'a single large-scale PFI/PPP project for all secondary schools' and the 'phased renovation of primary schools' using Prudential Borrowing Framework (Bailey and Asenova, 2011: 430). Ultimately, the programs led to the closure, merger and relocation of some schools, including the four schools that are part of this study. The four schools which were declared surplus, became the responsibility of City Property (Glasgow) LLP.

City Property provides management, development and disposal services for Glasgow City Council's non-operational surplus land and property assets; however it does not address repairs (GCC, 2011b). According to a member of City Property, the responsibility for maintaining the school buildings and ensuring they remain weather and watertight remained with Glasgow City Council's Education Department (interview 7577). In allocating funding, the Education Department is understandably reluctant to spend money on surplus buildings when the money can be spent on operational schools (*ibid.*). As a result of long-term deferred maintenance, combined with challenges in securing adequate funding and securing viable uses the mothballed school buildings suffered significant fabric damage and loss.

The first two of the schools to be analysed were both converted to social housing. In converting to social housing, these buildings not only had to be assessed by local and national development plans, but they also had to meet the statutory requirements specifically designed for social housing. These specific requirements are described in the section below.

Conversion to Social Housing

Local authorities have a statutory obligation to produce a Local Housing Strategy (LHS), supported by an assessment of existing housing provisions and services. In the case of Glasgow, the housing delivery targets are derived from the Glasgow and Clyde Valley

Strategic Plan (GCC, 2011a). Historically, strategies implemented to meet the demands for social housing have not always resulted in adequate or well-designed homes (Kintrea, 2007; Robertson, 2009; GCC, 2017; Crawford *et al*., 2007). Therefore, social housing developments are guided by a specific set of legislation, different and separate from private or student housing. The first of the schools to be analysed is Greenview Primary School, which compared to the other three schools is in a very deprived area north of Glasgow with few amenities in close proximity.

Greenview: Site Details

Name	Category	Address	Year Built	New Use
Greenview Primary School (aka: Balmore, Parkhouse)	B Listed LB33751	165 Glenhead Street G22 6DJ	Built: 1929-31 Modified: 1960	28 Units - Social housing for the eldery and supported accomodation
Developer: Loretto Housing Association		Architect: Hypostyle Architects		Contractor: McTaggart Construction Ltd

The Development Project

Greenview school was declared surplus in 2014, and during that same year, Glasgow City Council approached Loretto Housing Association about the possible conversion of the site to social housing (GCC, 2016e). Shortly thereafter Loretto commissioned a feasibility study to convert the property to social housing for elderly people. The project architects and representatives from Loretto held numerous discussions with GCC from late 2014 up until the very final approvals in 2018.

Initially Loretto and the architectures were under the impression that the school building could be demolished. However, discussions with the city planners revealed that the listed assets (main school building, janitor's house, gatepiers, retaining walls and railings) had to be retained.

With this requirement in mind, the project architect stated that the development project was redesigned to maximise density within the playground and in the listed buildings to ensure project viability (interview 7767). However, the increased density desired by Loretto conflicted with the city's requirements for a design that was sympathetic with the built heritage while at

the same time providing the required amenity, service and parking spaces. Through discussions with the city planning department, various iterations of the design scheme were developed following lighting studies to determine overshadowing, and different parking configurations that would allow sufficient number of accessible parking spaces. Further considerations included the achievement of sustainability standards that are required for the social housing grant funding and Scottish Government's Building Standards.

The result of these discussion lead to a series of compromises by the developer and the city planning department. These included a reduction of housing units and footprint; increases in parking and open spaces, albeit not to the exact specifications required by the planning department; as well as the refurbishment and part demolition of the historic fabric (GCC, 2016d, GCC, 2018b).

Consequently, while Listed Building Consent (16/01934/DC) and Full Planning Permission (16/01932/DC) had been granted in 2017, new applications were required to amend the conditions of the previously approved applications when the developer, architects and planners were finally able to reach a compromise over the changes to the outdoor space arrangements and the replacement of the historic windows.

In October 2017, the adaptation project commenced on site, converting the school premises into twenty-eight dwellings for social rent (GCC, 2017a). This included the retention and conversion of the main entrance hall into four flats, retaining and converting the classroom ranges into fifteen flats, albeit with the demolition of the 1960s interventions and the entire assembly hall building, heating chamber and WC facilities. The janitor's house was refurbished to facilitate a three-bedroom supported accommodation home[36]. In addition to these conversions, eight new build cottage flats were built within the playground area (GCC, 2018a).

Building Description

The architectural style of this school is different in design, layout and construction material from the other three schools in this study. Unlike the other schools, Greenview was

[36] The janitor's house is a Class 8 - Residential Institution, which provides residential accommodation and care to people in need of care (GCC 2016d -16/01932/DC).

not built during the School Board building campaign of the 1873-1918. The building, which is primarily comprised of red brick, was completed in 1931, when Glasgow was at the grip of crippling unemployment following the depression of the 1920s (Knox, 1999). The Queen Anne style of red brick and sash windows – which was popular in England – allowed for repetitive, large-scale designs featuring big windows which was a more economical design than the traditional sandstone (Harwood, 2010; Maxwell, 2005; Davies, 2007). This was also an era where school architecture was heavily influenced by health concerns. International concern over tuberculosis was highlighted in the Second International Congresses on School Hygiene, held in London in 1907 (JRSI, 1907). The issue of unhealthy environments for children was also a matter of concern raised during the Boer War of 1899-1902, where recruitment for healthy soldiers in urban areas was unsuccessful (Winter, 1980). As a result, new planning regulations from the Board of Education required schools be preferably single-storey or at a maximum two-storey buildings, with subdivided classrooms and cross ventilation (Steadman 2014; Reid 1907). In response to these regulations, Greenview adopted the 'E-suntrap-plan' pavilion school designed with classrooms arranged along open verandas that facilitated cross ventilation and maximized solar gain (HES LB33751, JRSI, 1907).

Constructed in red facing brick with red sandstone detailing and slate roofing, HES notes it to be an 'outstandingly well designed and detailed school of its date' (HES LB33751). Only ten out of the eighty-five listed school buildings in Glasgow were built in the 1920s and 30s, of which only two are not in continued use and being considered for adapted reuse. The other school, Drumoyne Primary School, has been unsuccessful in securing a viable adaptation project and is listed in the BARR register due to extensive fabric loss from neglect and arson.

Designed by J Austen Laird, the Greenview School comprised of a two-storey, piend-roofed, symmetrical three bay entrance block, with a red sandstone moulded door surround, framed by a broken segmental pediment resting on sandstone columns. The entrance block is connected to the classroom ranges with single storey convex linking bays on either side[37]. Directly behind the entrance block, extending into the playground, lay a five-bay assembly hall with a high dual pitched roof. A flat roofed extension to the end of the assembly hall accommodated a heating chamber, WC facilities and shelter (HES LB33751, GCC, 2016b).

[37] These were extended by Robert Rogerson in 1960.

The two single-storey gabled classroom ranges with six bays to each street side (Glenhead and Buckley) elevation were accessed from the main entrance block via corridors open to the playground (HES LB33751). However, in 1960[38], Robert Rogerson enclosed these corridors with reinforced concrete columns and glazed panels, but retained the original clerestory windows (HES LB33751, GCC, 2016b). In addition to these changes, Rogerson also extended the linking bays, and added a flat roof extension to the end of the classroom range along Glenhead Street as well as some minor internal changes (GCC, 2018a).

The janitor's house is a two storey Queen Anne style gate lodge with dormer windows on the top floor. Constructed in red face brick similar to the main entrance block, it features brick banded quoins and piended slate roof (HES LB33751, GCC, 2016b).

The site is enclosed with low brick boundary walls with ashlar coping and wrought-iron railings featuring decorative panels, terminated by three pairs of banded brick gatepiers with cream coloured ashlar pyramidal caps (HES LB33751). The wrought-iron gates have similar features and together with the gatepiers and boundary walls are included in the listing (HES LB33751).

The HES listing description for this school is extensive, at almost four times longer than that for Holmlea School described later in this chapter, with each element carefully described. Equally detailed in the description are the fenestration which served as one of the key character defining elements. From the HES description the fenestration is described as 'Tripartite windows to each floor of outer bays, red sandstone mullions and lintels; regrettably flush glazing. 2-bay return elevations each with linking bay adjoined towards rear, window towards entrance elevation and 2 [two] 1st floor windows. Banded and corniced brick end stacks… 6 bays to each roadside elevation with banded brick pilasters dividing and 2 bipartite windows to each bay (brick-mullioned)' (HES LB33751, nd). The Statement of Special Interest describes the school as 'outstandingly well designed and detailed' (*ibid*).

Since the windows were determined as character defining elements, the city insisted on retaining them in their same configuration. However, according to the project architects, because the occupants would have been elderly with a possible limited range of mobility and

[38] There is a discrepancy in the files on the exact date of these changes. HES description notes that the changes were done in 1960, but the Design Access Statement submitted by the architect for the project notes 1962. The Dictionary of Scottish Architects lists the date as 1961 but it was not possible to verify these dates independently and since the accuracy is not material in this PhD, the HES date was selected.

movement, the operation of these windows would have been difficult (interviews 7767 and 7482). Furthermore, these single glazed windows would not have matched the energy efficiency requirements of social housing units. Interviews with the project architects (interviews 7767and 7482) and city planning department (interview 7365) revealed that their replacement to more easily operable and energy efficient units became a point of contention between the planning department and the developer during the conversion project. This was because the proposed replacement windows negatively impacted the aesthetic value and detracted from the character of the building.

Greenview Timeline

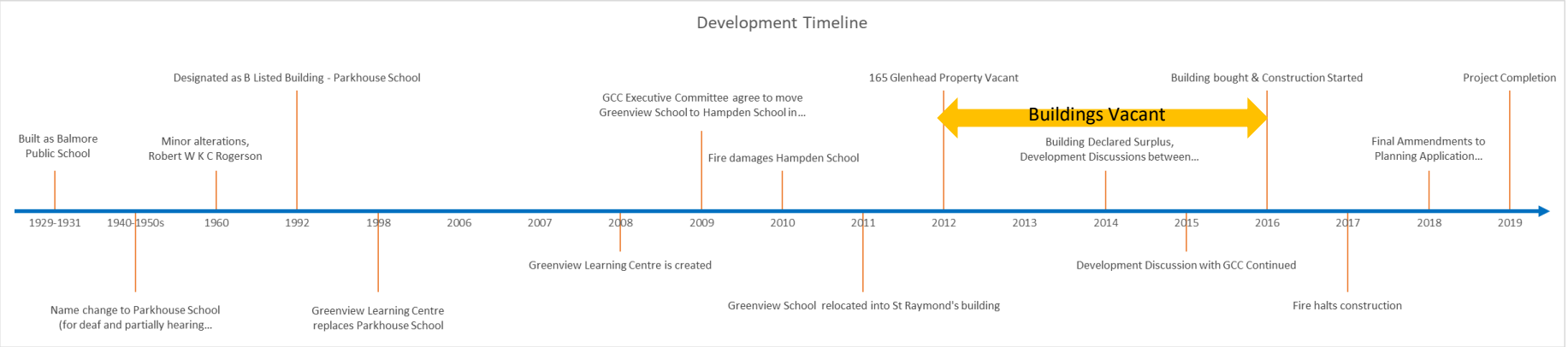


Figure 25. Greenview Development: Timeline.

Site Development: Timeline

Greenview Primary School is located at the corner of Buckley Street and Glenhead Street, in the Parkhouse district of northern Glasgow, an area known as Possil Park. The site is approximately 8900sqm and comprised of the main school building and a detached two storey janitor's house set around a tarmac covered playground (GCC, 2016d). The area has been in the 10% most deprived areas in the Scottish Index of Multiple Deprivation (SIMD) since 2012. The SIMD is the Scottish Government's standard approach to identify areas of multiple deprivation in order to better target effective policies and funding. While the SIMD ranks areas or 'data zones' from most deprived to least deprived, researchers and policy makers will generally focus on the 5%, 10%, 15% or 20% most deprived data zones in Scotland (Scottish Government n.d.).

When the school was built for the Education Authority of Glasgow in 1931, it was known as the Balmore School (GCC, 2016b), but later changed to Parkhouse School serving the partially deaf (GCC, 2016b). Parkhouse School with 70 students was listed as one of the 14 schools in Scotland providing education for the deaf and partially hearing children (HC Deb 31 January 1968). In 1998-9, Parkhouse school was closed, and Greenview School formerly situated in the South East of Glasgow was moved to this location.

Based on a condition survey carried out in 2008, it appears that the school had not been properly maintained or upgraded while in use. The windows and the exterior of the building were reported to be in poor condition with some areas damaged by damp and water ingress, resulting in a C rating for *condition* and *suitability*, meaning that the building needed investment and repairs (GCC, 2009d). At the time, it was advised to relocate the school to the Hampden School building, however a fire at Hampden in 2010 resulted in a change of relocation to St. Raymond's empty school building for the start of the August 2012 term. Following the closure of the 165 Glenhead location, the building ceased to function as a school and was subsequently declared surplus in 2014.

When the school was declared surplus, GCC approached Loretto Housing Association about the possible conversion of the site to social housing (GCC, 2016e) and work began on site in October 2017. Although discussions about the conversion started in 2014, the initial planning application and building warrants for the project were submitted and approved in

2016-17, therefore the conversion of the site was evaluated under *City Plan 2* (2009-2017) and the more stringent Building Standards which came into effect in October of 2015. These new stringent measures required a significant uplift in requirements for Section 6 (Energy) of both domestic and non-domestic buildings, which included improvements in U-value. The changes represented a 21% improvement in domestic standards against the 2011 standards levels (Scottish Government, 2015a).

In addition to local policies, the conversion of Greenview School was also required to adhere to Scottish policies for social housing developments such as Housing for Varying Needs which ensures buildings are suitable for older people; Secured by Design as outlined in PAN 77 envisioned to improve the security of buildings and their surroundings; and Inclusive Design that facilitates accesses by a broad range of people regardless of age, disability or gender. Furthermore, the development had to achieve Building Standards section 7 on sustainability's silver aspects 1 - 8. However, according to the project architect, the requirement to meet silver aspects were limited to the new build cottages only (interview 7767) as conversions are exempt from this requirement. Additionally, a small section of the site had lead contamination that required following PAN 33 (planning advice for contaminated land) guidelines. This resulted in a change in landscape design and the capping of a small section of the property.

The development also had to meet the Loretto Housing Association's design brief. Social housing requires a certain square footage in each room for a typical minimum furniture layout per number of occupants in the dwelling (interview 7767). These same minimum space requirements are not mandatory for private housing, so private dwellings can be smaller and as a result, more units can fit into the shell of an existing structure. Since the property is in a very deprived area, the conversion project would not have been an attractive investment for private housing development, especially when there is a perception that the process would entail additional burdens and financial implications.

The economic value of retaining and repurposing built heritage is often tied to the return on investments made to develop a viable project. This is especially true when there are high costs associated with the development and management of the project, and inadequate public resources to offset some of these costs (Eppich and Grinda, 2019), As the project architect explained:

> "…grant funding is available when you are restoring, but if you replace with a new element, you won't get funding for that. But then funding will require you to do more, then there is a greater involvement of overseeing, and the cost of meeting these additional requirements compared to the grant money, in the end the QS [quantity surveyor] and client decided that the funding would not be of real significance for this project" (interview 7767).

Conversion Process: Heritage Conservation

The conversion required the demolition of the Assembly Hall and the attached heating chamber and toilets, as well as the modifications that were made in the 1960s to the classroom corridors and the extension to the end of the south classroom wing (GCC, 2016e). Additionally, the internal finishes of the remaining buildings and the staircase in the main block were also removed (GCC, 2016e), none of which were objected to by the planning officer or HES. According to the project architect, the building did not have outstanding architectural features, 'just a good example of an E-type plan' (interviewee 7767), and the HES description did not mention any interior features.

Since the Assembly Hall and classroom corridors were in the playground area and not visible from the street, the demolitions did not impact the streetscape and therefore maintained the aesthetic integrity of the historic building exterior form. Furthermore, in converting the classroom wings to dwellings, the height of the Assembly Hall would have contravened Policy DES 1 which addresses sunlight and privacy issues. The height of the Assembly Hall would have reduced daylighting and sunlighting to the proposed dwellings in the north classroom wing, which would have also been at odds with planning guidance (GCC 2016e-16/01934/DC). The proximity and position of the Assembly Halls would also have raised issues with privacy and overlooking, therefore in converting the classroom ranges, it was necessary to demolish the Assembly Hall.

While the concrete additions to the classroom corridors were part of the listed building, they were considered of little architectural value in the evaluation of the project, both by the project architect as well as the city planning department. Even though in heritage management discourse, all historical changes to a building become part of the historic value, in evaluating the historic and architectural interest of this building, HES considered these concrete additions

as less valuable than the Assembly Hall which was part of the original construction and design. Therefore, city planning department required that the demolition of the Assembly Hall be justified in accordance with HES guidelines. But such requirement was not imposed for the 1960s additions.

For this project, the demolition of the Assembly Hall was deemed 'essential to delivering significant benefits to economic growth or the wider community' because it would have allowed the developer to deliver the required mix of dwelling sizes while saving a listed building from further decay (GCC, 2016e). Furthermore, since the calculated development costs were above benchmark limits for Loretto and Wheatley Group social housing projects, the project architects expressed (interviews 7767 and 7482) that it was essential to increase the number of dwellings by constructing the new build cottage flats to ensure the viability of the project and the adapted reuse of the historic building (GCC, 2016e).

In order to accommodate these additional cottages, the amenity space and parking spaces had to be redesigned and reconfigured, with the city relaxing some of these space requirements to facilitate the development (*ibid).* In balancing the values of retaining historic fabric, the heritage and environmental values were conflicting with the economic and social values that the demolition of historic fabric and the subsequent delivery of the housing project would have ensured. However, in the planning documents and in the course of the interviews, it was revealed that the environmental impacts of demolishing the historic fabric were not a consideration by any of the parties involved in the process, including the planning department.

Whereas the adaptation incorporated minimal intervention on the street side elevations (principal elevations), years of neglect, water ingress, arson and lead theft from the roof had resulted in extensive damage to the fabric of the building. Therefore, the conversion required the replacement of roofs, classroom floors, and all windows, the restoration and rebuilding of the chimneys and the removal of all internal finishes. In the case of the chimneys, the project architects explained that each chimney had to be taken down and rebuilt using salvaged bricks from the demolished Assembly Hall, and that matching existing fabric in terms of colour, style and patina is a difficult challenge (interviews 7767 and 7482). Often times, the historic fabric is no longer manufactured, therefore it is common practice to reuse salvaged material from one section, in other sections. However, the skill and time involved in the salvage and reuse of historic fabric on the one hand, and constraints such as building regulations and budgetary

considerations on the other, may result in the disposal - rather than the reuse - of the in-situ historic fabric (*ibid).* Especially since there are currently no requirements to consider embodied energy, and in the planning process there are no mechanisms in place to calculate resource efficiency in terms of reusing salvaged material.

The salvage and reuse of historic fabric leads to another conservation dichotomy. New intervention is meant to look different and distinguishable from the historic fabric, as a means of maintaining authenticity. However, in reconstructing damaged areas, salvaged fabric is used to maintain the historic appearance. The notion of authenticity is a long debated and contentious issue in heritage. According to Jokilehto (2019), 'authenticity can be understood as a condition of the heritage resource, its artistic, historical and cultural dimensions, the aesthetic, structural and functional form of the object or site, its material and technology, as well as its physical and socio-cultural context' (2019: 71). With respect to the issue of authenticity, HES position is introduce interventions that are 'faithful to the original design intent, details, materials and construction', with the choice of 'honest interventions using traditional materials over the introduction of modern techniques and materials' (HES, nd: 6).

Authenticity of historic fabric and form are important aspects in legislation and evaluating special interest in listing buildings (Jones and Leech 2015). Therefore, the reuse of salvaged brick ensured that the appearance of the chimneys matched its original design and the rest of the building. The reuse of salvaged material is also considered an environmentally preferred choice in terms of resource efficiency, as it eliminates the need for new material. Furthermore, it contributes in part to the zero waste strategy by reusing demolition waste. In the reuse of salvaged bricks, heritage values and environmental values align with Scottish policy objectives in reducing environmental impacts and moving towards zero waste. However, what is missing from this equation is an accounting mechanism to provide data for the Scottish Government to show how the reuse of historic buildings and salvaged materials feeds into reductions of carbon emissions, construction waste and resource use, and the extent to which the conversion of built heritage contributes to Scotland's sustainability agenda.

Where the reuse of salvaged bricks contributed to both heritage values and environmental values, the primacy of retaining the architectural and historic values of the exterior envelope continued to dominate the planning decisions in this project. This was evident in Glasgow Planning Department's requirement that interventions to listed building do

not *detract* from the appearance of the building. Therefore, the replacement material for the reconstructed roof had to be natural slate and the chimneys rebuilt with reclaimed bricks. However, according to the project architect, the internal finishes were not of particular concern to the planners, both because they were damaged by years of neglect and also because they were not architecturally significant (interview 7767), and the HES description did not mention any interior features. This further reinforces the position that what is deemed significant in a building is a subjective exercise that is informed by values, assessed on a case-by-case basis by 'the council's conservation officer, development control officer or Historic Scotland' and in this exercise the descriptions on the HES portal may not 'provide the necessary guidance' (HS 2007a, 9).

Thereby, the character defining elements that is valued and lends significance to a heritage asset remains vague and open for interpretation by the specialist at HES, the planning authority and potentially other stakeholders. However, since the final decision generally remains with the planning authority, evaluating the value judgment on each case is particularly difficult when the information provided by HES (who advise on the potential impacts of development on heritage values) is incomplete. This ambiguity can result in further tensions when values conflict, leaving the planning officer uncomfortable about establishing a precedent that might lead to significant heritage loss in the future (Smith. 2014), or reinforce the idea that built heritage can be hard to treat (Marshall *et al.*, 2016). Furthermore, according to the city planning department, GCC is reluctant to impose restrictions that might be too onerous to the developer (interview 8383). A reluctance that is echoed in literature on the adaptive reuse of built heritage (Ashworth, 2011; Smith, 2014; Bassindale, 2020), especially when there is an assumption that listed buildings are more difficult to adapt due to heritage conservation regulations (Gravagnuolo *et al.*, 2020).

In this project, a point of contention between the planning department and the developer was the replacement of the classroom and the clerestory windows. According to the project architects, the planning department required refurbishment or 'like for like' replacement of the single glaze windows (interviews 7767 and 7482). According to Historic Scotland the 'size and arrangement of window openings will usually be key elements in dating a building' therefore any 'alteration to the form of one or the other is bound to have a considerable impact upon the appearance of the building as a whole, and where inappropriate alteration work has been implemented much of the quality and character of the building may be lost' (HS 2007a, 16).

Herein, character is linked to the aesthetic and historic value, therefore the focus is on maintaining a historic appearance.

From this position, retaining and repairing the existing fabric not only secures this much valued historic appearance and aesthetic quality, it is also environmentally sustainable in that it will reduce construction waste and the need for new resources. However, since the existing windows were single pane, in terms of energy efficiency, they would not have met the requirements of social housing standards. These standards improve the building's energy performance and thus contribute to the environmental sustainability goals of the Scottish Government; in which case the retention of the single glaze windows would have diverged from these goals.

Heritage conservation specialists insist on the retention and repair of historic fabric to safeguard heritage and environmental values. However, in cases such as Greenview, where the historic windows are single pane, the environmental benefits of upgrading to double glazed, reduces indoor heating requirements and operational carbon emissions, and therefore appears to be a more environmentally sustainable choice. This is true if the replacement double glazed windows' effective lifespan extends beyond the carbon footprint of its production. However, according to heritage and sustainability experts, well maintained double-glazed windows at best have an effective lifespan of approximately 30 years (interviews 8372, 8476, 8267).

Without appropriate means of measuring the environmental impacts of retaining and refurbishing historic fabric versus the carbon footprint of producing heritage double glazed windows over their effective lifespan; and comparing that to the heat loss from existing historic single pane windows, it is difficult to assess the true environmental values of replacement versus refurbishment. Such considerations can only be in place if the environmental value of historic fabric is just as valued as the historic and aesthetic values. However, in the case of Greenview, the discussion pivoted on the traditional historic and aesthetic values, and the environmental values of historic fabric were not considered in negotiations where tensions arose between heritage values and the economic viability of the project. This indicates that in negotiating value trade-offs, the environmental values which are difficult to assess due to a lack of proper metrics and relevant data, are excluded in lieu of more traditional and commonly used values of historic and architectural and the more easily measured economic values. This is also reflective of how policy silos focus attention on values that have been more clearly

articulated or historically considered, at the exclusion of other values which don't have established mechanisms to be factored into the decision making process.

