Define Today, Transform Tomorrow: An Exploration of the Understanding and Practical Embodiments of Sustainability in Higher Educational Institutions in the UK

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Abstract

In the face of a global crisis that unites every human being, regardless of race, religion, class or ethnicity, it is imperative that our education systems radically change to cultivate sustainability-literate, global citizens. Higher Educational Institutions (HEIs) are increasingly recognised as key agents in driving the sustainability agenda, not least in their research outputs, but in their ability to develop the capacities of individuals to ensure they become forward-thinking, problem-solving, climate-aware citizens. While global policies such as the UN's Sustainable Development Goals (SDGs) establish education as central to transformative change, a conceptual ambiguity surrounds the term, which results in fragmented practice creating a barrier to effective sustainable practice. This study responds to previous authors calls seeking conceptual clarity by exploring how sustainability is defined and enacted with eight UK HEIs.

The research is underpinned by a unique research framework specifically designed to examine definitions with policy and the perspectives of key stakeholders. It amalgamates various elements of Chin and Kramers (1983), Rodgers (1989) and Hasse et al.'s (2000) conceptual analysis frameworks and integrates Fairclough's (1995) critical discourse analysis. It triangulates data from the literature review, policy analysis and interviews to unpick how sustainability is influenced by context, normative pressures and institutional priorities.

Findings reveal conceptual ambiguity across institutions and individuals highlighting two distinct discourses; one which is environmentally focused, and one which is socially driven. It identifies key interconnected attributes including, leadership, stakeholder agency and external influences. Inconsistencies are exposed to reveal an implementation gap, where the often-ambitious rhetoric is not always met in practice. In response, this research presents the 'Sustainability Integration Framework', a staircase model designed to support HEIs to be reflective and identify ways forward to engage with transformative practice.

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Abbreviations

SD	Sustainable Development
HEIs	Higher Education Institutions
ESD	Education for Sustainable Development
SIF	Sustainability Integration Framework
CDA	Critical Analysis Discourse
PIT	Policy Implementation Theory
IT	Institutional Theory
SDG	Sustainable Development Goals
DESD	Decade of Education for Sustainable Development
GAP	Global Action Programme
QAA	Quality Assurance Agency
HEA	Higher Education Authority
THE	Times Higher Education
SDSN	Sustainable Development Solutions Network
UNEP	United Nations Education Programme
TEF	Teaching Excellence Framework
REF	Research Excellence Framework
NSS	National Student Survey
OfS	Office for Students
ICFE	International Commission on the Futures of Education
SOS	Students Organising for Sustainability
CSR	Corporate Social Responsibility
CBE	Competency Based Education
DfE	Department for Education
EfS	Education for Sustainability
CPD	Continued Professional Development
CI	Coercive Isomorphism
MI	Mimetic Isomorphism

NI	Normative Isomorphism
ILP	Institutional Logical Perspective
CA	Concept Analysis
TA	Thematic Analysis
CC	Constant Comparison
OS	Operational Sustainability

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Finally, a thank you to my son, Ezra, who was born partway through this research. You make me want to be a better person and create a better world for you - if this work makes just a tiny bit of difference, it will have been worth it. This thesis is dedicated to you, my love always.

Declaration

Author's declaration: I declare that this thesis is all my own work and has not been submitted in substantially the same form for the award of a higher degree elsewhere.

Signature:

E.D.Ransome

1. Introduction

This chapter provides an overview of my personal motivation coupled with a general conceptual background that underpins this research. It introduces the research aims, objectives and questions that have guided the research process. This is followed by a brief introduction to the research design, theoretical framework and the overall structure of the thesis, outlining each chapter's contribution to the research.

1.1 Motivation

"Change the system, not the climate!" is a resonant message, frequently observed on the banners of young climate activists worldwide. This slogan encapsulates the imperative need to address climate change through systemic transformation, a challenge underscored by Bandarage (2013) and a need that deeply resonates with me. Growing up on a farm, my father instilled in me an inherent respect for the land and an awareness of the delicate balance needed between nature, humans and resources. My passion for climbing further embedded this respect and connection with nature, recognising that sustainability is not just an academic concern but an embodied practice. As a Forest School teacher in an inner-city school, I was astonished by the lack of awareness that families and colleagues had regarding the natural world, despite UNESCO's Declaration for Education 2030 (UNESCO, 2016) recognition of the critical role of education in driving sustainable development (SD).

Now, as a Senior Lecturer in Education, I see it as a fundamental duty of Higher Education Institutions (HEIs) to reimagine their roles in cultivating a generation of sustainability-literate students. However, the current educational framework is failing to adequately prepare students for the dynamic challenges of a sustainability-focused future (Abo-Khalil, 2024; Kalocsányiová et al., 2024). Systemic misalignments hinder the establishment of a sustainable society, consequently, there is an urgent need to reconfigure the educational system to

directly address the climate emergency and economic crises (Marouli, 2024; OECD, 2024). This requires more than merely integrating SD into HEIs; it demands a transformational reorientation that embeds sustainability at the heart of institutional practice.

1.2 Sustainability in Higher Educational Institutions

HEIs are increasingly recognised in policy and academic discourse as vehicles for change, acknowledged as places of multiple functions, including research, education and societal leadership (SDSN, 2017). Indeed, the UN (UNESCO, 2016) emphasises the key role HEIs have in developing the sustainability-related skills and knowledge of students, yet the debate on what *should* be learned and *how* this should be taught remains conceptually controversial and empirically inconclusive (Probst, 2022).

HEIs are uniquely positioned to act as transformational agents, with the capacity to shape lifelong habits and contribute significantly to societal prosperity (Žalėnienė and Pereira, 2021). Given the growing global emphasis on sustainability and the urgent challenges posed by climate change, UK HEIs must cultivate graduates equipped with the skills required to drive innovation solutions for a more sustainable future. Their fundamental responsibility lies within their positioning across diverse societal contexts, including:

- Their roles as societal leaders, future shapers and exemplars of best practice
- Their influence on local and national policy
- Their role in educating the next generation of global citizens (Van Weenen, 2000; Corcoran and Wals 2004; Gough and Scott, 2008).

However, neoliberal pressures within HEIs have the potential to dilute meaningful efforts to facilitate a sustainable graduate workforce. Neoliberalism can be defined as “a theory of political economic practices that proposes that human

well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade" (Harvey, 2007: p.2). Traditional markers include, privatisation, competitive choice, laissez-faire economics and minimal government intervention, each of which are embedded within western-style liberal HEIs (Phelan and Dawes, 2018).

A growing body of criticism suggests that the Sustainable Development Goals (SDGs) are structured within a neoliberal framework and while they promote sustainability, they fail to challenge the underlying economic systems driving societal degradation (Carter and Smith, 2023; Belda-Miguel et al,. 2019; McCloskey, 2019). Some suggest that sustainability efforts are increasingly more about branding than actual impact (Bessant et al., 2015) resulting in purposeful or unintentional 'greenwashing' (Cownie, 2023) rather than genuine, systematic change. Many HEIs use the SDGs as a backdrop to guide their sustainability frameworks, aligning curricula, operational and community engagement efforts with each target. However, they can be viewed as a tool for commodifying sustainability without necessarily addressing systemic issues such as wealth inequality, thus aligning sustainability with profit-driven goals rather than societal wellbeing. The wider political dynamics and the ways in which sustainability is framed highlights the importance of examining how language is employed to reflect and reinforce power structures (Fairclough, 1995) – an approach that is developed and discussed in the methodology section.

1.3 Sustainability as a Wicked Problem

Approaches to Education for Sustainable Development (ESD) are both philosophically and practically diverse with different interpretations and emphases on pedagogical approaches, ranging from formal curricula -based ESD, to student led projects, to wider community-based learning (Bessant et al., 2015). The varying levels of practical application can be attributed to the disposition that sustainability concerns are often perceived to be 'wicked problems', or nexus issues that are highly complex, ambiguous and controversial with uncertainty both

in respect to what is happening and what needs to be done (Rittel and Webber, 1973; Wals and Schwarzin, 2012). As wicked problems are dynamic and unfamiliar, distributed across interconnected systems, stakeholders draw on different sources of information, thus making them prone to conflicts of interest (Gulikers and Oonk, 2019) and resistant to definitive answers (Vogel et al, 2023).

Moreover, the vagueness of SD coupled with its increasing prominence in national and international policies, has resulted in a range of various interpretations being applied to the concept. This has led to definitions that are positioned towards institutional prerogatives rather than compounding the essence of the concept (Mebratu, 1998). HEIs approach the concept through multiple lenses, including:

- Environmental (Leal Filho et al., 2018; Cortese, 2003)
- Economic (Weiss et al. 2021; Kamphambale, 2022)
- Social Justice and Equity (Tilbury, 2011; Sterling, 2012)
- Curriculum and Pedagogy (Gulikers and Oonk, 2019; Scarff Seatter and Ceulemans, 2018)
- Cultural and Institutional (Stevens et al., 2008; Shriberg, 2002)
- Global Citizenship (Jickling and Wals, 2008; Ackay et al., 2024)
- Neoliberal (Kreinin and Aigner 2022; Powell et al., 2024)

The term SD has been used prolifically as a trendy buzzword (Purvis, Mao and Robinson, 2018) and whilst it is a known concept, its openness to interpretation is vast, and its understanding is often contextually based, differing between institutions and stakeholders (Reid and Petocz, 2006; Alexio et al., 2018; Bien and Sassen, 2020). This ambiguity has led to varied interpretations across HEIs, and accordingly its definition remains a contentious issue within academic and policy discourse. The term's broad and often conflicting interpretations have led to over and misuse, resulting in it meaning 'everything' to some people, and 'nothing' to others (Karoly 2011; Leal Filho and Brandli, 2016), therefore necessitating a comprehensive research endeavour to elucidate its meaning and implications.

1.4 The gap in the research literature

UNESCOs (2015) Declaration for Education 2030 emphasises the importance of quality education through SDG 4, particularly by expanding access to education, reorientating education systems and increasing public awareness, and training. This process is referred to as Education for Sustainable Development (ESD) and is embedded within Target 4.7:

"By 2030, ensure that all learners acquire the knowledge and skills needed to promote SD, including, among others, through education for SD and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to SD."

HEIs are transformative environments that can contribute decisively to embedding the SDG principles into student mindsets (Zaleniene and Pereira, 2021), to facilitate societal responses to the plethora of global challenges (Stephens et al., 2008). There are international commitments to ensure that all learners acquire the sustainability-related knowledge and skills (UN, 2015; UNESCO 2016) and integrating sustainability into educational policy (UNCC, 2021). However, ESD, SD and sustainability are terms that are often used interchangeably despite being distinct concepts that have each evolved over time resulting in increasingly ambiguous definitions. The way these concepts are understood depends on the lens through which they are viewed, consequently creating numerous definitions (Leal Filho et al. 2024) resulting in various forms of implementation.

Prior research has focused on specific features of sustainability within HEIs, such as pedagogy, curricula or campus operations, yet few have focused on how the concept is perceived, interpreted and practically implemented across institutions (Vogel et al. 2023; Leal Filho et al., 2024). Indeed, empirical publications frequently omit to define the intended learning outcomes of their interventions or how these can be recognised and to progress with sustainability-related research,

clarity is needed. Vogel et al (2022) dictated that there is a need for researchers to aim for conceptual clarity in sustainability-related terminology. While Leal Filho (2024) argues the lack of a universally accepted definition hampers the efforts of committed HEIs due to inconsistent application and outcomes.

Due to the concept's continual advancement, there is a clear need for a conceptual analysis to better understand its meaning and application across UK HEIs. This research aims to address the gap in the literature by providing a refined understanding of sustainability, allowing for the development of the 'Sustainability Integration Framework' (SIF). This will support academic understanding and consistent implementation thus allowing purposeful policy, frameworks and educational strategies to be effectively aligned with both international and national policy ensuring meaningful contribution towards global sustainability initiatives.

This research aims to conduct a conceptual analysis of the term 'sustainability' by exploring how HEIs define sustainability through:

- A comprehensive review of existing literature
- Policy analysis
- Interviews with key informants

For the purposes of this study that the term 'sustainability' is understood to encompass the three pillars 'economic', 'societal and 'environmental' and may be used interchangeably with the terms SD or ESD, depending on the context.

The research aims to:

- Identify and examine definitions of sustainability
- Identify reoccurring themes, attributes and terms associated with sustainability
- Identify what factors influence sustainability practices within HEIs

- Examine examples of sustainability in various HEIs and establish links to literature
- Create a Sustainability Integration Framework

By exploring the understandings and practical embodiments of sustainability in HEIs, this research will offer a valuable resource for policymakers, and academics alike. It will also support HEIs to align their sustainability efforts with international frameworks, while fostering meaningful, transformative change.

1.5 Research Questions

This study synthesises Fairclough's (1995) Critical Discourse Analysis (CDA) with specific components of three conceptual analysis frameworks:

- Chin and Kramer (1983)
- Rodgers (1989)
- Hasse et al. (2000)

This established a comprehensive conceptual and methodological approach as illustrated in Figure 1. Intertwining this with Policy Implementation Theory (PIT) and Institutional Theory (IT) allowed this research to explore the language, narratives, and evolving nature of sustainability with HEIs. It also facilitated a deeper understanding of theoretical and practical implications, which will be explored further in the methodology section.

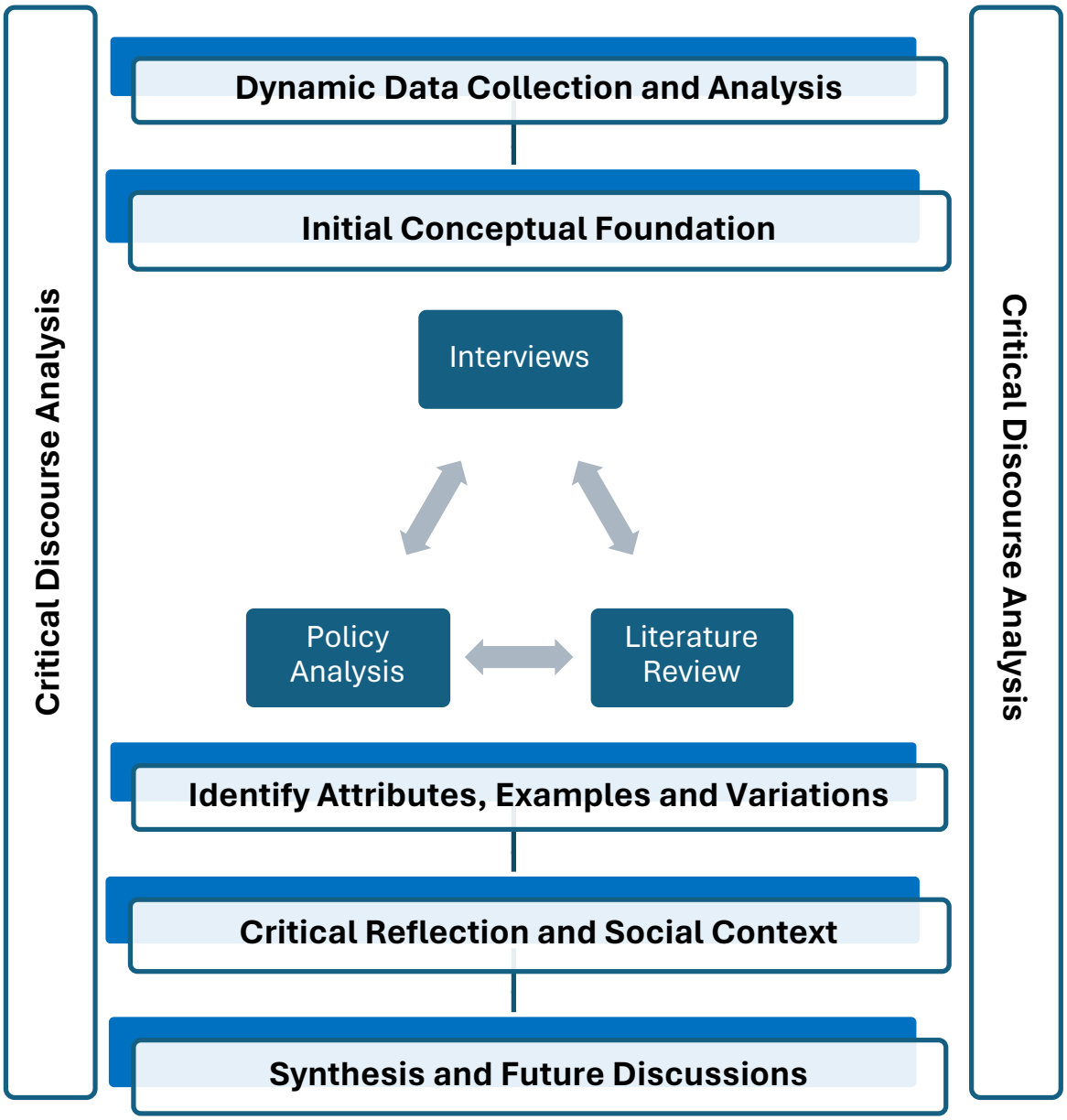

Figure 1 Conceptual and Methodological Framework

The conceptual and methodological approach sought to analyse the internal and external HEI atmosphere through an exploration of the lived experiences of key informants intertwined with policy analysis.

Thus, the four guiding research questions are:

1 – How do different HEIs and key stakeholders define and interpret sustainability?

2 – What are the reoccurring themes and attributes associated with sustainability?

3 – What external and internal factors influence how sustainability is interpretated and implemented within HEIs?

4 – How do various definitions of sustainability influence policy, practice and outcomes?

Amalgamating CDA with a conceptual analysis allowed this research project to examine the various layers of meaning associated with sustainability. This facilitated the production of the 'Sustainability Integration Framework' to be used across HEIs to guide policy, practice and strategic decision-making.

1.6 Thesis Structure

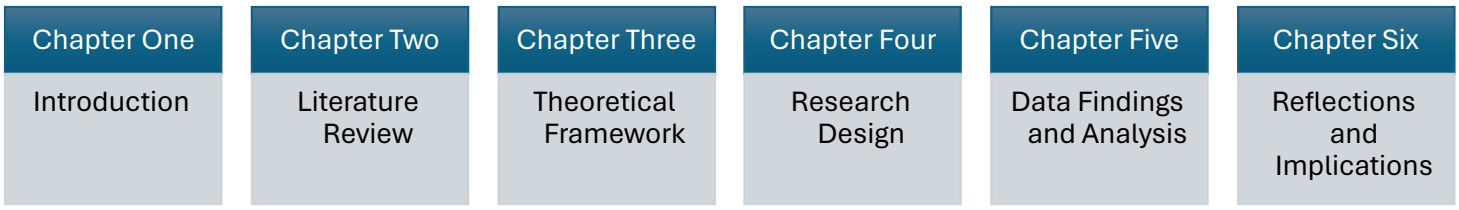

Figure 2:Thesis Structure

Chapter One introduces the thesis with an initial exploration into the significance of sustainability as a global social movement, how HEIs are well positioned to foster a future sustainability aware society and the need for clarity in relation to the term 'sustainability' as a justification for this piece of research.

Chapter Two establishes what is already known about sustainability in HEIs by exploring the notion of it as a concept. It uncovered reoccurring antecedents, which provided a foundational analysis prior to data collection, which helped to shape and refine the research questions.

Chapter Three explores the researchers philosophical positioning, which embraced a constructivist-interpretative paradigm. This section also gives and overview of underpinning theory and rationalises the combination of critical discourse analysis with conceptual analysis.

Chapter Four outlines the research methods used, including the techniques for sampling, data collection and data analysis. It then goes on to discuss the ethical considerations and methodological rigour used within the research.

Chapter Five examines direct quotes from policy and interviews to highlight significant findings and key themes from the interviews. The data and subsequent discussions are organised into three meta-categories:

- Conceptualisation
- Implementation
- Impact

Each following the format of:

- Policy data and analysis
- Interview data and analysis
- Synthesis of policy and interviews analysis and discussion

Diagrams, tables and reflective memos are used throughout to illustrate patterns and emphasise key ideas which emerged.

Chapter Six reflects upon the research questions by critically examining how the results contribute to the conceptualisation of sustainability in HEIs. It also introduces the SIF which builds upon Sterling's (2004) model to illustrate a staircase model to understand sustainability integration across HEIs.

2. Literature Review

A preliminary literature review was undertaken to explore existing knowledge and identify gaps in the literature. The aim was to perform a broad evaluation of the literature, rather than an exhaustive review, allowing the researcher to develop preliminary theoretical sensitivity towards the fundamental concept, identify gaps in the knowledge base, and establish the genuine need for the study (Giles, et al 2013; Thistoll et al, 2016). The original research question was centred on policy implementation; however, the gaps identified underscored the necessity for a conceptual analysis of the term, as a prerequisite to pursuing more narrowly focused research projects in the future.

Theoretical sensitivity is a conceptual insight that a researcher's develops when recognising and extracting relevant theoretical insights from data during the research process (Glaser, 1978). It involves an awareness of the subtleties and nuances within the data, allowing the researcher to develop meaningful and robust theories. It is cultivated through a combination of personal experience, existing literature, and the researcher’s immersion in the research context, enabling the identification of significant patterns, relationships, and themes. The concept is particularly important in qualitative research, such as this, where the development of theory is an iterative and ongoing process (Glasser, 1972; Strauss, 1987; Strauss and Corbin, 1990). This approach allowed the research questions to be cultivated and enhanced the research design by remaining reflexive to prevent pre-conceived ideas.

This chapter will explore key definitions, meanings and interpretations of sustainability within a Higher Education context. It will critically analyse theoretical and conceptual frameworks and examine dominant discourses, key challenges and the role of external policy. Finally, it will highlight gaps in the literature to establish a conceptual foundation for the analysis.

2.1 Development of Sustainability Definitions in Educational Policy

The language surround sustainability, sustainable development (SD) and Education for Sustainability Development (ESD) can be inaccessible (Cotton et al., 2007) due to its abstract nature and broadness (Daramola, 2024). Numerous definitions exist and terms are used interchangeably, thus creating ambiguity and a lack of applicability and continuity (Bessant and Tidd, 2009; Leal Filho et al., 2017). Sustainability is often defined using the three pillars (WCED, 1987):

- Economic
- Societal
- Environmental

The three pillars derived from the Brundtland report (WCED, 1987) as a means of conceptualising sustainable development, building on earlier discourses such as the Stockholm Declaration (UN, 1972) with the aim of merging economic growth with environmental protection and social equity. At times, it has been critiqued for its compartmentalisation, however, there have been calls for a recognition of the interdependence and tensions between the pillars (Purvis et al., 2019; Lele, 2013). These pillars are also referred to as the "triple bottom line" (Elkington, 2018) and are embedded in Sustainable Development Goals (SDGs[1]) (UNESCO, 2015) (Ilham et al, 2020). Synonymous with these pillars are various terms and phrases including, but not limited to:

- People, planet, profit
- Environmental stewardess
- Education for sustainable development
- Education for sustainability

[1] [1] United Nations (2015) *Transforming our world: the 2030 Agenda for Sustainable Development*. Available at: https://sdgs.un.org/2030agenda (Accessed: 12 December 2023). This source is provided for context and will not be cited further in this text.

- Sustainability literacy
- Global citizenship education
- Transformative learning for sustainability
- Circular economy
- Climate justice
- Green innovation
- Low-carbon growth
- Corporate social responsibility

The relationship between and interconnectedness of these term results in sustainability being considered a 'wicked problem'. It is characterised by its resistance to definition, due to its unfamiliar, ambiguous, chaotic nature, which creates conflicts of interests among multiple stakeholders (Gulikers and Oonk, 2019).

Although sustainability encompassed multiple dimensions, it requires robust educational frameworks to accelerate a society of informed and proactive global citizens (UNESCO, 2017). The UNs Decade of Education for Sustainable Development (DESD) (UNSECO, 2005: p.2) officially recognised this need and defined 'SD' as:

> "A constantly evolving concept, that is…the will to improve everyone's quality of life, including that of future generations, by reconciling economic growth, social development and environmental protection"

This official definition demonstrates the terms fundamental vagueness through its use of broad and subjective language. Describing SD as "a constantly evolving concept" and using terms like "quality of life" is inherently subjective, underscores the interpretive nature of the concept. The DESD (UNSESCO, 2005)

emphasised the role of HEIs in promoting SD by recognising them as establishments which:

- Shape future leaders
- Foster critical thinkers
- Drive forward research

The DESD (UNSECO, 2005) amalgamated the principles and practices of SD into all aspects the curricula, research, campus operations, and community outreach. The aim was to provide students with the necessary skills and knowledge to identify and navigate complex sustainability issues. It highlighted that ESD should focus on all three pillars in equal measure, to ensure a holistic, interdisciplinary approach and thus meaningful learning experience.

HEIs bridge the gap between academic research and industry practice, learning and practice, and education and societal impact (Orr, 1992; Tilbury, 1995; Sterling and Scott, 2008). The DESD (UNESCO, 2005) demanded HEIs work with wider stakeholders and communities, enrich sustainability policies, and ensure continuous monitoring and improvement to ensure effective contribution to the SDGs. However, the guidance failed to establish a specific or accessible framework leading to a range of interpretations across the sector.

After the conclusion of the DESD (UNESCO, 2005) in 2014, UNESCO launched the Global Action Programme (GAP) on ESD (UNESCO, 2014). This programme aimed to generate and scale up action in all areas of education and focused on five priority action areas:

- Advancing policy
- Transforming learning and training environments
- Building capacities of educators and trainers
- Empowering and mobilising youth

- Accelerating sustainable solutions at the local level

The document further exemplifies the equivocality of the term, through the introduction of additional terminology. ESD was defined as:

> "Empower[ing] learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society, for present and future generations, while respecting cultural diversity. It is about lifelong learning and is an integral part of quality education. ESD is holistic and transformational education which addresses learning content and outcomes, pedagogy and the learning environment. It achieves its purpose by transforming society." (UNESCO, 2014: p.12).

Following on from this, in November 2019, UNESCO adopted a new global framework called "Education for Sustainable Development: Towards achieving the SDGs" or "ESD for 2030" (UNSECO, 201). This framework built upon the achievements of the DESD (UNSECO, 2004) and the GAP (UNSECO, 2014), emphasising the need to integrate education to achieve the SDGs. The framework aims to support learners of all ages to become active contributors to a more peaceful and sustainable society and to develop a sense of responsibility for the planet.

The definition of ESD has further evolved within this policy, stating:

> “ESD empowers learners with knowledge, skills, values and attitudes to take informed decisions and make responsible actions for environmental integrity, economic viability and a just society empowering people of all genders, for present and future generations, while respecting cultural diversity. ESD is a lifelong learning process and an integral part of quality education that enhances cognitive, social and emotional and behavioural dimensions of learning. It is holistic and transformational and encompasses learning content and outcomes, pedagogy and the learning environment itself.”
>
> (UNESCO, 2020: p.8).

Since the introduction of the SDGs, the UN has continually developed their definition of ESD:

> “ESD gives learners of all ages the knowledge, skills, values and agency to address interconnected global challenges including climate change, loss of biodiversity, unsustainable use of resources, and inequality. It empowers learners of all ages to make informed decisions and take individual and collective action to change society and care for the planet. ESD is a lifelong learning process and an integral part of quality education. It enhances the cognitive, socio-emotional and behavioural dimensions of learning and encompasses learning content and outcomes, pedagogy and the learning environment itself.”
>
> (UNESCO, 20204)

The latest iteration has evolved to expand the scope of challenges, reflect individual agency and empowerment. Furthermore, it stresses that ESD is a life-long learning experience which prepares young people for the future, by teaching them how to reverse current damage, contribute to a sustainable future, and how to do this on an individual basis.