According to project architect, the planning officers were keen that the project retain and refurbish the existing windows in keeping with the traditional view of preserving the character of the historic building (interview 7767). The existing tripartite windows along the classroom wings were designed such that the top and bottom sections tilted inwards and opened with a specially designed pole that according to the architect would not have been consistent with section 16.3 of Housing for Varying Needs whereby 'controls are easily and safely accessed, reached and operated' (Scottish Government, 2002a:16.3). The design of the replacement windows submitted to the city restricted the opening function to the bottom section of the window, as this would have been a more suitable design for elderly occupants (interview 7767). Furthermore, the developer insisted on double glazed windows for improved thermal efficiency, but the planning officer did not agree with the new window designs as it was not 'like for like' (project architect 7767), indicating the primacy of aesthetic values over environmental values and functional use.

This is while the Scottish Government's guidelines for social housing developments, especially those designed for elderly clients, have energy efficiency, maintenance and security requirements that were incompatible with the existing single glazed windows. The Energy Efficiency Standard for Social Housing (EESSH 2014) list double glazing as 'reasonable measures', with social landlords advised to install these measures first as a means of meeting the minimum requirements (*ibid;* 9-10). HES solutions for energy efficiency in *Managing Change in the Historic Environment: Windows* are draught-proofing, installing internal secondary glazing, and/or the use of shutters and lined curtains (HES 2018). The installation of internal secondary glazing for the classroom windows would have created operational problems in terms of opening and closing for the elderly. According to the project architect, 'secondary glazing, which basically is not a good thing… practically from the client user group, it was going to be an elderly tenant is then how would they actually operate it?' (interview 7767). Furthermore, due to the poor condition of the existing windows, repairs would have been cost prohibitive 'the windows were destroyed beyond repair, it wasn't good from a thermal efficiency point of view, that new double-glazed windows closely matching the existing as possible was more thermally efficient, but they [planning officers] were still digging their heels in' (*ibid*).

While HES supports the replacement of windows with new slimline double-glazed windows, the commercially available ones are sash and case, which did not match the style of the school windows. The new double-glazed custom windows suggested by the developer for the classroom wings were, however, rejected by the planning department. The project architects explained that the rejection was because the design was not 'like for like' and that the 'astragals did not match' the original window design (interviews 7767 and 7482). Here the value of aesthetics becomes a key sticking point, overriding other considerations. The incompatibility between social housing conditions, requirements and funding constraints on the one hand, and listed building requirements on the other caused delays and expenses which threatened the completion of the development project (interview 7767) and the economic value of the conversion project.

In the end, the planning department agreed to the new windows with the added consideration that, due to the setback of the building and the perimeter landscaping, the visual details of the new double glazed replacement windows would be somewhat obscured from the public view (email 07/02/2018). According to the project architect, 'HES published updated guidance on windows on listed buildings, principles applying to altering windows of historic character with respect to replacement windows, manufacturers using double glazed units with applied astragal or an astragal cassette often in conjunction with integral drivers in the cavity may be considered in particular projects that require exceptional sustainability and security standards and the public elevations are set back behind landscaping, which obscures the visual detail to the degree that might be seen from a public place and council heritage officers will not object to such a change, in 2018 HES issued guidance on it[windows] because windows had become a big issue' (interview 7767). The contentious issues of replacing single glaze historic windows with energy efficient doubled glazing had been a long-time problem in Scotland and the need for clearer guidance and advice on improving the thermal efficiency of windows was echoed in an interview with HES technical team (interview 8267) and the series of research published by HES (HES 2013;2016;2018).

With regards to the clerestory windows, the planning department required the restored windows feature clear glass panes as in the original design (interview 7767). This would have required regular cleaning by the owners. Since the windows are at a higher level, regular cleaning by the elderly owners would have been problematic, therefore Loretto requested that they be clear on the outside but boarded up on the inside (*ibid*). According to the project

architect this was not acceptable to the planning department. ‘The planners had insisted that they [clerestory windows] would remain in place, which was part of the building design, but they wanted them to be glazed clear to bring light in, but if they are clear, then they need to be cleaned’ (*ibid)* as required by the guidelines in the Construction (Design and Management) Regulations on safe cleaning of internal and external windows which came into effect in 2015 (HSE 2015, 27). Therefore, a compromise was reached to change the clerestory windows to timber double glazed, with an altered outward opening mechanism in lieu of fixed, and replace the clear glass with frosty glass to facilitate easier maintenance while still allowing light to come through (GCC, 2018b; interviews 7767 and 7482). Within these discussions, where regulatory requirements, practical everyday use and historic character defining elements conflict, the values associated with sustainability were excluded from the discussion. The focus remained on how the heritage values associated with the windows could be addressed such that the aesthetics of the historic building façade and ultimately the project viability, and in turn the economic value, would be protected.

Similar to the other schools, vandalism and a lack of maintenance (during the operation of the school and after it was vacated) had led to water ingress, timber rot and damage to the roof, windows and the internal fabric. Additionally, the building suffered from two arson attacks during the early stages of the development, resulting in further damage to the historic fabric, adding delays and costs to the conversion project (interview 7767). Therefore, while the completed project maintains the original 1930s building envelope and form from street view, the interior fabric and configuration was lost.

Although the addition of new build cottages changes the school site, aesthetically the form is sympathetic and subservient to the historic buildings in terms of material, design and scale. In balancing conservation guidelines against the viability of the development project, the guidance from Historic Environment Scotland is that the best *viable* re-use be considered both in terms of costing but also in terms of the ‘character of the building’ (HES, 2007a, 17). In terms of construction work, the guidance advises that the works not have ‘an adverse effect on the historic character of the building in order to meet the practical needs of the conversion. If the works will have a significant adverse effect on the character, the proposals may be regarded as unacceptable.’ (*ibid:* 17-18). However, what determines *practical* in each adaptation case will be determined during the planning application and planning discussions, and this is where the discretionary approach in the UK planning system plays an important role

in determining which values take precedence over others, and where negotiations between actors lead to value trade-offs. In this scenario, party politics and values, together with practical and physical constraints add layers of complexity to the already entangled mosaic of conflicting interests and values. But the emphasis on *character* continues to elevate the long-established conservation values of architectural and historic over other values such as environmental values.

Conversion Process: Environmental Sustainability

Out of the four school conversions in this study, Greenview was the only one that associated the conversion project with all three aspects of sustainable development in the *Design and Access Statement*. It identified that the retention of an existing building required less energy than replacement with new build, while at the same time minimised resource use and construction waste. The reuse of the building was also discussed in terms of preserving local heritage and improving area amenity, both in terms of meeting contemporary societal needs and preserving a record of traditional construction skills and craftsmanship. The proposal included the construction of new buildings, in which sustainability measures such as photovoltaic panels and sustainably sourced timber were suggested. However, during the planning discussion, photovoltaic panels were not approved on the listed building, because 'listed building consent won't allow solar panels' (project architect 7767; GCC, 2016f). The installation of solar panels on elevations that face public streets detracts from the appearance of the building, and therefore not permissible. Sentiments echoed in other countries such as Sweden where research showed that visible energy retrofit strategies were regarded by the community as having negative impacts on historic and architectural values (Legnér *et al.*, 2020).

Prohibiting the installation of solar panels on the historic building reduces the overall surface area of where solar panels can be installed and can impact the viability of this option in generating low emission energy. This is yet another example of where the aesthetic value of the built environment conflicts with the environmental sustainability goals of the Scottish Government, even though the installation of solar panels can be a reversible intervention which in heritage conservation guidelines is preferred over interventions that are irreversible (HS, 2007b; English Heritage, 2008, 2018).

Similar to the proposals for the other schools, this one included the demolition of the original fabric. However, in terms of energy efficiency, the project was required to achieve higher standards to meet the requirements of *The Energy Efficiency Standard for Social Housing* (EESSH, 2014), which the planners limited to the new build cottages rather than the whole conversion project. While the conversion of the listed building did not need to achieve the same level of thermal and energy efficiency standards as the new build, there was still a requirement for improving building performance to reduce fuel poverty and carbon emissions in line with the government's ambitious targets and in compliance with Building Standards (Scottish Government, 2015). Furthermore, because the dwellings were designed for elderly pensioners with limited income, the project architect explained that there were also considerations about fuel poverty as 'they wouldn't want to be spending money as well as its quite common for elderly people not to put the heating on because of the costs' (interview 7767).

In improving building performance, adding insulation to the exterior envelope of a listed building is impossible due to the aesthetic restriction, especially since HS notes that in the design of buildings, 'there is likely to be an overriding character to the design of its exterior' (HS 2007a, 16). Therefore, all interventions had to be carried out within the interior spaces, without reducing the liveable space required for social housing developments. For this project 60ml rigid insulation boards were used that improved thermal efficiency but not to the extent generally required by building standards for new buildings. This is a) to reduce the risk of condensation as older buildings were designed to be breathable and modern insulation methods create moisture and temperature barriers which trap moisture and lead to condensation; and b) the SAP ratings and U-values listed in the Building Standards were based on modern building technology and materials and therefore incompatible with traditional building materials and building designs (Franco and Magrini, 2017). The primacy of aesthetic values creates practical constraints that reinforce the idea that the conversion of listed buildings is difficult and fraught with complications and therefore reduces the overall value of retaining and reusing the historic built environment (Hilber *et al*., 2017; Gravagnuolo *et al.*, 2020).

In addition to improving the energy efficiency of the buildings, the project was approved without meeting typical parking requirements due to occupant demographic and the fact that it included the conversion of a listed buildings. According to *City Plan 2: TRANS 4 Vehicle Parking Standards* basic minimum standard for parking provision for residential

dwellings in cases of conversions is one allocated space per dwelling unit for residents, however where the conversion includes a listed building, there can be variations (GCC, 2009a: 218). Considering the elderly demographics of the residents, the project architect explained that a reduction in parking spaces from 28 to 18 was allowed, both to accommodate sufficient landscaped amenity space for the residents and improvement to the quality and biodiversity of the area (interview 7767). Improvement to the biodiversity of the area is in line with environmental sustainability and the reduction of car parking aligns with the Scottish government's goal to reduce transport emissions.

The *Design and Access Statement* for the Greenview project discussed the refurbishment and conversion of existing buildings in terms of all three aspects of sustainable development, with specific reference to the energy saving, resource efficiency and waste reduction benefits of retaining existing building. In practice however, rebuilding the chimneys, replacing the roof, all windows, doors, all floors, and the demolition of parts of the building has not been accounted for in this sustainability statement. Although the *Design Access Statement* is a justification on how the applicant plans to deliver 'high quality and inclusive environments that can be used by everyone, regardless of age, gender or disability' and explains 'the design of a proposed development and its relationship to its surroundings' all of which may be a material consideration (SG, 2013f: 19-20, 23), in Glasgow there are extra requirements for the design statement.

In Glasgow, the *Design and Access Statement* should 'demonstrate, at the commencement of the planning application assessment process, that all relevant matters which require consideration at the design stage, including sustainable design and construction, sustainable drainage, incorporation of energy efficiency and accessibility, have been taken into account in the preparation of the scheme' (GCC, 2009a: 118). This is aligned with *Glasgow City Plan 2: Policy DES 1 Development Design Principles,* which aims to 'promote new development which is designed and constructed to contribute positively towards the creation of high-quality environments and sustainable places' (GCC, 2009a:116). So, while the Design and Access Statement anticipates what could be done, in real terms there are no mechanisms in place to monitor, measure or evaluate the extent to which the development minimised waste, or was more resource efficient, and the actual environmental impact of the development is unclear. While the building envelope was retained, the entire rest of the development

comprised of new material and the energy required to rebuild historic elements has not been taken into consideration.

The next school building that was converted to social housing is Holmlea Primary School, also a B Listed building. However, unlike Greenview, the level of deprivation in this area is less than Greenview.

Holmlea: Site Details

Name	Category	Address	Year Built	New Use
Holmlea Primary School	B Listed LB33807	362 Holmlea Road G44 4BY	1908	49 Units – Social Housing
Developer: Home Group Scotland		Architect: Anderson Bell & Christie Architects		Contracror: CCG Construction Group

The Development Project

In July of 2005, Holmlea Primary School was declared surplus by Glasgow City Council (GCC email correspondence[39], 11/09/2019) and marketed for sale. However, it was not until March of 2016 that the current owner, Home Group purchased the property for conversion to social housing (*ibid*). In October 2018 the adaptation project commenced on site and converted the school premises to forty-nine dwellings[40] for social rent (GCC, 2017a). The development was a Design and Build contract, whereby the developer employed the architecture firm to develop the concept design and outline (or performance) specification, and then a contractor was appointed to complete the design and carry out the construction for a predetermined sum. As long as the contractor stays within that budget and meets building standards, the contractor is allowed to change the specifications recommended by the conservation architect which are not explicitly mentioned in the planning conditions.

The development of the school included the retention, refurbishment and conversion of the main school building to accommodate thirty flats, albeit with the demolition of the listed sports hall. The demolished sports hall was replaced with a new build extension of eight flats. Two new blocks to the rear of the main school building, on either side of the new extension,

[39] Follow-up email after face-to-face interview.
[40] Since the development is less than fifty units, it is not considered to be a 'major development.'

accommodate ten dwellings (GCC, 2017a; GCC, 2017c). The janitor's house was refurbished to be rented as a detached two-bedroom house (GCC, 2017a).

Building Description

Holmlea Primary School is a B listed school building located at the corner of Holmlea Road and Spean Street, in the Cathcart area of southern Glasgow. The site which is approximately 5700sqm is comprised of the main school building, a detached janitor's house and two ancillary buildings (GCC, 2017c). The south elevation which is the principal façade overlooks the playground and beyond that, the River Cart to the south and west. The site is well-served by public transport, with a generally level access to bus or train services (GCC, 2017c).

According to HES, the school and janitor's house were designed by Andrew Balfour in 1908 for the Cathcart School Board (HES nd, LB33807). This school is part of the school building campaign of 1873-1918 by Govan Parish School Board. Balfour was a well-established architect in Glasgow, associated with the design or alterations of about ninety-nine buildings and structures in Scotland (DSA, n.d.). While Balfour designed a number of schools for other School Boards, Holmlea is by comparison, much more elaborate and striking in design and constructed with very high-quality red Dumfriesshire ashlar sandstone, possibly due to the prosperity of this particular district at the time (Hamilton, 2009-10).

The principal façade of the two-storey building is comprised of a long symmetrical frontage with a recessed three bay centre linking two identical outer ranges (HES LB33807). Directly behind this recessed centre, a single storey sports hall extended to the rear of the building. On the principal façade, a central door set in a channelled doorcase sits in the recessed centre (HES LB33807). The first-floor window above this door is topped with an ornate open pediment that breaks through the eaves of the roof, setting the design rhythm for the alternating pedimented dormers of the first-floor windows of the outer rangers, a style different from most other Board School buildings. The roof of the main building is piended and finialed, covered with Westmoreland slates (HES LB33807) quarried from the northwest of England. These are very durable slates of a delicate green colour, long considered to be one of the finest roofing materials (Scott, 2003; McKay, 2004) and a complementary choice for red sandstone buildings.

Westmorland Green slates are non-combustible, do not rot or delaminate, do not encourage the growth of lichens or mosses, are unaffected by freeze/thaw cycling, atmospheric pollution, acid rain, salt spray, and are compatible with all common building materials (Burlington Slate Limited, 2008;3), and as a result, expensive to replace (Bennett and Pinion, 2013). According to the project architect, 'to replace the slates on the existing roof, like for like would have been, an exorbitant amount of money because they were Westmorland Green Peggy's which getting them now would be 10 times more expensive than any other slate' (interview 6567). According to Historic Scotland, the roof and its associated features are important elements in defining the building's character and can lend significance to the building and the area (HS, 2010).

While the external elements of listed buildings are significant, the internal elements such as floor plan, material and design features are also protected through listing. The internal layout of this building consisted of classrooms arranged on either side of a wide central corridor running the length of the outer ranges. On the first floor, classrooms were accessed by an internal balcony wrapped around the central atria in each range. The wrought iron balustrade for the balcony is in 'Glasgow Style' which flourished from the early 1890s to around 1914 and was inspired by the Aesthetic Movement, the Arts and Crafts Movement, and the European Art Nouveau and shared some common design attributes (Glendinning *et al.*, 1996). The most famous architect of this style was Charles Rennie Mackintosh (*ibid.*). The balcony style is also echoed in the site's perimeter railings as well.

The project architect noted that the atria had other key design features and decorative elements such as intricate timber roof trusses and dado rails, delicate plasterwork and decorative tiles (interview 6567). These internal features of the main school building were deemed of particular importance to HES, who requested like for like reinstatement and for which the architect conducted detailed reports[41] (interview 6567; GCC 2017a; GCC 2017f). However, in the HES listing description, none of these interior details are listed and unlike some of the other school buildings in this research, there is no Statement of Special Interest, even though compared to the other three schools in this study, the building is very detailed and ornate in design.

[41] Drawing SK180626 Tile Colour Study, Drawing S(5)105 Atrium Restoration - Tile Study, Drawing AL(0)140 REV A School Building - Atrium Study (17/02311/DC and 17/02312/DC)

Similar to Greenview, the janitor's house which is a gabled two storey red sandstone building in the northeast of the site, had lost most of its historic fabric during previous renovations when it was upgraded with modern appliances and fittings (GCC 2017c).

Included in the listing are the 'Glasgow-style' wrought-iron railings enclosing the perimeter, which were retained and restored (HES LB33807).

Holmlea Timeline

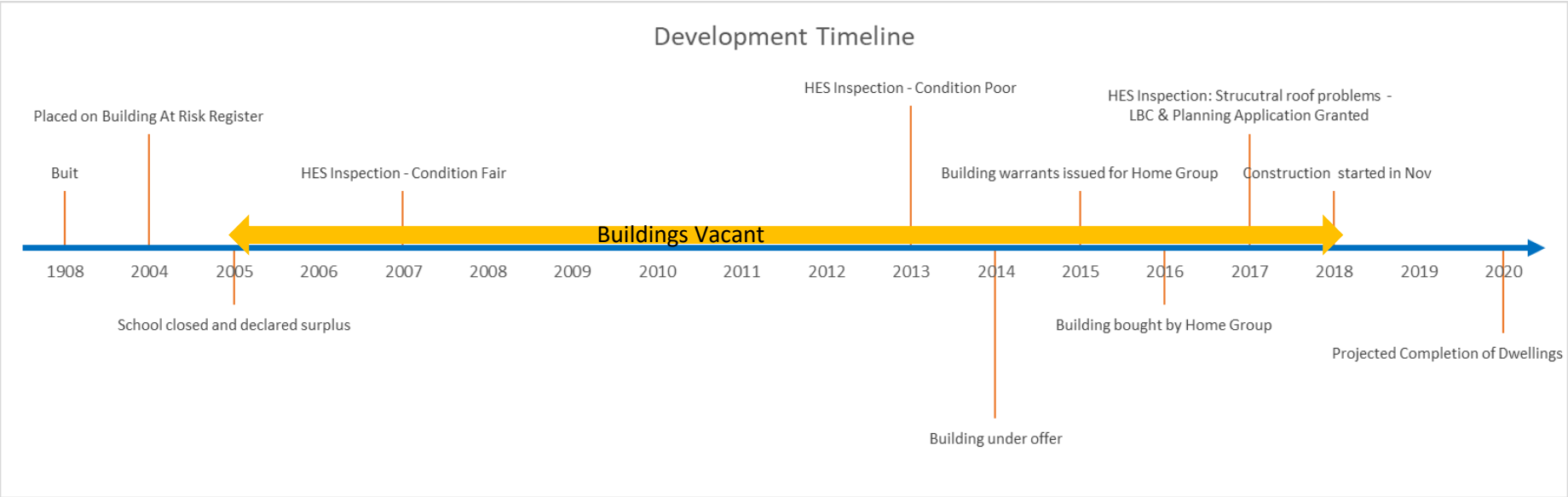


Figure 26.Holmlea Development: Timeline.

Site Development: Timeline

The school was in continued use until June 2005 when it was merged with Merrylee and Simshill Primary Schools, and pupils from all three schools were placed in a new school building. The principal reason for the school mergers was an estimated repair bill of five million pounds required to bring all of the schools up to an acceptable conditions (BARR n.d.b; Merrylee Primary School, 2008). While in use as a school, Holmlea had not been maintained regularly, and in 2004, was placed on the Buildings at Risk Register (GCC, 2017a).

In the Glasgow City Council film 'Building our Future: Pre12 Strategy' (GCC, 2005), a teacher at Homlea expresses concerns over seeing the rafters while teaching and rain coming into the classrooms and destroying the displays of students' work (*ibid.*). A long-term lack of regular maintenance, upkeep and modernization had resulted in damage from water ingress, peeling wall paint due to damp issues, outdated heating and toilet facilities, and poor classroom conditions; rendering the school unsuitable for continued use. While it would have been possible to refurbish Holmlea to accommodate the pupils from all three schools, the council preferred to sell all three buildings to finance a new school on Friarton Road (BARR n.d.b,). Thus, Holmlea was declared surplus by Glasgow City Council in July of 2005 (GCC email correspondence, 11/09/2019) and marketed for sale. However, it was not until March of 2016 that the current owner, Home Group purchased the property for conversion to social housing (*ibid*). Home Group, is a housing association, social enterprise and charity, and one of UK's largest housing and integrated housing, health and social care providers (Home Group: About Us, n.d.).

Since it was a listed building and on the Buildings at Risk Register (BARR), the site was intermittently inspected by HES. In 2007, an external inspection revealed that the building was in *fair* condition with all windows boarded over and basic maintenance carried out (BARR n.d.b). According to the *Buildings at Risk Toolkit* (Eydmann, 2014: 6), the following categories are used to describe the condition of a building:

- **Ruinous**: The building is a roofless shell. Little of the original fabric remains other than the external walls.

- **Very Poor**: The building is either extensively fire damaged, partially collapsed, or is suffering from major structural problems. It may be totally or partially roofless but retains a little more fabric than just the external walls. Very little of the interior remains.
- **Poor**: The building does not appear to be maintained. Most of the external fabric remains but there are obvious signs of deterioration such as slipped slates, vegetation growth, broken windows, vandalism or blocked rainwater goods.
- **Fair**: Although previously well managed, it now requires minor repairs. There are some signs of neglect.
- **Good**: The building fabric is generally sound and its overall condition alone does not necessarily place it at risk.

In August of 2009, with the establishment of City Property Glasgow, the school building was transferred to City Property's portfolio, but the maintenance remained with the Education Services. According to *Glasgow City Development Plan: SG9: Historic Environment Supplementary Guidance* (2017) 'Building maintenance is the responsibility of its owner. Local authorities have statutory powers, under the terms of the Planning Acts, and may take action to effect necessary repairs where such buildings fall into a state of disrepair[42]' (2017: 6,35). In this case, the building owner was City Property (Glasgow) LLP which manages, develop and disposes of Glasgow City Council's surplus properties, like Holmlea school.

Between 2007 and 2014 when a second external inspection by HES was carried out, maintenance on the building had stopped, evidenced by vegetation growth on the building and signs of further damp penetration (BARR, n.d.b). At this stage, the condition of the building was downgraded from *fair* to *poor*, with the risk set at *moderate*. The Buildings at Risk website uses the following criteria to determine risk:

- **Critical** The building is threatened with demolition, and a real or perceived conservation deficit now makes rescue unlikely. It is suffering from an acute structural problem that could lead to full or partial collapse, and there is an immediate threat of further deterioration.
- **High** There is no immediate danger of collapse but condition is such that unless urgent remedial works are carried out the building will sharply deteriorate.

[42] This advice was verbatim in Glasgow City Plan 2: DG/DES 3 - Design Guidance for Listed Buildings and Properties in Conservation Areas (2009, section E.).

- **Moderate** The building is in a fair condition but is deteriorating. There are concerns that the building could suffer further decay leading to more serious problems.
- **Low** The building is in a relatively stable condition, but there is a risk of slow decay. Although there is a possibility of reuse, the condition of the building still gives cause for concern.
- **Minimal** The building is vacant but in good condition. At this stage, there is no immediate threat of deterioration.

While there was a mention that the property was under offer on Glasgow's City Property website in 2015, there is no mention of a change of ownership recorded in the BARR report. A third inspection carried out by HES in 2017, reported further deterioration in the condition of the building with water ingress continuing to be a problem (BARR, n.d.b). This final site visit records a noticeable dip in the roof pitch at the south west elevation combined with slate loss and slippage, as well as greater vegetation growth on the exterior envelope, and clear signs of damp penetration (*ibid*). The final item reported on BARR is the Listed Building Consent (LBC) sought for the restoration and conversion of the site into flats and accompanying new build development referencing the LBC 17/02311/DC and 17/02312/DC planning applications.

While the BARR report mentions the 2017 Listed Building Consent LBC, according to the project architect, the building owner (Home Group) had been in discussions with GCC for a number of years prior (interview 6567). In September of 2015, Home Group's agent applied for and was granted Global and Stage 1 building warrants by GCC Building Standards for the conversion of the school to flats and the erection of new build flats (GCCBW, 2015). Anyone planning to construct, alter or change the use of a building is required to apply for Building Warrants, according to standards set by the Building (Scotland) Act 2003. The warrants are valid for three years. For Holmlea, a Stage 1 building warrant 15/02628/BW S1 was issued for substructure ground and floor slabs for conversion of the school to flats and erection of new build flats (GCC Building Warrants, nd; GCCBW, 2015; Building Standards – Scottish Building Warrant Summary, nd).

In some projects, if a building cannot be fully designed at the time of application, the Building (Scotland) Act 2003 allows for Staged Warrants. In these cases, a warrant is granted with the condition that work on the identified next stages does not start until the necessary information has been submitted and an amendment of warrant has been granted. In these cases,

work on piling or foundations can start before the rest of the design is finalised (Building Standards – Scottish Building Warrant Summary, nd). Securing building warrants in September of 2015 meant that the development would be assessed under the 2013 Building Regulations rather than 2015 Building Regulations which would have been in place from the first of October 2015. Therefore, the new development would not have been required to meet the more stringent energy efficiency requirements enforced in October of 2015.

While the development follows guidelines from the 2013 Building Standards, planning considerations for the development are guided by Glasgow City Development Plan adopted in March 2017 which replaced the 2009 City Plan 2. This is because the planning application for the development was processes in 2017.

Conversion Process: Heritage Conservation

The B listed property had been on the Buildings at Risk Register since 2004 and remained vacant for 13 years before construction started. Although it was periodically inspected by HES to monitor its condition, no significant remedial action was taken by GCC to prevent the further deterioration of the building. According to the Glasgow City Council planning officer's report (GCC, 2017a), the roof, internal timber and plasterwork were considered to be in 'dire' condition, while the external stonework of the building had remained relatively sound (GCC, 2017a: 2). During the conversion process, only this relatively sound stone external envelope remained intact and therefore the conversion project is considered a façade retention rather than a conservation. The problem with this approach to building conservation is that the 'façade is the outward expression of the anatomy and organisation of the building' (Bargery, 2005, np). Since the interior and the exterior of listed buildings are protected, and the interior dictates how the exterior takes shape, a façadist approach to architecture conservation disconnects this relationship. Furthermore, it limits the importance of the building to its exterior appearance.

However, HES's more recent recommendation in situations where the condition of the building is very poor is to allow '[a]lterations to a building, even if they are extensive' especially if 'the only way to save a building is a radical intervention' (HES, 2019d, 4). HES further recommends that all options be considered if the building will be completely lost, and to avoid 'being too cautious' when considering options (*ibid;* 4). The same document lists the

continued use of historic buildings as 'often the least environmentally damaging option' (*ibid*; 6). The permissiveness of using *all options* to save the complete loss of built heritage could further encourage façadism or deliberate delays in the adaptation of vacant listed building.

While façadism can support the retention of historic streetscapes and a sense of place, its use as a conservation method has implications in preserving authenticity and heritage values. In Conservation in the Age of Consensus (2009), Pendlebury regards façadism in historic cities as an approach to conservation that commodifies the past, where the economic and social value of maintaining historic townscapes normalises the retention of a veneer of historic fabric. But façadism is the outcome of value trade-offs, where the developer's additional costs of retaining the façade, outweighs the constraints of working with the boundaries of the historic architecture programme[43]. With such an approach, historic towns and cities have managed to maintain their visual historic appearance, townscape character or the integrity of groups of historic buildings which lends to the social value of conserving heritage in supporting community well-being and sense of place (Graham *et al.*, 2000). This approach also retains the economic value of historic townscapes (Ashworth, 2014) and their contribution to the uniqueness of the historic urban area (Bandarin and Van Oers, 2012; Licciardi and Amirtahmasebi, 2012). However, the environmental impact of *any intervention* or *extensive alterations* can have significant implications and requires to be addressed alongside the economic and social values of façade retention (Gravagnuolo *et al.*, 2020).

Beyond the problems with the main building, the sports hall, which was part of the listing was demolished during the development. The justification for demolishing the sports hall from the developer's perspective was the financial viability of the project, whereby leaving it *in situ* 'could compromise the development of the site and does not readily serve a purpose for the nearby community' (GCC, 2017c, interview 6567). However, the justification put forth by the planning officer was based on the condition of the building (GCC, 2017a). In balancing the retention of the remaining envelope of the building and the historic townscape, the city agreed that the demolition of some historic fabric was preferable to the loss of the entire building. This is an indication of how the discretionary role of the planning officer on a case-by-case basis can create divergence in approaches to heritage conservation.

[43] An architecture programme is the layout of a project's spatial configurations, based on client requirements, user activities and needs, and spatial requirements for building operations.

As mentioned in the previous section, the windows in Greenview were in a state of disrepair. However, the planning officer insisted on the repair and reinstatement of the existing single glazed windows, in full knowledge that such windows would not be energy efficient and appropriate for social housing units. While the historic and aesthetic values in Greenview were considered of high priority, in Holmlea, the loss of a portion of the historic fabric and its potential impact on the historic value was deemed as an acceptable compromise. When the economic, social and traditional heritage values were negotiated during discussions on the demolition of original fabric, the environmental impact of these interventions were not, according to the project architect, of concern to the city or the developer (GCC, 2017c, interview 6567).

A city planning officer explained:

> *'It's fair to say that the environmental sustainability angle is given a lower priority for refurbishing historic buildings, than it is for new build properties. The main reason being that we do understand that there is additional costs in refurbishing a listed building and we put a lot of onus on retaining original features and that can obviously have an impact on achieving a level of energy efficiency for example or incorporating Low / Zero Carbon Generating technologies into the fabric'* (interview 7365).

The demolition of the Holmlea sports hall, together with the reconfiguration of internal spaces; the replication of the roof and key internal historic features; and the replacement of all windows, resulted in a conversion that entailed a considerable loss of historic fabric. However, since there is no detailed record of this historic fabric in the HES portal, this loss will largely go unnoticed by the general public if they rely on the HES portal for information. What was deemed significant to retain or replicate was not based on the descriptions in the HES portal, but on the opinion of the conservation planning officer reviewing the project.

This presents an interesting dichotomy. As the 'lead public body established to investigate, care for and promote Scotland's historic environment' that gives advice on 'consents within the Scottish planning system that impact on the historic environment', HES does not provide a comprehensive detailed account of the listed heritage asset (HES, n.d.a.).

Without having a detailed account of a listed asset's character defining elements, determining which sections are significant and required for conservation becomes problematic.

In the *Guide for Practitioners: Conversion of Traditional Buildings Application of the Building Standards*, HES acknowledges that the category of listing and description may not provide the necessary guidance, and therefore transfers the responsibility of what is significant to the interpretation of the council's conservation officer, development control officer or back to the HES (2007a, 9). Given the budgetary constraints suffered by GCC, it then becomes an additional burden for the council to determine significance, especially when the expertise of such determinations is not readily available. Furthermore, when the council itself has had difficulty in maintaining the historic fabric and is now faced with the dilemma of expensive repairs and restoration, its bargaining position in accepting or rejecting the changes proposed by a developer becomes much weaker.

In the case of Holmlea, the description provided by HES fails to acknowledge any of the fine interior details noted in the pre-application meeting between the developer and the planning officer. In the minutes of the meeting, the planning officer advises as follows (GCC, 2017k; 1-2):

> **'4.0 Atrium**
>
> NM (planning officer) advised where clear design direction is evident in the atrium, it should be followed as closely as possible:
>
> - Trusses should be replicated as closely as possible in appearance
> - Corbels/scrolls – should be replicated as closely as possible in appearance
> - High level cornicing should be replicated as closely as possible in appearance
> - Low level timber rails should be replicated as closely as possible in appearance
> - Tiling – extents, proportions, height, banding and colour scheme should be replicated as closely as possible
> - Balustrades – cast iron elements should be refurbished. Where timber handrail is being removed, these should be replaced with like-for-like profile and quality. Sections currently covered by timber partition should be investigated and proposals included in submission
> - By association, this approach will apply to Doors and Floors
>
> **5.0 Flat internal spaces**

NM advised these spaces will not be subject to the same like-for-like standards as the atrium

6.0 Roof

NM advised the roof should be replicated on all visible pitches:

- Slates – existing slates should be reused where possible and priority must be given to front pitches. Where volume of salvaged slate is insufficient to re-slate front pitches, new should match closely in appearance and performance
- Areas of roof not visible from street level will not be subject to the same standards, this includes the mansard to accommodate additional units'

The description provided by HES is a brief overview of the exterior of the buildings and reads as:

> *'Edwardian baroque; built of red Dumfriesshire ashlar, stugged/polished, bull-faced base; 2 storeys; long symmetrical S front composed as if built in stages, recessed 3-bay centre linking identical outer ranges, latter each with end pavilions shallow advanced and defined by giant angle pilasters and by main roof, set forward and piended over; some 1st floor windows break through eaves and have pedimented dormer heads; central door set in channelled doorcase, windows flanking in blocked architraves generously windowed low (?hall) range extends central at rear. Flanks also symmetrical, each with centre door (infants/others at opposite ends) and tall round-arched stair window; original glazing; mutule cornice; wall-head stacks; piended and finialed roofs covered with Westmoreland slates. 2-storey gabled janitor's LODGE at NE is part of original composition; 'Glasgow-style' wrought-iron railings enclose playground'* (HES LB33807).

HES claims that the 'historic environment is a critically important and ultimately sustainable resource for the people of Scotland', and that it is important to make 'the values of the historic environment accessible to everyone' (Scottish Government 2014a, 3&18). However, when a building has been neglected to this state of disrepair, it is difficult to argue

that it is still a sustainable resource, especially when the level of intervention required for its refurbishment and reuse produces emissions and expends resources. Furthermore, the fragmented and inconsistent information available on listed buildings and their architectural details presents further ambiguities on the assessment of values and significance, making judgements on the retention of particular features seem haphazard and arbitrary. While values are subjective, in evaluating appropriate strategies for adaptation and refurbishment of historic buildings, a level of consistency is required to justify action and demand adherence to best conservation practices that safeguards the heritage asset for future generations.

Furthermore, while the principal façade of the building has been restored to resemble its historic appearance, the streetscape along Tulloch St has been completely altered with the introduction of the new extension and the new building blocks. Again, in comparison with Greenview, where the design of the windows and its impact from the street view was a point of contention, the impact of new build elements which hide sections of the historic building along Tulloch St. is deemed unimportant. This highlights the *case-by-case* approach to heritage conservation, where some interventions in a particular area are deemed appropriate and in others unacceptable. Even though guidance in the *Glasgow City Development Plan SG9: Historic Environment Supplementary Guidance* states that 'new development should not restrict or obstruct views of, or from, the Listed Building(s)' (2017, 29), in practice the principal elevation of built heritage has the highest aesthetic value and hence, other elevations can be altered or obstructed. While this level of flexibility allows for more viable use of built heritage, the environmental value of retaining built heritage in lieu of such extensive interventions diminishes rapidly.

The extent of damage to the janitor's house was not as extensive as the main school building. However, throughout the years, the building had been modernized and the historic interior fabric lost through the process. According to planning documents, windows, doors, interior stairs and balustrades had been replaced (GCC, 2017a, GCC, 2017g). The plasterwork of the internal spaces had been heavily damaged by water ingress and were deemed of little significance or historic value. Therefore, the interior space of the janitor's house has been completely renovated to contemporary standards as no historic fabric of significance was noted in the planning documentations or in the HES portal.

In terms of built heritage conservation, this conversion project, as discussed earlier, is an example of a façadist approach to conservation. Some elements such as the roof finials, windows, decorative trusses, and internal features are replicated like for like, making distinction between historic fabric and reproductions difficult. In the case of the roofing material, the more economical Burlington Kirkby Blue with an even blue grey colour, different from the distinctive green of Westmorland Green slates was selected (interview 6567, GCC, 2017i), thereby changing the 'character' of the roof. In the selection of a more financially viable choice, neither the historic value, nor the architectural value are protected, therefore herein lies an incompatibility with both conservation values and environmental sustainability values.

The Westmorland Green slates are of much better quality and therefore would have been a more sustainable choice, especially if the existing slates had been retained. They would have also protected the architectural and historic values by retaining the original colour and material. Yet, in this case, value trade-offs occur to make the development viable as a whole, and the retention of the overall form of the building possible. The strict adherence to conservation guidelines for the protection of architectural and historic values were loosen in lieu of the economic value of the adaptation, and the prevention of the future loss of historic fabric. Allowing for these value trade-offs, secured the development and shifted a derelict site to a habitable social housing that still retained some of the heritage values, and supported economic and social values, but on balance negatively impacted the environmental contribution of built heritage.

Where a new build element was introduced, such as the extension or the new build blocks, a distinguishable material, different from, but complementary to, the historic fabric was selected, thereby making the 'modern intervention' distinguishable. In this selection, there was no requirement to choose material that had a lower carbon footprint, were sustainably sourced or had the same level of durability as the existing fabric. In the selection of material, the aesthetic value and its visual compatibility was more important, indicating the primacy of traditional views of heritage conservation and the disconnect between the environmental sustainability values of heritage with the practice of adaptive reuse.

In terms of planning policies and in the view of the planning officers, the agreed conservation approach with HES that prioritised the external appearance, and the restoration

of the two atria and circulation spaces of the main school building, corresponded with the aims of the *City Development Plan* (CDP) 9 and *Supplementary Guidance* (SG) 9 *on the Historic Environment* (GCC 2017h). From the planning officer's perspective, the classrooms were deemed beyond saving. Therefore, reorganisation that facilitated conversion to flats was a practical approach to the retention of the building.

The project architect explained that some of this reorganisation resulted in divisions of floor space along the transoms of some of the windows (interview 6567), which according to the planning department is generally unacceptable (interview 7365). This objection to having dividing floors visible through windows reinforces the important relationship between the interior division of historic spaces, retaining their authenticity and maintaining the relationship between the exterior envelope and the interior floorplan. The requirement to make the new floor divisions unreadable from the outside further exemplifies the subjectivity of heritage values, in that alterations to interior spaces is acceptable, as long as they do not impact the exterior aesthetics, regardless of whether these impact heritage values and authenticity.

Since the sports hall was part of the listed building and considered to be in a poor state and 'beyond economic repair or conversion' (GCC, 2017h: 2), its demolition had to be assessed against four criteria set forth by HES. These are 1) the importance of the building, 2) condition 3) economic viability of reuse and 4) wider public benefits (GCC, 2017h). If the building meets at least one of these criteria, then consent for demolition may be approved. In this case, the planning officer approved the demolition of the sports hall based on its poor condition. The sports hall's replacement with a modern extension using brick that reflected 'the character, texture and colouring of the sandstone,' was deemed acceptable and the proposal as a whole protected and preserved the 'character and setting of the B Listed Building' (GCC, 2017h:3). In these determinations the planning officer may use their discretion. This gives the planning department the flexibility to address conflicts in values, allowing the project to continue and on balance deliver on the objectives of the local and national policies such as affordable housing. From an environmental standpoint, the reuse of an existing site that is close to public transport and increases urban density to avoid sprawl is generally within the Scottish Government's environmental policy. However, the carbon emissions, resource use and waste generation resulting from the demolition and reconstruction of historic fabric is not accounted for and therefore the contribution of retaining the built heritage to those aspects is unclear.

It is important to note that the conservation approach agreed upon with HES and confirmed by GCC, is based on the aftermath of years of neglect and a lack of maintenance which resulted in significant damage to the historic fabric. On the issue of maintenance, SG9 explicitly states that the maintenance of a listed building is the responsibility of its owner, which in this case would have been GCC. The SG9 also notes that alterations and extensions to listed buildings must 'respect the original layout and plan form of the building' and 'not result in the loss of historic fabric, including fixtures and fittings, which contribute to the building's special interest' (GCC, 2017h,6). In the case of Holmlea, the building's character defining features were not described in the HES listing description. Moreover, the GCC sees the proposal in accord with the aims of policies CDP 9 and SG 9 that protect and preserves the character and setting of the B listed building.

But this protection is only partial, especially since there is the significant loss of the roof and interior fabric, as well as alterations to the external arrangement, both by the removal of the sports hall and the introduction of the new buildings. Furthermore, while the proposal retains the historic streetscape and profile of the primary façade, the northern elevation along Tulloch Street is significantly altered.

Conversion Process: Environmental Sustainability

Unlike the other school buildings, this project does not include a sustainability statement beyond the achievement of Silver Standard of Section 7 Sustainability in *Scottish Technical Standards 2013* Sections 1-6. The *Glasgow City Development Plan SG5: Resource Management Supplementary Guidance*, requires all applications – with the exception of conversions– to submit a Statement on Energy. If planning applications were submitted after 2017, the city required that all developments meet the Silver Active level[44].

To achieve this energy efficiency level and meet the city's carbon reduction targets, the building had to comply with the Silver Active level in each of the 8 aspects outlined in the Building Standards Technical Handbook. These aspects monitor carbon dioxide emissions from building operations, ensure higher energy efficiency for space and water heating, as well

[44] Applications submitted in 2014 were required to meet Bronze Active while applications submitted after 2018 would have had to meet level Gold.

as water efficiency. Other considerations are for flexible spaces that can serve as home office, waste recycling provisions, and noise reduction.

In addition, the development also had to include a minimum 15% carbon dioxide emissions abatement through the use of Low and Zero Carbon Generating Technologies (LZCGT) (2017k, 15). As part of this requirement, a condition in the planning approval required the submission of a Statement on Energy (SoE) to demonstrate how the development incorporated low and zero-carbon generating technologies (LZCGT) and planned to achieve 'Silver Active' sustainability label or better (GCC, 2017i). The planning authority would have to approve the SoE in writing before development commenced on site (GCC, 2017i). Holmlea's Statement on Energy (SoE) SAP calculations not only meets the 15% abatement but exceeds it at 16.4% by using electricity as main heating source (GCC, 2017h). But this reading is for the entire development, therefore it is unclear how the conversion would have performed if the new build calculations were removed from the equation. The SoE submitted to GCC recommended the use of all electric Combined Primary Storage Units (CPSU) for space heating and hot water as well as photovoltaics (PV), connected to the CPSU. The use of PV in conjunction with a city electric grid supplements some of the energy needs through a renewable source (GCC,2017h).

The sustainability standards are technically only applicable to the new build section since attainment of this level of sustainability with regards to carbon dioxide emissions, resource use, building flexibility, adaptability and occupant wellbeing does not apply to conversions of listed buildings. However, since the development is for social rent, overall improvement of energy efficiency for all units is required by Energy Efficiency Standard for Social Housing (EESSH), which uses SAP to rate buildings. Since Standard Assessment Procedure (SAP) methodology does not differentiate between traditionally constructed buildings and modern buildings, Building Standards 2013 refers to guidance provided in 2007 Historic Scotland's *Guide for Practitioners: Conversion of Traditional Buildings Application of The Scottish Building Standards Part 1- Principles and Practice and Part 2- Application* (Scottish Government, 2013b). Even though since 2007, numerous publications on the refurbishment and improvement of historic buildings have been published by HES, Scottish Building Standards only refers and links to the 2007 documents, perhaps because an updated version of the 2007 Guide publication has not yet been published by HES.

In general, traditional buildings are categorised to as hard to treat by Building Standards in matters concerning energy efficiency improvements. Therefore, thermal improvement where *possible* and *appropriate to the construction of the building* is recommended. Building Standards notes that in traditional buildings some measures that minimise U-values[45] or thermal transmittance, and maximise air tightness are not appropriate. Research by Historic Environment Scotland's has shown that measures such as double glazing, appropriate floor and wall insulation, warm and cold roof measures, and ventilation improvements can greatly improve the U-value and performance of traditional buildings (HES 2016). This demonstrates that from a Building Standards perspective, the measurable environmental aspects that need to be addressed and monitored to achieve Scottish Government's goals conflict with the traditional values that are pivotal to the significance of built heritage. It also reveals that there does not seem to be sufficient synergy between HES research and Building Standards and by extension, Planning Authorities in recognising the environmental contributions of built heritage to environmental sustainability goals.

For Holmlea, the project architect noted that the improvement to U-values in the school building were achieved by using a metal lining system through the internal face of the external stone walls (interview 6567). The walls were then filled with insulation (*ibid*). Insulation was also used in separating floors and separating walls, for instance between the basement floor and ground floor, and then between ground and first floor, thus encapsulated each flat on all four sides independently (*ibid*).

While this approach greatly improves the energy performance of the space, the type of insulation and its installation, if inappropriate, would have long term detrimental effects on the historic fabric and potentially on the health and wellbeing of occupants (Mazzarella, 2015; Franco and Magrini, 2017). The use of impervious materials for instance can result in fabric decay and mould growth (SPAB, 2020). Currently there are no systems in place to compel the contractor to comply with the specification of the conservation architect in the selection of material, unless specifically stated as a condition of the planning approval. The contractor is obliged to meet the Building Standards specifications and the overall budget of the project, even if this means the replacement of heritage approved material with unsuitable material. In

[45] Thermal transmittance, also known as U-value, is the rate of transfer of heat through a structure (which can be a single material or a composite), divided by the difference in temperature across that structure. The units of measurement are W/m²K (NBS 2021, np).

projects where there is a mix of built heritage and new build, it is possible that the contractor may opt to purchase material suitable for the new build, that adequately addresses the SAP requirements, but may be inappropriate to use in the historic fabric.

As mentioned earlier in the chapter, securing building warrants in September of 2015 meant that the development would be assessed under the 2013 Building Regulations using 2009 Standard Assessment Procedure (SAP) for assessing energy efficiency. The 2015 Building Regulations which would have been in place from October 2015 required using the 2012 SAP (see table 11 for the relationship between SAP 2009 and 2012).

	SAP 2012 for Main Heating Fuel as:					
SAP 2009	Main Gas	LPG	Oil	Electricity	Solid Mineral	Biomass
1	1	(-9)	(-11)	-3	-5	3
10	10	1	(-1)	6	5	12
20	20	12	10	16	15	22
30	30	23	21	27	26	32
40	40	34	32	37	36	42
50	50	45	43	47	47	51
60	60	56	54	58	57	61
70	70	67	65	68	67	71
80	80	78	76	78	78	81
90	90	89	87	89	88	91
100	100	100	98	99	99	100

Table 10.The table indicates typical differences between the ratings (BRE 2014, 231).

	EE Rating (SAP) 2009		EE Rating (SAP) 2012	
Dwelling Type	Gas	Electric	Gas	Electric
Flats	69	65	69	63
Four in a Block	65	65	65	62
Detached	60	60	60	57

Table 11.Minimum SAP ratings to pass the EESSH. Source: BRE 2015. Impact of SAP Rating on EESSH Reporting

Since building warrants are regulated by Building Standards, and Building Standards regulates building performance and its environmental considerations in terms of carbon emissions and energy efficiency, securing building warrant in September 2015 meant that Holmlea would not be required to achieve the greater energy efficiency and carbon emissions reduction standards set by the new regulations, as long as the development plans progressed

within the validity of the building warrants[46]. Therefore, in terms of carbon emissions, the development's emission reduction target would have been approximately 30% compared to the 2007 Standards, rather than the 45% introduced by the 2015 regulations (Scottish Government Building Standards 2013, 2015).

This is an important consideration since the development site does not have access to natural gas. In comparing 2009 and 2012 SAP, a 2015 report by BRE showed that dwellings using electricity would have a different Energy Efficiency (EE) rating using SAP 2012 (BRE, 2015). The report attributes the difference in rating to changes in fuel prices as new SAP versions reflect updated fuel prices, amending the algorithm for generating the energy efficiency rating (BRE, 2015).

In addition to incorporating strategies to reduce carbon emissions and improve energy efficiency, the development is well-served by public transport. The addition of secure cycle parking in the development meets ambitions set forth in City Development Plan SG11: Sustainable Transport. However, in the planning application documents for Holmlea there are no mentions of retaining historic fabric as part of the sustainability considerations.

Since the project is only retaining the façade, the environmental sustainability standards for the building are mostly in accordance with requirements for new build. In calculating CO^2 emissions, only emissions generated in the operation of the building are considered. Therefore, the carbon footprint of retaining the façade and rebuilding all the historical elements required to restore the school to an acceptable level of conservation agreed upon by GCC and HES is disregarded.