In response to international political and moral obligations the UK has been at the forefront of embedding ESD into its HEIs. Indeed, prior to the DESD, the University of Plymouth established one of the earliest sustainability initiatives, which integrated innovative pedagogy and curricula for SD (Cotton et al., 2009; Sterling & Thomas, 2007). Post DESD, more HEIs began to embed sustainability into their institutional missions and strategies, thus propelling it within the policy arena. So much so, that the Quality Assurance Agency (QAA) and The Higher Education Academy (HEA) collaborated to create the first UK guidance for ESD within HEIs, defining SD as:

> "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."
> (QAA and HEA, 2014: p.5)

And ESD as:

> "Education for SD is the process of equipping students with the knowledge and understanding skills and attributes needed to work and live in a way that safeguards environmental social and economic wellbeing both in the present and for future generations."
> (QAA & HEA 2014: p.5)

Since the original framework, the QAA and Advance HE co-convened new definitions in their 2021 guidance:

"Sustainable Development - an aspirational ongoing process of addressing social, environmental and economic concerns to create a better world."

"Education for Sustainable Development - the process of creating curriculum structures and subject-relevant content to support sustainable development."
(Advance HE, 2021: p.3)

They also offer an in-depth definition of ESD stating that is:

"The process of creating curriculum structures and subject-relevant content to support and enact sustainable development … ESD, is not solely about environmental issues as is commonly misconstrued, but focuses on the connections between economic, social and environmental factors.
ESD:
- Is an educational change agenda grounded in transformative learning and critical pedagogy
- Is a lens to look critically at how the world is and to envision how it might be and equips us to deliver that vision
- Develops competencies, skills, attributes and values, and link to subject knowledge and knowledge of SD
- Supports learners across all academic disciplines and subject areas to create and pursue visions of a world that recognises the interdependence of environmental integrity, social justice and economic prosperity, while acknowledging that environmental resources are finite and provide the foundation for our society and economy"
(Advance HE, 2021:p.8)

Advance HE has since published another framework which offers this definition:

> "It enables learners to make informed decisions and take both individual and collective actions to transform society and protect the planet. It enriches the cognitive, socio-emotional and behavioural aspects of learning, covering not only the learning content and outcomes but also the teaching methods and the learning environment itself. ESD is a powerful driver of student success, enhancing internationalisation, employability and entrepreneurship, community engagement, inclusivity, and mental health and wellbeing. ESD is therefore beneficial both within and beyond our institutions."
>
> (Advance HE, 2023: p.2)

Alongside these guidance and frameworks, the Department for Education (DfE) introduced the policy '*Sustainability and Climate Change: A Strategy for the Education and Children's Services Systems'* which envisions the United Kingdom as being a world-leading education sector in sustainability and climate change by 2030 (DfE, 2022).

The policy aims to do this through the following strategic aims:

Excellence in education and skills for a changing world: preparing all young people for a world impacted by climate change through learning and practical experience.

Net zero: reducing direct and indirect emissions from education and care buildings, driving innovation to meet legislative targets and providing opportunities for children and young people to engage practically in the transition to net zero.

Resilience to climate change: adapting our education and care buildings and system to prepare for the effects of climate change.

A better environment for future generations: enhancing biodiversity, improving air quality and increasing access to, and connection with, nature in and around education and care settings.

And the action areas:

Action area 1: Climate education

Action areas 2: Green skills and careers

Action area 3: Education estate and digital infrastructure

Action area 4: Operations and supply chains

Action area 5: International

The DfE (2022) offers no definition for sustainability, however, it does state that while it is focused on the environmental aspect, it is done with consideration for how those policies interact with social and economic aspects.

Definitions of sustainability, SD and ESD have evolved across these key policies and frameworks with key themes becoming broader as illustrated in Table 1, yet none have provided the clarity needed for consistent application within a HEI framework.

Source	Quality of Life	Lifelong Learning	Environmental Integrity	Economic Viability	Social Justice	Transformative Learning	Socio-emotional and behavioural	Curriculum structures	Holistic approach	Collective action
UNESCO (2005)	X		X	X	X					
UNESCO (20014)	X	X	X	X	X	X	X			X
QAA and HEA (2014)	X		X	X	X					
UNESCO (2020)	X	X	X	X	X	X	X	X		X
Advance HE (2021)	X	X	X	X	X	X	X	X	X	
Advance HE (2023)	X	X	X	X	X	X	X	X	X	X

Table 1: Themes within sustainability definitions

Originally seen as an educational tool to support awareness of SD, the scope of ESD has transitioned from an environmental agenda to an educational one targeting knowledge, competence and awareness (Zhou, 2024). Yet, the definition remains volatile, subjective and open to interpretation. While each subsequent definition elaborates on the concept by incorporating elements like agency, lifelong learning, holistic and transformational education, and respect for cultural diversity, they simultaneously make the definition broader, amplifying its ambiguity. This complicates the practical application making it challenging for HEIs to implement consistent strategies, resulting in devolved interpretation and implementation of sustainability-related practice.

Undeniably, both international and national policy introductions have necessitated a complete transformation and reorientation of HEI policy, pedagogy, research activities, and campus operations towards sustainability-centred values. However, the diverse range of interpretations and responses necessitates the need for a rigorous conceptual analysis of the term 'sustainability' to establish a coherent and actionable framework for HEIs.

2.2 Shaping the Future: The Role of Higher Education for Sustainable Development

Sustainability has featured on the HEI agenda for more than 20 years, with numerous declarations signed by HE leaders and over forty-two national and international networks established dedicated to sustainability in HE (Mader and Rammel 2014; Leal Filho, 2018). Meanwhile, the UNESCO (2015) recognised HEIs as crucial to delivering the SDGs as they are inherently responsible for making societies more sustainable (Findler et al, 2019). This underpins initiatives such as the Higher Education Sustainability Initiative (HESI) and the SD Solutions Network (SDSN) which are intensely involved in promoting the SDGs within HEIs. The HE environment is an essential driver to explore, examine, generate, and communicate processes and procedures for sustainable change in a global

context (Aluko et al., 2023). The United Nations Environmental Programme (UNEP) emphasises that “no institutions in modern society are better situated and more obliged to facilitate the transition to a sustainable future than colleges and universities” (Dave et al., 2014, p. 18).

This trend continues to gain momentum driven by several international and national policies, agendas and initiatives including:

- The United Nations Decade of Education for Sustainable Development (UNESCO, 2005)
- The Global Action Programme (GAP) on Education for Sustainable Development (UNESCO, 2014)
- Education for Sustainable Development: Towards achieving the SDGs” or “ESD for 2030” (UNSECO, 2021)
- The work of the Advance HE, the Higher Education Academy, and the Quality Assurance Agency
- The Department for Educations (DfE, 2022) Sustainability and climate change: a strategy for the education and children’s services systems
- The student voice empowered through groups such as ‘Students Organising for Sustainability’ and the Students’ Union
- A growing number of awards and rankings, including the Green Gown Awards, the QS World University Sustainability rankings, The People and Planet Award, and the Times Higher Education (THE) Impact Rankings
- Increasing demand from staff and local communities

However, despite the increased recognition of, and commitment to SD, agreement abouts its relevance is still questionable within academia, government agencies and private enterprises (Bromanb and Robert, 2017). Coupled with the lack of a coherent definition, implementation within HEIs has been limited (Lozano et al., 2015) with varying levels of depth, consistency, and effectiveness.

The SDGs (Figure 3) are arguably the most recognised and cited framework. They provide a clear and accessible framework making it easier to integrate sustainability into the curriculum, research and operations.

Figure 3: United Nations Sustainable Development Goals

The SDGs were launched under the 2015, UN Framework for SD and consist of 17 goals designed as a “universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030” (UNEP, 2015). The goals cross political, economic social, environmental and technological boundaries, with 169 targets and 232 unique indicators underpinning them. Accordingly, the broad scope of the goals and the depth of the targets allows each SDG to resonate with all academic disciplines and subject areas (Mori et al., 2021).

HEIs view sustainability through different lenses determined by their conceptualisation and strategic agendas, and consequently tend to focus their approaches within four main realms of activity:

- Sustainability focused education and teaching
- Sustainability focused research

- Campus operations and environmental management
- Community engagement around sustainability issues (Bessant et al., 2015)

Each approach takes a different philosophical stance and practical application dependent on institutional strategic priorities, be they student centred, research focused, market-driven or holistic societal development. Indeed, HEIs are steered towards reaching specific performance outcomes within the Teaching Excellence Framework (TEF), Research Excellence Framework (REF), the National Student Survey (NSS) and the Office for Students' (OfS) metrics, which in turn influences student numbers and revenue (Bessant et al., 2015). As a result, HEIs are becoming fiscally bound, business-like and managerialist with notable shifts towards strategic plans and policy aimed at increasing income generation, innovation, commercial enterprise and business engagement (Jary 2005; Marginson, 2007; NEF, 2008; Steering and Wise 2009; McArthur, 2009).

Many have criticised HE approaches for undermining their core values by upholding the neo-liberal ethos and the inevitable trade-offs between social justice equity, environmental protection and ethical and democratic decision making (Readings, 1998; Saravanamuthu and Tinker, 2002; Devancy and Weber, 2003). However, it can be argued that HEIs in the UK have responded in ways that enable them to survive the current climate and have no choice to operate within the neo-liberal regime and therefore it is necessary to examine sustainability practices without supporting any ideological stance.

HEIs are changing agents, and catalysts in the development of sustainability-related issues (Shields, 2019). Over the past decade extensive discussions have occurred regarding universities response to sustainability concerns and the impact HE can have on sustainability (Littledyke et al 2013; Fehlner, 2019; Leal Filho et al 2018; Findler et al 2019). Research shows that ESD positively affects curricula contents, and associated processes and outcomes (Gatti et al, 2019). Yet HEIs have been criticised for their slow response (Yanez et al., 2020) and for the prevalence of traditional pedagogies which are incapable of transcending the

paradigms that have led to the current crisis (Sterling, 2010; Hanlon et al., 2012; O'Brien et al., 2013; Fazey et al, 2018; 2020; Bina and Pereira, 2020). For HEIs to survive and remain resilient in the face of environmental challenges, they must undergo rapid and substantial change to ensure longevity of human life on this planet (Maxwell, 2007; Sterling 2009; Benynaghi et al., 2016; Fazey et al., 2020; Vogt and Weber, 2020).

2.2 Institutional Responses

HEIs are often rooted in traditional, reductionist and mechanistic paradigms emphasising hierarchy, structure and conventional pedagogy. They tend to approach and think about problems in particular ways, potentially contributing to *unsustainability* (Lozano et al., 2013). Indeed, HEIs are well positioned to develop student capacity for societal change at scale by providing moral leadership driving transformative practice (Fazey et al., 2021). However, some argue that HEIs are maladaptive and no longer fit for purpose (Assadourian, 2017; Sterling, 2021; Stewart, 2022). HEIs are beholden to the same economic forces that created the sustainability crisis itself (Green, 2021; Bauer, 2021.; Lopez-Lopez, 2021) which is a fundamental barrier to the wholly integrative approach needed to have truly sustainable education (Sterling, 2004). Considering this, UNESCO set up an International Commission on the Futures of Education (ICFE) to ""rethink education in a world of increasing complexity, uncertainty, inequalities, risks *and* possibilities" (ICFE, 2021). The ICFE (2021, p.8) recognises the influence of the neoliberal world, stating:

> "For too long, education has been based on a growth-focused modernist development paradigm. Moving toward a new ecologically oriented understanding of humanity that integrates our ways of relating to Earth, requires an urgent rethinking of education in the 2050 horizon."

Over the years HEIs have contributed to education, the creation of knowledge, and to significant global movements and societal change around a range of diverse topics (Schofer et al., 2021). It is now imperative that HEIs "renew their commitments to serving the public good, be dedicated to an unwavering challenge-orientation, create post-disciplinary structures, and be the change one seeks to see in the world" (Fazey et al. 2021, p.1). This requires a transformative shift from current dominant paradigms that underpin unsustainable societal patterns (Berzonsku and Moser, 2017) to accelerate fundamental changes to structures, mindsets and beliefs (O'Brien, 2012; O'Brien and Sygna, 2013).

Diverse efforts have been made within leading HEIs to *integrate* sustainability into frameworks by offering new approaches, collaborating with other HEIs and the wider community building on life experiences and running 'educating-the-educators' programmes (Lozano et al. 2013; Ramos et al. 2015). Yet, these have an air of cosmetic reform (Sterling, 2004) rather than the transformative changes needed to challenge assumptions and worldviews. A transformative approach requires rethinking systems, mindsets and cultures to create the enabling conditions for wholly integrative sustainability to emerge.

There have been varying levels of response from HEIs to the concept of sustainability, worryingly some academics propose that many institutions thrive in an unsustainable world (O'Riordan and Volsey, 1998). Consequently, some have only made marginal and tokenistic changes, resisting substantial or radical change, adapting just enough to accommodate the concept of sustainability, but not enough to make fundamental change. Sterling (2004) illustrates this by highlighting four responses to ESD:

Sustainable Transition	Response	State of Sustainability (Societal Change)	State of Education (Educational Change)
Very weak	Denial	No change	No change
Weak	Bolt on	Cosmetic reform	Education about sustainability
Strong	Build in	Serious greening	Education for sustainability
Very strong	Rebuilt	Wholly integrative	Sustainable education

Table 2: Staged social and educational responses to sustainability (Sterling, 2004)

The next four sections of this literature review will look at varying approaches within HEIs that align with these responses.

2.2.1 Denial

The first level '*denial'* means that even if there is some awareness there is no action, either due to ignorance or denial (Sterling, 2004). Whilst ESD has gained momentum, significant restructuring remains in its infancy. Transformative actions tend to come up against unwillingness of powerful institutional norms, which limits the impact of sustainability initiatives (UNESCO, 2022). Indeed, many HEIs face barriers to adopting sustainability due to entrenched norms and institutional inertia (Hofman et al., 2022; Korteling, 2023). Subsequently there is a status-quo bias, whereby doing nothing or maintaining one's current position becomes the favoured approach (Samuelson and Zeckhauser, 1988).

Sustainability practices can be viewed as disruptive or needing significant effort or investment, despite the long-term advantages being abundantly clear. In such cases the risks outweigh the rewards and any disruption to the status-quo causes fear for the institutional well-being (UNESCO, 2022). The Students Organising for

Sustainability (SOS) (2019) found that the main barriers to implementing sustainability practices were:

- Lack of staffing resources
- Prioritisation of other issues
- A lack of financial investment

Furthermore, they found that 91% of respondents felt that to overcome this issue the Government needed to take action to ensure commitments were being met, with 73% calling for mandatory action. It is inevitable that without external interventions some will continue to have an inertia toward sustainability. They will maintain the deeply ingrained status-quo bias despite the growing recognition of ESDs long-term benefits for society, underscoring the need for stronger policy enforcement, leadership and structural reform.

2.2.2 Bolt-On

The second level of Sterling's (2004) model 'bolt on', is where HEIs *accommodate* sustainability - they make additions to their systems, but the dominant paradigm and systems remain largely unchanged. Many HEIs begin their sustainability journey through incrementalism, whereby they opt to make gradual adjustments over a period of time to change processes (Lindbolm, 1959) avoiding large-scale transformation processes. This approach is widely used with HEIs, particularly within curriculum integration, for example, sustainability may be integrated by providing optional modules or courses within established disciplines without fundamentally altering the curriculum (Weiss et al., 2022; Avelar and Pajuelo-Moreno, 2024). HEIs may also offer additional modules in an interdisciplinary approach, which allows students from various disciplines to develop their sustainability knowledge without the need to create entirely new, stand-alone courses (Franco et al, 2018; Mokski et al., 2023).

Other instances where the ‘bolt on’ approach occurs is when HEIs use the piecemeal approach, in which complex problems are addressed by breaking them down into smaller, more manageable pieces, actioning individually without an overarching structural change (Mishra, 2020). For instance, a HEI may decide to source their food locally, use reusable cups or introduce composting but overlook other aspects such as energy use, ordering from sustainable companies, or transportation, thus treating each aspect as a separate issue rather than taking a holistic approach. Such piecemeal approaches are common within HEIs as they offer an affordable approach while attempting to challenge institutional inertia or resistance from stakeholders (CWRU 2024).

Another method under the ‘bolt-on’ lens, comes under Corporate Social Responsibility (CSR), which focuses on external-facing accomplishments and initiatives, such as:

- Community engagement
- Volunteer days
- Public events
- Activities like tree-planting.

These activities promote environmental stewardship (Fazey et al., 2021) and community involvement (Plumber et al., 2021), yet they remain separate from the core functions which aligns with CSR principles (Adhikariparajuli et al. 2020; Wu 2024). Such efforts lack depth and may be viewed as tokenistic as they have limited potential for creating deep, systemic changes (Sengupta 2021; Fraser 2023).

This ‘bolt-on’ approach also aligns with incremental theory (Lindbolm, 1959) and piecemeal engineering (Popper, 1945) and supports Hall et al’s (2010) perspective that HEIs simply, ‘embellish and serve’ sustainability precepts, rather than fully implementing them. While it is an approach that can detect problems and assess results with the aim of solving each problem in succinct fashion, it is simply too

slow to achieve the radical change needed. Such small actions make it difficult to achieve any noticeable changes when the magnitude of the issues lying ahead of us require fundamental social reform (Afisi, 2021).

These approaches to sustainability often result in fragmentation, where initiatives appear across a HEI, but without any coherence, strategy or integration. This paper understands fragmentation as the structural and epistemological separation of activities across teaching, operations, and governance leading to isolated efforts that lack collective momentum (McMillin and Dyball, 2009; Sibbel, 2009). Examples of this can occur when sustainability efforts are made in procurement practices, but efforts remain disconnected from curriculum reform or research strategies (Lambrechts et al., 2018). This approach facilitates HEIs in showcases measurable, surface level commitments, such as SDG labelling, without embracing deeper systemic change (Leadl Filho et al., 2019), thus the 'bolt-on' approach reinforces fragmentation, preventing meaningful change.

2.2.3 Built In

The third level is *reformation*, whereby sustainability is 'built in' to existing systems, paradigmatic assumptions are called into question and there is a critically reflective and adaptive response thus resulting in significant change (Sterling, 2004). HEIs behave as complex systems, and sustainability is a growing value which arises from the social and environmental intersections within which they operate (Christou et al, 2024). Here, approaches such as 'Systems Thinking', 'Interdisciplinarity' and Competency-Based Education' (CBE) come to fruition, each of which shall be discussed.

Implementing the SDGs calls for an integrated, holistic and multi-stakeholder approach, which requires systems thinking, drawing on systems theories, tools and techniques to enable better conversation and cooperation between agencies (Reynolds et al; 2018). When HEIs adopt the systems thinking approach, it can

help address sustainability comprehensively ensuring it is ‘built in’ (Sterling, 2004) to each aspect of the institution. This means looking beyond ‘bolt on’ actions, or singular departments to establish a sense of interconnectedness across the HEI. Indeed, HEIs can function as an experimental arena for ESD, and sustainable practices should be considered in all their processes including:

- Campus operations
- Organisational culture
- Student body
- Ethos
- Wider community and external stakeholders
- Long term planning
- Monitoring and evaluation (Leicht, Heiss and Byun, 2018)

A systems approach views HEI as an integrated whole, understanding relationships and interactions without reducing its properties to smaller parts (Sterling, 2003). It helps set priorities for action by identifying crucial leverage points that can be enhanced thus driving organisational change (Christou et al., 2024). This allows institutional elements to follow sustainable trajectories while also revealing opportunities which promote sustainability. This ensures the HEI is dynamic and adaptive in its nature recognising both the synergies and trade-offs small changes can have (Weitz, Bennich and Carlsen, 2023). This approach works well within a sustainability arena because it allows HEIs to evaluate the potential of individual courses or actions to produce institution-wide change. Additionally, it coordinates various aspects into a strategic effort to improve the system, connecting the campus and its wider environmental and social contexts (Posner and Stuart, 2013).

Furthermore, it facilitates opportunities for interdisciplinarity working, which is generally accepted as thinking and working across academic boundaries towards a common purpose (Di Giulio and Defila, 2017; Pharo et al., 2014). This approach

to working is essential in addressing 'wicked problems', such as sustainability whereby the concept transcends traditional disciplinary boundaries and is crucial to the transformative process (Barnett, 2007; Cantor et al., 2015; Tassone et al., 2018). It helps reach all students, rather than those willing or one specific course, and help persuade students of the relevance when not always obvious (Vogel et al, 2023). This approach to working transcends the 'bolt on' level (Sterling, 2004), as it requires each area of the HEI to collaborate, cross boundaries and embrace different ways of thinking to place sustainability at the institutions heart. As HEIs traditionally work in a devolved manner, interdisciplinary working requires systematic change, brought about through the systems approach. This enables sustainability to be embedded in teaching, research, governance and campus operations as the institution becomes an interconnected system (Gelbmann and Pirker, 2023). This approach blends different theoretical insights, creating meaningful opportunities for students to develop their own ways of thinking, practicing and being (Advance HE, 2021; Vogel et al., 2023).

Balancing theoretical knowledge with practical application can be an issue with HEIs, where there may be a lack of real-world learning opportunities that allow students to apply knowledge effectively (Gale et al., 2015). Many courses are entrenched in theoretical paradigms, focusing on concepts without offering the opportunity to apply what they learn in meaningful ways (Ralph and Stubbs, 2013). This lack of experiential learning can result in students being unprepared to engage with SD practices in their graduate professions (Ralph and Stubbs, 2013; Gale et al., 2015). Gale et al. (2015) states the overarching barrier is often institutional inertia, whereby there is internal resistance to change, with underlying factors related to funding, time and staff training. Due to the devolved nature of HEIs, ESD can be fragmented across different disciplines, often being 'built in' in one department, and not in another. This silo style of working results in ESD being confined to specific courses rather than integrated across the HEI (Gale et al., 2015; Brundiers, 2020) and prevents interdisciplinary dialogue that sustainability demands.

Competency is defined as “a complex combination of knowledge, skills, understanding, values, attitudes and desire which lead to effective, embodied human action in the world, in a particular domain” (Oanh, 2018). Although CBE is widespread, it has not always been orientated towards sustainability, often unevenly addressed and in the absence of explicit sustainability content (Vogel et al., 2023). Providing graduates with the necessary competencies to allow them to engage constructively and responsibility in society will initiate the change towards a more sustainable society’ (Leal Filho et al., 2021). CBE is recognised as essential to ESD within several authors proposing lists of competencies (Advance HE and QAA, 2021; Brundiers et al, 2012; Lambrechts et al, 2023; Lozano et al., 2012; Rieckmann, 2012; UNESCO, 2017; Wiek et al., 2011).

These competencies are presented in Figure 6, using Advance HE’s guidance subheadings to categorise them:

Author	Ways of Thinking	Ways of Practicing	Ways of Being
Wiek et al. (2011)	Systems-thinking	Strategic	Interpersonal
	Anticipatory		
	Normative		
Rieckmann (2012)	Systemic thinking and handling of complexity	Planning and realising innovative projects	Cooperation in (heterogeneous) groups
	Anticipatory thinking	Communication and use of media	Participation
	Critical thinking	Interdisciplinary work	Empathy and change of perspective
	Evaluation	Acting fairly and ecologically	
	Ambiguity and frustration tolerance		
Lambrechts et al. (2013)	System orientation	Ability to take action	Responsibility
	Future orientation	Emotional intelligence	Emotional Intellegence
			Personal involvement
Lozano et al. (2017)	Systems thinking	Inter-disciplinary work	Interpersonal relations and collaboration
	Anticipatory thinking	Strategic action	Empathy and change of perspective
	Critical thinking and analysis	Communication and use of media	Personal involvement
	Assessment and evaluation	Tolerance for ambiguity and uncertainty	
	Justice, responsibility, and ethics		
Brundiers et al. (2021)	Futures thinking	Implementation	Integrated problem-solving
	Systems thinking	Interpersonal	
	Values thinking	Intrapersonal	
	Strategic thinking		
UNESCO (2017) Advance HE and QAA (2014)	Systems thinking	Strategic	Self aware
	Futures thinking	collaborative	Normative
	Critical thinking	Integrated problem solving	Self aware and Reflective
Advance HE (2024)	Systems and Future Thinker	Integrated problem solver	Action focused
	Critical Thinker	Collaborative and Strategic Pracititoner	

Table 3: Competencies for Sustainability

CBE emphasises the development of specific attributes in students to help them meet defined goals which cannot be taught, but are acquired during experiential learning through action, experience, and reflection (Weinert, 2001). CBE is most effective through a holistic approach (Vare et al., 2019) whereby sustainability is integrated into the curricula (Desha and Hargroves, 2013; Kamp, 2003). This is key to providing students with the attributes and viewpoints needed to support future sustainable societies (Lozano, 2006; Ploum et al., 2018; Stough et al.,2018). Indeed, the competencies are critical to students' wider aspects of success including:

- Graduate employment
- Enterprise and entrepreneurship

Supporting students to be aware of their roles demands cultivation of self-awareness to empower them to navigate conflicts of interest and be advocates for future generations (Advance HE, 2014). However, challenges to creating a reflexive environment are evident in institutional systems, pedagogical approaches, and interdisciplinary working.

Advance HE (2024) implores the value of experiential learning alongside interdisciplinary working with key internal and external stakeholders highlighting it as a key section in their framework:

Figure 4: Educators (Advance HE, 2014)

It recognises that problem, and project-based learning is essential to create an effective pedagogical model which centres on authentic sustainability challenges. Such experiences, allow students to address real-world problems by collaborating across disciplines, fostering the competencies identified earlier. More HEIs are incorporating strategies such as:

- Interdisciplinary project-based learning
- Real-world problem-solving workshops
- Sustainability partnerships with external employers and communities

These initiatives allow students to translate their academic knowledge into practical skills and actions. However, if students are to create a sustainable

future, HEIs must place more emphasises on the importance of *transdisciplinary* knowledge which ESD embodies (Annelin and Bostrom, 2024), which will be explored in the 'rebuilt' section.

2.2.4 Rebuilt

The fourth level is *transformation*, where a deep, conscious reordering of assumptions occurs to ensure a paradigm change (Sterling, 2004). Genuine impact is only achievable if HEIs embrace ESD as a whole-institutional approach embracing a pedagogical shift towards transformative learning (Sterling, 2004; Mori et al., 2021). The approach moves beyond a system-based approach to embrace active participation of all stakeholders, from students and staff to communities and employers, ensuring that sustainability is not an individual responsibility, but is an institutional commitment (Christou et al., 2024). When fully embraced, HEIs can contribute decisively to the successful implementation of the SDGs, as education is the driving force of establishing a sustainability mindset to go beyond technical knowledge and understanding to create a thriving society (Zaleniene and Pereira, 2021). This shift integrates sustainability into all aspects of the HEI, including campus operations, governance and culture to ensure it is not just a 'bolt on' but a 'core driver'. This supports the development of critical thinking, interdisciplinary collaboration, and problem-solving skills that are required to address the complex global issues related to sustainability (Sterling, 2004; Lozano et al., 2015).