In Holmlea, slate from the original roof and stone from the demolished sport hall was tumbled and reused in the landscape design as a remedial layer of top soil to address the contaminated land on the site of the playground (interview 6567). Although the reuse of these building materials on site can be seen as a positive move in reducing construction waste, the primary consideration was economical rather than environment since construction waste sent to landfills are taxed based on weight. A consideration that was confirmed by the quantity

[46] Additional changes to SAP 2012 include accounting for regional weather, emissions from fuel transportation, the calculation of average values over 3 years rather than 5, using the same 'system' average emission factor of 0.522 kg CO2 per kWh for electricity imported from and exported to the grid as opposed to different values in SAP 2009(imported electricity was 0.517 kg CO2 per kWh and exported 0.529 kg CO2 per kWh), including other 'greenhouse gases' such as methane (CH4) emissions and Nitrous Oxide (N2O) in the emission factors (NES, 2012).

surveyor '...demolition waste, have to get that to as little as possible because every time you take something to landfill it costs a lot of money' (interview 7387).

Glasgow City Development Plan SG5 guidance on resource management does not consider traditional building material or existing buildings, as a resource. Resource in terms of SG5 is defined as ways in which energy is produced and how waste – namely household waste is processed. In terms of construction waste, the Scottish Government has a Zero Waste Plan (SG, 2010b) which aims to prevent reusable materials from being unnecessarily disposed. While Zero Waste identifies waste as a valuable resource, SG5's focus on waste is generally on improving recycling facilities and generating energy from waste processing, not reducing construction waste. On the other hand, Building Standards Aspect Silver level 8 on material use and waste is only concerned with recycling of solid waste by providing dedicated internal spaces with an appropriate volume which is easily cleanable.

Therefore, in terms of environmental sustainability, the requirements from the City Development Plan and Building Standards are limited to the new build section, with regards to energy efficiency and energy consumption. Building standards does not award points for the retention of existing building or reuse of building material in SAP calculations. There are no considerations for construction waste in achieving a Silver sustainability level. The retention of historic buildings and reuse of historic fabric is not accounted for in any of the calculations used in assessing reductions in emissions. Furthermore, since SAP calculations are not designed for traditional buildings, the resulting ratings do not accurately reflect the performance of the building and cannot be used to calculate energy efficiency.

Listed Building:	Greenview	Holmlea
Solar Panel	No	Yes
Change of Windows (Double Glazed)	Yes	Yes
Interior Insulation	Yes	Yes
Replace Roof	Partial (main block only)	Yes
Replace Doors	Yes	Yes
Reconstruct Chimney	Yes	No
Façade retention	No	Yes
Lead Theft	Yes	No Mention
Reuse of Historic Fabric	Yes, bricks reused in reconstructing chimneys	Slate and stone for landscape
Reconstruction of Interior Fabric	No	Yes
Removal of Interior Fabric	Yes (interior staircase)	Yes
Demolition of Historic Building	Yes (Assembly Hall, and 1960s additions)	Yes (Sports Hall)
Densification of Playground	Yes, new build cottages	No
Removal of Historic Cast Iron Rainwater Good	No	Yes, replaced
Sustainability Discussions in Design & Access	Yes (addressing all three aspects of SD)	New Build Only
Reduced Parking	Yes	Car Free Development
Reduced Amenity	No	Partial, offset with offsite allotments requirement which results in a required payment of £1,189
Removal of Trees	No	No
Improved energy efficiency	Efficient Boilers, Underfloor heating (Janitor's house)	In new build, improvement in historic building through insulation
Conservation Management Plan for Listed Building	No	No

Table 12. Comparison between Greenview and Holmlea in terms of heritage and environmental sustainability impacts.

Conclusion

The analysis of the conversion of these two B listed buildings to social housing reveals that the environmental sustainability contribution of built heritage is not material consideration during the planning process. The tensions that arise when traditional heritage values conflict with other values such as economic and social, are in part due to the long-term budgetary constraints the city had faced in the run up to the developments which had placed these heritage assets in a precarious state of disrepair and neglect. Other policy values embedded in the reuse of these schools for social housing, such as the regeneration of derelict sites; the construction

of energy efficient and low emission developments; the provision of social housing; and the retention of heritage assets competed against the economic value of the development. In balancing and prioritising values, all stakeholders were required to make some compromises. While some of the traditional values of heritage i.e., the aesthetic value of the building envelope, were supported through the process, the environmental value was not recognised in the planning process. Research reveals that the primacy of the traditional aesthetic and historic values of heritage continues to be a stumbling block in the retrofit and reused of historic buildings, not just in Glasgow, but also in other European contexts (Sunikka-Blank and Galvin, 2016; Legnér *et al.*, 2020).

While HES recognises that the 'use and reuse of [listed]buildings retains the embodied energy expended in the original construction and sourcing of materials' and that the retention of built heritage 'saves carbon associated with new-build, including costs in new materials, transport, demolition, landfill and new infrastructure' (HES 2019d, 6), within the planning process, there is no mechanism in place to account for these considerations. Furthermore, HES's recognition of the carbon footprint of built heritage, fails to account for the carbon impact of 'extensive' and 'radical' intervention (*ibid*, 4), which minimises the actual carbon footprint associated with retention.

Within the planning system, there are apparent disconnects and challenges with the management of heritage assets. An important problem is budgetary constraints that make it difficult to maintain mothballed historic buildings until their sale or reuse. Some of these assets, such as these B listed schools, have already sustained damage as a result of inadequate maintenance. By the time they are mothballed, fabric decay may have already started. This decay is further exacerbated by remaining unused and unsecured from natural elements and vandalism. The inevitable ensuing continuation of decay, further devalues the asset and places an even greater financial burden for rehabilitation, making an already difficult to treat asset even more expensive and complicated to use. As Glasgow city planning staff expressed, there is no budget for the ongoing maintenance of surplus listed buildings or for direct action in cases of planning breaches (interviews 8383 and 7365). Without ongoing maintenance or a viable use, the mothballed historic buildings continue to deteriorate, making their conversion even more difficult and expensive.

In the conversion of both these B listed buildings, there was a considerable loss of historic fabric, largely due to long term neglect. While from an architectural perspective the two buildings were not similar – Holmlea being much more ornate and detailed – the description for the sites provided by HES did not reflect the key character defining elements. Therefore, the determination of what was deemed significant and valuable was left to the conservation architect and the discretion of the planning officer.

Furthermore, the stringent measures in place for social housing, were at times incompatible with the configuration or characteristics of historic buildings. Where the building is listed and therefore protected by law, character defining elements become a key sticking point. While HES provides descriptions of listed assets, these descriptions are not reflective of all the character defining elements and key heritage values associated with the asset, thus the burden of identifying and prioritising heritage values in light of other competing values lays on the shoulders of the local planning department. As the previous owners of the heritage assets, there are potential conflicts of interest in determining which elements are of greater value, if these same elements become stumbling blocks in the development of the site.

In the case of Greenview, the city planning department determined the windows to be a key character defining elements. Even though the windows were in disrepair and thermally inefficient, the retention was insisted upon by the city planning department. This choice was neither financially viable, nor energy efficient, and the disagreement between the city and the developer led to delays in construction and increases in project expenses. While in the case of Holmlea, the roof and external composition of the building were changed, and the interior spaces were subdivided, changing the appearance, and thus the character of the building. However, in this project, the changes to the historic and aesthetic character of the building were supported by the planning department, and as a result the project was completed with less time spent on costly negotiations.

In the adapted reuse of built heritage, there is generally a level of uncertainty as to the exact condition of the building prior to project commencement. This is because these buildings have typically undergone changes through time, all of which are not always apparent or documented. However, the added uncertainty of how the planning department would evaluate the character defining elements and what interventions will impact certain elements which

could be considered objectionable, adds further uncertainty, all of which can add to the cost, hence supporting the presumption that built heritage assets are hard to treat.

This often leads private investors to select projects with a higher Return on Investment (Eppich and Grinda, 2019), in which case the location of the asset can be of key importance (English Heritage 2010). Sentiments echoed by the architect for Willowbank project, which will be discussed in Chapter Eight. In discussing the burdens of built heritage conversions in the UK, the Willowbank architect explained:

> *'It depends on the area. We had a client who was looking at them [historic buildings] fairly seriously for residential and because they were in areas that weren't a kind of a highly desirable residential area, suddenly you're taking on a conservation burden, looking into introduce potentially affordable housing. You know, I think his offer was almost at the point that is if you give it me for free, I might be able to make this work. And even at that point, I don't think he could in the end'* (interview 8272).

The two buildings in this chapter were converted to social housing and had to adhere to more stringent environmental considerations not required for private housing. Although they were not required to comply fully with all EESSH requirements, there had to be a betterment of performance from an energy efficiency standpoint. To achieve this betterment, original windows were replaced and insulation was installed, but the loss of historic fabric and the environmental cost of replacing this fabric and interventions required for betterment were not considered in the calculations for emission reduction. Therefore, even with more stringent requirements, the emissions calculations and standards set to reduce the negative environmental impacts does not accurately reflect the relationship between the conservation of built environment and environmental sustainability.

On balance, from a heritage perspective, the main value of concern was what was deemed significant from an aesthetic perspective. The prioritisation of traditional values of the historic built environment in the conversion of these two sites reinforces the authorised heritage discourse and an approach to heritage conservation that is disconnected from contemporary values of heritage and the role it has in the larger sustainability discourse. It is also separate from the values that the public places on sustaining a liveable planet.

Since neither building has a conservation management plan, it is impossible to know whether the maintenance of the buildings in their new use will be compatible with the historic fabric and thus prevent further deterioration. This is especially important since the material specified by the conservation architect may not be the exact same material that the contractor chooses to use in the conversion. The contractor is obliged to meet Building Standards requirements, but not the conservation architect's recommendations. This is unless a specific material has been specified as part of the planning conditions. As the city planning officer explained, developers regard historic buildings as hard to treat, therefore planners are reluctant to impose additional requirements that might discourage developers (interview 7365). In the case of Holmlea, the development was a Design and Build project. The project architects explained that 'once the contractor has signed up to that budget, it is up to them to deliver it for that budget unless there are any client driven changes, they can't add any more cost onto it. But the downside of that is that if the contractor can find a cheaper way to achieve the same thing as has been set out in the contract documents, yes, it's absolutely in their right to change that' (interview 6567).

The next chapter will analyse the conversion for private housing to investigate how environmental targets set by the Scottish Government and Glasgow are addressed where less stringent requirements are in place, and in what way.

CHAPTER 8 GLASGOW SCHOOLS: CONVERSION TO STUDENT ACCOMMODATION AND PRIVATE HOUSING

Introduction

This chapter analyses the conversion of two C listed school buildings to private dwellings. The first school, Willowbank Primary, was converted to private student housing and Balshagray, to luxury private dwellings. The chapter investigates the value trade-offs that occurred when heritage values and environmental targets set by the Scottish Government and Glasgow were addressed. These conversions, unlike the previous two schools discussed earlier, did not have to adhere to the stringent conditions required for social housing developments in terms of energy performance, security, spatial configuration and accessibility. Furthermore, the buildings were C listed, which from a planning department perspective are 'buildings of more modest architectural or historic interest' (GCC, n.d.b).While the HES refers to C listed buildings as *representative examples*, and does not advise on differentiating conservation approaches based on listing category, from a practical perspective and planning process, C listed buildings are deemed easier to convert as they are perceived to be of lesser heritage value (interview 7365, 8383).

The chapter shows that in both conversions, extensive interventions were introduced that resulted in the significant loss of historic fabric, and irreversible changes to the architectural and historic interest of the buildings. This is while both sites (unlike the previous schools), are located in conservation areas, which requires greater consideration of the heritage values and the impact the development would make to the historic setting.

As compared to the two previous schools, these sites are located near or in more affluent areas and were marketed for a more upscale market, with their historic features serving as unique selling points in Glasgow's more recent development trends.

As discussed in Chapter Five, Glasgow's ambition to be a smart, resilient and sustainable city has strengthened the importance of higher education and a greater push for larger student enrolment in universities. This has resulted in an increased need for student housing (GCC, 2017b). New student housing development, which is regarded as a lucrative development choice, has in turn placed further development pressures in areas close to major universities

(Macintyre, 2003). Furthermore, there is recognition in the student housing development industry that international students prefer buildings that have unique selling points and convey a sense of local character, to which historic buildings such as Willowbank make a unique contribution (Geddes 2015, Cascone and Sciuto, 2018).

Willowbank Site Details

Name	Category	Address	Year Built	New Use
Willowbank Primary School	C Listed LB48628	2A Willowbank Crescent G3 6NB	Built: 1900	178 bed spaces – Private Premium Student Accomodation
Developer: London Cornwall Property Partners Limited (LCPP) Ltd Later acquired by: Empiric (Glasgow) Limited		Architect: Susan Stephen Architects		Contractor: CCG Construction Group

The Development Project

The conversion project commenced in 2014, converting the site for student accommodation with 178 bed spaces and amenity spaces (GCC, 2014a). This was accomplished by introducing three new buildings identified as block A, C and D, and glass link connections to the existing listed school building. The listed school building (Block B) was converted to accommodate amenity spaces and fifty-one bed spaces (GCC, 2014a). This was accomplished by creating 45 studio rooms and three two- bedroom apartments (*ibid*). A new six storey in-fill block (Block A) constructed on the gap site provides 49 studio beds. Block C and C1, a five-storey new build extension that reduces to three storeys in the rear, provides 66 bedspaces. These include 20 studio rooms, eight two-bed apartments and ten three-bed clusters with shared kitchen /lounge areas (*ibid*). Finally, a single- and a two-storey new build extension (Block D) to the north-west elevation accommodates amenity spaces, one studio flat, a five bed cluster with shared lounge and kitchen area, and five studio bedrooms (*ibid*).

The project provides outdoor and indoor amenity spaces, and the four blocks, while individually distinct are meant to complement each other within pockets of landscaping in a ‘sensitive intervention’ that minimises impact on the existing surrounding tenements (GCC,2014a).

Building Description

Willowbank Primary School is a C listed school building located on Willowbank Crescent, in the Woodlands Conservation Area in the West End of Glasgow. Woodlands is a relatively more affluent area in Scotland, with the SIMD steadily improving from 2012. The development is well served by public transportation and is in walking distance to the University of Glasgow, shops and amenities. The site is approximately 3500 sqm, surrounded by tenements on three sides and shares a boundary to the west with the former Scottish Ballet School that was converted to student housing in 2011 (GCC, 2014a). The development site also includes a gap site between the tenements at 211 and 233 West Princes Street, which was created after the demolition of a tenement block in the 1970s due to ground instability (GCC, 2014b). At the time of the student housing development, the gap site was paved and had an electricity substation which was subsequently removed to facilitate the construction of Block A (*ibid*). Additionally, there was a single storey timber portable building (circa 1970s) to the east of the main building, which was not included in the listing and deemed to be of no architectural merit. That was demolished during the development (*ibid*). The only listed structure on the site is the main school building and the boundary wall, railings and gates[47].

The school building was a three storey, 7-bay symmetrical T-plan school in red ashlar sandstone designed by Alexander Petrie in 1900 (HES LB48628). Similar to other schools of the School Board building campaign era, the principal elevation features carved stone inscriptions of the school board, school name and the year it was erected. A small flat-roofed entrance porch at the centre of the principal elevation leads to the main entrance, while separate entrances for boys and girls with panel inscriptions are located on either side of the building. Three hipped roofs in grey slate spanned the depth of the building. The middle roof featured an expansive skylight that brought natural light over the stair wells and central atrium (GCC, 2014b).

HES describes the principle and side elevation stone detailing as: ‘red ashlar sandstone to front facing elevations, channelled to 1st storey, squared and snecked rubble to sides and rear. Bull-faced base course, string course between 1st and 2nd storeys, eaves course, projecting cornice, blocked parapet’ (HES LB48628, np). It further describes the 10-pane, timber frame sash and case windows, wooden doors, the grey slate roof and the inscriptions on

[47] The outbuilding and substation were not part of the listing.

the building (HES LB48628). However, it does not offer any description of the interior or rear elevation as they were not seen at the time of the inscription (*ibid)*.

While the HES description doesn't offer any details on the interior, the report produced by Development and Regeneration Services (DRS) on its recommendation to grant full planning permission details the interior features. Notable from the DRS report on the description of what the planning officer deems of special interest are the central atrium, the stairs, and roof construction as noted in the following quote from the report:

> *'a central atrium from ground floor to roof and circulation space around the atrium at each level. This feature contributes significantly to the special interest and character of the listed building. Each level has decorative metalwork balustrade, with timber handrails and newel posts. The design assists in allowing light to penetrate from roof lights to the ground floor area. The stairs on either side of the central atrium are also important architectural features, as is the roof construction which, in the arrangement of roof trusses, is unusual' (GCC 2014b, 2).*

Here, as in the case of the previous schools, there are differences between the descriptions offered by HES and the local planning authority. Although from a legal and legislative perspective, this is not unusual, on a practical level, the discrepancy between the two makes value judgements on conservation and adaptation project difficult to assess. Especially where there are vested interests that impact the process. Therefore preserving the heritage values will have to be negotiated along with other values and considerations, including economic feasibility (Herrera-Avellanosa, *et al.,* 2019), as well as energy efficiency retrofits (Buda, 2020).

Some of the other noteworthy interior elements were original timber floors and wall panellings, some original doors, as well as decorative plasterwork details and ceiling roses (GCC, 2014b).

The HES's Statement of Special Interest does not offer any additional information on the building, other than the school was one of Petrie's last works, and that his body of works were largely tenements, offices and churches (HES LB48628), perhaps this is why the school's

design was sympathetic to the tenemental streetscape. Unlike the other schools, Willowbank is a smaller and more modest building that blends in with the adjacent tenements in form, design, material, and height. This was a deliberate design choice of the time, as the other public buildings in Woodlands like the Arlington Baths, and several churches were also originally designed to complement a strong street pattern with few 'significant features to mark their existence' except for traditional railings and 'were effectively hidden amongst the residential' properties (GCC, 2014d, 11).

Located in the Woodlands Conservation Area (WCA), the conversion of the school site would have to take into account the conservation area appraisal as required by *City Plan 2 DES 1 - Development Design Principles*. As mentioned in Chapter Four, conservation areas are protected through Scottish legislation from development that might negatively impact the character of the area. This is guided by Conservation Area Appraisals that define the area's character defining elements. In the case of WCA, the key features which define the special architectural and historic character of the area include the 'fine Victorian' architectural quality of the buildings (GCC, 2014d;15), original street patterns; building lines, views and skylines; building material; original architectural and townscape details such as storm doors, sash and case windows, ironworks and decorative features; uniformity and repetition of architectural forms and features; combination and distribution of uses; parks and green spaces as well as the River Kelvin and its banks (*ibid*). Therefore, any development, such as the conversion of Willowbank School is required by law to preserve and enhance the special character of the area, respect the local architecture and historic context and protect significant views into and out of the area (GCC, 2009b).

Woodlands Conservation Area (WCA) is defined by Great Western Road and Woodlands Road, forming a wedge-shaped area of tenements and terraces, with commercial properties on the periphery (GCC, 2014d). WCA is surrounded by Glasgow West Conservation Area (GWCA) to the north and west, Park Conservation Area (PCA) to the south and Central Area Conservation Area (CACA) to the east. The WCA Appraisal describes the complementary relationship between the terraces and tenements of Great Western Road in GWCA to the north with the predominantly blonde and red sandstone tenemental development of Woodlands, in contrast with PCA's 'planned prestigious terraces and dramatic towers on Woodlands Hill' to the south (GCC, 2014d; 8). Therefore, in selecting public facing materials

for the conversion, the Willowbank project had to select new build material that would not detract from this characteristic.

Additionally, the Woodlands Conservation Area Appraisal (WCAA) states that the skyline of the area has very little projecting above the height of a standard four storey tenement and the vistas created by street patterns, especially down Willowbank Street from PCA where the 'Primary School closes the vista' was identified as a key view (GCC, 2014d). A key aspect in reviewing the conversion proposal's removal of existing roof structure and replacement with a zinc and glass roof extension.

Willowbank Timeline

Figure 27. Willowbank Development: Timeline.

Site Development: Timeline

Willowbank Primary School was built in 1900 on the site of a bowling green that was, by 1894 surrounded by most of the tenement blocks seen today (GCC,2014a). At the time of its listing, and up until the academic year of 2010-2011 when it merged with Hillhead Primary School, Willowbank continued to serve as a primary school (GCC, 2015c). A 2010 report by Glasgow Education Services rated the suitability of the school as B but the condition as C, meaning that the building needed investment and repairs (GCC, 2009d), with a backlog of repairs estimated at £989,201 (GCC, 2010). With the merger of schools in place, Willowbank was vacated, declared surplus and on 8 November 2011 formally marketed for sale (GCC, 2014b). However, the first marketing attempt failed to deliver a viable development option and the property was re-marketed in September 2013. The subsequent marketing campaign resulted in the sale of the property for conversion to student housing (GCC, 2014b). The property was bought by London Cornwall Property Partners Limited. Their real estate investment trust, Empiric Properties, caters to wealthy postgraduates, international students and those in their second and third years of university in major towns (FT, 2014).

In August 2014 the Planning Application and Listed Building Consent (LBC) were submitted and conditionally approved in December of the same year. A few months before the planning applications were submitted, the building was added to the Buildings at Risk Register for Scotland in June of 2014, listed in *good* condition and *low* risk category based on external inspection (HES email 14/09/2020[48]). In 2017, it was removed from the register due to its successful adaptation (*ibid*).

The conditional approval of the development was guided by *City Plan 2* and the 2013 Building Standards. While the development increased urban density by creating 178 bedspaces, it was exempt from Environmental Impact Assessment Regulations. This is because according to the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011, an urban development project under 0.5 hectares does not require an Environmental Impact Assessment. At the time of publishing City Plan 2, the role of purpose-built student housing was recognised as a means of reducing pressure on multiple occupancy uses in traditional accommodation[49]. Higher and further education, and their role in attracting

[48] Follow up email from interview.

[49] Higher and further education, and their role in attracting diverse talent from across the world continues to be a key consideration in the economic, social and physical development of Glasgow and therefore policy applications for purpose built student accommodation were

diverse talent from across the world continues to be a key consideration in the economic, social and physical development of Glasgow and therefore policy applications for purpose-built student accommodation were encouraged, particularly on appropriate and accessible sites (GCC, 2009a; 2017b). This is while there were growing concern in 2011 over the proliferation of student accommodation that lacked on-site amenity and facilities, which resulted in additional guidance for such developments. Even though *City Plan 2, Policy Des 1: Development Design Principles* was meant to 'contribute positively towards the creation of high-quality environments and sustainable places' (GCC, 2009b: 116), Glasgow City Council's Executive Committee approved supplementary guidance on purpose-built student accommodation in 2011. This supplementary guidance acknowledged that more detailed requirements for amenity spaces would be included in the next iteration of the local development plan (GCC, 2011a).

The need for these additional guidelines stem from previous student accommodation developments, and in particular, those buildings that were converted to serve as student accommodations. These historically lacked on-site amenities, placing pressures on existing local amenities, including public recreational spaces, parking and community facilities. This supplementary guidance required the provision of 'appropriate on-site facilities, in a safe and secure environment, that are appropriate to the nature, context and scale (in terms of the number of persons capable of being accommodated) of the development and the needs/ characteristics of the 'resident' population' (GCC, 2011a: 2). These provisions could be outdoor spaces and/or internal spaces such as outdoor seating areas, games court, internal communal areas, games room, gymnasium or the like (GCC, 2011a: 3). In accordance with this additional guidance, the conversion development provides both external amenity spaces in the form of landscaped gathering areas, as well as internal amenity spaces including a cinema, gym, common and games room as well workspaces (GCC 2014a).

In addition, Section 75 of the Town and Country Planning (Scotland) Act 1997 restricts the use of the property for student accommodation only, occupied by full-time students studying at higher or further education facilities, and in the case of certain rooms, their spouses or civil partners. There is also the requirement for a management plan to be put in place for the maintenance and operation of the property, however this management plan does not have a

encouraged, particularly on appropriate and accessible sites (GCC 2009a; 2017b)

.

dedicated provision for the conservation and maintenance of the historic building (interview 8280).

The development was also a car-free housing which only provided three on-site parking spaces and storage for 90 cycles. Future residents of the facility will not be able to apply for parking permits in the Woodlands Controlled Parking Zone, with the exception of vehicles displaying a disabled person's blue badge that can park at any free parking bay in the area (GCC, 2014b).