The programmatic nature of responses within the systems approach often falls short of effectively addressing underlying issues (Christou et al., 2024) whereas a whole-institution model incorporates SD though:

- Integrated management
- Institutional governance
- Curricula development

This makes them microcosms of sustainability and emphasises the whole system rather than focusing on individual components or isolate parts (UNESCO, 2014). It recognises that small changes can cascade across systems and have significant and unexpected outcomes due to its interconnected nature (Christou et al., 2024). Consequently, it provides a comprehensive and holistic framework which considers all interrelated elements and relationships of the system and is dynamic and adaptive (Pittman, 2004).

The whole-institution approach to sustainability is holistically woven throughout with an institutional commitment to embed sustainability into all areas, including:

- Policy
- Training
- Curricula
- Assessment
- Practice and theory ((Daramola, 2024; Leal Fhilo et al., 2017)

This ensures effective integration thus preparing students to be influential citizens who value the United Nations Environment Programme and appreciate that they have a responsibility to help sustain it (Shepard 2007; Tilbury et al., 2005).

However, research suggests there can be a lack of commitment from senior management to embrace change and strive for a whole-institutional approach (Avila et al., 2017). It requires such as radical change from traditional hierarchical structures and neo-liberal paradigms that are antithetical to the transformative practices needed for ESD. Indeed, such changes challenge existing power structures (Sterling, 2013) which can hinder the willingness of leadership to fully commit to systemic transformation due to conflicting prioritise, power dynamics and resource allocation practices (Leal Filho et al., 2018). However, if HEIs are to educate students who are capable of leading different types of organisations, towards sustainable social patterns in a responsible manner then a whole-

institution approach must be embraced that orientates itself towards transformative, transdisciplinary learning (Lozano, 2013).

Transformative learning is ‘“an approach to teaching based on promoting change, where educators challenge learners to critically question and assess the integrity of their deeply held assumptions about how they relate to the world around them” (Mezirow and Taylor, 2009, p. xi). However, Rodrigues Aboytes and Barth (2020) found that this has been superficially conceptualised with a ‘buzzword’ approach, much like sustainability itself, indicating that both are fragmented theories. The challenge is that transformative learning is epistemic; it is the highest order or learning and the most elusive (Evans and Ferreria, 2020; Sterling, 2011) and consequently involves transgression, contravening the current order, demanding careful attention to the relationship between subjective and structural change (Vogel et al., 2023).

Transformational learning occurs when “the coherence-producing mechanism of our minds is interrupted” (Malkki, 2019: p.64), this interruption allows space for reflection on and transformation of ones most guarded beliefs and assumptions (Singer-Brodowski et al., 2022). The navigation of transformative learning happens through a diverse range of experiences, where students feel safe, both at intra and inter-personal levels, but also at an organisational and systemic level as illustrated in Figure 5.

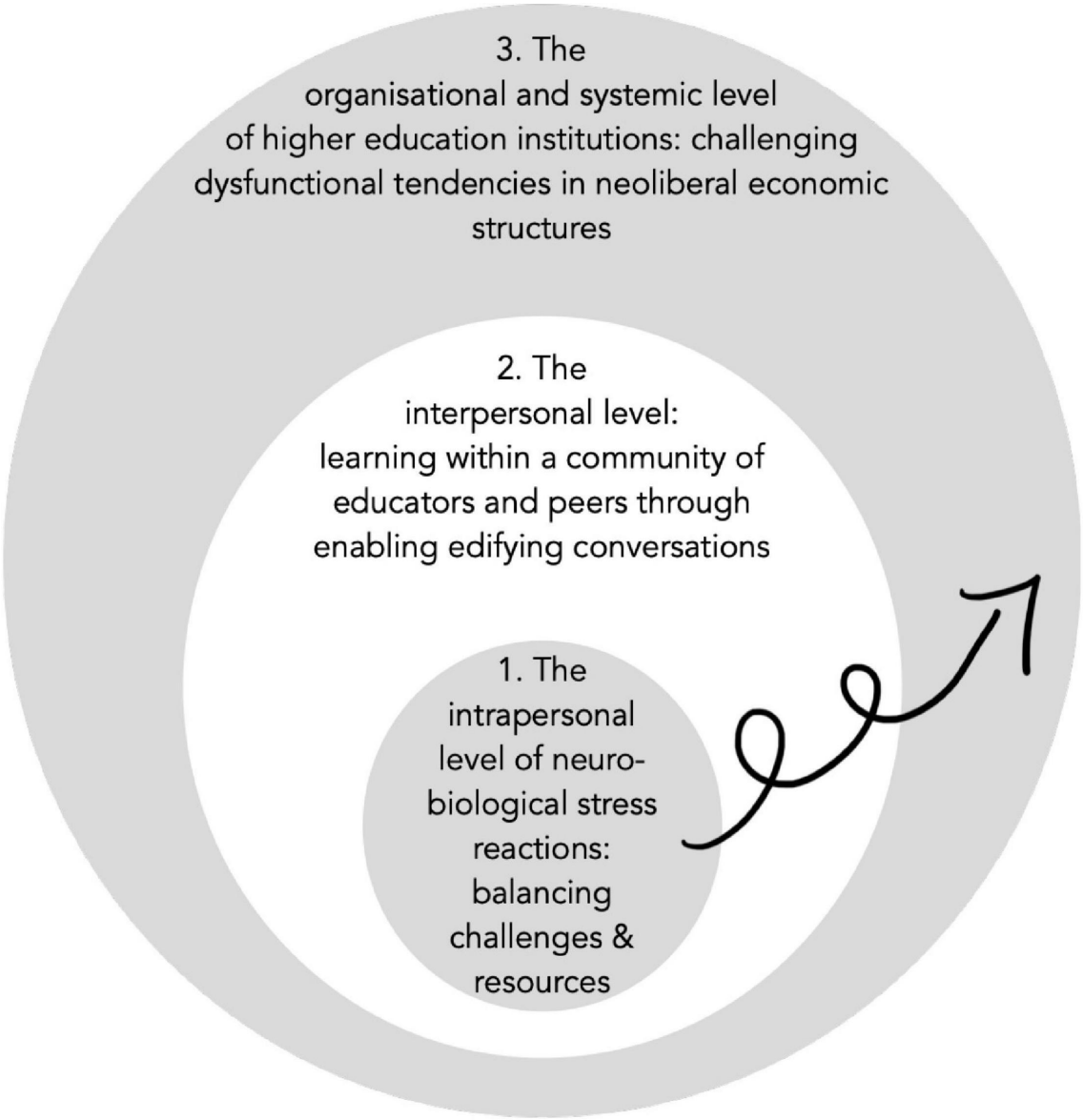

Figure 5: Safe enough spaces (Singer-Brodowski et al., 2022)

Transformative learning necessitates uncomfortable discussions, requiring students to see how their values and beliefs "lead us into distorted and constrained ways of being" (Brookfield, 2009: p.133) whilst academics must embrace rational and reflexive discourses (Mezirow, 1991). Individual values and responsibilities must be incorporated into students' critical reflections on knowledge, which can support transformative learning in a way that knowledge and competencies alone cannot (Dlouhá et al, 2019; Dziubaniuk and Nyholm, 2021; Felgendreher and Löfgren, 2018; Sherman and Burns, 2015). For transformative learning to happen, HEIs must put in place policies and principles

that enable teachers to become facilitators of co-created learning (Annelin and Bostrom, 2023). As such, pedagogical approaches may also require a radical transformation, to move away from traditional teacher-centred models to embrace student-centred, experiential, and transdisciplinary learning methods.

Transdisciplinary knowledge differs from interdisciplinary working in that, it goes beyond integrating disciplines by actively collaborating with external, non-academic stakeholders e.g. policy makers, industry and the public (Gelbmann and Pirker, 2023). Similar to interdisciplinary working, transdisciplinary work is applicable when addressing 'wicked problems', as it brings together academia and wider society to draw on each other's insights for mutual progress (Horn et al., 2022; Klein, 2017; Scholz, 2020; Tijsma et al., 2023). This approach has gained momentum with some HEIs recognising the need to address complex SD issues through integrated, holistic approaches that transcend traditional disciplinary boundaries (Advance HE, 2014; Vogel et al., 2023).

Gale (2015) identified that HEIs can struggle to balance theoretical knowledge with practical applications, transdisciplinary work bridges the gap between these two realms. It offers real-world engagement whereby sustainable solutions are actionable thus increasing the social impact (Lang et al., 2012). Involving students in transdisciplinary, experiential projects prepares students for real world challenges, by fostering key capabilities and cultivating sustainability leaders of the future (Lozano et al., 2013). Indeed, merging disciplines through this approach creates diverse areas of study, facilitating the capacity to create new knowledge that would not occur from single-discipline work, leading to innovative and applicable solutions to problems (Pohl and Hirsch Hadorn, 2007).

Transdisciplinary work can also help to create, support and grow the whole-institution approach by embedding sustainability across all aspects of HEIs, not just isolated courses or research. Embracing this style of pedagogy can contribute to human capital and yield an increase in student numbers acting and aiming to live sustainably (Leal Filho et al., 2018). However, as with any profound changes to

practice, transdisciplinary working brings with it a multitude of challenges, such as:

- Misaligned incentive structures (Bessant and Tidd, 2011)
- Complex coordination (Pohl and Hirsch Hadorn, 2007)
- Staff resistance (Sterling, 2013)

Such issues will be discussed in greater depth later in the literature review. While transdisciplinary working has true potential to transform sustainability frameworks within HEI, overcoming such issues is essential for successful implementation.

2.3 Underpinning Policy and Guidance for Sustainable Education

As outlined, there is an increasingly strong mandate for HEIs to embed sustainability into their daily practice. In the UK we first saw an increased attention when the Higher Education Funding Council for England (HEFC), Universities UK (UUK) and GuildHE published a joint carbon reduction strategy, (HEFCE, 2010). The policy recognised that HEIs are uniquely placed to lead in the way in reducing carbon emissions and set target to reduce scope 1 and 2 carbon emissions across the sector. However, only 41% of the sector managed to achieve the set targets (Ruane, 2023) citing issues with government funding (Lightfoot, 2016) and a change in regulatory bodies. The OfS removed statutory requirements regarding estate management records, citing that such data did not have a clear or regulatory purpose, despite many sector bodies highlighting its importance in holding HEIs accountable (EAUC, 2021).

In 2019 the UK Government (2021) legislated a net-zero emissions target which the OfS supported, stating that as a large sector of the economy HEIs must reduce its carbon emissions if the Government target is to be met (OfS, 2020). They mandated that HEIs should aim for net-zero emissions for scope 1 and 2 by 2030 as a minimum but offered no guidance on the role of off-setting (Ruane, 2023). Yet,

as illustrated in the UK HEI sustainability commitments (see Appendix 1) there is a significant variation across the sector, with some HEIs fully committing to all aspects and others to none (EAUC, 2021).

The Future Fit Framework (Sterling, 2012) was a pioneering initiative in the UK, which focused on rising the sustainability agenda to support academics, policy makers and senior managers, to better understand the concept and engage with ESD. This framework was part of a broad movement towards embedding sustainability in HEIs and while newer frameworks have been introduced, which will be discussed later, the foundational principles of Future Fit (Sterling, 2012) remain significant for its practical methods to embedding sustainability.

The DfE (2023) strategy outlined earlier, stated that by 2025, all education settings will have a sustainability lead and a climate action plan encompassing four areas for inclusion:

- Decarbonisation
- Adaptation and resilience
- Biodiversity
- Climate education and green careers

While there is currently no data available to assess the level of completion, Universities UK (2023) suggest that HEIs have increased their climate commitments. They state over 50% have committed to net-zero by 2050, with many outlining earlier goals of 2030 or 2040 establishing a clear commitment to the environmental aspect of sustainability. However, when considering the 'economic' and 'societal' aspects, there remains a lack of evidence to suggest progression. Seemingly, the pace of integration remains slow due to the lack of clarity about how to integrate ESD across different courses (QAA, 2023). Indeed, students report that ESD often only focuses on taught content, treating issues in a siloed fashion or through optional modules. This can leave students feeling

confused about the depth of sustainability in their courses (QAA, 2023) and demonstrates a lack of consistency in application across HEIs.

Advance HE, HEA (2014) and QAA (2021) attempted to combat these issues by producing two editions of guidance:

- Education for Sustainable Development: Guidance for UK Higher Education Providers (HEA, QAA, 2014)
- Education for Sustainable Development Guidance (Advance HE and QAA, 2021)

This guidance aimed to support students from any discipline, to obtain skills, understanding and knowledge to facilitate the development of values and to take action to transition society towards sustainable futures. The most recent edition is intended to offer practical support to HEIs to work collaboratively with staff and students to foster knowledge, understanding and skills towards SD. It is not a prescriptive approach, moreover it presents a multitude of methods to inspire, inform and enable ESD to be centralised into the curriculum as part of a whole institutional approach. The guidance moved the terminology beyond environmental issues to focus on the interconnections and interdependencies between economic, social and environmental factors using the SDGs as a backdrop to policy.

Unsustainable systems are inherently resistant to change (Lotz-Sisitka et al, 2015), to achieve the SDGs, everyone must partake, demanding a profound transformation to our behaviours, both individually and as a society. Hence, students need to be equipped with the skillset to recognise unsustainable patterns and take action to rectify them. Therefore, education is considered a key enabler for achieving the other SDGs and is explicitly recognised in SDG 4. The guidance uses the SDGs as a starting point for staff to include SD content within modules, courses, and practice, stating that the breadth and depth of the SDGs allows every academic discipline to resonate with them. The guidance

recommends that the SDGs are considered as a system whereby action within one goal has consequential positive and negative influences on other goals, and a balance of these impacts is an essential part of SD.

Since this guidance was produced, Advance HE (2024) have published a framework aimed at a broad audience but with a particular focus in supporting course teams to understand and implement ESD across programmes. The aim is to help students identify competencies for sustainable citizenship calling on leadership to facilitate a whole institutional approach. It recognises that HEIs need support to develop comprehensive approaches to ensure there is a comprehensive understanding of ESD. It implores a consistent approach integrated across programmes, encompassing policy frameworks and aligning strategy with interdisciplinary learning to create a sustainable learning environment.

Throughout these policies key themes begin to emerge that aim to enhance the role of HEIs in fostering a sustainable and equitable future, as outlined Table 4.

Source	Quality of Life	Lifelong Learning	Environmental Integrity	Economic Viability	Social Justice	Transformative Learning	Socio-emotional and behavioural	Curriculum structures	Holistic approach	Collective action
UNESCO (2005)	X		X	X	X					
UNESCO (20014)	X	X	X	X	X	X	X			X
QAA and HEA (2014)	X		X	X	X					
UNESCO (2020)	X	X	X	X	X	X	X	X		X
Advance HE (2021)	X	X	X	X	X	X	X	X	X	
Advance HE (2023)	X	X	X	X	X	X	X	X	X	X

Table 4: Themes within sustainability policies

The Future Fit Framework (Sterling, 2012) focused on embedding sustainability into the curricula, whilst fostering key competencies. It states that within ESD there are no clear or obvious content boundaries, therefore interdisciplinary approaches are required. The publication from QAA and HEA (2014) incorporated climate change into its guidance, while also valuing interdisciplinary approaches and competencies for sustainability, however it omitted the key role of strategic implementation. This was addressed within the subsequent publication, from Advance HE and QAA (2014) which focused on embedding ESD into the curricula with a clear strategy. Historically there has traditionally been a tendency for policy to environmental aspects, however the most recent piece of guidance from Advance HE (2024) offers a holistic approach covering all pillars. This demonstrates how the definition of sustainability and ESD has evolved from what it once was to cover a wide range of areas, consequently providing more ambiguity, thus providing further reasoning for this research.

2.4 The Nexus of HEIs, Quality and Sustainability

HEIs survive in a neo-liberal environment, where institutions are increasingly fraught with accountability, measurement, and quality assurance, largely driven by global trends in market-based reforms that prioritise efficiency, competition and performance (El-Khawas, 2007). The OfS expects HEIs to deliver measurable outcomes such as:

- Continuation rates
- Completion rates
- Progression rates
- Graduate outcomes
- Student satisfaction
- Research excellence
- Teaching quality
- Access and participation

These metrics are used to assess the quality and performance of HEIs, alongside two additional frameworks:

- The Teaching Excellent Framework (TEF) (OfS, 2023)
- The Research Excellent Framework (REF) (Research England, 2021)

These mechanisms ensure accountability, aiming to improve standards and distribute funding based on performance (OfS, 2022). This has inevitably led to an 'audit culture' whereby HEIs focus on meeting key performance indicators, often prioritising economic efficiency and market relevance at the sacrifice of traditional academic values such as intellectual exploration and critical inquiry (Strathern, 2000). Herein lies the neoliberal effect of institutional responsibility that coerces HEIs to prove their performance in the short term, rather than allowing adequate time to develop transformative sustainable practices.

Jarvis (2014) argues that the TEF and REF both emphasise short-term performance metrics that impose a quasi-market, competitive based rationality premised on neo-liberal managerialism that uses policy discourse which is informed by conviction rather than evidence. Yin and Mu (2022) highlight that due to the intensification of corporate cultures, short term metrics force institutions to prioritise activities that yield immediate results. This can be at the expense of transformative practices that disempower academics by imposing standardised and quantified measures of productivity. While historically HEIs have exercised authority in terms of quality assurance (Gorizka and Stensaker, 2014) this is no longer the case, with the QAA, the TEF and REF frameworks encouraging a degree of standardisation that situates around "performance-based evaluation and efforts to frame, regulate and optimise academic life" (Morrissey, 2013: p.799). Engebretsen, Heggen and Eilertsen 2012 and Lucas (2014) suggest that regulation has resulted in politics of surveillance where quality assurance becomes an instrument of accreditation and a mechanism to prise compliance thus reducing institutional autonomy to embed sustainability in a transdisciplinary manner.

While there is a valid argument that these assessment frameworks are crucial for maintaining educational quality and research excellence in the UK (OfS, 2022) their focus can limit HEIs willingness to embed sustainability in transformative ways. However, if the frameworks are viewed through a SD lens, they become powerful tools for promoting long-term whole-institution sustainability. Sustainability in HEIs incorporates all three pillars of sustainability and according to Lozano et al. (2013), sustainability reporting enhances the institutions reputation and attracts students who value university social responsibility (Riberiro et al., 2020).

Incorporating sustainability into the curricula contributes to high-quality education that fosters critical thinking and problem-solving skills (Vogel et al., 2023). It also provides students with practical knowledge and skills highly valued by employers, thereby promoting graduate outcomes and institutional rankings. Embedding the SDGs into teaching can enhance the learning environment by ensuring the curriculum is relevant to contemporary and complex global issues (Lozano et al., 2013). This can lead to increased student satisfaction and employability outcomes, both of which are key elements in quality assurance frameworks. Krausche and Pilz (2018) also argue that embedding sustainability into research operations and governance can improve outcomes that are key to achieving strong TEF and REF rankings. It is evident that HEIs can use these frameworks through a sustainability-focused lens, however this requires a radical and risky approach from leadership.

There is a growing call for quality assurance frameworks to include sustainability metrics, which would help align HEI strategies with the SDGs, while also maintaining teaching and research excellence and continual quality enhancement (Lozano et al. 2013; Leal Fhilo and Brandli, 2016; Lal Filho et al., 2017; Neary and Osbourne, 2018; Leal Filho, 2020). Vogel et al., (2013) argue the HE sector in its current state is unsustainable and requires drastic change. This has been heeded by QAA, who have explicitly referred to sustainability as a key component of

quality provision in their most recent Quality Code (QAA, 2024). While the focus is on 'ES', they refer to ESD as a means of supporting providers to address the SDGs, calling on HEIs to ensure all learners acquire the knowledge and skills needed to promote SD.

Despite ESD no longer being a niche concern, the HE sector has yet to develop shared benchmarks for what quality means in relation to ESD or establish consistent ways to measure progress (QAA, 2023). The QAA undoubtably values sustainability in HE, as it funded the project 'Students driving curriculum quality for sustainability' (QAA, 2023). This project worked with students from London College of Fashion, Kings College London and University of Gloucester to collaboratively drive quality for EDS and positioned students at its core, as co-producers and quality assessors. The purpose of the project was to empower students to co-create an authentic, practice-led and inclusive set of quality principles that support the implementation of Education for Sustainability (EfS) to drive curriculum quality for sustainability across HEIs – whilst calling out the growing potential for 'curriculum greenwash' (QAA, 2023).The final outputs of the project were developed at the University of Gloucester, which produced a set of quality principles (see Table 5) which are the used to asses within the course rating criteria (see Table 6).

Key Principle	Reasoning
Joined-up sustainability learning	Sustainability learning must connect people, planet, and profit (the three pillars of sustainability). Focusing on single issues, does not promote systems thinking.
Integrated into compulsory modules	Mainstreaming sustainability in core modules ensures all students engage with these skills, unlike optional modules that may not reach everyone or impact core learning.
Integrated across all levels of study	Building knowledge across different levels allows for a more comprehensive understanding, integrating specialist knowledge with broader sustainability capabilities.
Integrated as part of assessment design	Assessments should reflect essential learning outcomes, promoting practical application of knowledge to support real-world sustainability solutions.

Table 5: Quality Principles (UoG, 2023)

Rating	Criteria
NO MEDAL	No relevant sustainability learning: No explicit sustainability learning, or issues are treated partially without links to the environment (e.g., only financial or social sustainability is taught).
BRONZE	Some relevant teaching: Taught content with explicit joined-up sustainability focus, linking social concerns (e.g., equality or wellbeing) to environmental justice and impacts.
SILVER	**Partial integration** **Undergraduate**: An assessment where sustainability and subject knowledge are applied together in at least one compulsory module/unit. **Postgraduate:** Learning activity beyond taught content, such as assessment or skills development, in one compulsory module/unit.
GOLD	**Fully mainstreamed** **Undergraduate:** Integrated learning with at least one assessed element in core modules/units at each level of study. - **Postgraduate**: Integrated learning across the course with one assessed element in a core module/unit.

Table 6: Course Rating Criteria (UoG, 2023)

This framework embraces Sterling's (2004) staged social and educational responses to sustainability, reflecting progression from a reactive, tokenistic level to a more profound, systemic change in curriculum. It does however lack depth and fails to incorporate learning outcomes, competencies, experiential learning or transdisciplinary work, all of which are essential to a holistic sustainability framework. While this blueprint permits a step in the right direction, a more comprehensive approach is needed to ensure genuine efforts avoiding symbolic gestures (Lozano, 2011) which can result in both purposeful and unintentional greenwashing (Cownie, 2023).

2.5 Unmasking Greenwashing

According to Lyon and Montgomery (2015) there is no rigid definition of the term 'greenwashing'. Some definitions indicate intentional deceit, such as Tateishi (2017: p.3) who suggests it is:

> "Communication that misleads people regarding environmental performance/benefits by disclosing negative information and disseminating positive information about an organization, service, or product"

Baum (2012: p.424) permits is as being:

> "The act of disseminating disinformation to consumers regarding the environmental practices of a company or the environmental benefits of a product or service"

Whereas others associate it with a decoupling behaviour, such as Siano et al. (2017) who relates greenwashing with symbolic actions which deflects attention to minor details and leads to 'green talk' through communications aimed at palpating stakeholder needs without any concrete action. This is echoed by Walker and Wan (2011) who defines greenwashing as the gap between 'symbolic' and 'substantive' corporate social action, or in this case university social action. Some scholars consider only environmental issues when talking about greenwashing (Netto et al., 2020). Lyon and Maxwell (2011: p.9) assume the social dimension, by defining it as:

> "Selective disclosure of positive information about a company's environmental or social performance, without full disclosure of negative information on these dimensions, so as to create an overly positive corporate image"

This research positions itself alongside this definition.

Cownie (2021) warns that HEIs must be wary of unintended or purposeful attempts at greenwashing, recognising that marketing departments increasingly understand the appeal that sustainability has to prospective staff and students. As such superficial sustainability actions, such as using buzzwords, or labelling SDGs against course, are used which can mislead students about the ethos of the institution and its true environmental impact (Alvarez-Garcia and Sureda-Negre, 2023). Indeed, there is a growing protentional for 'curriculum greenwashing' (UoG, 2022), such as badging course content with 'single-issue' SDGs (UAL, 2022). Curriculum greenwashing refers to superficial inclusion of sustainability concepts in the curricula, such as the use of SDGs (UENSO, 2017). While they do provide a starting point, the SDGs are also a deceptive trap, in that they provide neat boxes which pack away the end game of ESD, but many HEIs simply label courses against them in course descriptions while failing to provide teaching or practical application of the goals, thus we are at risk of missing the point (Ryan, 2023).

Indeed, sustainability rhetoric is increasingly being used to promote courses to potential students, but some claim these communications are often disconnected from the curriculum (Bekessy et al., 2007; Driscoll et al., 2017). Whilst an emerging research topic with very little academic literature available, UoG (2022) states that as HEIs begin their sustainability journeys, it is particularly important that they think about avoiding curriculum greenwash. The 'Students Driving Curriculum Quality in Sustainability' project was driven by students wanting authentic sustainability learning and have created an 'anti-green wash education kit' for to equip students to ask questions about the sustainability learning. The kit offers resources including video and training materials to empower students to assess the quality of their courses in relation to SD, pushing for better integration into curricula, moving it beyond superficial labels into the 'built in' transformative action that is necessary (UoG, 2022).

Another issue surrounding HEIs is 'net-zero greenwashing', where claims are made about achieving net-zero carbon emissions by purchasing offsets, rather than making reductions in their own carbon footprint (Cownie, 2021). Typically,

this involves paying people in the Global South to make changes, thus shifting the burden from the Global North whose footprint is significantly less (SOS, 2022). In response to this 'net-zero greenwashing' we are now seeing commitments to a 'real zero' which refers to complete elimination of carbon emissions (Real Net Zero, 2022). Against this backdrop, there is a rising awareness and concern among students which are driving demands for more genuine and embedded sustainability practices within HEIs. This rising demand is a key driver for embedding SD principles across all aspects of HEIs, to go beyond surface-level initiatives and to adopt meaningful, actionable strategies that demonstrate a true commitment to sustainability.

2.6 The Ripple Effect of Sustainability in HEIs

Students are central to HEIs, particularly in the transition towards developing sustainable and socially responsible education systems (Leal Filho and Brandli, 2016; SOS, 2023; QS, 2024). As key players driving sustainability, student engagement contributes to a broader shift toward ethical stewardship and environmental responsibility (Leal Filho et al., 2024; SOS International 2021). The next section will look at the power of student voices, graduate outcomes and professional employment and the impact of research and knowledge production.

2.6.1 The Power of Student Voices

Young people have emerged as powerful change agents in the global climate movement. They have long been at the forefront of protests, lawsuits and various forms of activism, ranging from symbolic acts to political mobilization (Daly, 2022). Students are becoming increasingly vocal about the relevance of SD in HEIs and are driving demand for deeper integration and pushing for greater University Social Responsibility (USR). The most recent survey conducted by SOS found that 89% of students want SD actively incorporated and promoted throughout all courses. While data from the QS International Student Survey (2023) found 79% of students consider it very important that HEIs should be reducing their

environmental impact. Indeed, student priorities are evolving as the world around them changes.

There is a growing trend of students' university selection being influenced by the institutions action towards environmental issues and global development issues (SOS, 2023) (see Figure 6).

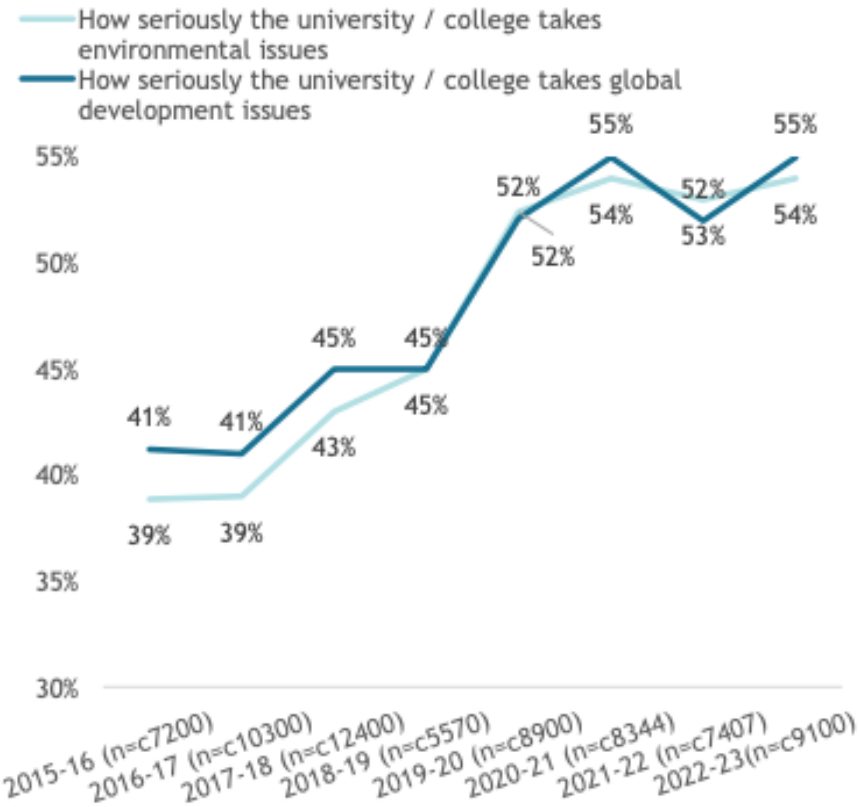

Figure 6: What factors influence choice over place of study?

THE (2021) found that 9% of students stated that sustainability was the most important factor when choosing their university, putting it on par with traditional priorities such as, employability prospects or university location. This trend was further confirmed by QS (2023) who found that over 50% of UK-bound international students research sustainability strategies as part of their decision-making process. With a greater awareness of sustainability issues, student expectations are growing and HEIs must act upon this. It is increasingly important that in today's

competitive market where student numbers are a priority, and sustainability initiatives are used as a marketing tool (THE, 2024) that institutions align their operations and sustainability goals, so their sustainability credentials are clear to prospective students (Kamolins, 2024).

The student voice has been amplified through external organisations such as Green Gown Awards, THE and QS, all of whom provide a platform for HEIs to demonstrate their SD credentials to students and are witnessing yearly growth of participants as outlined in the Table 7 below:

Ranking Platfrom	Participants in first year	Participants in 2024
THE	26 (2019)	68
Green Gown	45 (2020)	84
QS	68 (2023)	93

Table 7: Number of participants in rankings

These trends demonstrate that HEIs are responding to the growing student demand, with increased participation in rankings and awards that externally validate environmental and social efforts, thus appealing to a growing body of students.

Another factor influencing university selection is institutional performance on social issues, with students specifically seeking HEIs that facilitate transdisciplinary within the local community (QS, 2023). Students are not only seeking to have SD within campus operations, governance and curricula – they want to engage in extracurricular activities that promote SD and social issues, seeing them as intertwined (Garrecht et al., 2018; Kamolins, 2024). Undeniably HEIs are uniquely placed as environments of collective learners across a range of disciplines with a civic concern that bonds them to their local community (Vogel et al., 2023). Students are not passive learners, and it is widely recognised that practical opportunities are necessary to embed learning as a ‘bolt-on’ course is unlikely to develop the transformed mindset and competencies needed for

systematic change (Sterling, 2004). Indeed, this approach is often met with resistance from students' communities leading to HEIs preference towards incremental change (Hilger and Keil, 2022; Horn et al, 2022; Oxenswärdh and Persson-Fischier, 2020). These efforts are typically merged into existing socio-economic structures, which deters students from contributing to the radical action needed to bring about change (Vogel et al., 2023). Unfortunately, prevailing HEI policy that formalises assessed learning outcomes for academic credit means that ambitious, aspirational competencies and achievements, such as readiness to act, tenacity or local community social action are undervalued (Shephard, Riecklmann and Barth, 2019).

To meet student demands a revolutionary pedagogy is required, which values students as collaborators to promote environmental stewardship and social responsibility (Mittal and Bansal, 2024). Students seek authentic leadership platforms (THE, 2024; QS, 2024), and transdisciplinary, co-creating learning experiences, which extend beyond the classroom to make meaningful change in the decision-making processes. Such actions allow HEIs to meet student demands, whilst fostering the competencies needed to contribute to an effective, sustainable society with a deepened commitment to societal well-being and environmental action (Leal Filho et al., 2021).

2.6.2 Graduate Outcomes and Professional Employment

Globally, less than 3% of people go to university, but 80% of people in leadership roles have a degree, demonstrating the influence that graduates have on society, both nationally and globally (SOS International, 2021). Meanwhile investment in Environmental, Social and Governance (ESG) and green sectors has experienced phenomenal growth in recent times (Gamlath, 2020) and are expected to grow further as investors demand socially responsible companies. In addition, sustainability is becoming central across all sectors, with businesses seeking employees who can integrate sustainability practices into operations and strategy

(Tillbury, 2011). This is not just limited to the UK, as many countries and whole economies transition towards more robust sustainability regulations, the demand for graduates with sustainability expertise continues to grow (UNEP, 2019). Consequently, there is a growing emphasis on enhancing students' capabilities to produce skilled practitioners for actioning the SDGs (UNESCO, 2017) in their future careers (Sánchez-Carracedo et al. 2021; THE 2023). Through this lens, the concept of employability becomes undeniably vital (Williams et al., 2016; Yorke, 2006), without an education aligned to the SDGs, HEIs risk producing graduates who are ill-equipped to respond to challenges, potentially jeopardising their future careers and the institutional reputations (Alimehmeti et al., 2024).

ESD is not only an educational imperative but also an expectation of students. There is a growing trend of students seeking employment in companies who demonstrate purpose, who take sustainability seriously, and have a strong environmental and social record, even if it means a lower salary (NUS, 2019). 91% of students surveyed within 'The Prospects Sustainability' survey (Prospects, 2022) reported that they wanted a job that made a difference to people's lives. While 86% said it was vital that they work for a company that has a positive environmental impact. Indeed, students who have experienced ESD are more likely to seek out careers where they feel they are making a difference by addressing global issues as they develop as sense of responsibility to the environment and society (Mochizuki and Fadeeva, 2010; Warwick and Lamberton, 2020). This initiates a desire for graduates to choose professions that align with their personal values, offering intrinsic motivations. This can lead to higher levels of engagement, fulfilment and satisfaction regarding the impact their work has on long-term societal benefits (Ryan and Deci, 2000; Rusinko, 2010).

The power and influence that graduates have on our future society is evident. Consequently, HEIs must do more, on the one hand embedding sustainability into the curriculum and linking to employability prepares students to be effective future employees and leaders, while on the other it is a student expectation (Gambath, 2022). Students are more sustainability conscious as the sustainability

agenda continues to grow and this is spilling over into their employment choices and decisions (Prospects, 2022). When HEIs embed sustainability, they support students to develop the competencies of graduates to design and pursue sustainable futures (QAA, 2020). However, there is no agreed upon standard for measurement and reporting of the implementation and progress of ESD (SDSN, 2020). Instead, success is currently measured through a range of national and international sector awards, frameworks and league tables (Haddock-Fraser and Gorman, 2020). However, each award system has different criteria for success, cumulating in a lack of consistency and creating an additional barrier to implementation (Price et al., 2021). The absence of a unified standard creates inconsistencies and variations in the development of sustainability-related skills among graduates. This could hinder a graduate's ability to meet employers' expectations, preventing them from fully contributing to the growing demands of sustainability leadership and innovation.

2.6.3 Research and Knowledge Production

The incorporation of SD across HEIs, not only enhances employability options for graduates, but it also creates a far-reaching ripple effect across society. Not least in terms of research output and knowledge production where complex environmental and social challenges are addressed. Collaboration between HEI, industry, Government and communities is crucial to foster innovative solutions to contribute to the achievement of the SDG goals (UNESCO, 2017). Sustainability research requires contemporary forms of inquiry that not only deepen our understanding of ecological and social systems but also provide practical solutions for SD (Clark and Dickson, 2003). Indeed, it is widely agreed that sustainability research is problem driven seeking to generate knowledge and solutions to address complex and interconnected challenges (Kates et al. 2001; Clark and Dickson 2003; Swart et al. 2004; Komiyama and Takeuchi 2006; Grunwald 2007; Robinson 2008; Turner and Robbins 2008; Sarewitz and Kriebel 2010).

Sustainability issues are multidimensional, requiring a holistic approach that transcends academic boundaries. Sustainability's development has been in response to existing and anticipated complex 'wicked problems', such as poverty, pandemics, or war - all of which are characterised by urgency, high levels of complexity and hold no obvious solution (Wiek et al., 2011). In response the academic field generates, integrates and links use-inspired knowledge (Stokes, 1997) with transformative action in participatory, deliberative and adaptive settings (Backstrand 2003; Grunwald 2004; Bammer 2005; Van Kerkhoff and Lebel 2006; Blackstock and Carter 2007; Talwar et al. 2011). As such HEIs have gained significant momentum in recent years, particularly since the introduction of the SDGs. There has been a surge in coproduced and solution-orientated studies to develop innovative strategies to meet the SDGs and address planetary boundaries (Clark and Dickson, 2003; SDSN, 2020; Saines et al., 2022).

An unwavering commitment from the international community is required to meet the 2030 Agenda (Helgason, 2016), which aims to shift the world on to a path of resilience focused on promoting SD (Sianes et al., 2022). There are 169 specific targets within the SDGs to be met by 2030, however some criticise their vagueness, weakness and unambitious character (Fukuda-Parr, 2016). Some researchers find the issue of measurement problematic, as the quantification of objectives reduces their complexity and diminishes the recognition of the interdependencies between the objectives (Le Blanc, 2015; Griggs et al.,2014). There has also been critique regarding some of the intangible aspects of their qualitative nature such as inclusive development, or green growth (Fukuda-Parr, 2016). Despite these criticisms, the SDGs have become the framework for our common future (WCED, 1987) and unlike conventional agendas, provides a holistic and multidimensional view of development (Pradhan et al., 2017). Unequivocally, the SDGs have become central within academic research and have mobilised the research community to strengthen interdisciplinary knowledge (Oldekop, 2016). They have facilitated collaboration between industry,

governments, and local communities, recognising the urgent need for solutions that address both local and global sustainability issues.

The breadth of research output related to SD provides robust evidence that HEIs play a central role in the global efforts in achieving the SDGs. They are indeed pivotal actors in fostering innovative solutions that have both academic progress and real-world impact. Researchers are engaging with complex, solution-based problem solving that transcends disciplinary boundaries and connects with global sustainability efforts (Clark and Dickson, 2019). Knowledge production entails the creation of theoretical insights, and practical frameworks that can be adopted by key stakeholders to mitigate environmental degradation and promote social equity (Miller, 2013). Indeed, scholars and academics use innovative approaches, integrating quantitative and qualitative methods in a transdisciplinary manner so that the knowledge produced is not only academically robust but also relevant, practical, and actionable (Lang et al., 2012; Scholz, 2020). HEIs are undoubtedly well placed to bridge the gap between academia and practice by fostering partnerships that connect inquiry with implementation (Bammer, 2017). In doing so, they contribute to the global exchange of knowledge where theoretical insights and real-world issues shape the research agenda.

2.6.4 Local and Global Impacts

Graduates, research, and knowledge productions have profound effects on both local and global societies. At a local level, HEIs have a reciprocal relationship with their local cities, whereby HEI policy intersects with governmental strategies shaping local cities, while cities also shape HEIs (UNESCO and The, 2023). With 70% of people projected to live in cities by 2050 (World Bank Group, 2023), HEIs play a key role in nurturing sustainable urban development. They are essential in finding solutions that address specific challenges faced by local communities such as:

- Sharing infrastructure
- Preservation of cultural heritage

- Local housing
- Transport systems (Ostrom, 2009; UNESCO and THE, 2023).

HEIs have a responsibility to their local community (Viebahn, 2002; Bantaur et al., 2015) as their decisions have a direct impact upon their economic, social and environmental dimensions (Katiliute et al., 2014).

These impacts can come through a multitude of activities such as:

- Educational research
- Campus operations
- Outreach
- Campus experiences
- Institutional frameworks
- Assessment
- Reporting (Lozano et al., 2013)

They can be direct or indirect, intended, and unintended and positive and negative, they may be immediate, but they may also appear after a period (Lebeau and Cochrane, 2015). Bowen (2018) notes that outcomes of HEIs span a graduate's lifetime, averaging fifty to sixty years after graduation, while for society the impacts may last centuries. In addition to this, impact comes through a range of initiatives, including:

- Formulation of policy statements
- Integration into curricula
- Green campus activities
- Signing international charters
- Outreach work (Lozano et al, 2013; Sammalisto and Lindhqvist 2008)

These complexities make measurements of impact challenging and consequently the impact HEIs have on their local communities is under researched (Vaughter et al., 2013; Peer and Penker, 2016; Blume et al., 2017; McDonald et al., 2018; Leal Filho et al., 2019; Yarime and Tanaka, 2012). The best methods for maintaining equitable transfer of knowledge between HEIs and their communities is not yet clear (Peer and Storglehner, 2013; Leal Filho et al., 2019).

While HEIs have a moral obligation to support their local communities, there is also a growing demand from students for institutions to actively engage and facilitate participation with these communities (Kamolins, 2024). This reflects the shift in expectations that HEIs not only contribute to academic knowledge creation but accelerate regional economic and social development through active engagement (Peer and Penker, 2016). A critical factor for local initiatives is multidisciplinary and transdisciplinary work (Zimm et al., 2018, Zilahy & Huisingh 2009; Radinger- Santos and Horta, 2018, Elliott et al., 2018). However, the lack of full commitment to embedding sustainability into HE curricula results in ad hoc, decentralised efforts that are led by sustainability champions rather than institutionally led (Leal Filho et al., 2019; Shiel et al., 2016). Nonetheless, student demands means that community engagement could act as a tool for HEIs to commit to a 'built in' (Sterling, 2004) approach which could enhance student engagement in sustainability actions (James and Schmitz, 2011).

Peer and Stoeglehner (2013) argue that to become change agents and actively engage with communities HEIs must do two things:

- Co-create curricula for local and regional needs
- Co-research to empower and collaborate with local communities

Kusakabe (2013) suggests there is a positive correlation between social participation in developing city projects and the level of sustainability achieved, emphasising the importance of this collaborative work. Increasingly, HEIs are developing internationalisation strategies including:

- Exchange programmes
- Joint degrees and research
- Partnerships with external organisations
- Events open to the worldwide community (Leal Filho et al., 2019; Lozano et al., 2019).

However, this is fraught with socially unjust potential, as countries like the UK have used internationalisation to underpin a successful business model which entices students from wealthy countries. Charging international students much higher tuition fees allows HEIs to invest in facilities and research which drives them up the global ranking tables (Healer, 2023). Some argue this business model is exploitative and environmentally damaging, and while many HEIs have environmental plans to achieve net-zero (OfS, 2020; UK Universities, 2023), few acknowledge or measure the impact of their internationalisation (Healer, 2023).

HEIs are instrumental in shaping international agendas and policy frameworks, through their research outputs, they contribute to an ever-expanding knowledge pool which informs multilateral agreements, transnational organisations, and global sustainability networks (SDSN, 2020). This widespread engagement is a global necessity in addressing a shared concern, as it cannot be tackled in isolation. While welcomed, unilateral actions must be part of a broader, integrated, universal strategy to have a lasting impact, giving emphasises to the "think locally and act globally" principle (Khare and Stewart, 2024). HEIs are well-placed to support international efforts to meet the global crises through rigorous research, teaching, knowledge sharing and public engagement (McCowan, 2020; ALLEA-The European Federation of Academies of Sciences, 2022; Kelly et al., 2022; UNESCO, 2022). However, their potential is limited by a challenging political economy of declining public funds, increasing privatisation and marketisation (Wals, 2014) and subsequently the competitive method that reduces the likelihood of collaboration (Butera et al., 2021).

Indeed, HEIs cannot be viewed as monolith nor a homogeneous group (Kelly et al., 2022). Their priorities, responsibilities and capabilities can vary significantly, for instance larger public universities often have greater impact on SD compared with smaller institutions due to their size, regional influence and resources (Mosier, 2015; McGowan, 2020). Furthermore, while individual academics, departments or HEIs may actively advance sustainability research, others may unintentionally contribute to the development of technologies or knowledge systems that further exacerbate the crises (Kelly et al., 2022). Indeed, there has been considerable variation in the extent to which emergency declarations have led to meaningful action (Fazey et al., 2021). Some institutions are engaged with greenwashing (Conwie, 2021) while others are subject to lawsuits for their use of supporting fossil fuel industries (McGreal, 2022). As a result of these complexities, Fazey et al. (2021) suggest that HEIs efforts to address global sustainability have lacked urgency and scale and fallen short in effectively addressing the magnitude of the crisis.

Indeed, the window of opportunity to make change and secure a liveable and sustainable future for all is rapidly closing (IPCC, 2022). It is crucial that HEI communities come together to advance climate change mitigation and adaption strategies through research and innovation in Science, Technology, Engineering and Mathematics (STEM) (Kelly et al., 2022). Transdisciplinary collaboration is necessary, as although the social sciences are frequently underfunded, they offer rich insights into the psychological, political, social and cultural factors unpinning the sustainability crisis (Overland and Sovacool, 2020). This collaboration is essential in identifying successful designs and implementation of transformative solutions (Dietz et al., 2020; Longo et al., 2021). International collaboration therefore plays a vital role in addressing the global challenges by bringing together a diverse range of expertise, resources and perspectives. These partnerships not only create networks across countries and disciplines but facilitate synergies that create impactful and innovative research outcomes, which helps tackle urgent global issues more efficiently than individual efforts (Nature, 2021).

Additionally, international collaborations have emerged as a catalyst for knowledge creation and innovation (Adams, 2023). Collaborations across borders and disciplines fosters a diverse, holistic and comprehensive understanding of complex problems (Wei, 2019; Chen 2018). International partnerships allow for knowledge exchange and best practices to be identified, enabling HEIs to shape policy, contribute to economic development and find solutions at a global level (British Council, 2021). Undeniably the collaboration of resources enables access to advanced technology and facilities, enabling research to reach unprecedented levels of innovation (Rodriguez, 2020). This collective effort thus contributes to the competency of the global research community (Hernandez, 2017) allowing HEIs to incorporate international best practices into their local environments (Soliman et al., 2018). This integration creates a ripple effect, enhancing local initiatives through the adoption and exchange of practices, thus fostering mutual growth. Indeed, the global nexus of international partnership influences the trajectory of research that facilitating transdisciplinary environment that transcends boarders, and disciplines for the collective pursuit of excellence (Adams, 2024).

2.7 Constraints for Embedding Sustainability

Undeniably, embedding ESD into HEIs demands transformative practices, which, as illustrated throughout this chapter, face a multitude of challenges. The next section will delve into these obstacles and analyse methods that HEIs can employ to overcome them. It examines strategies that support HEIs to embed sustainability at its core, ensuring it becomes ‘built in’ (Sterling, 2024) and an integral part of operations and curricula.

2.7.1 Conceptual Ambiguity

Conceptual ambiguity is a significant barrier to embedding sustainability in HEI practices, operations and teaching, it is a concept that has undergone significant changes over time and as new issues have arisen (Leal Filho et al., 2024). The literal definition of SD, according to the Oxford Dictionary (2024) is:

> “A concept that is used to describe community and economic development in terms of meeting the needs of the present without compromising the ability of future generations to meet their needs.”

However, the concept has been viewed from differing perspectives, and over time the meaning has changed and resulted in numerous definitions (Leal Filho et al., 2024). There is no question that there is ubiquity and ambiguity surrounding the term, especially as it is a critical concept for social change across disciplines and HEIs (Ruiz-Mallen and Heras, 2019). Yet, the most citied definition comes from the Brundtland Report (WCED, 1987) which states it is:

> “Development that meets the needs of current generations without compromising the needs of future generations”.

However, as illustrated previously, definitions differ across policies and frameworks, leading to varying interpretations and understanding between institutions. This inconsistency creates several sticking points to successfully embed sustainability within HE, leading to fragmentation and a lack of coherence (Sterling, 2004; Vogel et al., 2023).

This interpretive flexibility has serious consequences, not least in that it gives rise to competing priorities, arising from varied interpretations of sustainability across departments. Such disparity can lead to a fragmented approach in efforts, where some departments prioritise distinct aspects of work such as environmental concerns or social justice, due to conflicting goals. This can lead to a disjointed approach which undermines the HEIs overall sustainability agenda rather than embracing a whole-institution approach (Christou et al., 2024; Dupada et al.,

2013; Stephens and Graham, 2010). Lozano (2006) suggests that this is due to conflicting visions rooted within disciplinary boundaries, with each faculty prioritising different SDG goals based upon its interpretation of the concept. Traditional ways of working in HEI take a devolved, siloed approach whereby departments focus on their own initiatives, which can hinder a HEIs ability to address sustainability holistically. To overcome this issue, there needs to be an integrated understanding of sustainability encompassing all three pillars (WCED, 1987; Tillbury, 2011).

Despite this framework, each pillar relies on different values, processes and understanding of the actions and change needed for sustainability (Adloff and Neckel, 2019). Ruiz-Mallen and Heras (2019) suggest three trajectories of sustainability, identifying different ways of approaching how these trajectories relate to the relationship between humans and nature. This creates a multidimensional approach to addressing sustainable futures, which I have used to create Table 8 below.

Trajectories	Reciprocal Relationship (Supports Economic Growth)	Intergenerational Equity (Questions Economic System)	Forward-thinking, Technology, and Innovation
Eco-modern paradigm (Green economy, technological progress)	Promotes economic growth through technological advancements.	Uses technological progress to ensure future generations have access to resources.	Relies on innovation and technology as primary solutions for sustainability.
Social transformation (Challenges the current economic system)	Critiques growth-driven models, advocating for alternatives like degrowth.	Focuses on fairness, calling for radical changes to address inequalities and resource distribution.	Critiques overreliance on technology, advocating for social transformation as a key to sustainability.
Resilience paradigm (Anticipating and controlling risks)	Manages risks while balancing society's role in promoting sustainable growth.	Anticipates future risks, with a focus on ensuring equity and long-term solutions for future generations.	Uses socio-technical mechanisms to anticipate and solve future challenges through innovation.

Table 8: Sustainability Trajectories and Approaches to Human-Nature Relationships

These discourses are projected into HEI approaches which duplicate debates around economic models, pedagogical approaches and human-nature relationships that lead to sustainable futures, (Jickling, 2017). HEIs must take positions on these debates to navigate sustainability discursively, but also practically.

To overcome this issue of ambiguity and conflicting priorities, it is essential that HEIs adopt a cohesive and integrated understanding of SD across all levels of its operations (Christou et al., 2024; Lozano et al., 2006;2013; Leal Filho et al., 2024; Vogel et al., 2023). This can be achieved through a shared vision that promotes transdisciplinary collaboration and dialogue, ensuring that departments align their interpretations of SDGs and a collaborative effort with external stakeholders (Annelin and Bostrom, 2024; Lang et al., 2012, Gelbmann and Pirker, 2023). Fostering a whole-institutional approach recognises the interconnections between the three pillars (WCED, 1987), but also embraces the different trajectories and relationships (Ruiz-Mallen and Heras, 2019). A clear sustainability strategy which embraces policy, curricula, and operations with clear frameworks and guidance will reduce fragmentation, and varying interpretations. In turn, this will support sustainability efforts in being coherent, impactful, and inclusive, ensuring a shared understanding that aligns with the HEIs broader mission (Lozano, 2006; Tilbury, 2011).

2.7.2 Academic Resistance and Inertia

The sustainability strategy of a HEI undoubtedly influences curricula changes and is paramount to contributing towards a more sustainable world (Sterling, 2004). Novel approaches to curriculum reform are imperative, which involves developing the capacity among academic staff (Christou et al., 2024). A key difficulty to embedding sustainability can be academic buy-in, with many citing academic resistance as an issue (Barth and Rieckmann, 2012; Cotton et al, 2009; Tillbury, 2011). Academic staff sometimes view sustainability as being out of scope of their

disciplines, coupled with a lack of institutional incentives or support for faculty. This results in sustainability often being seen as an additional burden rather than an opportunity for curriculum enhancement (Ryan and Tilbury, 2013). Additionally, some staff perceive sustainability as lacking relevance to specific disciplines and incorporating it can divert attention from the core subject matter (Cotton et al., 2009).

To overcome these challenges, leaders play a critical role in encouraging and supporting their academic community to commit to and prioritise ESD (Vogel et al., 2023). This effort must be backed financially to provide targeted staff training and Continued Professional Development (CPD) to equip staff with the knowledge and skills required to integrate sustainability meaningfully into the curriculum and practice. Unfortunately, in recent research 55% of academics declared that the support offered to them to teach about the SDGs was either poor or very poor (Leal Filho et al., 2024). While 42% of staff stated they had a lack of knowledge in how to properly conduct teaching on SDGs. Whilst this survey had a narrow focus of accelerating the SDGs rather than looking at sustainability competencies, these figures demonstrate an alarming gap between CPD and institutional support. Research shows that without adequate CPD, educators are not confident to embed SDGs into their curricula and continues to give credence to the myth that sustainability is too complex to teach effectively, and irrelevant to many courses (Leal Filho et al., 2024; Ryan and Tilbury, 2013). It is imperative that HEIs invest in capacity-building initiatives that develop staff knowledge and pedagogical approaches, to achieve the broader goal of creating a more sustainable and equitable society.

Even with CPD, resistance and institutional inertia may persist; another commonly cited issue for academic support is the curricula is already tightly packed with discipline specific content, leaving little room for additional topics, such as sustainability (Tilbury, 2011). To overcome this issue, it is imperative that HEIs promote sustainability as a holistic framework which develops competencies rather than merely transmitting scientific knowledge. Sustainability is not a

singular entity, but rather an overarching pedagogical approach that equips students with competencies to tackle complex, interdisciplinary challenges (Advance HE, 2021; Brundiers et al., 2012; Christou et al, 2024; Lambrechts et al., 2023; Lozano et al., 2012; Oanh, 2018; Rieckmann, 2012; Weik et al., 2011; Zhou, 2024). It is essential that academics embed sustainability across disciplines as a competency-based approach which is 'built in' (Sterling, 2004) to the institution's operations and environment, rather than an additional subject into an already packed curriculum. Barth et al. (2007) highlight that ESD is not to impart scientific facts, but to cultivate key competencies, such as:

- Systems thinking
- Critical thinking
- Problem-solving skills

Framing sustainability in this way becomes less about content, and more about enhancing our future leader's skillset, which is crucial for navigating the uncertainties and complexity of the future.