Conversion Process: Heritage Conservation

The conversion included the removal of the roof, all windows, and two gatepiers. The construction of the new build elements of the project together with access restrictions to the site required that two gatepiers be dismantled and 'stored in accordance with the stone mason's conservation method statement' (GCC, 2014e), and later reconstructed. Problems which were not detailed in documents or clearly explained in interviews resulted in the reconstruction of two gatepiers in Lithomex[50] or man-made stone, an option different from the original stated method. According to the city planning officer and the project architect, the total reconstruction of large pieces of masonry using Lithomex or the like is generally discouraged by conservation professionals and conservation planning officers as the appearance of the finished product rarely matches historic masonry (interviews 7365, 8280)[51].

The resulting gatepiers look notably different from the others, as confirmed by the project architect:

> *'...in order to get crane, trucks and vehicles through, we sent an application, because the Gates are listed, to temporarily take down the two gate posts and they were stored in their site, their factory, wherever that is the best part of two years. And then brought back to site and built for some reason, not sure why it needed quite a lot of extensive repairs to those two gatepost, don't necessarily think was ever really*

[50] Lithomex is a specialist stone repair product, made from a blend of Natural Hydraulic Lime, OPC, filler, lightweight filler and additive. It can be dressed with similar tools to the original masonry and absorbs water sufficiently in wetting and drying periods to match adjacent masonry (Ty-Mar Lime, n.d).

[51] While the use of lithomex for repairs is acceptable, extensive surface coverage is not generally acceptable. Reason why the gatepiers had to be completely reconstructed was not made explained.

discussed or approved or agreed. They don't look too bad, but they do stand out significantly different to the other key posts on that front wall'(interview 8272).

The conversion also introduced new build extensions and new build blocks to the rear and side of the school. However, the most significant intervention was the replacement of the roof with a glass and zinc clad extrusion that changed the profile of the building, as well as a historic key view in the conservation area.

The conversion proposal received twelve objections during the consultation period, including objections from the Friends of Glasgow West. The Friends of Glasgow West is a local amenity society with charitable status that aims to preserve and enhance the character and amenity of Glasgow's West End (FGW, nd). Members of this group are also in the Architectural Heritage Society of Scotland (AHSS) which review planning applications concerning listed buildings and conservation areas in Scotland.

Of the objection letters, almost half concerned the roof[52](GCC, 2014a). While the roof's style was not explicitly mentioned in the HES listing, the planning officer made explicit mention of the important architectural feature of the roof construction and the arrangement of roof trusses (GCC 2014b, 2). The new zinc clad extension changed the profile of the building and is visible in the key sight lines. According to HES, the roof of a historic building is important in defining its character. The significance of which is derived from its age, shape and pitch, profile, material, and the qualities of its supporting structure. Therefore, within the realm of heritage conservation, the roof lends significance to the heritage value of the building both in terms of architecture and historic interest.

However, the glass and zinc roof extrusion was approved on the grounds that the building was on BARR, and the existing historic fabric had been significantly damaged due to water ingress. Even though the financial motivation of the developer is also noted in the DRS report, the roof extension was determined to have a neutral impact on the key view, and its simple form and subdued finishing material preserved the special architectural character of the building (GCC, 2014a). In balancing the value of retaining the roof, a key character defining

[52] The remainder were generally concerned with noise, traffic, overcrowding and rubbish.

element, versus the value of developing the site for a viable project that would ensure the use of the redundant school building, the roof was deemed of lesser value.

Although the new extrusion clearly changed the architectural character of the building and removed elements of the historic fabric that the planning officer deemed architecturally significant (roof construction and trusses), the economic viability of the project was considered more important than the architectural value. The project architect explained:

> '*Our brief was, as usual with commercial developments, how many beds can you get on the scheme … so in terms of accommodating as many student beds in as possible it [roof] was in quite a poor state of repair and so there was opportunities to replace the roof and get additional density at that level as well. We put our proposals very early to planning and they were very receptive to it and engaged with the ideas of how we could get the massing to work and they recognized the commercial situation of getting the density in there*' (interview 8272).

The importance of the economic viability of conversions was also echoed by other heritage architects involved in many built heritage projects, including but not limited to the projected discussed in this research:

> '…*housing is all about finances and money and how much money you can make and how many houses you can fit into this development. So it is not necessarily about the understanding of building or the historical heritage significance of it. It is more about let's just fit as many blocks as we can into this building*' (interview 7482).

> '…economic values are the ones which you have to use nowadays. Heritage value by and large, doesn't cut any butter. That's the reality of it' (interview 7083).

Regarding the WCAA key characteristics of the conservation area, the change this new roof had on key views, the streetscape views were of particular importance as described by the architect for Willowbank:

'We were managing the views from around the sites and it's quite important views from up the road. The top of the Crescent the top of the Hill, and Circus looking down. What they [*GCC*] *didn't want us to do was to create a rooftop extension that looked significantly different to what was the pitched roof'* (interview 8272).

While the building was on Buildings at Risk Register (BARR), the condition of this building compared to Greenview and Holmlea was much better. According to BARR it was in *good* condition and in the *low*-risk category. A *Schedule of Condition* report prepared for the developer in 2014 notes that the building was in reasonably sound condition structurally (GCC, 2014f). The report also notes that the dry rot in the attic and ceiling, missing lead flashings and slate slippage in the roof, and some windows which were in poor condition, could have been 'resolved with sufficient funding' (*ibid*: 6).

In the conditions of the planning approval, windows were to be refinished, restored or replaced 'on a case by case' basis. However, in subsequent correspondence by the developer, this was deemed problematic and a financial burden [53]. Removal of each window for refurbishment required the rebuilding of the frames and incorporating slim double glazing within existing astragal dimensions. The developer expressed that this would be difficult, and that the extent of the replacement work was far too much to be financially viable, therefore new purpose-built conservation windows would be a more prudent choice (GCC, 2015a). In the end, the condition was reversed, and all windows were replaced like for like (GCC, 2014a; 2015a). In balancing the heritage values and environmental values of retaining and restoring the windows, against the economic viability of the project that would ensure the usability of the site, the economic viability and subsequently the retention of the bulk of the historic building took priority. By retaining the building envelope, some of the heritage value was preserved, however measuring the environmental contribution of the project is again limited to the building envelope and therefore limited in its reduction of carbon, resource, emissions and waste expenditure.

[53] 'It is recognised that the suggested approach is more straightforward and less onerous on the site contractor than making case by case decisions over refurbishment or replacement [of windows]. It is therefore likely to result in financial savings within the development budget. You have confirmed that the profiles, proportions, astragals, frame size and materials of the replacement windows will replicate that of the existing historic windows. On balance, this approach is not considered to have a detrimental impact on the special architectural or historical character of this listed building. It is therefore considered acceptable' (GCC 2014d)

Externally, lack of maintenance had led to vegetation growth, stone spalling and damage to the cast iron downpipes (GCC, 2014f). The cast iron had cracked in several areas and water had discharged onto the stonework, resulting in exterior staining and interior water ingress (GCC, 2014f). Water ingress, both from the damaged water goods and the poor condition of the roof (missing slate and lead flashings) had led to timber decay in the form of dry and wet rot in the ceiling and flooring (GCC, 2014f). Additionally, water damage was also noted in the stairwells, and sections of the ceiling and walls (GCC, 2014f).

Where a building has been unoccupied for an extended period of time, deterioration of the historic fabric accelerates. However, if the internal spaces of the building are exposed to the elements due to damage, negligence or vandalism, the extent of the deterioration can be significant and lead to the loss of historic fabric. In this case, a leaking rooflight, slipped and broken slate roof tiles, missing and damaged lead ridge flashing, failed valley gutters, and an open roof hatch had led to internal damage (GCC, 2014f).

Since there is no data on the interior of the building on HES website, and none noted by the architect, the retention of interior details were based on the planning officer's report. The proposal for the internal alterations retained the central atrium space, but the rest of the ground floor was opened to connect to the new glazed links. A replacement cupola was built above the atrium 'with an expressed structure reminiscent of original roof trusses' (GCC, 2014a). A heritage value compromise in lieu of the removal of the historic roof, which has an environmental footprint in terms of carbon, resources, emissions, and waste which are not factored in the overall project's environmental sustainability evaluation.

As a condition of the approval, the folding screens in the first and second floor classrooms were to be carefully taken down, and the main folding screen on the second floor retained as a division between the Common Room and Games Room (GCC, 2014b). However, it is unclear where these carefully taken down folding screens were to be stored and since there is no conservation management plan, it is unclear how these elements will be managed through time for future reinstatement. Furthermore, there are no provisions or penalties for the subsequent loss of these elements in legislation or local policy, therefore their removal can be considered as potential loss of historic fabric. If heritage assets are to be viewed as non-renewable assets conserved for future generations, the incremental loss of historic fabric will greatly impact their future value.

During the conversion process, the clerestory glazing between the atrium and new student accommodation, in addition to any decorative cornicing within the building was to be retained in situ, however concealed if necessary (GCC, 2014b). The glazed screens between the stairwells and the atrium were also to be retained and upgraded to suitable fire standards (GCC, 2014b). These conditions were all dictated by the GCC planning department to safeguard the character of the listed building.

While there are mentions of the significance of the interior atrium, the roof trusses, and the staircase and balustrade, the conditions listed for the project were predominantly concerned with the external aesthetic effect of the new build elements, the new material addition to the historic building as well as the repair work to the external historic fabric. Therefore, from a conservation standpoint, similar to the two earlier projects, the conversion primarily protects the exterior envelope. However, even at that, the adaptation has significant negative impacts on the external façade, primarily through the addition of the roof extension as well as the removal of all external cast iron rainwater goods. By retaining the building, the conservation partially retained the integrity of the historic streetscape, however the project does not have a conservation management plan in place for the historic fabric and as such, specific guidelines for the long-term care and retention are not present.

Conversion Process: Environmental Sustainability

In the Design and Access Statement, sustainability was noted to be 'an integral part' of the design (GCC, 2014a: 28). However, the planning application, architect's design statement, and supporting documents on the planning portal did not discuss the environmental merits of retaining the historic fabric in terms of embodied energy, resource efficiency, construction waste or carbon emissions. In the *Design and Access Statement*, the sustainability of the development was based on reducing emissions (i.e. car free development and on-site cycle storage), and energy use (both in construction and operation of the buildings).

Since the development is accessible to a range of public transportation choices and is walking distance to local services, it aligned with *City Plan 2 RES 7* (Car Free housing) which encourages housing developments that reduce traffic generation and free up land for other purposes (such as amenities) instead of providing parking spaces (GCC, 2014b). Therefore, while the site's density has increased, its environmental emissions impact from single private

car use by occupants is potentially reduced, even though occupants may still use other transport options such as taxis and ride share companies for each journey. So, while policy can help reduce emissions, user habits are key factors in maintaining the reduction targets set by government policy.

In terms of energy use, the new build elements incorporated off-site fabrication, which reduces on-site construction time, emissions and construction waste. It is also more cost effective and given that the building site was constrained in terms of large vehicle access for on site construction, these off-site fabrications address the economic and site's size constraints well.

On-site combined heat and power plant was designed to generate sufficient energy to power common areas' artificial lighting throughout the development and provide half of the hot water requirements (GCC, 2014a). Another strategy mentioned to reduce energy demand was to incorporate super insulated external envelope on the new build elements to improve 'thermal efficiency and minimise cold bridging' (GCC, 2014a; 30).

In terms of operational energy use, measures included LED lighting and Passive Infrared Sensor (PIR) controls for communal lighting (GCC, 2014a). Aerated shower heads and dual flush WCs reduce overall water consumption and point of use heating reduces wasteful heat losses within the local system. These sustainability considerations for the reduction of energy use, water consumption and carbon emission are integrated throughout the project, including the historic building, improve the value of the student accommodations in terms of operations cost while reducing its environmental impact. However, the only planning approval condition for the development in terms of environmental sustainability was that it be a car-free development.

With regards to the historic fabric, the approval conditions were only concerned with some limited aspects of the aesthetic consideration, and not the performance or energy efficiency of the listed building, since those are controlled by the Building Warrants department. Additionally, in the Design and Access statement, there is no mention of the retention of the historic building and the reuse of exiting space as part of the sustainability strategy. According to project architects, environmental aspects of retaining built heritage in

terms of embodied energy and reduction of construction waste is generally not a consideration for the planning department:

> '… not sure if it is a consideration at planning, planning will always be trying to keep it, because the building is listed. So they would be very reluctant to knock it down and just get rid of it, I don't think it would necessarily be environmental reasons, more just a heritage reason for keeping that buildings. But then you get into more technical building warrants information, where there is a reduction in U Value requirement, but you don't have to make the same thermal performance with the existing building than you would on a new building. So you don't have to achieve the same kind of levels of thermal and air tightness and energy reduction within an old building, probably because they [planning] realized that it is a lot easier to build something new you can seal it up you've got far more control whereas in an older building you are slightly limited, there has got to be a viability to it, if they demand too much no one would ever commercially be able to afford to do it.' (interviews 8280 and 8272).

The building's listed status and its *historic appearance* serves primarily as a 'unique selling point' for the property owner (*ibid*). The client has a portfolio of converted historic building throughout the UK as unique buildings that 'especially appeals to overseas students' (*ibid*)[54]. This further reinforces the aesthetic, historic and economic value of the historic built environment, however in supporting a financially viable project, both the historic and architectural value are overshadowed by the financial value, and the environmental value of retaining built heritage is unrecognised.

In converting the C-Listed Willowbank School, the viability of the project took precedent over the heritage values of the building. Since the listing category of a listed building affects how it is managed in the planning system, and the listing category denotes its relative importance, it can be argued that a C- Listed building is relatively less important than a B listed building. Therefore, interventions that affect its aesthetic and historic value will be tolerated within the planning system. While this could be a necessary requirement, it may have detrimental impacts in terms of heritage conservation and environmental protection. Furthermore, with the reluctance of planning in imposing conditions that might seem onerous

[54] Willowbank Primary is adjacent to a previous development by the same group, the former Scottish Ballet School on Willowbank Crescent also converted to student housing (Reid 2015).

to the developer on the one hand, and a lack of sufficient funding and resources to monitor the conversion and management of heritage assets, there seems to be insufficient control in planning to protect heritages values for future generations.

In this conversion, the building itself was structurally sound, and the interventions which changed the performance of the building and intensified the use of the site should be balanced against the environmental impact of demolition and reconstruction. Generally, the reuse of existing urban assets and densification within an urban setting that reduces the need for car travel are viewed as a sustainable urban development strategy. Considering that the building had been vacant for three years, the conversion could be viewed as a sustainable reuse of existing assets, and the listing designation protected the asset from being demolished. This in turn contributed to some reductions in construction waste and emissions from transport, as well as an enhanced level of resource efficiency in terms of the reuse of a structurally sound building. The conversion of the next school building however involved significantly more fabric loss and demolition, the details of which will be discussed in the next section.

Balshagray Site Details

Name	Category	Address	Year Built	New Use
Balshagray Public School	C Listed LB51044	27 Broomhill Avenue G11 7BF	Built: 1904	68 Units –Luxury Private Flats
Developer: Consensus Capital Property, later Kelvin Properties		Architect: EMA Architecture and Design Ltd		

The Development Project

Construction started in 2016 and developed the site into 68 flats by converting the former school buildings into thirty-three flats. Four 3-bedroom penthouse flats were accommodated by demolishing the existing roof and inserting a roof extension, set back from the building line and finished in metal cladding (GCC, 2015b). New hipped rooflights were introduced to maintain the natural light flow into the central hall (GCC,2015b). The classrooms were converted to twenty-five 2-bedroom flats and four 1-bedroom flats (GCC,2015b). The Hub building was converted to two main door three bedroom flats. The demolition of the janitor's house, swimming pool and ancillary buildings allowed for the construction of a new six storey building with thirty-three flats, twenty-nine of which are two-bedroom flats, one three-bedroom

flat, and three duplex penthouse three-bedroom flats. Since the development is more that 50 units, it is a *major* development and as such subject to a pre-application consultation, which was introduced in the 2006 Planning Act. A pre-application consultation is conducted with the community at least 12 weeks before formal planning applications are submitted. In addition to this process, a processing agreement was also required, generally to provide further clarity on timescales and processes (Scottish Government 2009b and 2013g).

Building Description

Balshagray Public School is a C listed school building located on Broomhill Ave and Broomhill Drive, in the Broomhill Conservation Area. Situated on the fringes of Glasgow's West End, it is just north of the River Clyde, overlooking the A814 Clydeside Expressway. While the immediate surroundings of the school are in the most deprived areas of Scotland, a few blocks north are the least deprived 10% and include the more affluent areas of the West End including Jordan Hill and Hyndland (SIMD 2020). The site is approximately 6000 sqm and consisted of the main school building, a detached 2 storey janitors house and adjacent swimming pool, a two storey 'hub' building and ancillary buildings (GCC 2016a 15/02669/DC). These ancillary buildings included a single-storey wooden shed attached to the rear of the janitor's house, a single-story former boys toilet building to the rear of the swimming pool, a girls toilet building to the east of the main building and a boiler room to the rear of the main building, all of which were in poor condition (*ibid*).

The school was designed by Donald Bruce and Edward Hay[55] in 1904 for the Govan Parish School Board during the School Board building campaign. Described by HES as 'expressive', the three storey, twelve bay red sandstone building with symmetrical principal elevation in Roman-Renaissance style, features pedimented outer bays with double-height Corinthian pilasters (HES LB51044). The pedimented bays are accentuated with moulded round-arched windows (*ibid*). The name of the school, year built and 'Govan Parish School Board' is inscribed on the principal elevation, set above the deep moulded cornicing that runs at each floor level. Separate girls' and boys' entrances on the east and west of the principal elevation led to stairwells that provided separate access to the classrooms (*ibid*). The east elevation, features a single storey projection slightly setback from the 'GIRLS' entrance, with

[55] Bruce & Hay practice had a considerable number of important design competition wins in both commercial and School Board competitions which resulted in their becoming architects to school boards for thirty years from 1884 (Scottish Architects, n.d).

blocking course and ball finials. A single storey addition to this projection was later constructed[56] cutting through the former 'GIRLS' entrance (*ibid*).

The school has a rectangular 'central hall plan' popular of the era. The double height central hall is galleried at the first and second floors and features glazed rooflights and a modern lift[57] (*ibid*). The main classrooms had a floor to ceiling height of approximately 4.4 meters (GCC, 2015a).

Compared to the other three schools, the description on HES's website is very detailed, more so than the details for Greenview school, this time mentioning both interior and exterior features as well as rainwater goods. The interior features are described as:

> *double-height central hall, galleried at 1st and 2nd floors. Decorative hammerbeam type roof with baluster detail and glazed rooflights. Segmental-arched architraves to doorways. Stairwells to E and W with scrolled iron railings, timber handrails. Tiled dado throughout with green border* (HES LB51044, np).

HES also has an extensive Statement of Special Interest on the details of the building, the interior form, the architect and the swimming pool (*ibid*).

The significance of the school in terms of contribution to streetscape is noted in the HES Statement of Special Interest (*ibid*):

> *One of two schools designed for the Govan School Board by the respected practice of Bruce and Hay, it forms a significant part of the streetscape. Its exceptional detailing sets it apart, particularly the imposing classical principal elevation designed to persuade the local populace of the school's reliability and respectability. Glasgow has a rich heritage of quality board schools which add much to the architectural character of the city.*

It continues to describe the swimming pool as:

[56]The date of this later addition is unknown.
[57] Date of the installation is unknown (HES LB51044).

The swimming pool at Balshagray is a good example of functionalist design with hygienic white glazed surfaces and natural light provided by the glazed roof. The swimming pool, while remaining virtually as built, is currently in poor condition (2007).

Although HES considered the main building's design and the swimming pool of special interest, during the conversion project, both the swimming pool and the janitor's house were demolished to ensure that the development project was financially viable. The lack of clarity of what constitutes *special interest* and why it is not afforded additional protection creates a level of ambiguity that makes value judgements on heritage assets difficult to evaluate. Especially since these assets are to be protected for future generations and therefore decisions made today have to be balanced against how they will be understood, valued and appreciated in the future.

The pool building was of red sandstone in the form of a long rectangular six bay building with a continuous glazed timber raised rooflight, supported by cast iron roof supports, pierced with quatrefoil detail (HES LB51044, np). Stone stairs at either end lead to a timber-floored deck and viewing gallery with decorative scrolled wrought iron railings (*ibid*). Adjacent to the swimming pool as the two storey 2 bay janitor's house with a pitched roof.

The roof for all buildings (school, hub, janitor's house and pool) were covered in grey slate. The main school building had a piended roof and together with the janitor's house and hub featured crested terracotta ridges (*ibid*).

Also included in the listing are the gates, gatepiers and railings. The boundary walls to the south, east and west are low height sandstone walls with ashlar coping and scrolled iron railings. The gatepiers feature ball finials, with one spherical stone finial missing at Broomhill Drive (*ibid*). The brick and stone walls of the outbuildings which formed the boundary to the lane to the north (GCC 2014a) were not included in the listing.

Balshagray Timeline

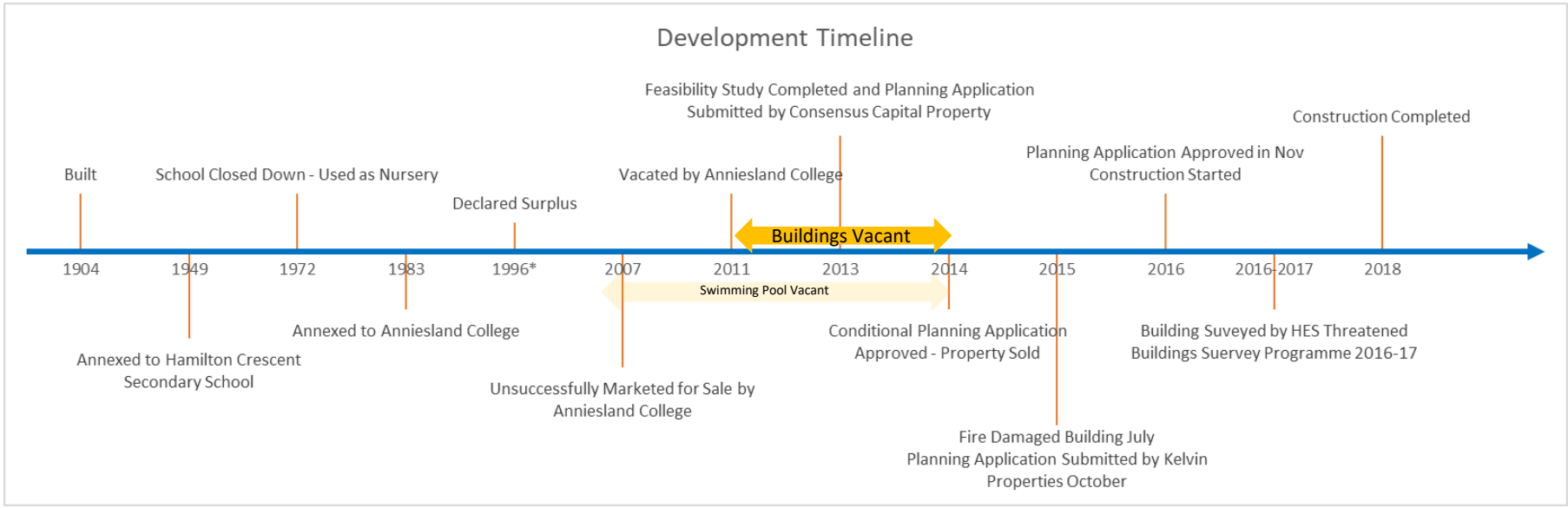


Figure 28. Balshagray Development: Timeline.

Site Development: Timeline

The school was annexed to Hamilton Crescent Secondary School in 1949 until it was closed in 1972 (GCC,2015c). The building was then used as a nursery school until 1983 when all the buildings except for the swimming pool was annexed to Anniesland College (GCC, 2015c). In 2007 the building was unsuccessfully marketed for sale by Anniesland (Audit Scotland, 2010) and remarketed in 2013 when Anniesland College merged with Cardonald College & Langside College to form Glasgow Clyde College in 2013 (Scottish Government, 2013f).

With the remarketing of the property in 2013, a planning approval was granted for the conversion of the site (without the swimming pool) to 47 flatted affordable dwellings (GCC, 2014b). This application retained the janitor's house and the hub for conversion to flats, as well as the addition of a new build block on the southern edge of the site (*ibid*). However, the development did not proceed due to financial reasons (interviews 6777, 7387). One of the financial obstacles to the development was the retention and conversion of the Janitor's house to dwellings. Since the janitor's house shared a party wall with the derelict swimming pool, securing mortgage for potential homeowners would have been problematic (interviews 6777).

In 2015, a new developer (Kelvin Properties), retaining the same architects from the previous application, held discussions with GCC for a much larger development. While these discussions were happening, the school building suffered from fire damage (Brenan, 2015). However, the extent of the damage was not deemed significant by the architects of the project (Scottish Housing News 2015) and new planning applications were submitted in October of 2015 (15/02669/DC and 15/02670/DC). The new planning applications were for a larger private housing development and included the demolition of the swimming pool, janitor's house and ancillary buildings (GCC, 2015b).

Since the planning applications were submitted end of October 2015 and approved in November 2016, the applications were assessed against *City Plan 2*. However, the building warrants for the project were submitted on the 24th of September 2015. Therefore, the building regulations were assessed on the 2013 Building Standards which, as discussed earlier, had lower energy efficiency requirements. It also meant that preliminary work on site could commence while final planning approvals were obtained. Construction work on the site

commenced in 2016 and the project was completed in two phases, with the final completion date noted as summer of 2018.

Conversion Process: Heritage Conservation

The conversion project restored and repaired the main school building's envelope. The classroom window profiles are retained to their original configuration, and the internal flat divisions were set back so the new floor lines are not visible along the windowpanes. New timber sash and case windows replicated the original timber windows and replaced some of the uPVC windows that had been previously installed in the southern elevation (GCC, 2015b). The envelope of the building has been conserved and partially restored to its 1904 configuration with the removal of the later addition to the SE of the building.

Restoring the building to its *original* 1904 configuration is indicative of a traditional view of built heritage conservation, where the primacy of values lays in the aesthetic and historic (Pendlebury 2002, 2013; Rodwell, 2007). This is in contradiction with today's values led approach to managing change in historic environments, where later interventions are considered part of the historic development of the heritage asset and therefore, part of its historic value (Bandarin and Van Oers, 2012; Jokilehto, 2019). Yet in the conversion of Balshagray, this same traditional view of heritage conservation which seeks to return the building to an original state, shifts to the *managing change* perspective in allowing for the removal of the existing roof, which is a key character defining element, and the addition of a modern roof extension that significantly alters the historic profile of the building.

Unlike the other schools that had school condition reports compiled by Glasgow Education Services, this building was owned by Anniesland College and the condition of the building prior to the sale is unclear. The 2014 report by DRS does not indicate any problems with the interior or exterior of the main school building (GCC, 2014g), however in the subsequent 2015 DRS report for the new application, damage from the July 2015 fire and subsequent water ingress has been noted (GCC, 2015b).

This damage, however, does not seem to have been substantial as it is not described in detail, nor is it used to justify interventions and removals of historic fabric. The replacement of the roof with a metal and glazed extension is described as a 'positive addition' and in keeping with 'common Glasgow typology' and 'respecting the scale and form of the existing

building' (GCC, 2015b: 6). This is contradictory to HES guidelines on historic roofs where the historic profile, material and design 'contribute to the significance' (HS, 2010b, 7).According to HES advice on managing change, the 'removal of a historic roof and replacement with an additional storey, or storeys, should only be considered where the existing roof is not of significance to the character of the building, and the new work will form a similarly subsidiary feature (*ibid*). In the case of Balshagray, the new roof is not visually subsidiary.

In City Plan 2 *DG/DES 3 - Design Guidance For Listed Buildings and Properties in Conservation Areas* it is noted that roof extensions should not 'harm the architectural integrity, character and setting of a building' (GCC, 2009b: 6). The Broomhill Conservation Area Appraisal specifically mentions that there are thirteen listed buildings in the Broomhill Conservation area, each contributing 'positively to the appearance of the conservation area' and providing 'points of interest that enrich the special character of the area,' reflecting 'the quality of architecture and individuality of design of both public and residential properties' (GCC, 2014d, 16). In this conservation area the majority of the buildings are constructed in stone with slate roofs, contributing to the 'particular character or architectural quality and sense of history' of the area (GCC, 2015b, 16).

Since the school is a listed building in a conservation area, whereby the *Broomhill Conservation Area Appraisal* (BCAA) places significance on the appearance of its listed buildings and described the school as an 'imposing' building with an 'expressive' (GCC 2014d, 13) style, the removal of the roof does change the character of the building and by extension the character of the area. The 2014 BCAA survey showed that 88% of properties in the area had retained the original roofing material. The type of roof extensions described in the development's DRS report (used to justify this extension) are more commonly seen in Glasgow City Centre, but not in this area.

The fire damage on the roof however made it financially and practically more desirable to proceed with the roof extension, especially since the heritage industry is suffering from a severe shortage of skilled heritage craftspeople (Cebr, 2019). According to the project architect:

> *'The initial push for Balshagray was to leave the roof in place, the existing roof in place which was slate and had this ornate detailing at the top of it [atrium]. However, there was a fire in the building, and which affected the stability of some of the timber, some*

of the joists and also from a viability point of view, the developer wanted, needed the extra story. So we went through a range of options for this rooftop extension and often it's better to contrast them than to try and hide. So the idea of using a contrasting material but still high quality, a material we used many years ago and is appealing to the planners. It makes it look like in a new addition rather than trying to tie in and trying to be pastiche. Cause I think the story detailing in the building was of such quality that trying to replicate that now would be difficult so doing something different and simple up on the top level seem to make sense and the planners were happy with that (interview 6777).

The loss of the swimming pool and janitors house is yet another significant loss, especially since the pool's interior had retained most of the original fabric, and together the two buildings played an important part in setting the historic context of school configurations of the early twentieth century. In support for the demolition of the pool, reference is made to a second swimming pool of the same specification, constructed in the same year (1904) at Church Street School by the same architects (GCC, 2015c).

According to project architect:

'The reason we got to demolish it [pool house] was because it was in such poor condition and the way we evaluated that we had to submit a HESP test at the time. So one of these historic environment Scotland policy requirements to remove that. The way we got that removed was there were better examples of pool houses elsewhere in Glasgow and I think they came out and had a look at what was still there. They looked at the condition of what was there and they decided that it would be acceptable to remove that part of the building and then the main focus of our project was to retain the main school building and then the hub building (07:09), which is just adjacent to the school building, but the rest of the site, we looked at the plan and we looked at how we could complete the corner development and we proposed a new housing block in the corner an apartment block on the corner, which has got another 33 flats (interview 6777).

However, what is not discussed is the fact that the Church Street School's swimming pool has been on the BARR since 2004, listed as being in *poor* condition and in *high* risk. The

final external inspection of the Church Street pool was in June 2014, describing the building 'in poor condition' with large damp and mossy patches and 'mature buddleia shrubs growing from within' (BARR, n.d.a). Buddleia growth on buildings is generally a symptom of excessive damp caused by failing rainwater goods. The growth causes mortar failure, and the displacement and destruction of historic fabric. The Church Street pool building had been slated for demolition in 2002 and remains disused and derelict to this day. In comparison, the Balshgray pool was not on the BARR and not in the same poor condition as Church Street.

The 2015 DRS report does not describe the janitor's house in any detail and together with the ancillary buildings, asserts that they were not considered to be of importance. In fact the development is viewed to 'preserve the local townscape' and 'not adversely affect the appearance, character or setting of the listed buildings or character and appearance of the surrounding conservation area' (GCC, 2015b, 7). The hub building, which was not part of the listing, is retained and updated to accommodate the new flats. Since it is positioned in the far north eastern corner of the site, it does not have a considerable impact on the streetscape.

This further illustrates the complexity of heritage values and what contributes to the character of a heritage asset, within a realm where the subjective nature of valuation makes judgments on value trade-offs difficult. The complexity increases when other interest and values compete for prioritisation. In this project, while the main school building was retained, the removal of the pool and janitor's house changed the overall historic configuration of the site and reduced its environmental contributions.

In balancing heritage and environmental values versus the viability of the project and continued use of the building and the site, the significance of historic fabric and the retention of character defining elements such as the roof, the single storey projection in the east elevation of the main building, the janitor's house and pool were considered of lesser value. In this process not only is historic fabric lost, but emissions are expended, and resources are lost during the demolition.

On the interior spaces and features, the conversion retains the central hall plan together with the second and third floor galleried hallways. The balustrades and railing have been restored and while the interior fittings are modern, the central hall and historic circulation plan of the school is still legible.

On the boundary listings, one gatepier had been moved to accommodate the new vehicular circulation plan and the restoration was completed to industry standards, using the original stones from the element and site for reconstruction as opposed to Lithomax for a complete rebuild of the entire gatepier.

Conversion Process: Environmental Sustainability

Unlike the other three conservation projects, the Design and Access Statement for this development does not mention sustainability, energy efficiency or the environmental merits of retaining the historic fabric. When asked whether a sustainability statement was required, the project architect explained:

> *'I don't think. We work a lot in the residential area and some local authorities have their own policy on sustainability and some don't. And as far as I know, Glasgow either don't have a policy or consider this one as not required to meet the standard. Because it was never anything that they discussed in any detail. And clearly the reuse of a listed building is a sustainable use. But in terms of any equipment or in terms of any solar panels or PVs, it was never mentioned, it was never something that was mentioned. It was never something we really considered. The design of the old school building does include the retention of the old atrium in the middle of it and which is ventilated at the top. So it provides actual ventilation. I think it opens and it's controlled, and it's linked to the fire, the fire alarm system. But then, yeah, so there are sustainability, there are environmental measures incorporated within the design, but it was never a conversation that you formally had with the planners* (interview 6777).

In addressing City Plan 2 *DES 2 – Sustainable Design and Construction* the DRS report granting full planning permission notes that 'all habitable rooms would receive natural daylight and ventilation and the developer has indicated the development would meet Ecohomes[58] rating 'Very Good' or equivalent as a minimum' (GCC, 2015b). However, this is not a condition from planning that is required to be met[59] at the planning stage. As discussed earlier,

[58] BREEAM EcoHomes was developed by Building Research Establishment (BRE) and is used to assesses the sustainability of whole dwellings based on eight categories of sustainability: Energy, Transport, Pollution, Materials, Water, Land Use and Ecology, Health and Wellbeing, Management. BRE: Environmental Assessment Method (BREEAM) is the most widely used environmental assessment method for buildings, especially in the UK (BRE 2006).

[59] In response to questions on whether Ecohome 'VeryGood' was met or not, the response was vague and unresponsive.

sustainability issues are regulated at the Building Standards and 'was never something that was mentioned' at the planning stage (interview 6777).

It was the determination of the planning officer that on balance, this development complied with City Plan 2- DES 2 – Sustainable Design and Construction and did not have 'a significant environmental impact' however no justification for this claim was provided by the planning officer (GCC, 2014c: 6, 9). When there are 10 or more residential units in a development proposal, the developer must show that the development makes 'best use of sustainable design and construction techniques' in terms of materials, siting, orientation, water recycling and renewable energy, in order to conserve energy and water resources (GCC, 2007: 199). Furthermore, this provision in the local development plan required that the developer show whether the proposed flats met Ecohome criteria, however documentation to that effect was not available online and not forthcoming in the interviews, therefore it is difficult to assess whether the development met the sustainability criteria.

In terms of historic fabric, the retention and adapted reuse of the school was only considered as a requirement for the Listed Building legislation. Environmental concerns were limited to the allocation of space for refuse and recycle bins and the proximity of the development to public transport which justified the densification of the site beyond regulated car parking requirements. According to project architect, salvaged materials were partially used on site, however '...the timbers were actually going to go to China to be reused there. Because they were original beams so the contractor that stripped off the slate roof here took the timbers out, they also did the same at the swimming pool' (interview 7387). But in terms of demolition waste reduction, the primary concern was not sustainability. Rather the cost of sending construction waste to landfill is what incentivises developers to reduce and reuse construction waste, as explained by project architect:

> *' I think every contractor has a responsibility. If you are disposing of waste there is benefit of reducing it, I've worked with demolition previously, potentially you would have 3 skips, a general waste that goes to landfill, you can't break it down, it can't go somewhere else, you've got a timber skip so that would go back and be reused or a metal skip or material that can be reused. Developers basically are trying to get landfill waste to as little as possible to reduce costs'* (interview 7387).

In addressing construction waste and its implication for environmental sustainability, the financial cost of landfill waste serves as an important incentive to reuse and salvage historic fabric. However, if this material is then shipped elsewhere, the emissions impact of waste reduction becomes difficult to assess. Furthermore, according to a heritage specialist, the reuse of salvaged material, can pose potential problems in terms of insurance and acceptability within financial lending institutions (interview 8476).

There is also reluctance with clients in reusing salvage material because as another conservation architect expressed *'From the client's point of view they didn't want to do it because they weren't sure the material would be stable enough'* (interview7482). However, once the stability of material is confirmed, the reuse of savaged material gains economic value, rather than environmental value as described by the same architect:

> *'But from the client's point of view as well they thought well it was all money wasn't it? Well, we've got this material on site so if we can reuse it then great. I don't think they really looked at it as a sustainability issue, they thought oh great free materials'* (ibid).

Therefore, for environmental value to be recognised in adaptation and conversion projects in terms of construction waste, it is clear that an explicit formal structure is required so that all stakeholders can consider the environmental contributions during the process and evaluate choices and value trade-offs based on an informed decision shaped by appropriate policy and structure.

The Broomhill Conservation Area and the open spaces to the west of Broomhill Drive are classified in the Glasgow Open Space Map as Amenity Greenspace and protected by City Plan 2 *Policy ENV1– Open Space Protection* (GCC, 2015e). This policy 'aims to promote sustainability and biodiversity' (GCC, 2015e; 19). The school's playground contained matured trees, four of which were lost due to the accommodation of the new blocks. The planning officer regarded this loss acceptable 'weighed against the conservation gain of securing the long-term future of the listed building through the proposed development' (GCC, 2014b, 7). The developer was required to submit a landscaping scheme that would show 'appropriate compensatory planting' (*ibid).*

The proposed number of parking spaces for the development which was less than the recommended parking standards for Glasgow City Council, was considered appropriate due to proximity to 'excellent amenities and access to public transport' (EMA, 2015: 4). However, in the allocation of parking for the flats, there was a loss of amenity space, and therefore the developer had to make a financial contribution of £94,500 towards off-site parking provision or the upgrading of area facilities in accordance with *ENV-2 Open Space and Public Realm Provision* policy. This policy is designed to ensure new developments provide well designed, accessible, safe, and high-quality open spaces and public realm for community use (GCC, 2015g).

While the new proposal greatly increased the density of the site, an Environmental Statement was not required for this conversion. This is because the planning applications for the development was processed before the current requirement for EIA in Scotland came into effect through The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. Prior to that, the European Council Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment stated that giving consent for specific projects must take into consideration any significant environmental or socio-economic impacts the proposed project may cause. This was implemented through The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011. In the case of this development the planning officer decided that an EIA was not required based on project size, scope and location. Urban housing, unless it is large scale and/or in a sensitive area would not have required an EIA.

Listed Building:	Willowbank	Balshagray
Solar Panel	No	No
Change of Windows (Double Glazed)	Yes	Yes
Interior Insulation	Yes	N/A
Replace Roof	Yes, roof extrusion	Yes, roof extrusion
Replace Doors	Yes	Yes
Reconstruct Chimney	No	No
Façade retention	No	No
Lead Theft	Yes	Yes
Reuse of Historic Fabric	No	Salvaged timber was shipped to China, salvages slates were used on site.
Reconstruction of Interior Fabric	Yes	Yes
Removal of Interior Fabric	Yes	Yes
Demolition of Historic Building	No	Yes- Swimming Pool, Janitor's House
Densification of Playground	Yes, new build blocks	Yes, new build blocks
Removal of Historic Cast Iron Rainwater Good	Yes	Yes
Sustainability Discussions in Design & Access	Yes, Combined heat and power plant, car free development, Occupancy sensors with PIR control, LED lights, Low Flow faucets and flushes, point of use heating, off site construction reduced onsite carbon emissions and increased resource efficiency	No, only in terms of refuse
Reduced Parking	Yes	Yes
Reduced Amenity	No	Yes
Removal of Trees	No	Yes- 4 mature trees
Improved energy efficiency	Yes, for new build and for historic building, Occupancy sensors with PIR control, LED lights, Combined heat and power plant, double glazed windows	Yes, double glazed windows
Conservation Management Plan for Listed Building	No	No

Table 13. Comparison between Willowbank and Balshagray in terms of heritage and environmental sustainability impacts.

Conclusion

By far, the Balshagray School had the most significant level of historic fabric loss and the least resistance from the planning authority. All four school buildings analysed in this research suffered from deferred maintenance during their operation, and subsequent neglect, vandalism and arson as a result of being vacant. While the local council planning department has the power to require listed building owners to maintain their properties, city planning officials expressed that enforcement action is very rarely taken due to budgetary constraints

(interviews 8383, 7365, 7577). Indeed, across the UK, councils have had to prioritised other functions as their budgets have been cut over the last few decades (ODPM 2004; Naidoo 2015).

Budgetary constraints also make it difficult for the local council to address the large portfolio of listed buildings it owns. Furthermore, when the local authority itself fails to maintain city owned properties, it would be difficult to prosecute citizen through the courts and compel them to address neglect and damage to listed buildings (interviews 8383 and 7365). In this sense direct action against listed building property owners could have political ramifications, especially since prosecution through the Procurator Fiscal would be determined based on public interest and very often it is found that it is not in the public interest to take those prosecutions forward (interview 7365).

According to city officials, these mothballed listed buildings, on the one hand are considered assets from which the city was able to 'fund the staff's early retirement program' (interview 7577). On the other hand, budgetary constraints faced by local authorities and the insufficient funding available for regular maintenance and upkeep render these same assets as liabilities. This is confirmed by a conservation specialist responsible for the rehabilitation of many heritage projects across the UK:

> *'[mothballed historic buildings] are buildings that had been abandoned because you know, the business model may have been challenging. They may do some of the maintenance that they need to undertake. But then they just outright neglect the maintenance of the building. Then the condition deteriorates. They vacate the building, and the asset is almost lost, and that cycle is so damaging and it's so expensive to then come back and spend many, many millions on a building when actually what we need to be doing is encourage proper maintenance and charging VAT on that doesn't help'* (interview 6577).

With a presumption in favour of retaining listed buildings, the city is forced to find suitable and viable new uses for these buildings. In doing so, the economic value plays a much more substantial role than heritage or environmental values, and therefore where value trade-offs are necessary, economic value and the viability of the project plays a more significant role.

However, in evaluating heritage values, the traditional aesthetic value is the most prominent consideration, as seen in the language of planning document conditions where for instance repairs to slated roof areas are to be done in natural slate to match the existing fabric to 'safeguard the character of the listed building …. in order that the works do not detract from the appearance of the building' (GCC, 2014f).

This is while, in *safeguarding of the character*, the removal of significant portions of the historic fabric, such as roofs, the pool house and janitor's house, do not seem to be considered impactful. Furthermore, the planning department considers the replacement of some of the built heritage with irreversible elements such as new builds, and zinc and glazed roof extrusions of less importance. Therefore, on balancing value trade-offs, these interventions are not considered significant enough to *detract from the appearance of the building*. Therefore, it is unclear why solar panels, which are removable, and a reversible intervention (Hass, *et al.*, 2018, Novak and Vcelak, 2019) cannot be considered as an appropriate solution for historic buildings, when the irreversible removal of a historic roof with architecturally significant roof trusses, and the demolition of a largely unaltered historic swimming pool is considered acceptable. In determining the proposal of projects for private housing, the planning officers showed greater discretions towards considering the developers' financial constraints, while in the case of the social housing projects this discretion was less apparent. This is while both social housing projects also had to operate within strict financial constraints imposed by funding bodies, who are in part supported by the Scottish Government.

The historic and architectural values of the proposals for these private developments appeared to have lower priority than the financial viability of the project. Some of this could be due to the local planning authority's description of B versus C listed buildings, where the C listing category indicates a lesser value, even though this is not the case in the description of listing categories by HES.

Furthermore, the discretionary powers of the planning officers present a difficult situation where the City's ownership of the properties presents a potential conflict of interest, albeit indirectly. While some of the interventions were detrimental to heritage conservation and environmental sustainability, the ambiguous guidance from HES, the local authority and the Scottish Government presents great difficulties in evaluating value trade-offs. This is especially true when other policy priorities, such as reducing local government liabilities and

expenditures, developing brown and derelict sites, increasing housing and student accommodations compete against heritage values. However, in determining the environmental contributions of heritage assets in terms of the Scottish Government's sustainability goals, it is clear that the relationship between heritage conservation and environmental sustainability has either not been clearly articulated at the local planning level, or the legislative processes in place do not sufficiently guide the process to facilitate an accurate valuation of the environmental benefits. Therefore, value trade-offs occur without consideration for the environmental values of heritage conservation.

Without clear structural guidance and explicit recognition of the environmental values of built heritage, the effective implementation of national policies such as Zero Waste Scotland, the reduction of carbon emissions, and achieving resource efficiency in the conversion and adaptation of historic buildings cannot be assessed. While in all these units of analysis, the envelope has been retained and restored, character defining elements such as the roof, as well as auxiliary buildings such as the pool house and janitor's house have been altered or demolished, impacting the heritage values of the assets and potentially changing how the buildings would be valued and understood in future generations.

CHAPTER 9 CONCLUSION

This concluding chapter answers the research questions by situating the results of the research findings within the context of values in public policy, the structure of the policy landscape and the implementation of policy to demonstrate the relationship between urban conservation and environmental sustainability in Scottish sustainable urban development policies. The chapter begins by addressing the research questions, before moving on to reflect on the empirical contributions and the wider conceptual contributions. The thesis ends with a series of policy recommendations drawn from research.

Addressing the Research Questions

In academic literature, the global policy arena, and the UK and Scottish policy rhetoric, the conservation of urban heritage is seen as an important component of delivering sustainable urban development. The rising importance of urban heritage conservation comes at a time of unprecedented urbanisation, where the contemporary needs of an increasing urban population jostles against the existing fabric of historic towns. This is while national and international imperatives to reduce carbon footprint across Europe have triggered intensive efforts to improve energy and resource efficiency wherever possible, including the retrofit (Leijonhufvud and Broström, 2012; Mazzarella, 2015; Webb, 2017; Buda, 2020), refurbishment (Smith, 2014; HES, 2016, HE 2018); and adapted reuse of historic buildings (Fouseki and Cassar, 2015; Geddes, 2015).

The analysis of the four listed school buildings confirmed the general assumption reflected in literature that older buildings are considered harder to treat (Smith, 2014; Marshall *et al.*, 2016; Gravagnuolo et al., 2020), and generally consume more energy than modern structures (Cairns *et.al.*, 2010; Boemi, 2016; Pender and Lemieux, 2020). Therefore, balancing carbon reduction measures while maintaining the significance of heritage buildings and supporting a viable adaptation project requires a delicate prioritisation of values (Smith, 2014; Yarrow, 2016), within a complex policy landscape that aims to deliver other policy objectives such as adequate housing, necessary amenities, infrastructure, and the like (Labadi and Logan, 2016; Vine 2008; UNDP, 2015).

Within an ever-evolving urban landscape where requirements, ambitions and aspirations compete, urban conservation activities oscillate between mummification to partial destruction, with varying degrees of intervention spanning these two extremes. In Scotland, this occurs within the boundaries of legislative regulations designed to protect the very best representations of the nation's heritage. However, even a strong 'presumption against the demolition of any listed building' does not seem to be sufficient in fully protecting built heritage against the impacts of new developments (HS, 2010, 3).

This is while the Scottish Government places the historic environment at the heart of a 'sustainable Scotland' (Scottish Government, 2014a; 1). Policies designed to manage and protect the historic environment aim to achieve 'outcomes that enhance the … environmental wellbeing of Scotland' (*ibid*; 9). As such, in policy rhetoric, the conservation of the historic environment contributes to Scotland's sustainable urban development and environmental sustainability agenda. This agenda is influenced by international policy directives, structured by national legislation and policies, and executed at the local level. In the urban built environment these directives and policies are moderated by the planning department and regulated primarily through Building Standards.

To investigate the relationship between heritage conservation and environmental sustainability within this interconnected and complex policy landscape, the research asked the following set of questions, each of which will be discussed in detail in the next section.

RQ1: To what extent is environmental sustainability considered in the conservation of the urban environment in Scotland and how is this articulated in national planning and conservation policy?

RQ2: How are national policies implemented at the local level and how effective is the implementation process in Glasgow?

RQ3: What mechanisms are in place to measure, monitor and evaluate the contribution of heritage conservation to the environmental sustainability goals of the Scottish Government at the national and local level?

Research Questions

RQ1: To what extent is environmental sustainability considered in the conservation of the urban environment in Scotland and how is this articulated in national planning and conservation policy?

In addressing the extent to which environmental sustainability is considered in the conservation of the urban environment, a few preliminary clarifications are necessary. In Scotland, the conservation of the historic urban environment is limited to objects and spaces where their management and protection is guided by legislation. These are defined as 'the physical evidence of past human activity' (HES, ndc) and include sites and places that are designated as scheduled monuments, listed buildings, garden or designed landscapes, historic battlefields (HES 2019) and conservation areas. These designations warrant legal recognition by the planning system. However, most (90%-95%) of Scotland's historic environment, which is comprised of archaeological, natural and urban heritage, is undesignated (SHEA, 2016). Therefore, in policy rhetoric, the contribution of the historic environment to sustainable development both includes these undesignated areas and excludes them at the same time.