The process of integrating sustainability into HEIs is a radical innovation as such positive and negative reactions arise in all facets of the HEI system (Afush, 1998). Some staff remain reluctant to adopt new approaches due to ingrained practices, an unwillingness to deviate from traditional methods or overcomplicated procedures to revalidate new ideas, creating additional burdens on already time constrained staff (Sterling, 2004). Traditionally, courses and teaching methods have focused on specific areas of knowledge such as economics, law or philosophy. As a result, students graduate having a vast amount of knowledge in their area of specialism, but no awareness of the long and short-term consequences of their actions on other fields, such as society and nature (Lozano, 2006). The whole-institutional approach requires fundamental changes to long established traditions, towards a more integrated system of knowledge development, moving away from the highly specialised focus to an integrated transdisciplinary approach (Roorda, 2001) as illustrated in Table 9.

Approach	Description
Multidisciplinary education	Co-operation between various disciplines, keeping intact every separate set of theoretical concepts and methodology.
Interdisciplinary education	Co-operation between various disciplines, where a common methodological approach and theoretical foundation is sought, creating a synthesis of the participating disciplines.
Trans-disciplinary education	Co-operation not only between specialists from various disciplines but also involving users, problem owners, clients, stakeholders, etc. (Beyond the disciplines).

Table 9: New Approaches for the University System to Incorporate SD

Academic inertia often stems from the siloed nature of HEIs to overcome this challenge institutions must breakdown time-consuming process while fostering a collaborative culture to encourage interdisciplinary dialogue and cooperation. Task forces and working groups could be created to bring together different faculties to share practice and co-develop sustainability focused curricula (Tilbury, 2011). This practice can also be extended into the curricula to create experiential learning for students enabling them to apply theoretical knowledge whilst working in an interdisciplinary manner, thus enhancing their capabilities, and fostering a deeper understanding of sustainably concepts (Gale et al., 2015; Brundiers, 2020, Ralph and Stubbs, 2013). By implementing these strategies, HEIs can overcome academic resistance and inertia to facilitate a receptive environment for a whole-institution approach. However, these changes require top-down support in the form of strong leadership, supportive policies and CPD to foster a transdisciplinary academic culture.

2.7.3 Institutional Commitment and Support

Strong leadership and strategic direction from top-level administration are essential to move away from pockets of good practice to a whole-institutional approach, which can transform society (Brundiers, 2020; Gale et al., 2015; Mori et al., 2021; Sterling, 2004; Vogel et al., 2023). Unfortunately, there can be an absence of clear institutional commitment, with HEIs often failing to offer a

comprehensive strategy to integrate sustainability into its core mission and operations, thus limiting the overall impact of initiatives (Ferrer-Balas et al., 2010). This can be due to systemic issues, including traditional hierarchical structures, short-term market driven priorities, and a lack of prioritisation at the executive level.

HEIs are subject to traditional hierarchical structures whereby decisions are made at the top, without dialogue between academics, students or other staff. Without a member of the overarching management team who is committed to championing sustainability, the concept can remain on the institution's periphery, often isolated and underfunded (Ferrer-Balas et al., 2010). Stephens et al. (2008) highlight that successful sustainability efforts involve all stakeholders in the decision-making process to make meaningful changes to operations and curricula. This is turn promotes staff and student engagement, as when decisions are made solely by upper management, it can result in a lack of commitment from stakeholders, thus limiting efforts (Sterling, 2004). Faculty and students are key players in carrying forward sustainability principles and engaging with these groups early is critical to transforming culture and practice.

Strong leadership is imperative for change, when university management set clear goals and expectations in collaboration with stakeholders, it encourages faculty to embrace new approaches (Sterling, 2004). Indeed, it is important here to distinguish between management and leadership, whilst complimentary to one another, leadership is often concerned with aligning people with a vision, whilst motivating them (Kotter, 2008). Management, in contrast advocates for practices that promote stability and preserving established routines (Senge et al., 1999) involving budgets, staffing and planning. Table 10 illustrates the characteristics of leadership and management.

Aspect	Leadership	Management
Agenda and Goal Setting	Develops and articulates a vision, establishes directions, develops change strategies	Executes plans, improves the present, creates detailed steps/time tables
Way of Thinking	Focuses on people, looks outward, "sees the forest"	Concentrates on issues, looks inward, "sees the trees"
Employee Relations	Empowers colleagues, trusts, and develops	Controls subordinates, directs, and coordinates
Mode of Execution and Operation	Does the right things, inspires, creates change, serves subordinates	Does the things right, manages change, controls, and organizes to solve problems, serves superordinates
Governance	Uses influence, engages in conflict, acts decisively, inspires and energizes others to overcome barriers	Uses authority, avoids conflicts, acts responsibly, organizes to solve problems
Outcomes	Potentially revolutionary change	Consistent key results

Table 10: Characteristics of leadership and management

When considering sustainability, a new view of leadership must be established which balances financial/economical and socio-ecological interests and challenges traditional assumptions (Ferdig, 2007). Sustainability leaderships is concerned with creating current and future benefits while improving the lives of all stakeholders (Hargreaves and Fink, 2012; McCann and Holt, 2010) and assumes:

- Sustainability problems are wicked
- Anyone can be a sustainable leader
- Involves co-generation and learning

Within this perspective HEIs need leadership to create clear strategies with visions for the future, operating in a transdisciplinary manner, to manage and support all

sustainability challenges and demands (Broman et al., 2017b). It is essential that top management teams have sustainability leaders, however this is an under-researched area which needs further exploration (Filho et al., 2020b).

3. Theoretical Framework

This chapter outlines theories pertinent to my philosophical positioning, theoretical foundations and analytical frameworks that guided the research. The first section addresses the constructivist-interpretivist paradigm within which the research sits, recognising that HEIs are social constructed, context-dependent, and shaped by external driving forces. The following sections introduce the key theories that inform the study, including policy implementation theory, critical analysis discourse and conceptual analysis.

3.1 Philosophical Positioning

Central to any research endeavour is the researcher, bringing their own paradigms, philosophical foundations, and beliefs that inevitably influence the research process. Some professionals argue that we spend too much time focusing on these aspects (Thomas, 2017), however, others assert that this practice is essential (Scotland, 2012), as it enables readers to understand how these assumptions relate to the chosen methodology and methods, how they influence the findings fostering an open and ethical approach to research thus providing an element of quality assurance (Broadbent and Laughlin, 2009). In this instance, relativism underpins the constructivist-interpretative paradigm used by the researcher, allowing an exploration of the subjective and context-specific meanings attributed to sustainability.

Addressing these assumptions at this stage highlights the researcher's commitment to exploring diverse perspectives, rather than seeking a single truth. This chapter will clarify the overarching philosophical stance of relativism which has influenced the constructivist ontology and interpretive epistemology, whereby grounded theory emerged as the most suitable method to explore the research questions. This chapter will also provide a rationale for the adoption of a constructivist grounded theory methodology, to clarify the alignment between the researchers philosophical positioning and methodological choices.

3.1.1 Constructivist Ontology

Ontology is a concept that is concerned with the relationship between and the existence of various aspects of society, such as actors, norms and structures (Barron, 2024). Denscombe (2009) acknowledges two schools of thought regarding ontology; *realists*, which regards the social world as an objective reality that exists independently of individuals, and *constructionists*, who regard the social world as a creation of the human mind, constructed through perceptions and reinforced through interactions. Realism can take various forms, depending on how 'real' is understood (Smith, 2024) and the domain to which it is being applied (moral, scientific, metaphysical), each with their own interpretation of what constitutes reality. However, all endorsements of realism accept that the world is an objective reality independent of the knowing subject. This reality is consistent and measurable, with concepts being static in nature (Wilson, 1971) and as entities in their own right (Rodgers, 1989), thus capable of being understood independently of context. As such they believe that concepts remain unchanged regardless of context, however this is heavily criticised for oversimplifying complex concepts (Morse, 1995).

In contrast, constructivists hold a subjective view of the world, believing in a social reality shaped by experiences and beliefs, and is constantly being reproduced (Denscombe, 2009). Constructionists view concepts as dispositional and consider them to be dynamic in nature thus continually evolving, as society and contextual elements change (Rodgers, 1989). Indeed, a constructivist ontology overarched by a relativist philosophy dictates that there are no absolute truths and reality is subjective, as such the researcher values each individual perception of reality, allowing for an exploration of diverse understandings, recognising that each version holds validity within its specific context (Creswell and Poth, 2018).

3.1.2 Interpretive Epistemology

Epistemology is concerned with the possibility, nature, sources and limits of human knowledge (Summer, 2024) addressing how knowledge is created, acquired, and subsequently communicated (Scotland, 2012). Denscombe (2010) identifies two perspectives surrounding epistemological positioning: positivism and interpretivism. Aligning with realism, the positivist perspective, holds an objective viewpoint, placing researchers independently of their research as observers of social reality, which can be observed like physical phenomena (Oldroyd, 1986). This approach typically results in gathering quantitative data with the aim of generating theories and laws that can be empirically investigated. When considering epistemology, we should reflect on how much our ideas correspond with what exists in the world (Peim, 2018); positivists reject the notion that the acquisition of knowledge can be interpreted in various ways depending on the researcher's own experiences and beliefs. They believe that "all genuine knowledge is based on sense experience and can only be advanced by means of observation and experiment" (Cohen et al., 2007, p.7).

In contrast, Peim (2018) identifies the interpretivist perspective as holding the belief that objective knowledge is unattainable; we can only know the world as we experience it. The acquisition of knowledge cannot be separated from our own understanding of phenomena (Peim, 2018). Rodgers (1989) suggests that there are multiple interpretations and perspectives on the same phenomena, and consequentially concepts are dispositional thus aligning with the Hermeneutic approach (Cohen et al., 2007), which imagines that people act differently in varying contexts and as such multiple realties exist. Therefore, a subjective view towards the acquisition of knowledge is crucial to recognise when conducting qualitative research, as it allows for a sophisticated understanding of how individuals construct meaning. This coupled with relativism provides a framework that accepts the coexistent of multiple yet equally valid interpretations (Denzin and Lincoln, 2011).

Embracing a constructivist-interpretative paradigm, grounded in relativism significantly influenced not only the research design but also the entire thesis topic of conducting a conceptual analysis into sustainability, should the researcher not embrace these philosophical positionings there would be no need to seek an understanding of varying definitions. By embracing these paradigms, the research focused on understanding the subjective experiences and meanings that different stakeholders ascribe to sustainability as a concept. This approach allowed the researcher to investigate the social constructions and shared understandings that underpin the concept of sustainability through a combination of policy analysis and interviews, which enabled the collection of rich, contextual data that reflect the nuanced ways in which stakeholders recognise, value and define sustainability.

This research emphasises the importance of subjective meaning and context, which guided the analysis of the data and recognised the diverse and evolving perspectives on what constitutes effective sustainability, and how it is influenced by cultural, social, and institutional contexts (Lim, 2023). As a result, the researcher was able to identify key themes, and underlying values and beliefs, linked to the concept of sustainability. The research provides an understanding of how sustainability is originally conceptualised and then operationalised within HEIs, offering valuable insights that could potentially inform future policy development and implementation (Walther, 2023).

3.2 Theoretical Foundations

3.2.1 Institutional Theory

Institutional Theory (IT) provides the foundations lens for viewing how organisations, such as HEIs respond to external pressures and societal expectations, whereby elite and responsibility leader organisations may emerge as institutional entrepreneurs (DiMaggio 1988; Greenwood and Suddaby, 2006). IT explore the processes through which HEIs adopt structures, policies and behaviours (DiMaggio and Powell, 1983; Meyer and Rowan, 1977) not necessarily

due to competition or by the need for efficiency (Weber, 1968), but to conform with established norms, secure resources and maintain legitimacy. Legitimacy is defined as, ‘‘a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions’’ (Suchman 1995, p. 574). As HEIs are primarily responsibile for pursuing normative goals such as knowledge generation and exchange and maintaining academic standards and freedom (Albert and Whetten 1985; Bolton and Nie 2010; De Paola 2011), in theory, they must adopt sustainability into the curricula to maintain their legitimacy as places of higher education and thought leaders. This section will explore ITs core principles by examining how they apply to sustainability in HEIs through three key mechanisms:

- Coercive Isomorphism (regulatory pressures)
- Mimetic Isomorphism (imitation of successful institutions)
- Normative Isomorphism (professional standards and academic expectations)

It will also address the limitations of IT in relation to the concept of agency, resistance and the policy-practice gap, justifying the need to include complementary theories and analytical frameworks, including Policy Implementation Theory (Pressman and Wildavsky, 1973), Critical Analysis Discourse (Fairclough, 1995) and Concept Analysis (Chin and Krammer, 1983; Rodgers, 1989; Hasse et al., 2000).

Coercive isomorphism (CI) is a concept introduced by DiMaggio and Powell (1983) refers to both formal and in-formal pressures exerted on organisations by other organisations, such as governments, accreditation agencies, funding bodies or regulatory authorities, upon which they are dependent and by cultural expectations in the society. These pressures can be formal mandates, such as policy requirements, or informal because of public pressure, and result in organisational change is a direct response to these forces. In relation to sustainability in HEIs, coercive isomorphism offers an explanation as to why

universities implement sustainability policies, which is not due to an intrinsic commitment but as a response to external pressures imposing sustainability criteria on HEIs. Regulatory processes include the establishment of formal rules, monitoring and approving actions (Ozturk, 2022), which enforce sustainability integration into HEIs. However, the fact that these changes may be ceremonial, or reactive (Lange, 2013) and can lead to symbolic compliance (Bromley and Powell, 2012) they are often not inconsequential and can have long term effects on institutional transformation (DiMaggio and Powell, 1983).

Ritti and Goldner (1979) highlight that internal actors who become involved in advocacy for sustainability related functions can alter power relations, and shape institutional priorities within organisations. This aligns with Thornton and Ocasio (2008) who extend IT, in their Institutional Logic Perspective (ILP), which incorporates internal negotiations, cultural logics and competing values systems as additional pressures on organisations to implement change. While CI explains how external obligations enforce sustainability compliance, ILP considers the interpretations of such mandates, recognising the differences in conceptualisation and operation. HEIs do not merely react (Lange, 2013), they are thought leaders, who engage in sense-making processes, whereby stakeholders examine and negotiate meaning and implementation of concepts. Combining these two lenses allows this research to move beyond a simplistic compliance model to recognise HEIs as dynamic environments within which sustainability is shaped by both external pressures and internal agency.

Beyond regulatory and internal pressures, it is important to consider the neoliberal market where HEIs operate, which creates an increasingly market-driven environment, forcing competition for students, funding and global rankings (Kreinin and Aigner 2022; Powell et al., 2024), which can encourage Mimetic Isomorphism (MI). MI describes a process which sees institutions model their practices on successful industry leaders to enhance legitimacy and reduce risks (DiMaggio and Powell, 1983). It is a form of imitation whereby institutions seek guidance from competitors, replicating strategies that appear valuable in reducing

levels of uncertainty to drive competitive advantage through alignment with industry leaders. Shared industry standards reinforce this phenomenon through rankings, global accreditations and benchmarking exercises which HEIs strive to emulate (Boxenbaum and Jonsson, 2017). Whilst MI can drive positive change, it can lead to superficial adoption of sustainability practice, without cultural commitment (Haake and Seuring, 2009).

This concept, referred to as 'decoupling' (Meyer and Rowan, 1977) occurs when institutions implement policies to gain legitimacy rather than for substantive change, and has integral links to greenwashing practices (Walker and Wan, 2011). For example, HEIs may introduce eco-friendly practices, such as removal of plastic straws, establish a sustainability policy, or label courses with SDGs, yet they fail to integrate sustainable values into all areas of campus life, such as the curricula, research or within institutional culture. Moreover, MI can reinforce homogenization by contributing to the convergence of organisational practices (Ansari, Fiss and Zajac, 2010), limiting diversity of practice (Boxenbaum and Jonsson, 2017) and raising concerns in relation to greenwashing. Rather than adopting innovative solutions which are tailored to specific institutions, local and global networks can lead to the amplification of MI behaviours by diffusing best practices across the sector (Marquis and Lounsbury, 2007). HEIs can project an image of sustainability, without making tangible contributions (Bansal and Clelland, 2004) by deflecting attention from minor details (Siano et al., 2017). MI can result in HEIs prioritising external perception over substantive change, resulting in a policy-practice gap where their rhetoric does not align with practice (Christensen et al., 2013), so while MI can encourage best practice it may not drive institutional transformation.

In addition to mimetic pressures, professional quality standards and academic expectations or '*normative pressures'* play a crucial role in shaping sustainability in HEIs, which is where Normative Isomorphism (NI) comes into effect. NI emerges from the professionalisation of sectors, which stems from Larson (1977) and Collins (1979) perception that sectors of industry must define the conditions and

methods of their work, to control “the production of producers” (Larson, 1977, p.49), to establish a cognitive base and legitimatise their occupational autonomy. In other words, NI is driven by the professionalisation of the HE sectors though accreditation bodies and industry standards that have established what is considered legitimate and appropriate within the sector (DiMaggio and Powell, 1983). The literature reviews outlined the growing ethical and professional obligations increasingly placed on the HE sector, reinforced through international and national policy, international frameworks such as SDGs, OfS quality metrics and the QAA quality code. Through the lens of NI, universities are not only responding to external pressures, but they are internalising sustainability as a professional norm. Both mimetic and normative processes are internal within institutions (Kezar and Bernstein-Sierra, 2019), influencing the adoption and diffusion of best practice, however, unlike MI, NI can foster a deeper cultural shift.

Roszkowska-Menkes and Aluchna (2017) claim that professional norms and industry standards, which are reinforced by professional networks and associations, promote the adoption of sustainable practices as part of CSR. HEIs are uniquely purveyors of new thought (Lange, 2013) and societal development, but are increasingly integrating CSR-driven sustainability initiatives, such as community engagement, public events and external facing accomplishments (Fazey et al., 2021) into their frameworks. This moves beyond regulatory requirements, to embrace professional communities alongside broader industry expectations to establish benchmarks for ethical and sustainable practice. However, while professional norms guide sustainability integration, the extent to which HEIs transform depends on the leadership which ultimately determines whether sustainability is embraces as a core institutional value driving long-term transformative change (Sterling, 2004; Tillbury, 2011) or used as a symbolic gesture to appease mimetic pressures.

Indeed, proactive responses to normative pressures can result in different types of organisational leadership, “of the elite or responsible type” (Lange, 2011: p.107). Elite, or prestigious HEIs may leverage their sustainability commitments to

enhance their reputation and global recognition, using their position and influence on shaping sector norms, whilst maintaining their legitimacy in keeping with their high status and maintaining resource flows (Sanders and Tuschke 2007; Podolny 1993; Washington and Zajac 2005). In contrast, responsible institutions embed sustainability as a core value, embedding it into their governance, curricula, and operations with a genuine commitment to transformation (Sterling, 2004). Whilst it is necessary to distinguish between elite and responsible leaders, it is also important to note that institutions often do not adhere to such binary categories and often operate on a spectrum. This could include a balance of elite and responsible leadership, institutions that adopt specific practices, or may not engage at all, either due to conflicting priorities, resource constraints or academic inertia. HEIs operate in a neo-liberal, competitive market, balancing pressures from rankings, funding bodies, quality assurance, and internal structures (Thornton, Ocasio and Lounsbury, 2012), as such while NI can support the internalisation of sustainability norms, the degree to which these are embedded as part of a meaningful process depends on institutional priorities and leadership vision.

Therefore, while IT provides a useful theoretical underpinning, it is essential to acknowledge its limitations as a theory that largely focuses on external pressures and structural limitations, whilst providing a static analysis of organisations (Mohamed, 2017). Indeed, IT does not recognise the ever-changing dynamic environment HEIs operate in, moreover, it assumes a level of stability and predictability which is difficult to realise. Furthermore, it underestimates the role of grassroot initiatives, agency, resistance and localised decision making, which necessitates an amalgamation of theory to include:

- Policy Implementation Theory (PIT) (Pressman and Wildavsky, 1973)
- Critical Analysis Discourse (Fairclough, 1995)
- Concept Analysis (Chin and Kramer, 1983; Rodgers, 1989; Hasse et al., 2000).

This will enable the research to bridge the gap and limitations of each theory to consider the conceptualisation and implementation of sustainability, alongside the role of collaboration and impact, to provide a comprehensive understanding of sustainability in HEIs.

3.2.2 Policy Implementation Theory

Policy implementation theory (PIT) examines the methods, dynamics and challenges involving in translating policy into practice, and looks at how individuals effect the design of policy and the influence their interpretations have on the enactment (Huang, 2004; Lipsky, 1971; Saunders et al., 2015; Seva and Jagers, 2013). Although PIT was not a central part of this research design, it provides a valuable framework for exploring how policies are translated from formal legislation into mandates for practice. It was particularly relevant to include when considering RQ 3 and 4, thus requiring a brief discussion to justify its application.

This research assumes Harman's (1984: p.12) definition of policy:

"The implicit or explicit specification of courses of purposive action being followed or to be followed in dealing with a recognised problem or matter of concern and directed towards the accomplishment of some intended or desired set of goals."

By applying PIT, this research explores both macro and meso-level sustainability polices.

3.2.2.1 Macro Level - International and National Policy

At the international level, sustainability policies are often guided by global frameworks such as the UNESCO SDGs (2017). These policies are typically framed in a broad, and aspirational manner, setting out principal goals with guiding principles, rather than specific and measurable actions, leaving room for interpretation and varying level of implementation at both national and local levels (Biermann and Pattberg, 2008). Top-down policy depends upon clear communication of goals through numerous layers, which can result in a range of

complexities and fragmentation (Pressman and Wildavsky, 1973). Indeed, at a national-level context, government interpretation of these international mandates varies, as they are incorporated into country-specific frameworks, aligned with the resources and priorities of that nation. This can result in inconsistencies in execution, where some countries prioritise sustainability efforts and back it accordingly, whilst others may lack resources, political will or frameworks to fully adopt such mandates, resulting in ineffective or fragmented implementation.

As discussed within the literature review, UK policy provides clear expectations of educational institutions, requiring ESD to be embedded within the curricula and operations (DfE, 2022). Sabatier and Mazmanian (1980) outline that for policy implementation to be successful, there must be clear actions, and objectives, strongly aligned across all levels of governance. However, Pressman and Wildavsky (1973) highlight that the implementation process can break down when macro-level policies do not account of specific requirements and limitations of local contexts. This results in an 'implementation gap' where there is a disconnect between policy and practice due to conflicting priorities, institutional constraints and differences in conceptualisation. For example, the integration of the UNECSO ESD framework into national educational policies has resulted in success, with some western and northern European countries successfully integrating ESD, while others have faced challenges in adoption and execution (Leal Filho, 2010). While UNESCO advocates for transformative change, national governments often prioritise economic or political agendas that do not necessarily align with these goals (Gross and Nakayama, 2010), which results in inconsistent policies, a lack of funding and varying levels of commitment. Furthermore, at an institutional level, HEIs face resource challenges, lack of trained educators and competition curricula priorities (Tilbury, 2011) which further widens the implementation gap. This exemplifies how macro-level policies can fail to account for local circumstances, resulting in challenges in achieving their intended outcomes.

PIT serves as a useful framework for examining how top-down policies translate into specific institutional environments, revealing an 'implementation gap', the

disconnect between policy intentions and real-world implementation. This framework allows an exploration of how policies shape HEIs landscapes, while acknowledging the tensions that sometimes appear when top-down policies are implemented at a local level. This research did not seek to assess the success of macro-level policy, moreover the inclusion of PIT is to contextualise this study HEI initiatives within the wider policy context, recognising the complexities involved with their implementation.

3.2.2.2 Meso-Level – Institutional policy

While macro-level policies set overarching benchmarks and sustainability goals, their impact depends on how they are interpreted and enacted by individual HEIs, aligned with their unique structures, resources and cultures. PIT provides a useful framework for examining this process, as it highlights the relationship between policy goals and institutional realities. Lipsky (1980) coined the term 'street-level bureaucracy', which emphasises the role of frontline implementers, which in this case could range from academics to operations staff. This is of relevance to HEIs, which traditionally operate within a decentralised manner, consequently adapting and interpreting policy to fit their own specific governance structures, resources and priorities.

Elmore's (1979) approach of 'backward mapping' to designing policy implementation, looks at the point of departure or the ultimate outcome of the policy, then 'maps backwards' to identify the steps necessary to bring about change. This perspective is particularly useful as macro-level policy typically dictates the overarching goals, and as such, backward mapping helps understand how HEIs modify policies to fit their contexts, identifying key factors affecting implementation without evaluating the policy effectiveness. This study uses PIT to gain a contextual understanding of the dynamics that influence interpretation, recognising that implementation is not a linear, top-down process but one which involves interaction and adaptation (Goggin et al. 1990). Using PIT supported a deeper analysis of the factors that shape understanding and interpretation, whilst

recognising that HEIs are situated within a complex landscape of global and local influences.

3.3 Analytical Frameworks

There are several frameworks to consider when designing the research process (Beckwith et al. 2008), for this thesis, I chose to combine Critical Analysis Discourse (CDA) with Concept Analysis (CA). CDA informed this study by providing a method of analysing the relationship between language and society, studying the way ideologies are (re)enacted through texts (Van Dijk, 2001). This allowed for a critical exploration of how discourse influences and is influenced by broader societal structures. While CDA was not used as a full linguistic analytical framework, it utilised a 'light-touch' approach to sensitise issues related to power, ideology and the subtle shaping of meaning.

CA, as a complementary framework, enables a rigorous and systematic examination of the concept within specific contexts, recognises them as continually changing and dynamic (Rafi et al., 2016). This research amalgamated three established models of CA:

- Integrated Theory and Knowledge Development Model (Chin and Kramer, 1983)
- Evolutionary Concept Analysis (Rodgers, 1989)
- The Simultaneous Concept Analysis (Haase et al., 2000)

This synthesis views concepts as dynamic (Rodgers, 1989) whilst integrating multiple analytical dimensions (Chin and Kramer, 1983) and conducting comparative analysis (Haase et al., 2000).

This section will examine both frameworks individually and provide a justification for their use, by illustrating how they collectively offer a robust and comprehensive approach to analysing sustainability in HEI.

3.3.1 Critical Discourse Analysis

Discourse analysis is an in-depth exploration of 'talk' and 'writing' about a specific subject, to understand how knowledge is organised, shared and reproduced in specific ways and through institutional practices (Muncie, 2024). It investigates how language is used and how meanings are constructed within texts (Wetherell et al., 2001; Souto-Manning, 2014) and how this generates and influences knowledge and behaviour (Sinclair and Coulthard, 1975; Lemke, 1989; Gee, 2005). The appeal of discourse analysis lies in its ability to unpick how institutions and subjects are formed, produced, given meaning, constructed and represented through particular configurations of knowledge (Muncie, 2024) by examining the meaning and structure – both explicit and implicit – of communicative acts.

CDA moves beyond a simple linguistic level to examining discourse and social life to scrutinise the exercise of power through text and talk (Fairclough, 1995). Moreover, it can be seen as a problem-oriented interdisciplinary framework which subsumes a multitude of approaches, drawing upon different epistemological assumptions, theoretical models, methods and agendas (Wodak and Meyer, 2001) to examine how social power abuse, dominance and inequality are enacted and reproduced within the political context (Van Diki, 2011). It also explores how discourses are used to persuade specific audiences based upon their ideologies, wider systems of reference and the relationship between language and political ideology (Wild et al., 2015). Souto-Manning (2014) highlights that discourses encompass values and beliefs, and because social actions become a reality through discourse, we must examine the role discourse has in understanding the complex relationship between sustainability policy and practice.

CDA examines the broad character of policy, policymaking, and policy analysis (Fairclough, 2013), enabling an analysis of underlying ideologies by exploring the linguistics used within policy to facilitate and drive forward desired outcomes. Policies can hold several discourses, and be deconstructed into several meanings (Gee, 2005) which may be both an instrument and an effect of power (Foucalt,

1998). Fairclough (2013) establishes that CDA provides a methodology that can identify ideological assumptions, power, the effects of power and what counts as valued or legitimate knowledge. Wood (2019) identifies that what is 'critical' within CDA is the effort to problematise the policy, their intentions, implications for practice. CDA looks at the social problem, not just the research question (Fairclough, 2013), and asks fundamental questions about whether the problems exist, how they are constructed, by whom, and how they are used to justify a particular solution, then uses linguistic analysis to identify and expose ideology and power at work in society.

CDA provided on element of the framework for this research which looked at how sustainability is represented, discussed, and implemented within HEI, facilitating discussions around:

- Power dynamics
- Exploring Ideological influences
- Language in context
- Hidden structures

While it enabled the researcher to examine various features of the sustainability discourse in HEI, it was not sufficient as a standalone framework. Due to the continually evolving nature of sustainability, it was essential to combine it with a CA, to enable a more holistic exploration of how the concept has developed over time, and across institutional cultures.

3.3.2 Concept Analysis

Concepts serve as abstract mental constructs, units of meaning, or building blocks of theory, summarising aspects of the human experience (Chinn and Kramer, 1995; Penrod and Hupcey 2005; Smith and Morelius 2021). They shape how we think about the world and have the power to lead to concrete changes (Gatley, 2023). However, for theory to be grounded in practice, it is essential to

understand the concepts under examination – this is the foundation of conceptual analysis (Smith and Morelius, 2021). In line with my philosophical positioning, rather than analysing concepts based on their ordinary usage, this study sought to consider the purpose of sustainability (Haslanger, 2012). This approach aligns with critical and constructivist methodologies by emphasising the examination of sustainability within its social, cultural, and institutional contexts. Rather than simply seeking to define sustainability, this research moves beyond a dictionary definition to consider broader social influences, power relations and values to explore how sustainability operates within HEIs and the influence it has on decision-making.

The primary aim of this CA is to thoroughly study, clarify, develop, and critically assess the meaning of sustainability (Smith and Morelius, 2021) to gain an in-depth, holistic understanding of the concept. Historically, CA has been predominantly used within nursing research, and as such, is traditionally aligned with positivism. For example, Walker and Avant (1983) model assumed a positivist paradigm, whereby an objective reality exists, that can be measured and consistently described which does not align with my constructivist approach. Therefore, this framework was rejected in favour of alternative CA models, which better align with the RQs, philosophical positioning, and methodological approach.

To ensure methodological congruence, a comparison of CA models was conducted (Table 11) demonstrating which models were included or excluded whilst designing the research.

Author	Name of Concept Analysis	Ontology	Epistemology	Types of Data Collection Used	Paradigm Type	Researcher Consideration
Walker, L. O., & Avant, K. C. (1983, 2014)	Concept Analysis (Walker and Avant Method)	Concepts have essential attributes	Knowledge is objective, stable, and observable	Literature review, case studies	**Positivist**	**Ruled Out** - Does not align with relativist ontology and constructivist epistemology, as it is rooted in a positivist approach.
Schwartz-Barcott & Kim (2000)	Hybrid Model for Concept Analysis	Concepts are context-sensitive and validated empirically	Knowledge is validated through empirical observation and theory	Literature review, fieldwork, empirical observations	**Mixed**	**Ruled Out** - Although it aligns with grounded theory and flexible epistemological considerations, the researcher will not conduct observations
Chinn, P. L., & Kramer, M. K. (1983, 1991)	Concept Analysis Method	Concepts are socially constructed and value-laden	Knowledge is constructed, influenced by social context	Literature review, reflective analysis, various data sources (e.g., visual, literature)	**Interpretivist**	**Ruled In** - Supports a constructivist approach and relativist ontology, suitable for grounded theory research.
Rodgers, B. L. (1989)	Evolutionary Concept Analysis	Dynamic, evolving concepts as context-bound	Knowledge is fluid, shaped by context	Literature review, historical and contextual analysis	**Interpretivist**	**Ruled In** - Aligns with a relativist ontology and constructivist epistemology, allowing for contextual and evolving understanding.
Haase et al. (2000)	Simultaneous Concept Analysis	Concepts are interrelated and dynamic	Knowledge is gathered through comparison and shared characteristics	Literature review, comparison across disciplines	**Interpretivist**	**Ruled In** - Supports comparative and contextual analysis, fitting with constructivist and relativist perspectives.
Morse, J. M. (2000, 2016)	Pragmatic Utility Concept Analysis	Concepts are adaptable and assessed for utility	Knowledge is practical, revealed through utility and synthesis	Systematic analysis, literature comparison, critical questions	**Pragmatic**	**Ruled Out** - While pragmatic, it may not align well with a purely constructivist epistemology or relativist ontology.
Penrod & Hupcey (2005)	Principle-Based Concept Analysis	Concepts are scientific and evaluated by clear principles	Knowledge is examined through logical and epistemological principles	Literature review, strategic data extraction	**Positivist**	**Ruled Out** - Its positivist nature and structured approach do not align with a relativist ontology or constructivist epistemology.
Koort (1975), Eriksson (2010)	Semantic Concept Analysis	Concepts are tied to language and human experience	Knowledge is derived from linguistic and historical analysis	Etymological analysis, semantic analysis, discrimination analysis	**Interpretivist**	**Ruled Out** - Aligns with constructivist and relativist views through its focus on language and context. However, the data collection does not align with this study

Table 11: Comparison of conceptual analysis models

Three main types of concept analysis were deemed appropriate, with specific aspects chosen from each model to bring forth their strengths whilst aligning with the researchers' philosophical positioning. Figure 7 provides an illustration of these selections to provide a comprehensive framework of CA.

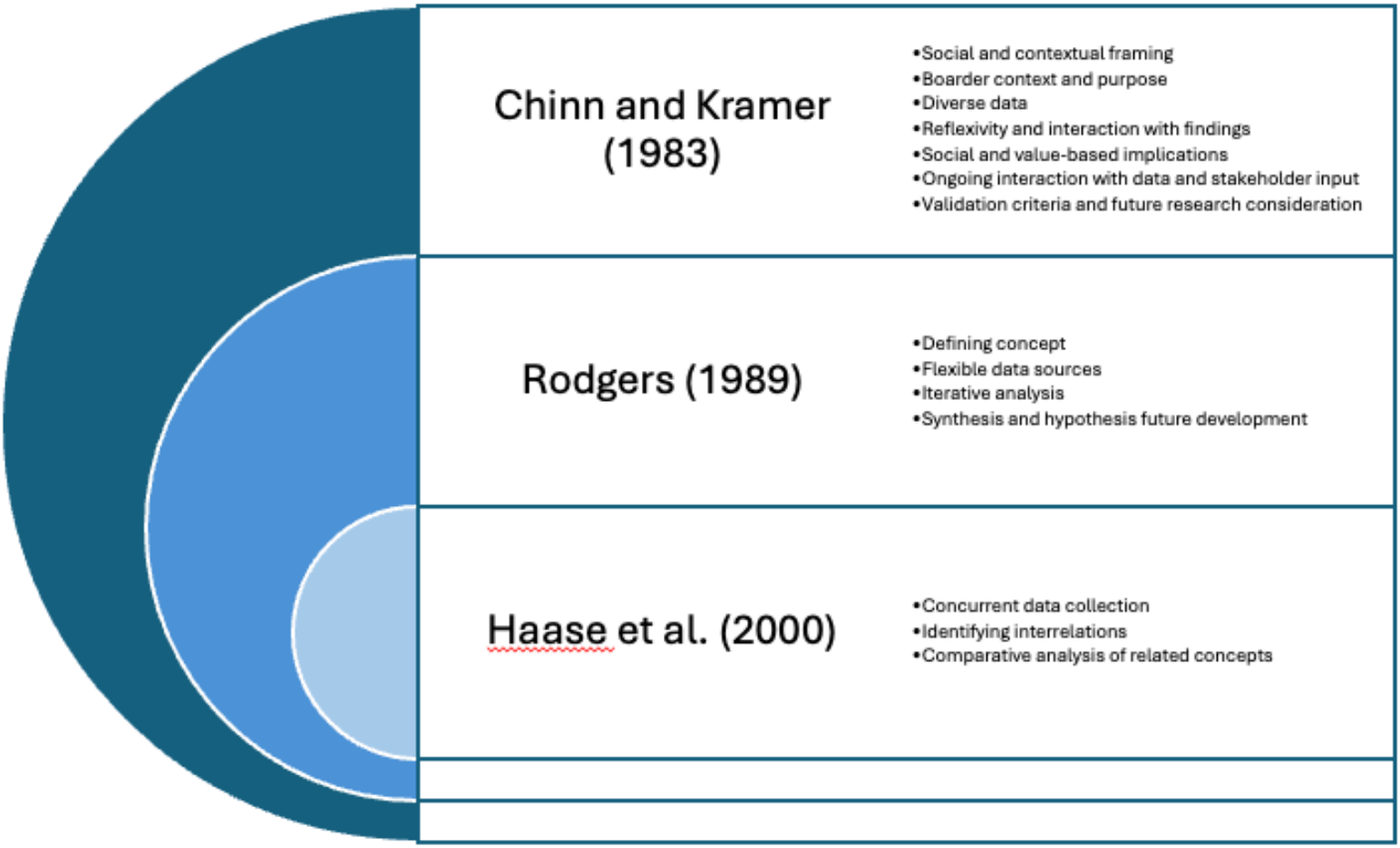

Figure 7: Conceptual analysis framework

This integrated approach allowed for an in-depth, holistic analysis of sustainability, accommodating its complex nature while also providing a clear process to the research, which will be discussed in more depth in the next chapter. Chin and Kramer (1983) deviated from Walker and Avant's (1983) original criteria of 'identifying antecedents and consequences' and 'formulating criteria'. Rather, they suggested formulating criteria post-data collection and analysis to consider values and social context (Hupcey et al., 1996). Their non-liner approach

was chosen as it seeks to examine concepts dynamically, considering terminology, representation and the linked emotions, principle and perspectives (Gunawan et al., 2023), which neither Rodgers (1989) or Hasse et al. (2000) offer. The inclusion of Chin and Kramer (1983) is centralised on the social and contextual framing of sustainability to establish the broader context and purpose, while ensuring interactive and reflexive engagement with the data.

Both Chin and Kramer (1983) and Rodgers (1989) do not seek to offer definitive conclusions, rather both approaches recognise the continually evolving nature of concepts. Rodgers' (2000) approach is inductive, and requires qualitative thematic analysis to reveal attributes, antecedents, and consequences (Rafii et al. 2016). Specific elements of Rodgers (1989) model were included for this study, including, flexibility with sources, iterative analysis, attribute identification and concept synthesis to identify future areas of development and conceptual implications. One core aspect of Rodgers (1989) work which was rejected was the creation of a model case, as it aligns more with a positivist approach which suggests a singular, definitive example thus contradicting the aim of capturing diverse, interdisciplinary interpretations of sustainability.

Haase et al's (2000) model while firmly rooted in Rodgers (1989) approach, differs in that it recognises and values the relationship between multiple concepts, arguing that numerous concepts have intricate interconnections (Gunawan et al., 2023). Their SCA was chosen for this research for its ability to identify interrelations, concurrent data collection and to support a comparative analysis of related terms.

These combined frameworks recognise that ideas are ever-changing, dynamic, and consequently influenced by time and context resulting in changing perspectives and mutations in language over time, which can adapt the understanding and definitions of concepts (Rafii el al., 2016).

3.4 Summary

This chapter highlighted the philosophical positioning, theoretical foundations and analytical frameworks underpinning this research. The study acknowledges HEIs as socially constructed, context-specific environments which are shaped by internal and external forces, thus aligning with a constructivist-interpretivist paradigm. Consequently, this study rejects the idea of a single objective truth and recognises that reality is subjective and constructed through one's own experience and beliefs. The research draws upon IT to investigate how HEIs respond to external pressures and societal expectations, intertwining this with PIT to examine the policy-practice gap, to explore how sustainability policies are translated into practice.

This is complemented with a combination of CDA and CA, to examine how sustainability is framed, interpreted and operationalised. CDA reveals power dynamics and ideological influences surrounding the discourse, while CA uncovers the evolution of the concept over time and across institutions. The amalgamation of the theoretical and analytical frameworks offers a comprehensive and robust understanding of sustainability in HEIs, considering external pressures and internal agency in relation to institutional responses.

4. Research Design and Methodology

4.1 Introduction

This section considers the methodology underpinning the research, addressing the question “how can we acquire the knowledge?” (Hay, 2002). It begins by unpicking the research design, detailing how the research was structured to answer the research questions (Elliott and Timulak, 2005; Grix, 2004; O’Leary, 2004). It provides explanations of the procedures for sampling, data collection methods and the analytical techniques employed.

It also explores the ethical considerations, including how the researcher addressed ethics, participant consent and data protection, ensuring that confidentiality was maintained to safeguard participants’ data. The chapter finishes with a critical evaluation of methodological rigour to drawing upon Lincoln and Guba’s (1985) criteria of credibility, confirmability and dependability alongside researcher expertise, methodological congruence and procedural precisions as determinants of high-quality research (Birks and Mills 2015; Lincoln, Lynham and Guba, 2018).

4.2 Research Design

This section outlines the research design which ensured a robust framework approach integrating various aspects of:

- Constructivist ontology
- Interpretivist epistemology
- Institutional Theory
- Policy Implementation Theory
- Critical Analysis Discourse
- Conceptual Analysis

While these approaches are sometimes critiqued as lacking robustness due to a perceived lack of scientific rigour (Crowe et al., 2016; Tofthagen and Fagerstrom, 2010), this research ensured credibility, confirmability, dependability, and transferability (Lincoln and Guba, 1985) by aligning it with a well-defined theoretical framework (Crowe et al., 2016) to enhance its reliability.

To enhance its clarity and align with academic standards, a visual illustration of the research design (Figure 8) and a detailed structured framework of the research process can be found in Appendix 2.

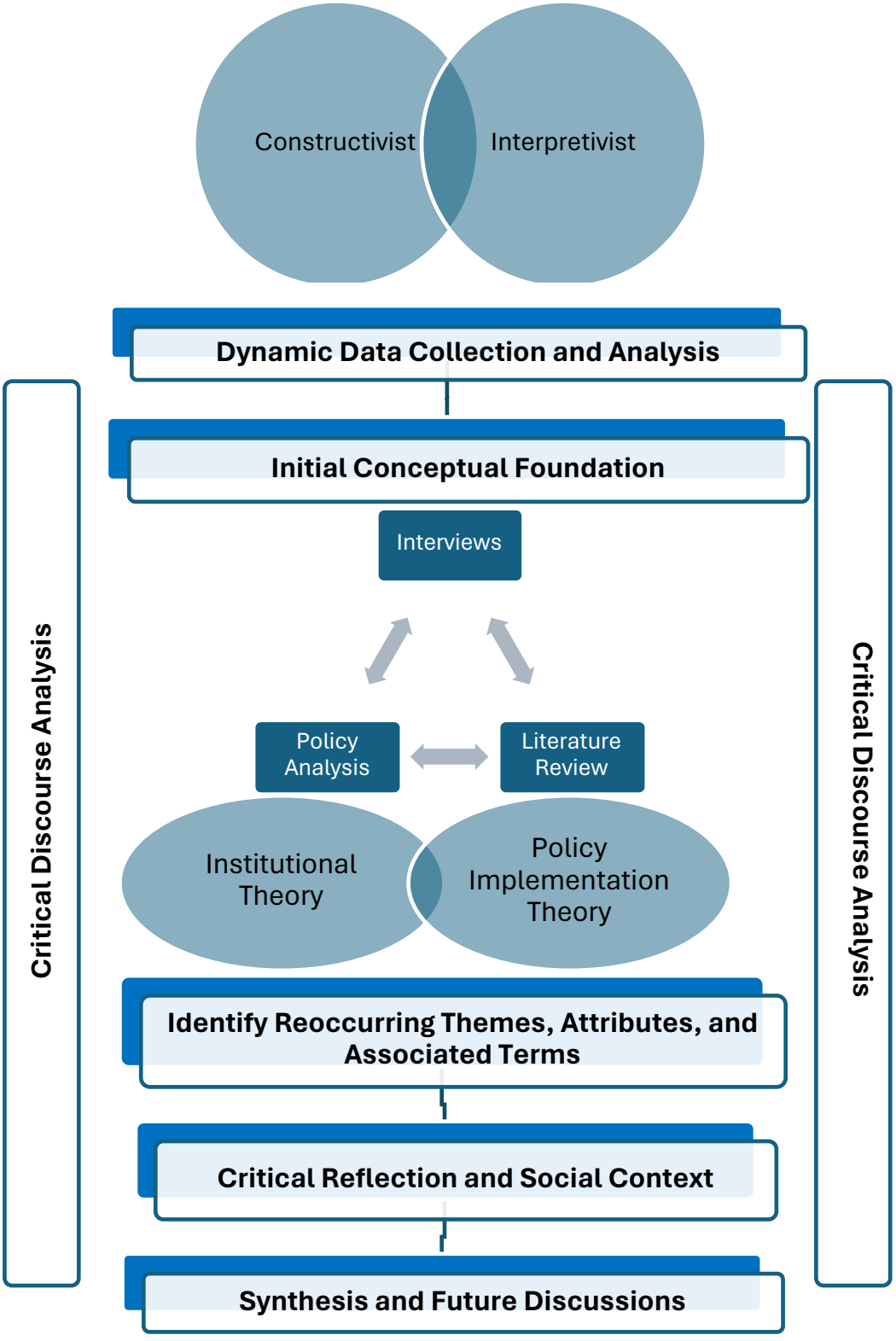

Figure 8: Research Design

Diagrams and tables offer a visual representation allowing the research to be effectively communicated to illustrate the structure, flow, and conceptual framework. This helps the reader gain understanding and clarification of the theoretical and methodological components, providing a clear temporal order (Miles, Huberman and Saldana, 2014). By aligning with Lincoln and Guba's (1985) principles, visual representations ensure complex processes are accessible, offering a consistent, transparent approach, through a clear articulation of the researchers epistemological and ontological perspectives. These visual structures support a rigorous analysis (Yin, 2018) and address research bias (Tofhagen and Fagerstrom, 2010) by illustrating the use of:

- Triangulation
- Participant validation
- Systemic analysis (Dieble, 2008).

This visual approach provides an accessible, comprehensive and ethically responsible framework, illustrating how each component contributed to the research process, allowing readers to follow the research logic, encouraging thorough scrutiny.

4.3 Methods

This section explains the approaches used to answer the research questions (RQ) which are subjective in nature, therefore the data collected was naturally qualitative and derived from:

- Extensive literature review
- Policy analysis
- Interviews

Table 12 provides an overview of the process by aligning each RQ with a rational for inclusion, associated research method and related data source. It is a means

to demonstrate the connection between the research's objectives, a justification of the approaches and methods used to offer a comprehensive exploration of sustainability in HEIs.

	Research Questions	Reasoning	Research Methods	Data Sources
RQ1	**What are the recurring themes, attributes and terms associated with sustainability?**	Identifying recurring themes and terms allows for more cohesive sustainability practices and improved communication across institutions.	Thematic analysis of policy documents and interview data to identify common language, attributes, and themes.	National and institutional sustainability policies, thematic analysis of interview data, and sustainability-related academic literature.
RQ2	**What antecedents and wider factors influence the interpretation and implementation of sustainability within HEIs?**	Recognising antecedents and contextual factors supports tailored policy adjustments and addresses barriers to effective implementation within HEIs.	Comparative policy analysis across institutions and levels (national/international); interviews to identify internal and external influencing factors.	Government and institutional policy documents, comparative analysis of institutional reports, stakeholder interviews across HEIs.
RQ3	**How do different institutions and key stakeholders define and interpret sustainability?**	Exploring these definitions helps uncover the range of interpretations, allowing for a deeper understanding of the concept's variability across contexts. This insight can enhance clarity and relevance for future applications.	Semi-structured interviews with stakeholders; policy analysis of institutional, national, and international documents.	Institutional policy documents, sustainability reports, semi-structured interviews with key stakeholders.
RQ4	**What are the consequences of various definitions being adopted across HEIs?**	Exploring the impacts of varied definitions helps identify inconsistencies in practices and promotes alignment for clearer sustainability objectives.	Case studies of HEIs with differing sustainability definitions; impact assessments through document review and interviews with stakeholders.	Interview data, institutional reports, impact assessments

Table 12: Overview of process for each research question

This next part of this section provides a detailed account of the data sources, and methods used for generating and analysing data to answer the research questions.

4.3.1 Literature Review

This research adopted a flexible and iterative approach, which entailed ongoing interaction with the literature ensuring it remained relevant and contextualised. An initial, broad search took place at the start of the research to develop and refine the research proposal, provide context, and justify the study. The literature was then revisited periodically ensuring any new insights were considered, and the research was contemporary. A final integrative search was conducted after the interviews and policy analysis had been conducted, to ensure a comprehensive understanding of the research topic (see Figure 9).

Figure 9: Literature review process

Rodgers (1989) states that the literature review ought to be comprehensive and representative; I ensured this by drawing upon a range of sources to ensure a well-rounded understanding of the concept. The literature was sourced through libraries from the Birmingham City University, Lancaster and google scholar. A non-probability, purposive sampling technique was implemented, resulting in hand-picked sources based on particular characteristics, providing greater depth to the study by ensuring only relevant and high-quality materials were used (Cohen et al. 2007).

To increase credibility (Lincoln and Guba, 1985) and reduce researcher bias in source selection, an inclusion and exclusion criteria was applied to increase

objectivity (see Appendix 3). This enabled the acquisition of articles, policy and other sources which were analysed to obtain an understanding of how the author conceptualised the topic (Rodgers, 1989). Subsequently a snowballing technique was used, whereby studies cited within selected articles were also examined, and were also included if deemed relevant. To further address confirmability (Lincoln and Gubas, 1985), triangulation was essential, ensuring multiple data sources were utilised to establish a reliable understanding of the concept (Cresswell, 1998). This adds validity to a study by corroborating various perspectives and understandings to discover reoccurring themes, from several sources (Yin 2011). The literature gathered was subsequently subjected to critical analysis (see Appendix 4) whereby it was put through a process of systematic examination (Mhaskar et al, 2009) to assess its trustworthiness, value and relevance (Coutts, 2009; Eales-Reynolds et al., 2013) prior to its inclusion within this research.

4.3.2 Policy Analysis

Examining policy was essential within this research as a means of understanding how ESD is shaped and the dynamic interaction between macro-policies and meso-practices. The macro-level refers to international and national policies, which set the agenda for sustainability in education. At the meso, or institutional level, the policies that were analysed provided context-specific interpretations of these broader frameworks, adapting them to suit institutional priorities and needs. Combined, both levels create a feedback loop (Meadows, 2008) whereby international and national policies inform institutional strategies, while institutional insights may influence future policy development.

The inclusion criteria for macro-level policy (see Appendix 5) were carefully designed to ensure that they were relevant and applicable to the UK. Policies were selected based upon their direct impact to educational practices within the UK, explicitly focusing on ESD and their influence at both macro and meso-level. This analysis focused on the key documents in Table 13:

International Policies	
United Nations (2015)	Sustainable Development Goals (SDGs)
UNESCO (2005)	United Nations Decade of Education for Sustainable Development
UNESCO (2014)	Global Action Programme (GAP) on Education for Sustainable Development
UNESCO (2021)	Education for Sustainable Development: Towards Achieving the Sustainable Development Goals (ESD for 2030)
National Policies (United Kingdom)	
Sterling (2012)	Future Fit Framework
QAA and HEA (2014)	Education for Sustainable Development
Advance HE and QAA (2021)	Education for Sustainable Development Guidance
Department for Education (DfE, 2022)	Sustainability and Climate Change: A Strategy for the Education and Children's Services Systems
Advance HE (2023)	Framework for Education for Sustainable Development

Table 13: International and National Policies

As a result of this analysis, ESD strategy was unpicked with respect to its relevance to HEIs, identifying overarching objectives and international directives (as outlined in Chapter 2) thus positioning the policy landscape and its relationship with meso-level policies. The researcher then analysed meso-level policies to provide a deep contextual framework of policy in the UK, as depicted in Figure 10.

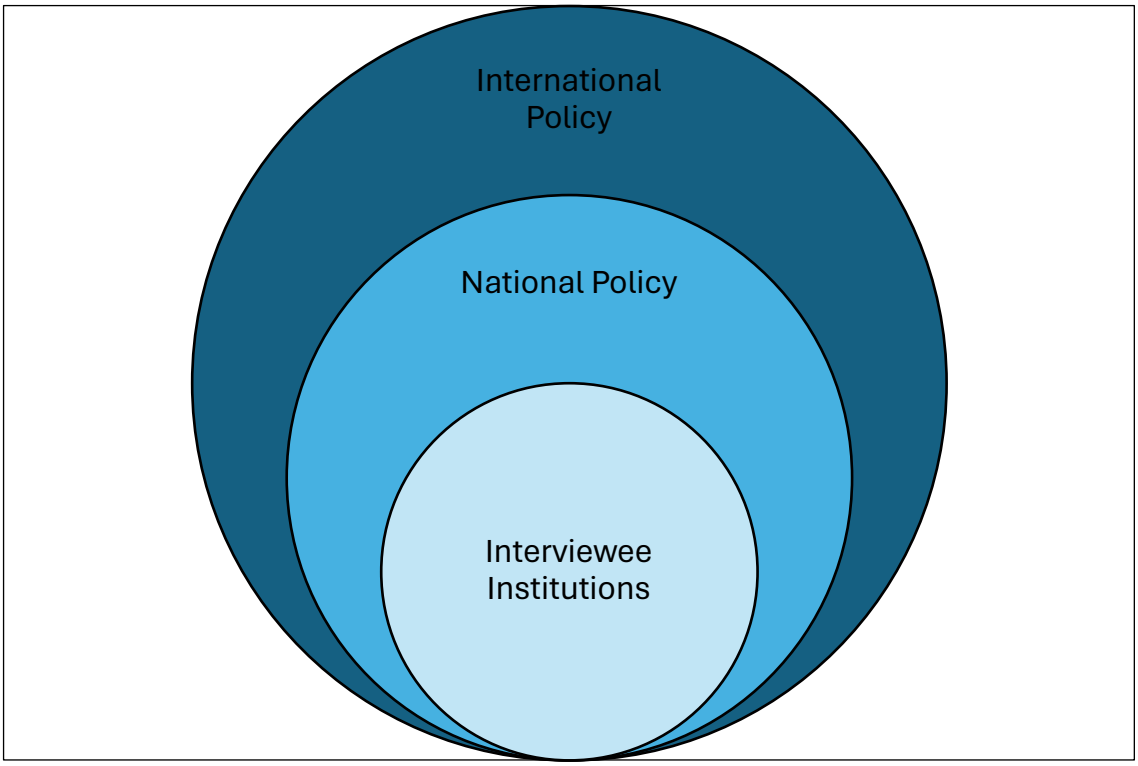

Figure 10: Policy overview

To comprehensively assess sustainability policies at a meso-level in the UK, the final step (post interviews) was to conduct an analysis on the interviewee institutions, comparing them to the international and national sustainability standards. This comparison aimed to establish how each institution aligned or diverged from policy intentions and actual practice, highlighting areas of best practice, where directives effectively influence HEIs and where gaps to policy implementation exist. This process illustrated the feedback loop created by this interaction demonstrating the significance of macro-level policy on practice, while also recognising the importance of policy in context, which can, over time, influence HEI policy developments. This approach allowed a comprehensive, balanced perspective on how HEIs are addressing sustainability challenges and integrating practice into their operations and curricula.