This contradiction stems from the choice of indicators and measurement mechanisms selected to monitor progress towards sustainable development and achieving environmental sustainability goals. Herein lies two additional problems: the definition of *sustainable development* and *environmental sustainability.* Chapter Four illustrated how the definition of sustainable development in Scottish policy shifted towards an economic-centric focus, with policy rhetoric framing the strategy to increase *sustainable economic growth.* The environment – in terms of carrying capacity – is at the service of sustaining the economy, therefore the policies that guide sustainable development are designed not only from an anthropogenic perspective, but more importantly, from an economic perspective. In this framework, the cost benefit analysis favours financial values and outcomes. This is especially true when local governments face financial pressures and budgetary restrictions (ODPM 2004; Naidoo 2015).

This research showed that budgetary constraints in Glasgow had made it difficult for the council to maintain, among its other heritage assets, the four listed school buildings while they were in use as schools, or later when they were deemed as surplus and mothballed. Sustained lack of adequate funding for maintenance and refurbishment had resulted in damage to the buildings. As demonstrated in the research findings, this damage not only impacted the

heritage values and the character defining elements, but the ensuing level of interventions required to make the buildings usable also reduced the environmental value of the buildings.

In Chapter Seven, the analysis of the adaptation of Greenview and Holmlea demonstrated the tensions that arose when the long-term budgetary constraints the city had faced in the run up to the developments had placed the buildings in a precarious state of disrepair and neglect, requiring considerable interventions that were at odds with heritage and environmental values. In Chapter Eight, the adaptation of Willowbank and Balshagray revealed how the priority of economic values over heritage and environmental values manifested more prominently when the protection of the latter values compromised economic viability. Especially when the project's ROI demanded significant changes to the profile of the historic building, which entailed the demolition of the historic pool and janitor's house in Balshagray and the removal of roofs in both buildings. Therefore, in the conversion of listed buildings, the priority became the protection of the economic value and viability of the conversion project, rather than the strict protection of heritage values or the environmental values of adapting built heritage..

With listed buildings, the requirement of obtaining listed building consent ensures some protection of heritage values, with the focus remaining on the traditional values of *historic* and *architectural*. However, in terms of environmental sustainability, the regulations set forth by Building Standards are non-statutory. Although the Scottish government requires developers to comply with the non-statutory standards through the planning process, city planners confess that a lack of funding effectively means that enforcement is unlikely (interview 7365). Therefore, in cases where the building is listed, the next primary concern after economic value pivots back to the traditional heritage values of *architectural* and *historic* (Pendlebury *et al.*, 2014; Sunikka-Blank and Galvin, 2016).

In cases where there is a change of use, such as the four school buildings in this research, Building Standards would require some measure of improvement in energy efficiency and a betterment of performance within the listed building. However, according to the built heritage engineers who advise HES(interviews 8267 and 8372) and literature (HES, 2013; Magrini and Franco, 2016; HE, 2018; Buda, 2020), energy efficiency solutions that are readily available in the market, and the metrics that are used to assess building performance, are designed for modern buildings using modern construction material. These solutions are often incompatible

with historic fabric and the metrics do not accurately reflect the building's performance (Agbota, 2014; Troi and Bastian, 2015).

Additionally, because these energy efficiency solutions must be balanced against the impact they might have on heritage values, as seen in the case of the four school buildings, environmental values fall below economic and heritage values. This was most explicitly seen with Greenview, where the inclusion of solar photovoltaic panels and energy efficient windows were seen as unacceptable interventions that detracted from the heritage values. Yet the emissions intensive demolition of historic fabric was favoured in Balshagray and Willowbank to support economic values. Issues that literature reveals transcend the four case studies and highlight the systematic imbalances within the processes and practices of heritage conservation and new build, not only in Glasgow, but also in other British and European contexts (Sunikka-Blank and Galvin, 2016; Magrini and Franco, 2016; Fouseki *et al.*, 2020).

Furthermore, the current planning framework and Building Standard regulations, allows the developer to change the specification of material recommended by the conservation architect. As previously mentioned in Chapters Seven and Eight, if the alternative material adheres to Building Standards requirements, there are no real mechanisms to prevent the exchange of material. If these materials are incompatible with historic fabric, there is a high probability that they may impact both the *heritage* and the *environmental values* of the historic building (Mazzarella, 2015; Franco and Magrini, 2017). With no requirement for a conservation management plan, very little enforcement through the planning department, and no ongoing monitoring of building performance, it is unclear whether the energy efficiency solutions implemented for the reduction of emissions delivers the desired outcomes whilst retaining historic values and environmental values.

In achieving environmental sustainability goals, the previous chapters demonstrated that the focus within the built environment pivots around reducing emissions by a) improving energy efficiency in buildings upon occupancy, b) supporting car-free developments to reduce transport emissions and c) reducing construction waste sent to landfills. While Chapter Four described the metrics and mechanisms available to measure these emission reduction strategies, within the process of the conversion of historic buildings, there are no frameworks in place to measure the contribution of retaining the historic built environment. Therefore, in practical terms, this research reveals that environmental sustainability is not a clearly defined

consideration in the conservation of the urban environment in Scotland, regardless of how it is articulated in national planning and conservation policy.

In national planning and conservation policy, the adaptive reuse of built heritage is explicitly linked to reductions in waste, carbon footprint and greenhouse gas emissions, and improvements in resource efficiency. This is generally derived from the assumption that the *greenest building is one that is already built* (Elefante, 2007). This assumption is confirmed by research showing that the retention and upgrade of existing buildings, in terms of carbon emissions outweigh those of new and energy efficient buildings (Empty Homes Agency, 2008; Preservation Green Lab, 2014, Pomponi *et al.,* 2020). Furthermore, the retention of existing buildings means that no or fewer new resources will be required to adapt the building, which supports resource efficiency. Retention and sensitive adaptation also results in little or less construction waste and therefore is in line with Scotland's Zero Waste strategy.

However, this is when the existing buildings have been maintained and previous interventions, extensions and adaptations have not negatively impacted the building's fabric or performance. As seen in Chapters Seven and Eight, when buildings, such as the four listed school buildings, are not maintained and/or neglected, the extent of damage to the historic fabric may require extensive intervention and remedial works, or worse, can result in demolition. In these cases, the emissions from interventions and waste management are not calculated or taken into account. Furthermore, resources required to bring the buildings into viable use are also not measured against environmental sustainability measures.

In sum, it is apparent from the empirical evidence that whilst international charters and conventions on heritage conservation have informed the rhetoric for defining significance beyond historic or architectural, and approaches to urban conservation have evolved over time to respond to modern concerns and issues, this has not yet extended to delivery within the Scottish planning system. The case studies used in this thesis demonstrated that in reality, rather than rhetoric, the guidelines from heritage conservation bodies and the urban planning department in Scotland revolve around the traditional values of aesthetic and historic, and do not effectively engage with the sustainable development agenda of the government.

RQ2: How are national policies implemented at the local level and how effective is the implementation process in Glasgow?

In the implementation of national policies, the planning system, and by extension the local development plans are important vehicles in delivering sustainable development. In Glasgow, the local development plans present urban heritage as primarily an economic and to some extent a social asset, in support of promoting economic growth and creating a vibrant city. However, the conservation of heritage assets is not linked to the reduction of the city's carbon footprint, and is not recognized as a contributing factor in achieving a sustainable and low carbon city. The findings in this research confirm the city's view of heritage assets, in that during the conversion process of the four listed school buildings, the environmental values of heritage were not of practical considerations.

While there is recognition in HES that the reuse of listed buildings 'saves carbon associated with new-build, including costs in new materials, transport, demolition, landfill and new infrastructure' (HES 2019d, 6), within the planning process, and during implementation of policy, there is no mechanism in place to account for these considerations. Furthermore, there is no accounting in place to determine what impact extensive interventions, such as the ones required for projects analysed in this research, have on the actual carbon footprint associated with retention.

Even though environmental links are not articulated in local development plans, Building Standards that guide the management of built heritage have mechanisms in place to ensure all developments contribute to the environmental sustainability goals. Improvements in energy efficiency, for instance, controlled through Building Standards can make a significant contribution to the overall decrease in emissions. But as discussed in Chapters Seven and Eight, the simplified energy performance (SAP) calculation method in place to monitor improved energy efficiency is designed to assess improvements in modern buildings, that use modern construction design, techniques, and material. Most building performance simulation softwares generally fail to consider solid permeable walls and the wide array of materials used in historic buildings (Agbota 2014). As such, calculations based on methods such as SAP are not compatible with historic buildings (Franco and Magrini, 2017; Huerto-Cardenas *et al.*, 2020; Buda, 2020) therefore in terms of energy efficiency, it is often advised to *improve* performance rather than achieve a particular benchmark. However, such improvements in performance in historic buildings are not measured and as a result not reflected in indicators that measure attainment of environmental sustainability goals.

As shown with all four school buildings, where the adaptation project included new build elements, the inclusion of new build elements in the calculations makes it difficult to identify the extent to which the built heritage contributed towards the achievement of emission targets. Even with the installation of energy efficiency solutions, user behaviour can have an impact on overall performance (Paone and Bacher, 2018). The combined factors of *improvement* over the *achievement* of particular benchmarks, together with the variability of *user behaviour* (Sunikka-Blank and Galvin, 2016; Kisilewicz, 2019; Fouseki *et al*., 2020), makes it difficult to measure the contribution of built heritage to reduced emissions.

This is in cases were energy efficiency solutions introduced to the historic building are compatible and sympathetic to the historic fabric and the buildings performance. Since financial considerations are an important factor in developments, during the adaptation process, specifications outlined by the heritage conservation architect that are sympathetic to the historic fabric, can be changed for a variety of reasons such as cost and availability. The Building Warrants Department which regulates sustainability and energy efficiency will not object to such changes as long as these changes continue to meet regulations. Regulations which are designed for modern buildings. Unless particular solutions are set in the planning documents as *conditions of approval*, there are no mechanisms in place to prevent changes to specifications. The outcome of which might have a detrimental impact on the historic fabric in terms of performance and durability. Given that historic buildings are already considered hard to treat, planning officers are disinclined to impose onerous conditions during the planning process that might prevent the development from happening. Therefore, while the changes in specifications might improve the energy performance of the historic building in the short run, the long-term implications are unclear.

Although listed buildings are considered hard to treat, in contrast to demolition and starting with a 'clean slate', their retention has environmental value. Research conducted by HES demonstrates that in existing buildings, environmental value is associated with the quality of construction material in terms of durability and performance, as well as construction methods, which considered over the lifespan of the building can have energy and carbon savings (Menzies, 2011). In practice however, there are no mechanisms in place to calculate the carbon footprint of the removal of historic fabric and replacement with modern or new material in adaptation and conversion projects. Consequently, as seen in the case of Holmlea school, the high-quality historic Westmoreland slates were replaced with a more economical

choice, and the roofs of Balshagray and Willowbank were replaced with zinc and glass extrusions. Therefore, in practical terms, there is no value attached to the retention of fabric, and conversely, no real penalties in their removal. The implication of which is that environmental contribution of the historic built environment that is associated with resource efficiency, durability, repairability and material sourcing proximity is more theoretical than practical.

Retaining existing building stock where the energy performance is good or can be improved to appropriate levels, and the fabric does not require extensive refurbishment has environmental value and is preferred over demolition and new construction. While the embodied carbon of existing buildings does not contribute to current and future energy and carbon reduction targets, demolition and replacement has significant energy, carbon and financial cost implications (Menzies, 2011; Stuart, 2014, Pomponi et al., 2020). A new construction, even with energy efficient solutions and sustainably sourced material will have to use much less energy than the existing ones to justify it resource, energy and carbon investment (Menzies, 2011; Faddy 2018).

In the absence of a lifecycle analysis however, it is difficult to assess the extent to which the retention of built heritage contributes to reductions in carbon emissions. Even though the extent of this contribution is unclear, the condition of the listed building can also play a significant role in the equation. A well-maintained historic building will require considerably less intervention than a building that has fallen into disrepair. Not only does the disrepair and compromised fabric make it an even more difficult building to treat, but the level of intervention can also significantly reduce the environmental value of the asset. As witnessed in the case of the four school buildings, this can also compromise the heritage value, as damaged historic fabric was removed and replaced with new or cheaper alternatives, changing the character of the building. This is in addition to the negative implications that these removals and replacements had on the overall carbon footprint of the project.

A compromised heritage value puts the economic and social value of the listed building into jeopardy as well. While heritage conservation is about managing change, it is believed that incremental changes to heritage assets, erode the character defining elements of historic buildings and conservation areas (Holmes, 2005; GCC 2014d, GCC 2015e). In the case of Willowbank and Balshagray, the removal of the historic roofs completely strips them of a

significant character defining element. With this altered composition, their heritage value has changed and within the traditional sense of architectural and historic interest, they no longer represent the architecture of the original architect or the architectural style of the era. Herein lies a contradiction in heritage conservation practice that on the one hand recognises the need for managing change, but yet is required to manage this change through a very narrow value lens that prioritises historic and architectural values of a particular time period in history. A historical time period that has been arbitrarily chosen to protect a subjective value system will inevitably create conflicts in a forward looking urban environment like Glasgow that embraces change. This reveals the underlying weakness of a values led heritage conservation approach, where the subjectivity of the values that determine the significance of heritage assets ignores broader values, such as the environmental values of built heritage.

In academic research and political rhetoric, built heritage is often described as being resource efficient due to the durability of its historic fabric, and the repairability of its elements such as windows and doors (HS, 2010; 2011; Duffy *et al.*, 2019). Furthermore, these buildings are traditionally constructed using local materials that are deemed suitable for use from a climatic perspective, and due to their proximity would not incur significant emissions to transport (Caroon, 2010). Moreover, the local craftspeople and building professionals would have the necessary working knowledge, experience and skills to use these materials effectively and efficiently.

While in some cases, this might be true, in practice, the situation can be quite different. For instance, in the case of stone, there is a very restricted supply of indigenous building stone (Gillespie and Tracey, 2016), making the sourcing of suitable stones for repairs very difficult. Even if the suitable indigenous stone is available, the lack of required knowledge and skills in working with stone present substantial obstacles (*ibid*).

Other times, when the ROI imposes financial restrictions, like in the case of Holmea and the Westmoreland slates, durable historic fabric is replaced with cheaper material that from an aesthetic value is considered acceptable by the planning department but lacks the same quality and durability. Therefore, in the selection of construction material, the aesthetic quality and how closely it matches with the historic fabric becomes the primary consideration, then its durability and environmental impact. Consequently, stone imported from overseas can be deemed a suitable choice if it closely matches the historic fabric, is cost effective, and durable.

The replacement of indigenous stone with an imported replacement can create a conflict with the historic value, where the authenticity of fabric lends to the historic value, or with the architectural value if it closely relates to the architectural design and aesthetics. It also has a significant environmental impact in terms of carbon footprint and emissions resulting from the transport of said material (Pomponi *et al.*, 2020), demonstrating silo thinking in heritage policy, where there is a mismatch between traditional heritage values that prioritise aesthetic over the more holistic view of heritage management that includes environmental values.

Although it is justified to argue that the durability of an imported replacement material that is difficult to source locally is a positive environmental consideration, the contribution will have to be assessed over the lifespan of the building and the carbon footprint of its transport. Especially when the replacement of historic fabric was due to a lack of maintenance, neglect or inappropriate interventions. As seen in the school conversion projects, the building fabric had suffered damage due to a lack of regular maintenance, prolonged neglect, vandalism, and arson. Had the buildings been regularly maintained and conserved following a conservation management plan with adequate funding, the fabric would not have suffered to the extent seen in the schools. Accordingly, the replacement of historic fabric would not have been necessary to the extent witnessed in these projects, and the resulting environmental implications of fabric replacement would have been much lower.

The dereliction of the aforementioned buildings had led to damage and loss of building fabric, the disposal of which generated construction waste. Some of the fabric can be reused, both for repairs to other sections or as back fill, in accordance with Zero Waste Scotland Strategy. However, without a clear accounting mechanism it is difficult to assess exactly how much of the fabric was reused and how much of this reuse, generated carbon emissions. For instance, where the fabric was pulverized and used in the landscaping (as in the case of Holmlea), the carbon emissions resulting from this activity is not accounted for.

All these reveal the inherent conflict in the value system that governs heritage conservation policy and practice on the one hand, and the conflicts that those values create when environmental sustainability policies are implemented. While in theory, heritage conservation can be a mitigating factor in the environmental sustainability agenda, the application of values in the conversion process and implementation of land-use planning policy is convoluted and complex. In the case of Greenview, the traditional views on the aesthetic

primacy of character defining elements such as the energy inefficient windows, neither supported environmental values, nor did it fit within the spirit of managing change. While in the cases of Holmlea, Balshagray and Willowbank, the demolition of historic fabric and insertion of new build elements which permanently changed the building profiles and the townscape, and resulted in emissions, construction waste and the use of new resources were not only acceptable, but these irreversible changes did not seem to detract from the character of the buildings.

In the UK, the planning system is designed to be applied by the local government to deliver sustainable development, not development at any cost. But with the focus of *sustainable development* steered towards *economic sustainability*, and a lack of clear guidelines for achieving environmental sustainability through heritage conservation projects, the discretionary interpretation of policy by the local planning officers could in some cases include ignoring or overriding policy in the interest of 'good decision-making' (Pendlebury, 2014). In the case of Greenview, insisting that the new owner adhere to constraints that would maintain the aesthetic value but compromise the new use of the building and its energy efficiency was arguably neither reasonable nor did it contribute to the environmental sustainability goals of the Scottish Government. In the case of Balshagray and Willowbank, the removal of historic roofs to improve the ROI, and the demolition of the pool house and janitor's house in Balshagray, not only impacted the heritage value of the buildings, but had significant environmental implications.

Conversely, Building Warrants follow a more technical and standards-based approach in terms of building performance, environmental impacts and safety. While this approach can produce the types of data and metrics required to monitor the contribution of historic buildings to environmental sustainability goals, as the case studies demonstrated, there were no suitable measures in place to collect this type of data. Additionally, the two systems of planning and warrants are not formally linked, therefore strategies that might meet the approval of Building Warrants may be denied by planning. An example is the installation of photovoltaic panels, which meets the requirements of lowering emissions for Building Warrants, but was denied approval by the planning department because according to the project architect and Glasgow City Council 'listed building consent won't allow solar panels' (interview 7767; GCC, 2016f).

When heritage conservation projects are considered on a case by case basis, there will inevitably be inconsistencies, especially when the basis of decision making is a subjective values system which prioritises aesthetic qualities and strives to maintain the *character* of a heritage. While design of the new replacement windows in Greenview were a contentious issue, the destruction of the sports hall in Holmlea, and the insertion of new build elements that permanently altered the streetscape, in balance were not considered aesthetically problematic. Therefore it becomes unclear why in the case of Greenview the windows were so important, but in the cases of Holmlea, the changes that impacted the aesthetics were not considered to detract from the character of the building.

The primacy of aesthetic values in the planning processes becomes even more ambiguous for Willowbank and Balshagray, where the removal of the roof, the insertion of a new build element on top of the heritage asset and the destruction of the Balshagray pool and janitor's house are of no real concern. These changes not only permanently altered the aesthetics, but changed the historic value of the assets as well. None of these changes were made to support environmental considerations, and primarily supported the viability of the development project. This viability would lend to the making of successful places, which is also a policy objective, but it is unclear how successful places are defined if the heritage values and environmental values are compromised during the process.

These ambiguities reveal the difficulties in implementing joined-up policies, not only because of the division between planning and warrants at the local level, but also because at the national level, heritage conservation, urban development and environmental sustainability fall between different levels of government and across various sectors. The four listed school buildings used as units of analysis for this research, have been successfully adapted for re-use, and saved from total demolition. But in the process, neither the energy and resources required to accomplish this were measured, nor were the accompanying emissions. Furthermore, as demonstrated in the analysis of the school conversions, environmental sustainability did not become a guiding objective in the decision-making process, indicating ineffectual policy implementation and practice.

RQ3: What mechanisms are in place to measure, monitor and evaluate the contribution of heritage conservation to the environmental sustainability goals of the Scottish Government at the national and local level?

The Scottish Government, and by extension, Glasgow has mechanisms designed to measure, monitor and evaluate the achievement of environmental sustainability goals. At the national level, these include indicators for emissions, waste and the historic environment, which as explained in Chapter Four, focuses on the condition of Scottish historic dwellings built prior to 1919. In addition, there are legislations and policies that guide land use planning and urban conservation towards achieving sustainable development. The Scottish Government has recognized the importance of addressing climate change, outlining ambitious goals in the Climate Change (Scotland) Act 2009. The Act sets stringent guidelines which directly impacts land use and planning in terms of energy and resource efficiency, waste management, and transport, and is enforced through Building Standards.

At a national level, the indicator that measures progress towards achieving sustainable development and attaining environmental sustainability for the historic environment is the *State of Historic Sites*. This indicator is linked to the strategic objectives of a *greener*, *smarter*, *wealthier and fairer* Scotland. The strategic objective of a *greener* Scotland aimed to improve the natural and built environment, and facilitate the transition to a low carbon economy by reducing the environmental impacts of consumption and production.

This is closely tied with indicators that measure greenhouse gas emissions and in particular carbon emissions. Focusing only on buildings and construction activities, emission measurements are limited to the operational use of buildings. These measurements on the one hand consider how energy for these operations are generated, and on the other hand account for how much energy is used. Missing from this equation is a whole lifecycle approach to buildings, their construction, retrofit and adaptive reuse. While the foundational principles for Scotland's sustainable development strategy is based on sustainable consumption and production, which takes a whole lifecycle approach to products and materials, this approach is not applied in practice when it comes to the building sector, and by extension, the management of built heritage (Pomponi *et al*., 2020).

By not adopting a lifecycle approach, as seen in the case of the school buildings in this research, the embodied carbon in built heritage is ignored. Even though inclusion of embodied carbon had been in policy discussions since the 2007 Sullivan Report, the perceived financial impact it would have on the construction industry effectively excluded embodied carbon from

the calculations. Another example of how economic values take precedence over environmental and heritage values.

The exclusion of a lifecycle approach then presents an incomplete picture of emissions arising from construction and retrofits in buildings. When the building is part of the *historic environment* this image is even more limited. The limitations come from two areas. First, the indicator that accounts for the historic environment in 2007 focused entirely on A-Listed buildings, which as discussed in Chapter Four, presented information on a fraction of the historic environment and even at that, did not generate information that corelated with measurements on environmental sustainability such as emission reduction, waste management, or resource efficiency. The updated 2018 indicator for the historic environment, which monitors for critical disrepair to building elements in pre-1919 buildings, also does not generate usable data to link up with emissions, waste or resource use. Therefore, it will not be able to make a clear connection between environmental sustainability goals and the conservation of the historic building stock in terms of reductions in carbon emissions, waste management, or energy and resource efficiency. As a result, the *state* of the pre-1919 dwellings does not inform the Scottish Government on the contribution of built heritage towards achieving environmental targets. The implication is that the value of built heritage remains siloed and limited to the historic and aesthetic.

While the indicator for the historic environment does not provide useful data at the national level, the contribution of built heritage at the local level can, in instances of adaptation, repairs and upgrades, be monitored through the planning system and building warrants. However in practice, the historic built environment that is not listed and is not located in a conservation area will not require a listed building consent and therefore the changes to its fabric, performance and layout will not be scrutinized from a heritage perspective. As a result, the heritage and environmental values of these buildings will not be part of the considerations when value trade-offs must occur. For those buildings that are listed, there currently are no mechanisms in place to monitor performance in terms of environmental sustainability nor are there any means of collecting data that feed into the national sustainability indicators. Furthermore, as seen in the units of analysis, the environmental value of listed buildings falls well below the economic and heritage values. And even at that, there are still no mechanisms to assess the extent to which the adaptive reuse of these buildings contributed to the sustainability goals of the local government.

Empirical and Conceptual Contributions

The research makes important empirical contributions to evidence the inadequate integration of heritage conservation policy with sustainable development, in particular environmental sustainability. It demonstrates that while heritage conservation, sustainable development and environmental sustainability policies are contained within interdependent regulatory environments, in implementation, they perform in separate policy silos.

The historic urban areas of vibrant and evolving cities are now, more than ever before facing complex challenges as their continued use is confronted by new regulatory requirements, and the development of modern infrastructure, resources and amenities required by growing urban populations. In addition to these challenges, global concerns on the impacts of climate change have required that all aspect of urban development, including the management of heritage assets be woven into policy frameworks aimed at delivering sustainable development (UNESCO, 2015; Labadi *et al.*, 2021).