4.3.3 Interviews

The final sample consisted of eight participants, each was assigned a participant number and coded university name to anonymise identities, as illustrated in Table 14.

	University	Type of Univeristy	Job Title
P1	A	Post-1992 University	Principle Lecturer
P2	B	Post-1992 University	Associate Director of Sustainable Development Goal Impact & DMU United Nations Academic Impact Hub Lead
P3	C	Post-1992 University	Associate Professor in Sociology
P4	D	Red Brick University	Vice-President for Social Responsibility and Professor of Molecular Pathology
P5	E	Ancient University	Head of Environmental Sustainability
P6	F	Plate Glass University	Senior Lecturer in Science Education
P7	G	Post-1992 University	Environmental Manager
P8	H	Red Brick University	Education for Sustainability Coordinator

Table 14: Universities in research

4.3.3.1 Sample

Making informed decisions in relation to sampling is essential to increase the quality of research (Suri, 2011). Purposeful sampling is a technique widely used for the identification and selection of information-rich cases (Patton, 2002), by selecting individuals who are especially knowledgeable about or experienced in

the concept of interest (Cresswell and Plan Clark, 2011). Participants for this study were first identified through their engagement with the Green Gown Awards, ensuring that the HEIs demonstrated commitment and excellence in sustainability.

The inclusion criteria (see Table 15) were deliberately broad to include individuals within identified HEIs who held a position involving sustainability in the broadest sense of the term, from policy development through to implementation. This approach allowed for flexibility while representing a diverse range of perspectives, aligning with the purposeful sampling process.

Inclusion Crtieria	Exclusion Criteria
Instituion engaged in Sustainability Efforts: HEI must demonstrate active engagement in sustainability initiatives, such as formal recognition or participation in sector-recognised schemes (e.g. entry into the Green Gown Awards).	**Non Engagement with Sustainability Efforts:** HEIs with no evidence of active participation in sustainability initiatives (e.g. no involvement in sector-recognised awards or frameworks) will be excluded.
Current Employment in a UK HEI: Participants must be actively employed at a recognised UK Higher Education Institution.	**Non-UK HEI Employment:** Individuals not employed by a UK Higher Education Institution will be excluded to maintain the study's focus.
Role Related to Sustainability: Individuals should hold positions directly involved with sustainability initiatives, policy development, or implementation within their institution.	**Lack of Direct Involvement in Sustainability:** Those whose roles do not pertain to sustainability initiatives or policy within their institution will not be considered.
Experience Level: A minimum of two years of experience in roles	**Insufficient Experience:** Candidates with less than two years of relevant experience in roles within higher education will be excluded to ensure depth of insight.
Institutional Representation: Efforts will be made to include participants from a diverse range of HEIs, encompassing various types (e.g., Ancient, Red Brick, Plate Glass, Post-1992) and geographic locations across the UK.	**Conflict of Interest:** Individuals with potential conflicts of interest that could bias the study's outcomes will be excluded to maintain objectivity.

Table 15: Inclusion and exclusion criteria

Twenty individuals were contacted via email, with a Lancaster University Participant Information Sheet and Consent Form attached (see Appendix 6). This outlined the aims and purpose of the research, reasons for their selection, expectations and the right to withdraw. Ten participants replied, with eight committing to the interview process, while a relatively small sample, each participant provided a unique perspective relevant to the research questions. Rather than aiming to gather generalizable data, which studies get from larger samples, this study sought to gather context-specific in-depth data. Each participant had first-hand experience from various levels across different HEIs, providing a diverse sample, thus establishing a holistic, deep insight into multiple interpretations and practices.

All interviews were conducted online at a convenient time for the participants, allowing the researcher to observe both non-verbal and verbal communication (Janghorban, Roudsari and Taghipour 2014; O'Connor and Madge 2016). Offering online interviews allowed the research to include HEIs across the country, eliminating environmental impact associated with travel, whilst ensuring an efficient method to conduct interviews, which may have increased the willingness of participants to engage.

4.3.3.2 In-Depth Semi-Structured Interviews

Semi-structured interviews were used to explore participants interpretation of sustainability within a HEI context. Using a semi-structured interview design with probing, insightful questions provided a guide to the interview, whilst maintaining the necessary flexibility to follow topics of interest, unpack specific, complex, issues and allow scope to circumnavigate potential barriers in conversation (Lapan et al., 2011; Wilson, 2016). While no pilot interview took place, a semi-structured agenda was developed (see Appendix 7) to provide a starting point to the interview. This drew upon Charmaz's (2014) guidance to seek out the participants perspective of definitions, situations, events, main concerns, assumptions, implicit meanings, and tacit intuition. Each interview took a slightly

different focus depending on participant responses, allowing for flexibility in exploring symbolic meanings and social interactions that influence their perceptions. The use of semi-structured interviews also facilitated a form of comparative analysis between individual responses (Beck and Manuel, 2008).

Establishing rapport was important during the interview process, to create a comfortable environment conducive to honest, open communication allowing participants to share their experiences, perceptions and world views (Kvale and Brinkmann, 2009; Silverman, 2015). It was also important to ensure the flow was effective and concurrent with time and topic, allowing time to validate my understandings with each participant, close the interview and allow the participants to ask questions (O'Leary, 2004).

Table 16 details the process:

Adapted from Salmons (2014) and Charmaz (2014)
Preparing
• Introductions and thank you
• Time for establishing rapport
• Trial of video/audio call and voice recording
• Review study details and regain consent
• Confirm interview process
• Clarify expectations and interview ground rules for both the participant and researcher
Opening
• Background information
• Initial open-ended questions to introduce subject and encourage participants to discuss issues most relevant to them
Questioning and Guiding
• Intermediate questions
• Ending questions
• Exploratory probes - use throughout to draw out depth and information about social processes
• Cooling out prompts - use 15 minutes before end of interview
closing
• End interview by asking participant if there is anything else they would like to discuss
• Thank participant for the interview
• Clarify details about interview transcript being sent to participant and whether further follow up may be needed
Post Interview
• Reflect on interview content and process
• Initial review of data collected and analysed during interview
• Memo ideas while interview is still fresh on researcher's mind

Table 16: Interview process

4.4 Data Analysis

As previously discussed, the data analysis occurred simultaneously with the data collection period. During the interviews, questions and exploratory prompts were adapted as a direct result of the participants input, ensuring a responsive and reflective approach. Iterative cycles of data collection and analysis allowed theoretical ideas to be refined, which then guided subsequent data collection and analysis. This process was guided by an amalgamation of thematic analysis and constant comparison, merging them methodologically to ensure a structured yet malleable analytical framework. The two methods will be discussed separately to highlight their distinct contributions whilst also illustrating how they were combined to create a coherent and iterative analytical process.

4.4.1 Thematic Analysis

Thematic analysis (TA) was the primary technique used for identifying patterns and themes that permeated the data, building a coherent understanding of sustainability in HEIs (Trowler, 2014). These themes were then used to organise, describe and interpret reality (Boyatzis, 1998; Braun and Clark, 2006; 2021) and their relevance determined in relation to the RQs (Dusi and Stevens, 2023). TA is a widely recognised as a flexible qualitative data analysis technique with a diverse range of approaches (Braun and Clark, 2006; Castleberry and Nolen, 2018; Guest et al., 2012; Joffe, 2012). This research utilised an adapted version of Braun and Clarke's (2006) six-step approach, to combine a TA approach with constant comparison, as illustrated below in Table 17:

Step (Braun & Clarke's Six-Step Approach)	Thematic Analysis Element	Constant Comparison Element	Process Description
1. Familiarisation with Data	Read data thoroughly and take initial notes on patterns	Begin comparing initial observations across data sets	Read transcripts multiple times. Took notes on initial ideas to compare patterns across new data sets as they are added.
2. Generating Initial Codes	Systematically code data, identifying meaningful data segments	Compare each new code with existing codes as data is added	Created initial codes to capture essential aspects of the data. As new data came in, I compared new codes with existing ones to refine or expand codes iteratively.
3. Searching for Themes	Group related codes into potential themes	Compare codes and initial themes across rounds of data collection	Organised codes into broader themes, made comparisons between codes and themes to ensure they accurately reflected the data. Adjusted themes as new data was added.
4. Reviewing Themes	Refine and consolidate themes	Use comparisons to test and refine themes	Checked each theme against the data, comparing how it aligned with new codes and themes to ensure they held across different data sets. Refined themes iteratively based on these comparisons.
5. Defining and Naming Themes	Clarify what each theme represents	Compare themes with each other and with prior literature	Defined each theme in depth, comparing it with other themes to ensure distinctness. Began comparing themes with theoretical frameworks to identify connections or contrasts with existing literature.
6. Writing up	Write up findings with illustrative quotes and data	Reflect iterative comparisons in the final theme descriptions	Presented each theme in detail, explaining how constant comparison helped refine themes. Used quotes to illustrate themes, showing how they developed through iterative comparisons.

Table 17: Thematic analysis and constant comparison overview

Despite TAs popularity, it comes under critique for an alleged lack of nuance, reliance on interpretation (Dusi and Stevens, 2023), and limitations in explaining phenomena and making theoretical predictions (Newman, 2006). However, Braun and Clark (2014; 2020) claim this is due to a lack of understanding regarding its potential, variability and flexibility. This research used a robust, systematic framework for coding and analysing data, which began with an in-depth familiarisation process, whereby all transcripts and policies were read multiple times to develop an initial sense of the themes. I then conducted manual coding of the policy and transcripts, allowing for a detailed approach by identifying relevant

sections with codes that represented emerging ideas and themes (see Appendix 8 and 9). This allowed the research to be approached from multiple angles and diverse perspectives throughout the coding, and whilst a time-consuming method, it allowed for deep engagement with the data facilitating a high level of sensitivity to subtle nuances in the data, grounded in individual participants perspectives.

4.4.2 Constant Comparison

Constant comparison (CC) refers to the continuous comparison of new data with previously coded data, to refine codes and progressively develop an abstract conceptual framework, rather than a descriptive account of the data (Birks and Millsm 2015). It provides the ability to constantly compare additional interviews with those previously analysed, ensuring that the data is not compared with pre-defined categories but that the data is compared as a whole at the start, to make increasingly more comparisons according to the categories that are developed inductively (Stevens and Lore Van Praag, 2023). This is particularly valuable to this research by ensuring that themes are not static, but dynamically evolve as new insights emerge.

Amalgamating CC with TA facilitated an iterative and flexible approach, by using the structured framework of TA to identify and organise patterns of data, while CC ensured ongoing refinement of themes, enable deeper theoretical engagement thus improving credibility, confirmability, and dependability (Lincoln and Guba, 1985). Additionally, the systemic cross-analysis of policies and participant narratives enabled my interpretations to be grounded in the data, minimising bias and increasing the robustness of the research design. This approach helped to uncover nuances in the sustainability discourse within HEI ensuring a representation of participants perspectives and broader policy frameworks. The adapted framework allowed the study to encompass a reflexive and iterative process, maintaining balance between structure and flexibility with insights organically evolving, thus enhancing pattern recognition and theoretical depth while maintaining methodological rigour.

4.5 Memoing

Memoing provided an important aspect to this research and occurred throughout all stages of the process to capture the researchers' thoughts, feelings, reflections and insights (Birks and Mills, 2015). Memos are spontaneous, raw and unedited (Charmaz, 2014), they provided creative freedom throughout the data analysis process, and were invaluable in capturing my initial feelings, supporting bias mitigation, and freely exploring new ideas and concepts. As I manually analysed the transcripts, memoing enabled full immersion with the data, to evaluate what was said, and other elements were considered such as annotation, emphasis and tone. This approach allowed for uninhibited exploration summarising my reflections, thoughts, and decisions about the data, serving as a bridge between the raw content and developing themes.

Memos were typed to document the experience and served as conceptual levers, opening new insights and possibilities of meanings (Schatzman and Strauss, 1973). Three types of memoing were used, with examples of each offered in Table 18.

Memo Type	Description	Example
Operational Memos	Practical notes about the research process, such as decisions on sampling, data collection methods, or methodological adjustments. These memos provide insight into the researcher's choices, allowing for transparency in the research design and process.	3rd-July 24 Updated supervisor meeting, discussed theoretical frameworks which could shape work, inc critical discourse analysis. Look at policy implementation, and focus on two specific layers. Think about own langauage, e.g. barriers. Focus the concept into curricular implementation, look at culture, e.g. green space, hedehogs, recycling etc
Reflexive Memos	Reflections on the researcher's own biases, assumptions, and perspectives, considering how these might influence the analysis. Reflexive memos promote critical self-awareness, encouraging the researcher to examine their role in interpreting data.	5-Sep-24 I've been too descriptive in intial lit searchs, be more critical. Loolk at neoliberal, competitive nature of HEIs, the restrictions this imposes. Sustainability as a revolution - will it work? No. Why? Because of context
Analytic Memos	General reflections on insights or patterns observed in the data, often documenting the researcher's evolving thoughts on themes. Analytic memos capture initial interpretations, highlight relationships between codes, and guide ongoing analysis.	

Table 18: Memos

These examples provide insight into how memos served as an integral part of the analytical process, to extract meaning from data, by identifying gaps and further lines of inquiry. Furthermore, this technique supported the identification of patterns and connections whilst documenting choices made throughout the research process, ensuring a transparent and ethical approach was undertaken.

4.6 Ethical Considerations

Ethics is a term that "refers to a focus on that which is deemed right and good" (Mortari and Harcourt 2012: p.235), reflecting my position. An ethical framework was embedded in this study to offer a transparency regarding the underpinning philosophical stance and methods employed to minimise bias within the data collection and analysis. As ethical considerations should be at the heart of every

piece of research, it was essential to develop an ethical framework which was integral throughout the research, as outlined in Table 19.

Research Stage	Ethical Process and Considerations
Proposal	Gain ethical clearance from Lancaster University
Aim and Rationale	Justify why it is a relevant topic.
	Memoing
Methodology	Offer an open and honest account of underpinning ontological and epistemological perspectives
	State what paradigms are being used
	Define understanding of research terminologies
	Memoing
Methods	State why approaches are relevant to topic
	Memoing
Participant Recruitment, Ongoing Involvement and Data	Lancaster Approval
	Open communication with potential participants regarding objectives of research
	Complete participant information letter
	Complete participant consent forms
	Voluntary participation
	Right to withdraw
	Data protection adhered to throughout research process, e.g. securely stored.
	Anonymity throughout thesis through use of pseudonyms
	Memoing
Data Collection and Analysis	Inclusion and Exclusion Criteria
	Peer reviewed articles
	Triangulation
	Critical analysis of literature
	Reflexive journal
	Include all perspectives to attempt at maintaining objectivity
	Declare researchers position may influence interpretation
	Recognise impact of internal/external influences
	Memoing
Synthesis and Future Discussions	Restate underpinning philosophical stances
	Research does not claim to be definitive
	Memoing

Table 19: Ethical overview

Prior to commencing the interviews, ethical approval was sought and approved by the Research Ethics Committee at Lancaster University (see Appendix 10). In line with the application, all data was stored on an encrypted USB, as per the Lancaster University ISS standards, and will be kept securely for the specified duration. Alongside this, the British Educational Research Association (BERA, 2018) ethical guidance were incorporated, as well as Lincoln and Guba's (1985) criteria for increasing credibility, transferability, dependability, and confirmability, thus enhancing the validity and robustness of qualitative data.

Memoing was also used to create an audit trail, providing readers with evidence theoretical and methodological choices throughout the study (Koch, 1994). The memos were generally reflexive in approach, offering a self-critical account of the research process, capturing my internal dialogue (Tobin and Begley, 2004). Implementing these various strategies throughout the process ensured the research remained as transparent and rigorous as possible.

4.6.1 Situating Myself

The methodological approaches and underpinning philosophy of this work are often critiqued for their potential researcher bias, and how knowledge can be influenced by values, beliefs and attitudes of all stakeholders (Mackenzie and Knipe, 2006). Reid and Scott (2006) highlight that this raises questions in relation to the rigour the generalisability of findings, while O'Leary (2004) states that qualitative research is inherently intertwined with the subjectivity of all involved. The positioning of the researcher can make neutrality difficult to achieve, therefore it is essential to be transparent about my values, attitudes, and background to mitigate any potential for bias by maintaining a reflexive approach.

I come to this study from an educational background which began in early childhood and primary education, where my engagement with forest school introduced me to ES as an integral concept to education. This shaped my commitment to experiential, child-centred education, which fostered a deep

appreciation for environmental learning. My activist orientation developed further, when I undertook a MA dissertation on the concept of 'Moral Courage', it was here that the complexities of ethical action first began to influence my approach to research and knowledge. This lens evolved further in the first part of my PhD, where I conducted research exploring youth activism solidified the researcher's dedication to addressing social and environmental issues.

I developed a strong passion for sustainability and began to incorporate it into my professional life, by conducting research with colleagues' and students to understand their perspectives, becoming an environmental ambassador, incorporating SDGs into a revalidated course design, and joining:

- Early Childhood Studies Degree Network (ECSDN) Sustainability Group
- SIG in Sustainability in Early Childhood Education: European Early Childhood Education Research Association (EECERA)
- SIG in Sustainability: BERA

Although I lack a formal academic background in sustainability, these actions have all contributed to the development of my positionality, which lead to this research.

Acknowledging and reflecting upon my values, attitudes and beliefs, ensures the research design and data analysis processes were considered with meticulous attention to detail, leading to the development of a rigorous framework mitigating against bias. Exploring the concept with a clear framework, and the incorporation of a range of diverse voices and interpretations facilitated a way to minimise my influence (Hatch and Wisniewski, 1995), the mitigate the impact of subjective positioning (O'Lerary, 2004). However, this was not without challenges and the implementation of memoing provided an additional means of reflexive practice to demonstrate how my own assumptions and personal interests were managed (Doyle 2013; Engward and Davis 2015; Finlay and Gough 2003; Gentles et al., 2014; Jootun, McGhee and Marland 2009; Markey, Tilki and Taylor 2014; McBrien

2008; McGhee, Marland and Atkinson 2007; Pezalla, Pettigrew and Miller-Day 2012) thus strengthening the integrity and rigour within the work.

4.7 Scope

As previously established, there is no set definition for sustainability, nor its associated terms, SD or education for sustainability, still it can be broadly interpreted through the economic, social and environmental pillars (Ryan and Tilbury, 2012; Sterling and Scott, 2008). However, it is not possible to fully isolate one pillar, and consequently the research design and participant sample allowed for a diverse range of perspectives and interpretations to be explored. Nevertheless, it is important to note that most of the participants focused on the environmental aspect, rather than the social or economic pillars.

The scope was further framed by the selection of HEI policy, which related to policies and practices surrounding operations, curriculum, and research. It is also important to note that while twenty invitations were sent out, only eight interviews took place which resulted in uneven representation of institutional types.

University Type	Number
Ancient University	1
Red Brick University	2
Russle Group	0
Plate Glass University	1
Post-1992 University	4

Table 20: Type of university

4.8 Conclusion

This chapter presented the research design and methodology underpinning the research enquiry, discussing the methods used, the analysis processes and the ethical implications that enhanced methodological rigour. This study ensured a transparent and comprehensive approach to data collection and interpretation, allowing for ample opportunity to acknowledge potential bias by engaging in continuous self-awareness, and ensuring respondents had opportunity to review

and verify interpretations leading to more authentic data by minimising surface-level interpretations.

The next chapter will provide an overview of the findings and thematic analysis of the data generated.

5. Data Findings and Analysis

5.1 Introduction

This chapter presents the findings from the data analysis, bringing forth the voices and perspectives of the participants in comparison with policy analysis. It presents the data through selected quotes taken directly from policy and participants lived experiences, highlighting multiple realities whilst identifying and reiterating emerging themes (Creswell, 2007). The thematic analysis followed an inductive, open-ended and iterative approach, whereby themes were entirely data-driven, following a process of open coding, constant comparison, and feedback loops, concluded with axial and selective coding (Stauss and Cobin, 1990). Themes were then selected based on relevance, frequency and idiosyncrasy to demonstrate the importance and variations within the data.

In addition to this, memos are included to demonstrate the researchers' evolving ideas, reflections and insights into the codes and meta categories. They also serve as reasoning cycles and a means of evidence that the researcher continually compared data to ground theoretical insights throughout the data analysis and generation process.

This chapter presents the results in relation to three meta categories:

- Conceptualisation
- Implementation
- Impact

These are then split into three sections:

- Integrated findings and analysis of policy
- Integrated findings and analysis of interviews

- Synthesising discussion

The first two sections address subthemes identified within meta-category (see Figure 11) to create a holistic view of sustainability. The third section of each meta-category synthesises the findings between the policy and interviews, identifying alignment, dislocation, enactment and dissidence, linking back to the literature review.

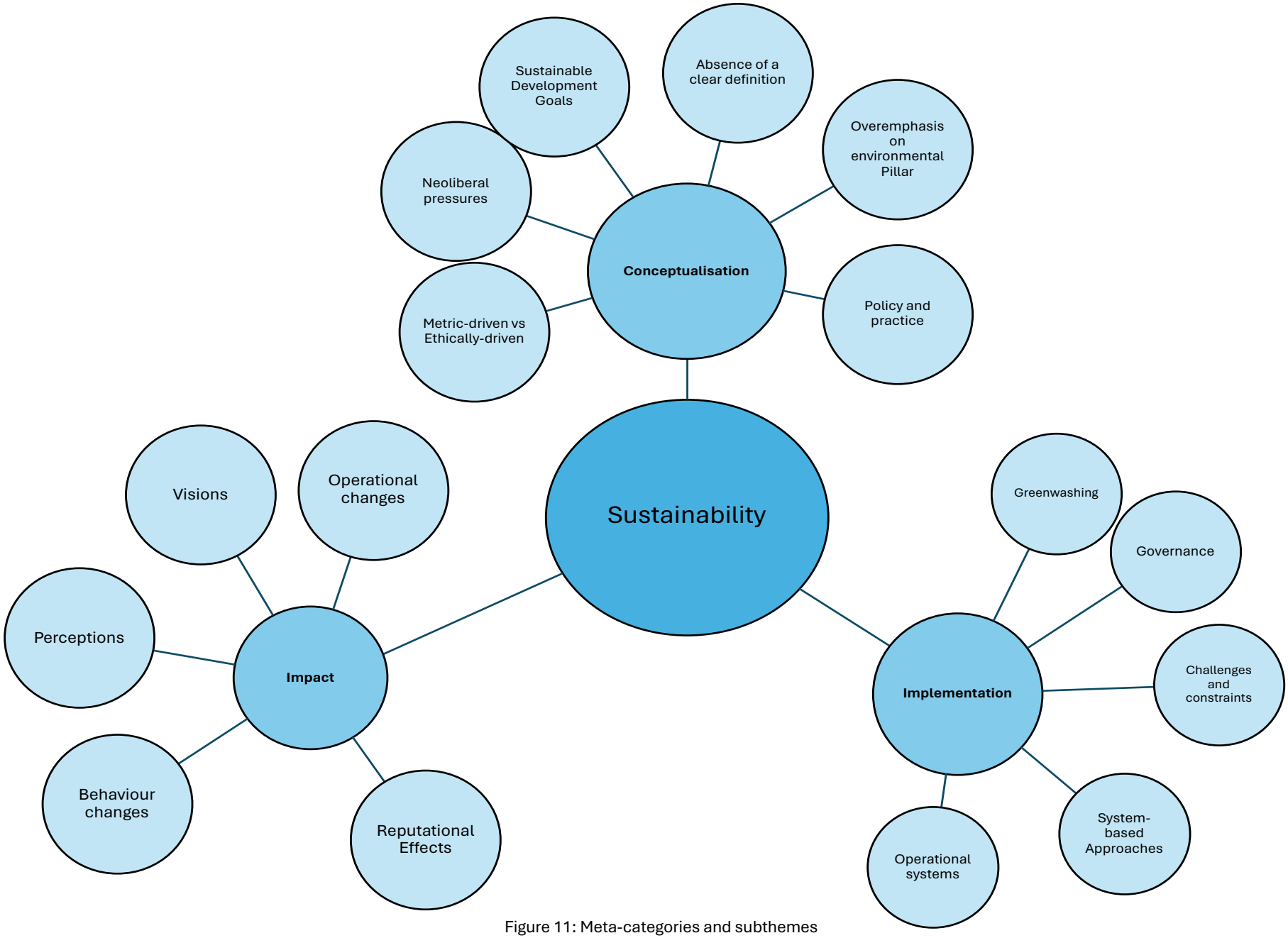

Figure 11: Meta-categories and subthemes

5.2 Conceptualisation

This section provides an overview of the conceptualisation of sustainability from policy analysis and interview discussions framed through the conceptual analysis model developed for this study (See Figure 7). Drawing on Rodgers (1989) inductive, attribute-based approach whilst valuing and recognising both specific contexts (Chinn and Kramer, 1983) and interrelated concepts (Haase et al., 2000) this section analyses how sustainability is conceptualised. Recurring attributes, antecedents, surrogate terms and consequences were identified to classify themes across data sets (See Appendix 11). These were then narrowed down to focus specifically on RQ 1, 2 and 3, to clearly define categories that ran across both policy and interview data.

The CDA revealed two dominant discourses, one environmentally driven and one socially focused. Although they are not mutually exclusive, the findings suggest that HEIs are more likely to prioritise environmental aspects of sustainability while individuals lean more towards socially focused perspectives. This section presents the findings from policy analysis and interview transcripts before offering a synthesis to explore the consequences of varying perspectives on practice (RQ 4).

5.2.1 Policy

A striking reality emerged from the policy analysis: none explicitly defined sustainability. Although all HEIs demonstrated a commitment to developing practice and goals, the absence of a clear, standardised definition illustrates a conceptual gap. Some policies refer to the three pillars (WCED, 1987) however there was often a clear disproportion towards the environmental aspect. Using CDA alongside conceptual analysis, a comprehensive list of environmentally focused language was created (Table 21), depicting the prioritisation of environmental aspects, over economic and social sustainability.

Category	Terms
Climate Change	Climate Emergency, Global Warming, Ecological Challenges
Sustainability Goals	Carbon Neutrality, Net Zero Carbon, Circular Economy, Sustainable Development
Energy and Resource Management	Renewable Energy, Energy Efficiency, Resource Efficiency, Low-Carbon Solutions
Biodiversity	Biodiversity Enhancement, Natural Environment, Ecosystem Protection, Green Infrastructure
Environmental Impact	Carbon Footprint, Emissions Reduction, Pollution Prevention, Environmental Degradation
Sustainable Operations	Sustainable Travel, Green Buildings, Sustainable Procurement, Waste Reduction
Educational and Research Integration	Environmental Literacy, Sustainable Futures, Climate Action Research, Teaching Sustainability
Policy and Governance	Environmental Management System (ISO 14001), Governance for Sustainability, Environmental Accountability, Reporting and Transparency

Table 21: Environmentally focused language in policy

The word and phrase frequency analysis (Table 22 and 23) further evidences this trend, revealing dominant words and terms, often appearing in the introductory sections or targets, demonstrating a pronounced emphasis through the strategic placement of terms.