While the contribution of the historic environment as an economic asset can be evaluated based on growth in the tourism and leisure industry, as well as its contribution in urban regeneration and area economic improvement in relevant revenue and GDP, the same cannot be said about the associated environmental benefits in terms of measurable impacts. Literature recognises the environmental sustainability of built heritage through historic sustainable building techniques (Carroon, 2010), embodied carbon and resource use (Wise *et al.*, 2019*)*, as well as resilience in evolving urban landscapes (Rodwell, 2007). Therefore, in theory, and in certain case studies, the environmental contributions of built heritage can be measured (Abdallah and El-Rayes, 2015; Cornaro, *et al.*, 2016; Lidelöw *et al.*, 2019). However, the analysis of the four schools revealed that in practice, and outside of scientific studies, the contribution of heritage conservation to the environmental sustainability goals of the Scottish government is based primarily on theory and rhetoric. In practical terms, the mechanisms in place for local planning officers, heritage conservation architects and developers do not measure, monitor or regulate environmental sustainability aspects in the practice of heritage conservation.

Research reveals that this shortcoming is not limited to Scotland or the UK (Troi and Bastian, 2015; Yarrow, 2016; Lidelöw *et al., 2019* Buda, 020). It is also evident in the UN

2030 Agenda for Sustainable Development, where the indicator for cultural heritage 11.4.1 measures the total per capita expenditure on the preservation, protection and conservation of all cultural heritage (UNSD, 2020), and throughout the whole document, fails to acknowledge the environmental contributions of built heritage to the urban environment.

From a conceptual position, this research demonstrated that there is fine line in balancing policy priorities, especially when these priorities are not exclusively shaped by national or local issues and politics, but heavily influenced by global and regional policy initiatives (Kennett, 2008; Audretsch *et al.*, 2016). While statutory regulation on heritage conservation can offer the planning department a defendable position in protecting heritage values, these values in practice, are largely limited to aesthetic qualities. Furthermore, the subjectivity of a values-led approach to heritage conservation and the ambiguity of what defines character makes the decision-making process opaque. And since regulatory frameworks do not assign value to the environmental aspects of heritage conservation, the planning department has no mechanism to incorporate environmental considerations within the heritage conservation framework, and therefore cannot compel adaptation projects to take the environmental values of heritage conservation into account.

Furthermore, while the local planning authority has an important role to play in maintaining and enhancing historic places, this research has shown that a sustained lack of investment in maintenance in city owned properties is an indication of a larger problem. Historic buildings are predominately owned by private owners which according to research conducted in 2015, have an estimated collective conservation backlog of £1.38 billion, of which £500 million is deemed urgent (DCResearch, 2015: 39, 66.). Even with legislation in place that compels building owners to maintain listed property, in practice, structural concerns around funding, burdensome VAT imposed on conservation work (Zu *et al.*, .2020), and complex policies (ODPM 2004; Naidoo 2015) have resulted in failures in maintenance, upkeep and protection.

While there are regulations in place that can compel owners to maintain listed buildings, budgetary constraints and structural issues on managing built heritage has made enforcement challenging (*ibid)*. This is especially true in cities such as Glasgow, where the local authority itself has been unable to maintain city owned properties, which in turn makes prosecution of the general public through the courts increasingly difficult. Particularly when direct action

against listed building property owners could also have political ramifications where the Procurator Fiscal determines that it is not in the public interest to take those prosecutions forward (interview 7365; Weatherall *et al*., 2018). The backlog of maintenance and conservation work, as seen in this research, can in turn increase the environmental and economic cost of rehabilitation and use.

An assessment of existing literature, and the analysis of the four school buildings revealed that in practice, there isn't a useful *best-practice framework* for local authorities specifically designed for historic buildings and their adaptation in line with national policies on environmental sustainability. This is while HES and HE have conducted numerous studies and published a plethora of research. Similarly, an evaluation of conservation approaches used by local practitioners and planning officers highlight the need for a more process-oriented guidance that aligns the environmental values of built heritage management and conservation with national goals and indicators. The disconnect indicates the larger problems of incorporating conservation and sustainability theories into planning policy and practice. The implication of which is that the rhetoric from the Scottish Government and local authorities on the contribution of built heritage to environmental sustainability has set unfounded expectations for the historic environment and local planning departments.

Important to note that as part of the More Homes Scotland[60] approach, the Scottish Government introduced a new five-year Housing Infrastructure Fund available in 2016/17 across Scotland prioritizing projects that delivered affordable rented housing within the next five years and included an infrastructure grant available to local authorities and registered social landlords (RSLs) to support affordable housing (GCC, Glasgow's Housing Strategy, 2017 – 2022). Holmlea was one of the recipients of the Scottish Government's Affordable Housing Supply Programme in the tune of 3.8M pounds[61]. While these funds can incentivise the conversion or adaptation of built heritage, the condition of the heritage asset plays an

[60] In 2016 the Scottish Government launched the More Homes Scotland approach, investing more public and private money into housing. This was following the publication of Scottish Government's housing vision and strategy in 2011 (Homes Fit for the 21st Century) and the 2015 Joint Housing Delivery Plan for Scotland, which set out the government's housing vision, strategy and priorities till 2020. In the More Homes Scotland approach the government worked with local authorities, to provide targeted assistance in unlocking strategically important housing sites and established a flexible five-year grant and loan fund in 2016-17 (Scottish Government 2016).

[61] Strategic Housing Investment Plan 2018/19-2022/23, 49 units delivered in the 2019/2020 period.(GCC, 2017 Glasgow Strategic Housing Investment Tables 2017 Appendix 1 available at: https://www.glasgow.gov.uk/CHttpHandler.ashx?id=40659&p=0).

important role in the financial viability of the project and the environmental impact. It would be cost efficient to further incentivise the maintenance of historic buildings, at a minimum by removing the 20% VAT charged on the work carried out on historic buildings (Hills and Worthing, 2006; Zu *et al.,* 2020). If carried through effectively, it could have both economic and environmental benefits in the long run.

Finally, the overarching aim of the research was to contribute to the wider discussions on the role of built heritage conservation in environmental sustainability. Previous research has highlighted the potential of heritage in supporting the environmental sustainability aspect of sustainable development. However, without suitable metrics, it is difficult to demonstrate the real and measurable contributions of heritage conservation and management to environmental sustainability. Therefore, further research in the design and implementation of suitable and practical metrics is necessary to measure this contribution, and use the resulting data to help shape appropriate policy in support of the regular maintenance, refurbishment, and adaptive reuse of built heritage as a measurable step in achieving environmental sustainability goals. Through these metrics it will then be possible to address the contribution of urban heritage to sustainable development more seriously, leading to a change in how the significance of built heritage is assessed. Moving beyond the current traditional focus on aesthetic and historic values, a broader range of values can be incorporated to ascribe significance to heritage assets that include criteria directly linked to indicators for sustainable development and environmental sustainability. The inclusion of criteria such as resource use and carbon footprint can then assist in evaluating the *measurable contribution*s of built heritage conservation and management to sustainable development and carbon reduction targets.

Ultimately, managing built heritage requires careful consideration to all three pillars of sustainable development. While a robust economy facilitates better services and stronger support at the local level, it does not have to come at the expense of heritage assets and the environment. In practice, this research has shown that the value of sustaining a robust economy, has driven heritage values and environmental values, to a subservient role. While it is common to have policy values conflict, especially where various strands of policy converge, the legislation and practice of heritage conservation has not yet been aligned to provide a framework that would result in an alignment of values where heritage assets can be a mitigating factor in addressing environmental sustainability, while also supporting social and economic sustainability.

Heritage is not about the past. To sustain our built heritage for the future, an alignment of heritage values with sustainability theory, policy and practice is required.

Policy recommendations

Informed decision-making requires good and complete data. Information on the heritage significance of listed assets, required for an informed approach to adaptation and conservation in Scotland is incomplete, inconsistent, and varies between what is available through the HES portal, and that which is available from the local authority. The HES information is updated on an irregular basis so what is available online today can change at an unspecified time in the future.

Furthermore, the fluidity of what constitutes significance can lead to irreversible changes to the building. This is in contradiction with conservation guidelines on maintaining historic and architectural integrity that recommend interventions that are reversible. Ironically, many 'reversible' interventions such as photovoltaic panels, windows, and doors are not allowed, but non-reversible intervention such as the removal of the roof, rooftop extensions, or changes to interior layout are permitted.

As evidenced in the four schools, and the broader literature (De la Torre, 2004; Council of Europe, 2005; Pendlebury, 2013; Fredheim and Khalaf, 2016; Jones, 2017; Díaz-Andreu, 2017), the evaluation of heritage does not follow a hard and fast set of guidelines that is universally applied to all buildings of significance. This can potentially serve well in managing change, as each heritage asset can be evaluated on a case-by-case basis and this lends flexibility when prioritising values. However, in terms of attaining environmental sustainability, the predominant means of measurement is in terms of carbon reduction arising from adopting energy efficiency measures. This requires suitable metrics to measure and assess the extent to which energy efficiency measures improves historic building performance using modelling tools and energy efficiency measures that are designed for historic building (Mazzarella , 2015; Cornaro *et al.*, 2016). Without suitable metrics, the contribution of built heritage to environmental sustainability remains theoretical, rather than factual. Therefore a few recommendations can perhaps change the approach to heritage conservation and enable a more holistic strategy.

These recommendations include revising the criteria for significance to include environmental value in addition to architectural and historical, which could account for the embodied carbon of listed buildings. In addition to the inclusion of environmental value, the requirement of a conservation management plan for all listed building adaptation projects will ensure that the heritage asset can be properly maintained and interventions can be monitored to prevent damage to the historic fabric, which will in turn protect its heritage and environmental values. In the UK, Building Standards could devise clearer and more ambitious guidelines for the historic built environment in collaboration with HES and the construction industry so that recommendations are realistic, viable and deliverable. This will ensure that all conservation and adaptation work meet both buildings standards requirements, and conservation guidelines. This can then be used as benchmark for other European context that share similar historic building typologies. Finally, in Scotland, a revised National Indicator for built heritage be developed in collaboration with HES, Building Standards, SEPA, Transport Authority and Zero Waste Scotland so that the retention, rehabilitation, improvement and adaptive reuse of historic buildings can be measured against criteria that generates data towards lowering carbon emissions, resource use and waste generation and takes embodied carbon into consideration. The National Indicator for the Historic Environment currently does not relate to what is monitored in Building Standards, SEPA, Transport or Zero Waste Strategies. Although embodied carbon, is often used to justify the retention of buildings, it is currently not a consideration in the National Indicator.

In conclusion, the rhetoric of heritage management and conservation at the international, national and local level has shifted towards a more holistic view of heritage and broadening of its values. But in practice, this research has revealed that the traditional 20th century views of heritage continue to dominate the decision-making process. Furthermore, the interdependent regulatory policy environments which ultimately affect the management of heritage assets perform in separate silos, restricting the effective integration of heritage conservation with sustainability policy and metrics.

Limitations and Further Research

There are several limitations which should be noted. The PhD focussed on in-depth qualitative, case study research. As such, while the cases provide a lens to explore wider issues, they cannot be used to draw more general conclusions (Bryman, 2012). However, this was not

the aim of the research. The in-depth analysis of the four schools, within the context of the local, national and international policy landscape provided an opportunity to investigate the practical, detailed and real tensions and shortcomings of the values led system of heritage management, and the design and implementation of policy. Nevertheless, there would be value in conducting an additional larger-scale, mixed-method study across the UK. This would allow greater exploration of the contribution of built heritage conservation to environmental sustainability, which can then be applied to the broader European contexts that share similar building typologies, climates and policy structures.

Finally, in light of the current climate emergency, if the contribution of urban heritage to sustainable development is to be taken seriously, the significance of built heritage must move beyond its traditional focus on aesthetic and historic values. The alignment of values between those that lend significance to built heritage and those that help sustain a liveable planet can be addressed if a more holistic and temporal view is taken on heritage, and the evolution of cities and values is reflected in the significance of heritage. This will necessarily require that the values that ascribe significance to build heritage include criteria that directly tie into indicators for sustainable development and environmental sustainability. This will have to arise from a complete and holistic understanding of the materiality and performance of the building, but also a greater appreciation of the role of built heritage in public lives and urban environments. The historic built environment is not comprised of objects of beauty, they are functional spaces with environmental and utility values that enrich urban environments beyond mummified relics of a particular period in time.

APPENDICES

Appendix I – Full List of Devolved and Reserved Matters

Devolved Matters	Reserved Matters[62]
Land use planning	Benefits and social security
Landfill Tax	Broadcasting
Stamp Duty Land Tax (SDLT)	Constitution
Energy efficiency and Fuel poverty schemes	Consumer protection
Housing	Defence & Security
Environment and planning	Employment
Economic development	Equal opportunities
Education and training	Energy (excluding the promotion of renewable energy generation and energy efficiency)
Fire services	Economic and monetary policy, including the currency and interest rates
Health and social services	Foreign policy
Agriculture, forestry and fisheries	Immigration
Culture and creative industries	Social security
Justice	Telecommunications
Local Government and Local Government elections	Trade and industry
Social Work	
Sport	
Tourism	
Transport (excluding most power over aviation, shipping, road traffic law and HGV and bus driver, vehicle and operating licensing)	
Air Passenger Duty and Aggregates Levy	
Partial assignment of VAT revenues	
Income tax (including setting rates and thresholds)	
Consumer advocacy and advice	
Crown Estate (Management of, and revenues from, its economic assets in Scotland)	
Scottish Parliament elections and the local government franchise. Includes regulation of campaign spending and controlled expenditure on SP elections.	
Proposal to introduce specific equality requirements for public bodies	

[62] https://www.parliament.scot/EducationandCommunityPartnershipsresources/Your_Guide_Mar_2016.pdf

Onshore oil and gas licensing	
Additional health power (abortion)	
Employment programmes (power to create employment schemes for those at risk of long-term unemployment and to help disabled people into work)	
Gaming machine licensing powers (The powers apply specifically to controlling the number of Fixed-Odds Betting Terminals)	
Reserved tribunals (except Special Immigration Appeals Commission and Proscribed Organisations Appeals Commission)	
Welfare including control over certain benefits outside of Universal Credit (UC) and the power to vary the housing element of UC and to vary UC payment arrangements	
Air weapons (power to make law relating to the use and regulation of most air weapons in Scotland)	
Borrowing powers up to £2.2 billion (Capital) and £500m (Revenue)	
Drink driving alcohol limits	
Scottish representation on Boards of the BBC and Crown Estate	

Appendix II – List of Historic Environnent Scotland Publications

1	2006	Thermal Performance of Traditional Windows
2	**2008**	In-Situ U-Value Measurements in Traditional Buildings - Preliminary Results
3	**2008**	Energy Modelling Analysis of a Traditionally Built Scottish Tenement Flat
4	**2008**	Energy Modelling in Traditional Scottish Houses
5	**2008**	**Inform Guide: Ventilation in Traditional Houses**
6	**2009**	Energy Modelling of a Mid 19th Century Villa - Baseline performance and improvement options
7	**2009**	Indoor Air Quality and Energy Efficiency in Traditional Buildings
8	**2010**	Embodied Carbon in Natural Building Stone in Scotland
9	**2010**	Energy modelling of the Garden Bothy, Dumfries House
10	**2010**	Slim profile double glazing
11	**2010**	U-values and traditional buildings
12	**2010**	**Inform Guide: Timber Window Shutters**
13	2011	Indoor Environmental Quality in Refurbishment
14	2011	Embodied energy considerations
15	2011	Keeping warm in a cooler house
16	**2012**	Green Deal financial modelling of a traditional cottage and tenement flat
17	**2012**	Wells o' Wearie, Edinburgh Upgrades to walls, roof, floors and glazing
18	**2012**	Wee Causeway, Culross Insulation to walls and roof
19	**2012**	Sword Street, Glasgow Internal wall insulation to six tenement flats
20	**2012**	Kildonan, South Uist Insulation to walls, roof and windows
21	**2012**	Scotstarvit Tower Cottage, Cupar Thermal upgrades and installation of radiant heating
22	**2012**	Rothesay, Installation of insulation and secondary glazing
23	2013	Green Deal, Energy Company Obligation and traditional buildings
24	2013	Evaluating Energy Modelling in Traditionally Constructed Dwellings
25	2013	Monitoring Thermal Upgrades to Ten Traditional Properties
26	2013	Slim-profile double-glazing in listed buildings: Re-measuring the thermal performance
27	2013	Fabric Improvements for Energy Efficiency
28	2013	The Pleasance, Edinburgh Insulation of coom ceiling, attic space and lightwell
29	2013	Newtongrange, Installation of roof and coom insulation and secondary glazing
30	**2012-13**	Garden Bothy, Cumnock
31	**2014**	Data sources for energy performance assessments of historic buildings in the United Kingdom
32	**2014**	Thermal assessment of internal shutters and window film applied to traditional single glazed sash and case windows.

33	2014	Micro-Renewables in the Historic Environment
34	2014	Maintaining Your Home
35	2014	Leighton Library
36	2014	Kincardine Castle, Installation of biomass system
37	2014	B-listed, Kirkcudbright - Conservation works to an 18th century townhouse
38	2014	**Inform Guide: Improving Energy Efficiency in Traditional Buildings**
39	2015	Assessing risks in insulation retrofits using hygrothermal software tools: Heat and moisture transport in internally insulated stone walls
40	2015	Kirkton of Coull, Aberdeenshire
41	2015	Trial Church Heating: Radiant Panels and Air Source Heat Pump at Kilmelford Church
42	2015	11 Annat Road, Perthshire
43	2010-2016	Five Tenement Flats, Edinburgh Wall and window upgrades
44	2017	Climate Change Adaptation for Traditional Buildings
45	2018	Historic Environment Scotland Refurbishment Case Studies: Review of Energy Efficiency Projects
46	2018	Holm Farm Cottage
47	2019	A Guide to Climate Change Impacts
48	2019	Lauriston Terrace, Edinburgh

Appendix III- Full List of Advisory Bodies

Public Bodies and Agencies

Historic Environment Scotland	Historic Environment Scotland has statutory functions within the planning system as part of a wide range of responsibilities for the historic environment, including regulatory and advisory roles in relation to Listed building consent (LBC) and conservation area consent (CAC) applications. HES are also consulted on Environmental Impact Assessment and advise on the Strategic Environmental Assessment of development plans.
Scottish Environment Protection Agency (SEPA)	SEPA is Scotland's environmental regulator and adviser. In addition to its role in controlling pollution, it also provides formal environmental advice in relation to development plans and on a wide range of development proposals across Scotland. They provide advice to planning authorities on development plans and in relation to larger planning applications that could impact the environment or planning applications that might have implications for flood risk. Planning authorities must seek SEPA advice on planning applications that might increase flood risk or is supported by an Environmental Impact Assessment.
Scottish Water	Scottish Water provides water and wastewater services throughout Scotland. It is also a statutory consultee within the planning legislation and is required to comment on all outline or full planning applications referred by a Local Authority.
Architecture and Design Scotland (A+DS)	A+DS is a non-departmental public body responsible for design review and providing expert advice on the quality of design of specific planning applications that might have significant effect on the local environment, because of size, public impact, or proximity to sites of historical, landscape, cultural or environmental importance. A+DS has also been working with the Scottish Government Planning and Architecture Division to explore climate change in relation to place planning and provides insight to inform planning reform.
Scottish Natural Heritage (SNH)	SNH is responsible for the conservation and enhancement of natural heritage, including wildlife, habitats and landscapes.
Transport Scotland	Transport Scotland is responsible for delivering the Scottish Government's transport capital investment programme and overseeing the safe and efficient operation of trunk roads and rail networks.
Regional Transport Partnerships	Regional Transport Partnerships bring together local authorities, elected members and other key regional stakeholders to take a strategic approach to the planning and delivery of regional transport to better serve the needs of people and businesses.
City Region Deals	City Region Deals offer the potential for new collaborative regional partnerships, focused on long-term strategic approaches to improving regional economies
Scottish Cities Alliance	The Scottish Cities Alliance is a partnership of Scotland's seven cities and the Scottish Government, the purpose of which is to attract investment and jobs into cities

Voluntary or Private Organisations

The Architectural Heritage Society of Scotland	AHSS is dedicated to the protection and study of the built heritage of Scotland. Its five regional groups are responsible for commenting on planning applications in their areas. They also provide educational activities, lectures and tours.
Scottish Civic Trust	A key role of the civic trust network in Scotland is to act as a watchdog.
Homes for Scotland	Represent 200 member organisations with the key objective to deliver more homes for Scotland through advocacy.

PAS	PAS is a voluntary organisation where 20% of the planning professionals in Scotland volunteer, offering independent, free and professional advice on planning applications and the planning process.
Community Councils	Community councils are also consultees, and legislation requires that they be invited to comment on planning applications in or affecting their area. They also have the right to comment on the preparation of development plans.

Appendix IV – List of Acts

Ancient Monuments Protection Act, 1882

Ancient Monuments Protection (Ireland) Act, 1892

The Ancient Monuments Protection Act, 1900

The Housing, Town Planning, Etc Act 1909

Town Planning (Scotland) Act, 1909

Housing & Town Planning Act 1919

The Ancient Monuments Consolidation Bill 1913

The Ancient Monuments Act 1931

Town and Country Planning (Scotland) Act 1947

Historic Buildings and Ancient Monuments Act 1953

Land Compensation (Scotland) Act 1963

The Civic Amenities Act of 1967

Town and Country Planning Act 1968

Town and Country Planning (Scotland) Act 1969

Town and Country Planning (Scotland) Act 1972

Local Government (Scotland) Act 1973

Ancient Monuments and Archaeological Areas Act 1979

Land Registration (Scotland) Act 1979

The Housing and Planning Act 1986

The Environmental Protection Act of 1990

Local Government etc. (Scotland) Act 1994

The Environment Act of 1995

Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997

Town and Country Planning (Scotland) Act 1997

Referendums (Scotland and Wales) Act 1997

The Scotland Act 1998

Housing (Scotland) Act 2001

Land Reform Act 2003

Building (Scotland) Act 2003

Environmental Assessment (Scotland) Act 2005

The Planning etc. (Scotland) Act 2006

Climate Change (Scotland) Act 2009

Energy Act 2011

Historic Environment (Amendment) (Scotland) Act 2011

Historic Environment Scotland Act 2014

Landfill Tax (Scotland) Act 2014

Community Empowerment (Scotland) Act 2015

Appendix V – International Agreement, Charters and Doctrines

List of UN Protocols, Agreements:

1992 United Nations Framework Convention on Climate Change

1997 K

United Nations Conference on Human Settlements (‘Habitat’) held in Vancouver, Canada, in 1976

United Nations Conference on Human Settlements (‘Habitat II: The Cities Summit’) held in Istanbul, Turkey in 1996

United Nations Conference on Human Settlements (‘Habitat III: The New Urban Agenda’) held in Quito, Ecuador in 2016

List of ICOMOS Charters:

International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter) - 1964

Charter for the Conservation of Historic Towns and Urban Areas (The Washington Charter) - 1987

International Cutltural Tourism Charter - Managing Tourism at Places of Heritage Significance - 1999

ICOMOS Charter – Principles for the Analysis, Conservation and Structural Restoration of Architectural Heritage - 2003

The Valletta Principles for the Safeguarding and Management of Historic Cities, Towns and Urban Areas - 2011

Resolutions and Declarations

Resolutions of the Symposium on the introduction of contemporary architecture into ancient groups of buildings, at the 3rd ICOMOS General Assembly (1972)

Declaration of Dresden on the ‘Reconstruction of Monuments Destroyed by War’ (1982)

Declaration of Rome (1983)

The Nara Document on Authenticity (1994)

Xi'an Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas (2005)

The Quebec Declaration on the Preservation of the Spirit of the Place (2008)

The Paris Declaration On heritage as a driver of development (2011)

Florence Declaration (2014)

Charters Adopted by ICOMOS National Committees

The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance - (The Burra Charter) (Australia ICOMOS) - 1981, updated in 2013

Appleton Charter for the Protection and Enhancement of the Built Environment (ICOMOS Canada) - 1983

Charter for the Conservation of Places of Cultural Heritage Value (ICOMOS New Zealand, text revised and approved by the Executive Board of ICOMOS NZ on 4 September 2010)

Other International Standards

Athens Charter for the Restoration of Historic Monuments (Athens Conference, 21-30 October 1931)

Declaration of Amsterdam (Congress on the European Architectural Heritage, 21-25 October 1975)

European Charter of the Architectural Heritage (Council of Europe, October 1975)

UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage Paris, 17 October 2003

UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage

Paris, 16 November 1972

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