Rank	Word	Occurrence
1	sustainable/sustainability	648
2	environmental	281
3	carbon	237
4	student(s)	223
5	emissions	190
6	staff	150
7	biodiversity	129
8	research	129
9	travel	108
10	waste	83
11	energy	81
12	operations	77
13	campus	71
14	management	70
15	social	70
16	community	69
17	reporting	64
18	global	64
19	scope	55
20	food	54
21	learning	54
22	education	53
23	governance	51
24	investment	50
25	teaching	47

Table 22: Word frequency

Phrase	Occurance
ENVIRONMENTAL SUSTAINABILITY	122
SUSTAINABILITY STRATEGY	97
CARBON EMISSIONS	60
CLIMATE CHANGE	52
EMISSIONS FROM	50
SUSTAINABLE DEVELOPMENT	49
TO REDUCE	46
OUR OPERATIONS	45
DECISION MAKING	39
ZERO CARBON	36

Table 23: Phrase frequency

Indeed, Uni G signifies the importance of the environment in its strategy byline, stating:

> "Putting the environment and sustainability at the heart of what we do" (Uni H)

While Uni D, E and H place environmental priorities within the first page of their strategies:

> "The environmental threats facing humanity and the other species with which we share our planet are greater than ever and the speed at which we need to address them is immense." (Uni D)
>
> "By 2035, the University, working in partnership with government, sustainability leaders and its own communities, will be exemplary in its institutional response to the environmental and climate emergency.
> Our ambition is to play an important role in protecting, restoring and enhancing nature." (Uni E)
>
> "Through its activities and actions, the University recognises it impacts on the environment and community, locally, nationally and globally and the role it plays within the sector and nationally in addressing sustainability issues." (Uni H)

This emphasis clashes with UNESCO's (2017) position that educational frameworks should balance all three dimensions of sustainability to accelerate a society of informed and proactive global citizens (UNESCO, 2017). However, CDA reveals a disproportionate emphasis on environmental aspects, overriding the other pillars. This reflects a metric-driven approach consistent with Chinn and Kramer's (1983) critique that concepts can be influenced by dominant insitutional values and political agendas, as illustrated in Figure 12.

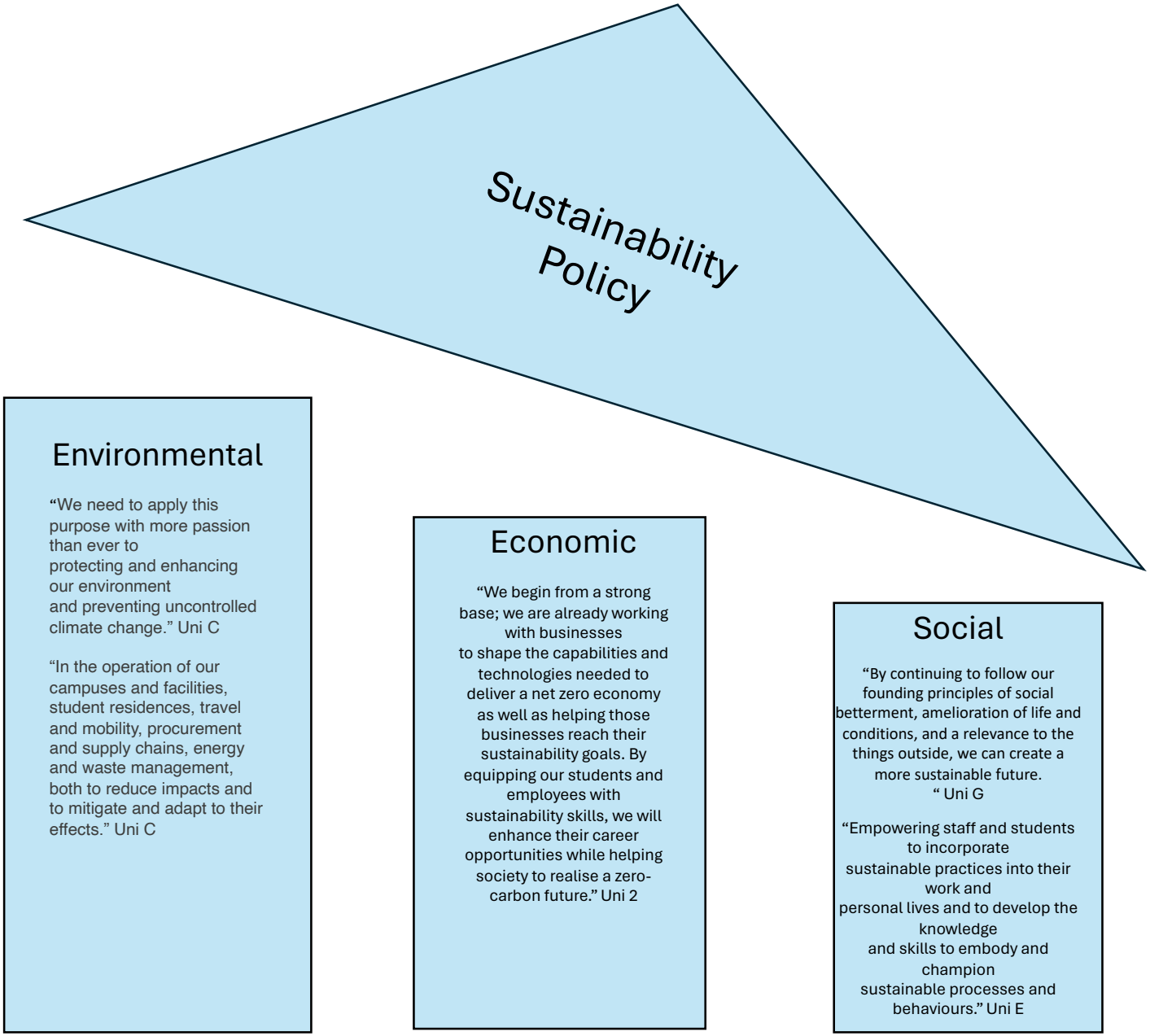

Figure 12: Infographic of the three pillars of sustainability within policy

Uni E (ancient, Russell Group), the highest-earning university in the study, prioritises “net-zero carbon and biodiversity net gain by 2023”. They highlight their environmental emphasis stating:

> “The University acknowledges the three pillars of sustainability: social, economic, and environmental. This strategy is focused on environmental sustainability, but the social and economic impacts of implementing it will also be taken into consideration.”
> (Uni H)

While it acknowledges the three pillars, Uni E lacks explicit plans for social and economic sustainability, demonstrating a clear disconnect from UNESCO’s (2017) call for distinct frameworks.

Similarly, Uni D (red brick, Russell Group) which attracts a similar level of income, frames sustainability as a response to the climate and ecological emergencies. Both institutions embed sustainability in governance structures and demonstrate a clear operational focus which is committed to accountability and transparency. While they do refer to social and economic drivers, these are often used as tools to achieve environmental objectives, for example, enhancing green spaces for well-being with biodiversity as an additional benefit.

The lack of a definitive definition highlights a clear antecedent, that without clear conceptualisations HEIs are forced to rely on externally imposed frameworks and rankings. This in turn shapes practices (or consequences) towards metric-driven, operations-focused practice, rather than transformative holistic practice. Therefore, it creates a lack of applicability and continuity which leads to varied practices reflecting individual institutional strategic priorities. While some focus on operational strategies and achieving carbon neutrality, others concentrate on embedding the UN SDGs, explicitly recognising the interdependencies between

different aspects of sustainability. For example, Uni H, (red brick, Russell Group) defines sustainability through four pillars, Education, Research, Community and Operations, encompassing 16 sub-themes, which integrate carbon neutrality, circular economy principles and curriculum embedment. This strategy aligns with the UN SDGs (UNESCO, 2015) demonstrating a commitment to holistic sustainability.

Similarly, Uni B (Post-1992) emphasises embedding sustainability across teaching and learning, campus management and partnerships. This university prioritises the SDGs and its commitment to supporting the UN, ensuring:

> "All people enjoy peace and prosperity while protecting our planet from global threats such as climate change".
> (Uni B)

As an academic hub for SDG16, Uni B reflects a broader institutional alignment with global sustainability by addressing interconnected challenges such as poverty, inequality and environmental degradation. Their integration of SDGs into institutional practices illustrates a holistic lens which balances each dimension of sustainability.

All universities, except Uni E reference the SDGs extensively on their websites, however CDA of policies and websites uncovered a spectrum of depth and consistency in how they are actioned across institutions, as illustrated below.

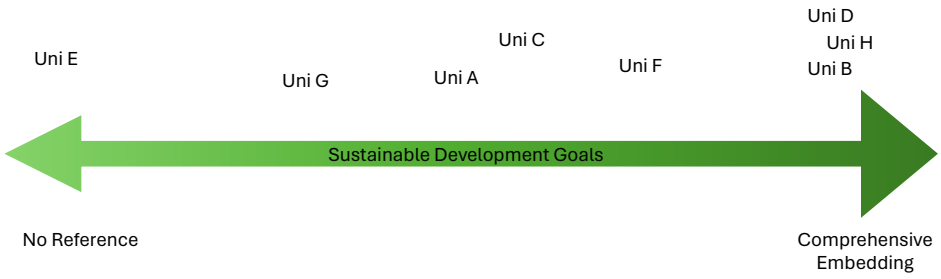

Figure 13: SDG spectrum

At the top of the spectrum Uni B, D and H suggest a comprehensive approach to the SDGs by embedding it across operations, community engagement, research, education and governance. For example, Uni H integrates sustainability into its core strategy and as a cross-cutting theme to:

> *"Make sustainability a core competency of…education by mobilising our curriculum, our student experience and our partnerships in support of the development of tomorrow's global citizens.*
> *Because: Knowing how to live and work sustainably will be an essential skill for all future graduates and will be an absolute expectation of a world-class university education."*

Uni G systematically reports on SDG progress annually, to align with the THE Impact Rankings and acknowledges:

> "that being a leader in sustainable transformation means constantly reevaluating our position, staying ahead of the curve and anticipating future challenges."

While Uni D, a top ranked THE impact institution states that:

> "The 17 SDGs are the world's call to action on the most pressing challenges and opportunities facing humanity and the natural world, and we're playing a leading role in tackling them."
> (Uni D)

They emphasise the importance of the SDGs and the Impact Rankings, repeatedly highlighting their ongoing ranking in the top ten for six consecutive years. They claim that the quality and scale of their impact against the SDGs in "unmatched", yet their report - "Our Sustainable Future" places more weighting towards SDG 13, (climate action) while omitting:

- SDG 1 (No Poverty)

- SDG 2 (Zero Hunger)
- SDG 5 (Gender Equality)
- SDG 6 (Clean Water and Sanitation)
- SDG 14 (Life Below Water)

SDG 4 (Quality Education) only receives one reference, further illustrating a disproportionate effort towards environmental aspects. The frequency chart below reinforces this imbalance, by visually illustrating the emphasis on climate action over other goals.

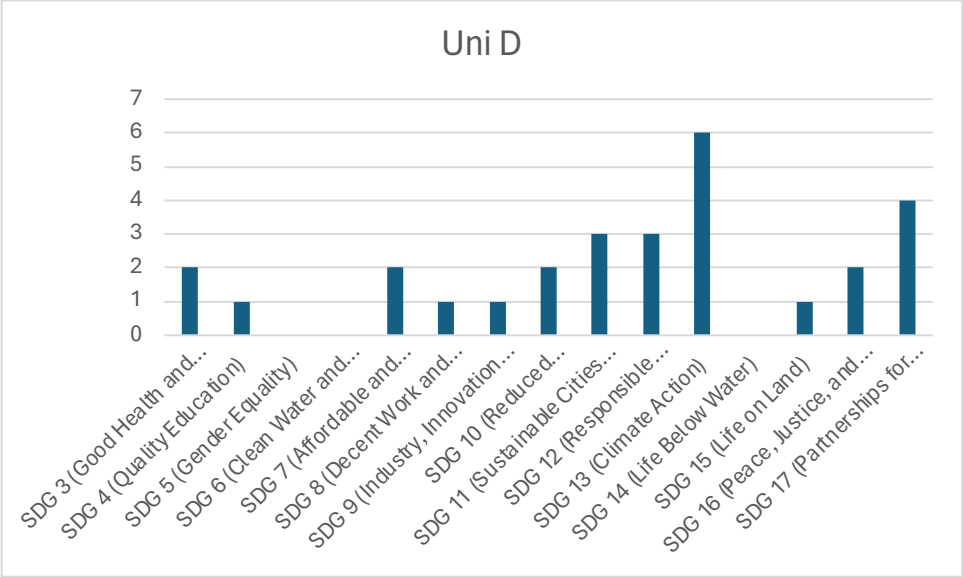

Figure 14: SDG frequency in Uni D policy

Despite emphasising social responsibility in separate sections of their website, highlight their role in promoting social inclusion by tackling social inequalities, prejudices and barriers that affect people nationally and globally. The type of language and the way it is used, frames social responsibility and sustainability as distinct entities, with environmental goals taking precedence, and social responsibility as a supplementary one, rather than integrally connected characteristic of their practice.

Uni B highlights the SDGs as a cornerstone of their Empowering University Strategy:

> "guiding the university's mission, values, and strategic aims. This alignment ensures that sustainability principles are embedded across all university activities."

Leading initiatives for SDG 16, Uni B foster collaborations whilst focusing on promoting peace, justice and strong institutions. They provide examples of projects that address specific goals, such as combating modern slavery, working with migrants and highlighting issues related to forced migration, fully demonstrating their commitment to the range SDGs by embedding sustainability into the institution's fabric.

At the opposite end of the spectrum, Uni E make no explicit or direct reference to the SDGs in any of their documents. Their strategy has two targets:

> "To achieve net zero carbon and to achieve biodiversity net gain, both by 2035" (Uni E)

with ten priority areas, and four enables, which reinforce an environmental focus.

Priority Areas:

- Research
- Curriculum
- Carbon Emissions
- Biodiversity
- Sustainable Food
- Sustainable Resource Use
- International Travel
- Local Travel
- Investments
- Learning from the Pandemic

Enablers:

- Governance
- Reporting
- Funding
- Offsetting

The University demonstrates a clear commitment towards ES, even framing research and curriculum within the environmental context to ensure that its academic and operational priorities align with their overarching goals.

Regardless of whether there is explicit reference to the SDGs or not, HEIs appear to converge on the idea of creating a holistic sustainability framework spanning all areas of teaching, research, and campus operations, however there is significant variation in implementation, which will be further explored in later meta categories.

5.2.2 Interviews

Every interview started with the question: ***"How do you personally define sustainability?"***

Responses varied, but demonstrated a contrasting conceptualisation to that illustrated within policy, whereby the social pillar took precedence as depicted below (Figure 15).

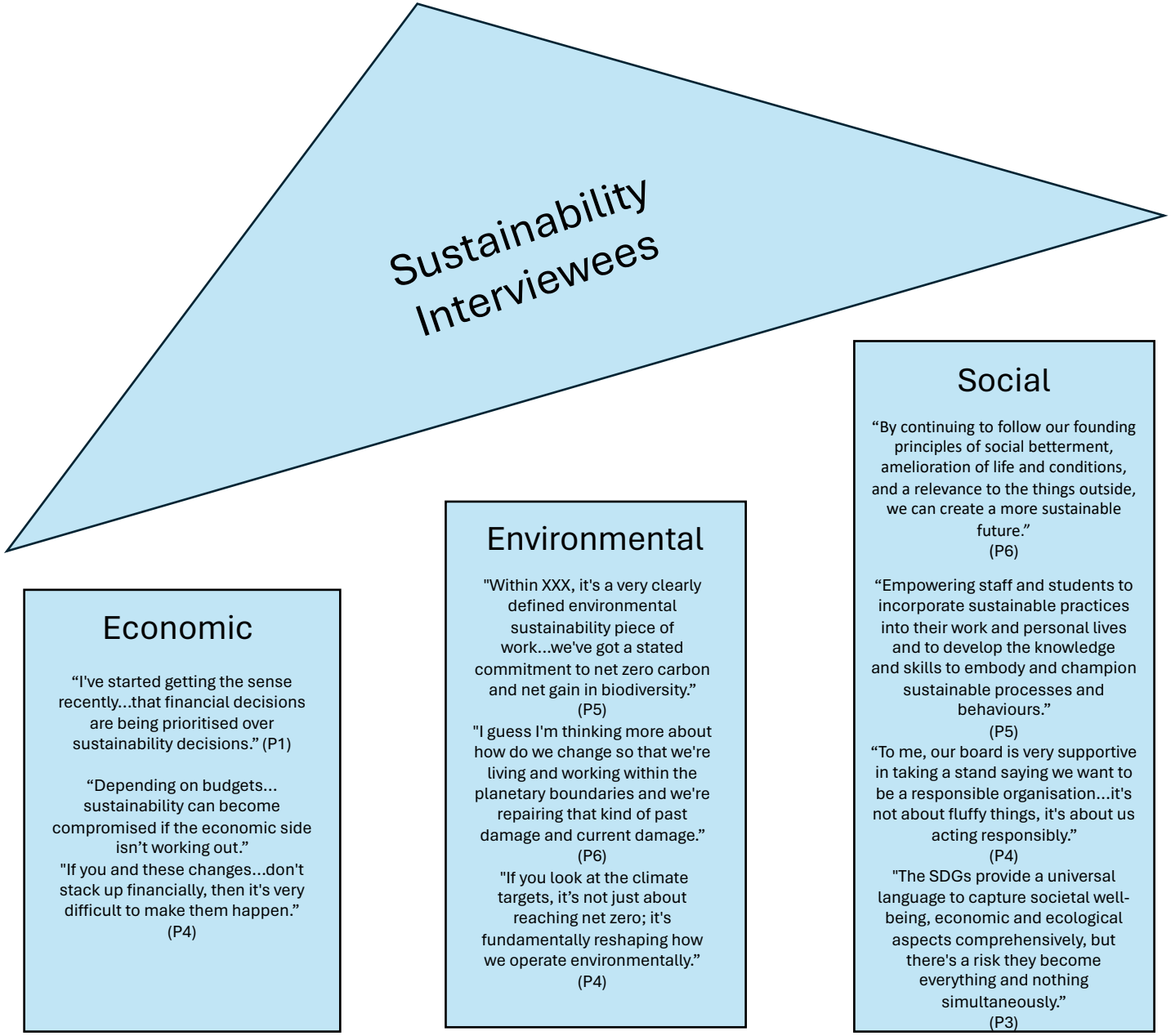

Figure 15: Infographic of the three pillars of sustainability within interviews

P1 highlights sustainability as a broad concept with no universal definition, stating that it means:

> "so many things to so many people that it almost becomes meaningless because there's no clear definition" and ponders whether "any of that really matter as long as we're all moving in the right direction in terms of what the outcome is?"

They emphasise a "triple bottom line" of financial, environmental, and social aspects, with an additional dimension specific to healthcare: clinical outcomes, reflecting the idea that sustainable practices should never compromise essential outcomes. Indeed, P1 advocates for sustainability to be embedded into all areas of practice, rather than viewing it as an additional consideration, it should be a lens through which decisions are made.

P2 agrees that defining sustainability is difficult but suggests that their "ultimate philosophy" is underpinned by the belief that we should leave situations better than we found them. P2 emphasises a holistic approach, advocating for a future-focused approach which embraces interdisciplinary initiatives, "not just focusing on one solution that will deliver a fairer and equitable society".

P3 aligning with P1 also views sustainability as a lens, using it as a comprehensive framework to address "issues that we routinely think about". P3 extends this to consider a broader set of attributes including, issues of development, issues of justice and inequality, poverty and deprivation, aligning with Rodgers (1989) emphasis on inductive synthesis and continually evolving definitions. They advocate that it should be:

> "distributed across different academic disciplines, different vocabularies, different theoretical and conceptual frameworks, and bring a new kind of singularity…It's almost like a rebranding, but one that has potential value."

They draw upon traditional tendencies that separate society and nature and assert that sustainability is a revolution, a new way of thinking that encourages us to consider the increasing co-dependency between the natural and societal world. P3's interview provided a key turning point in the research, which informed the process of constant comparison, influencing the literature review and subsequent interviews. A reflective memo (Box 1) documents this influence, capturing the influence on my thinking and how it informed the research process.

Reflective Memo: Interview 3.

XXX interview fundamentally challenged the way I had engaged with sustainability literature, prompting me to reassess my approach and adopt a more critical perspective. His framing of sustainability as a "lens" for rethinking both familiar and overlooked issues in higher education highlighted its potential to unify diverse academic disciplines. However, he was equally candid about the risks of superficial application, particularly when sustainability is reduced to a branding exercise in competitive, neoliberal university environments. XXX critique of SDG mapping, which he felt often served to reassure rather than inspire critical reflection or tangible change, struck a chord and made me question how such frameworks are implemented versus how they are intended to function. His concerns about tokenism and the lack of follow-through in embedding sustainability across curricula revealed the gap between institutional rhetoric and actionable outcomes.

XXX reflections on the challenges of integrating sustainability into specific disciplines, particularly sociology, were eye-opening. He attributed resistance to both philosophical legacies—such as the discipline's Cartesian dualism that separates the social from the natural—and practical concerns about workload and curriculum design. This resistance, he explained, often results in a lack of substantial progress despite institutional commitments. His discussion of "top-down signalling" and "bottom-up volunteerism," with little middle-ground support, highlighted the structural barriers preventing sustainability from becoming a fully integrated, institution-wide priority. The interview made me realise that I needed to approach both the literature and institutional practices with a sharper focus on these nuances, questioning how sustainability efforts are operationalised and where they fall short.

Box 1: Reflective Memo, Interview 3.

P1-3 offer similar conceptualisations of sustainability viewing it as a holistic framework. Phrases such as "sustainability as a lens" (P3) suggest a perspective-shifting tool, while terms such as "responsible approach" (P1), "duty to reflect these global goals" (P2) and "recognising our responsibility to address these

issues", frame sustainability as a responsibility. These interpretations present a cluster of surrogate terms (Rodgers, 1989) which are used interchangeably with sustainability, revealing intrinsic values and priorities that underpin the interviewees conceptualisations. They also frame sustainability as an opportunity:

> P1 – "Sustainability brings a positive light—it's about asking what we can do to make things better and finding those solutions together."
>
> P2 – "Students are really driving the sustainability agenda—they see it as an opportunity to shape their futures and the future of the planet."
>
> P3 - "Sustainability allows us to unify diverse issues across disciplines and bring them into a single framework—it's an opportunity to think more holistically."

P1-3 highlight sustainability not only as a moral duty (responsibility) but visualise the concept with transformative potential (opportunity). They agree it has a multifaceted nature and interdisciplinary use within various sectors, recognising the interconnected nature of social, economic and environmental factors, although tend to prioritise social aspects over other elements.

P4 offers a different stance, seeing sustainability as:

> "Having to act responsibility and as part of acting responsibility we have to do what everyone else has to do, which is hit a 0 carbon target, and we have to act in sustainable ways in other things too. Water waste. Plastics. Biodiversity all those sorts of things".

Whilst they recognise that sustainability "has to be part and parcel of everything we do", they heavily refer to the environmental aspects of sustainability, with minimal reference to social aspects.

P5 credits the Brundtland Definition (1987) with their personal position but recognises it as a philosophical notion rather than a definition. However, as an institution they have not adopted a formal definition, rather they have defined specific goals such as net zero carbon and net gain in biodiversity.
They state:

> "It's a very clearly defined environmental sustainability piece of work that my team is working towards, in that we don't do social sustainability, but that doesn't mean were not thinking about social sustainability when we apply environmental sustainability approaches."

When asked why there was no specific definition P5 replied:

> "Why would you? You know if it's something that we get asked for, then we'll go."

When asked why this was, P5 replied that there has never been a choice, suggesting the instruction sees little need for a rigid definition, focusing instead on tangible actions. This interview accentuated the institutions commitment to ES, which P5 explained has been a long-standing priority, that it was inherent within the universities ethos and underscored by legislative requirements, making sustainability a sector-wide priority. For further reflections on these two interviews, and their influence on understanding how institutions shape interpretations of sustainability (see Box 2).

Reflective Memo: Interview 4 and 5.

Both XXX and XXX highlight how substantial financial resources enable their universities to undertake ambitious sustainability projects. XXX £150 million investment has led to advanced energy centers and significant reductions in electricity emissions, while XXX £5 million annual budget supports extensive carbon reduction initiatives. However, they both acknowledge challenges in embedding sustainability into curricula and navigating institutional cultures. It seems to me that larger institutions that often have the financial capacity to implement comprehensive environmental strategies, doesn't automatically translate to a greater focus on sustainability. The commitment of leadership and the institution's strategic priorities play crucial roles in driving meaningful environmental action but this does not appear to extend to other aspects of sustainability. Why is that? It is because ES is easier to measure, report on and therefore achieve in external rankings? Use these questions for follow up interviews.

Box 2: Reflective Memo, Interview 4 and 5

Like P1-3, P4 and P5 also frame sustainability as a responsibility:

"We've committed £150 million already to our programme because this is something every organisation must contribute to—it's a responsibility."

While P5 says:

"We have a clear responsibility to act sustainably—it's about meeting net-zero carbon and achieving biodiversity net gain by 2035."

Their language frames sustainability as a duty, however, while P1-3 see it as a moral responsibility, P4 and P5 articulate it as an institutional obligation.

P6 also leans towards an environmental stance, but stated that they dislike the term, that they are unconvinced that it is achievable in its current usage, instead they suggest:

"we're living and working within planetary boundaries and we're repairing the kind of past damage and current damage that we've done to… people and the planet"

P7 notes that it's:

> "The classic kind of three pillars of sustainability looking from the environment, social, economic side of things and how that all balances as one kind of lens of looking at that".

P8 expressed concern that the university stance was heavily related to carbon, reflecting the importance of more holistic aspects, such as food, travel and the curriculum, stating:

> "We're looking at things like inequality and how things relate to the Global South, and like climate justice…and decolonising the curriculum, and we're looking at it from all different angles… rather than it just being environmental".

The interviews revealed clear correspondence between institutional type, job title and perceptions of sustainability (see Table 25).

	Type of Univeristy		Job Title	Conceptualisation of Sustainability
P1	Post-1992 University		Principle Lecturer	Highly holistic
P2	Post-1992 University		Associate Director of Sustainable Development Goal Impact & DMU United Nations Academic Impact Hub Lead	Highly holistic
P3	Post-1992 University		Associate Professor in Sociology	Highly holistic
P4	Red Brick University	Russell Group	Vice-President for Social Responsibility and Professor of Molecular Pathology	Highly envrionmentaly focused
P5	Ancient University	Russell Group	Head of Environmental Sustainability	Highly envrionmentaly focused
P6	Plate Glass University	Russell Group	Senior Lecturer in Science Education	Holistic with a tendancy towards environmental
P7	Post-1992 University		Environmental Manager	Holistic with a tendancy towards environmental
P8	Red Brick University	Russell Group	Education for Sustainability Coordinator	Highly holistic

Table 24: Participant conceptualisation of sustainability

While recognising sustainability's multifaceted nature both P4 and P5, heavily prioritised the environmental pillar, using it to frame social and economic initiatives. Notably both participants hold significant leadership roles, in renowned Russell Group universities, which generate significant levels of revenue through research. P6 and P7 expressed a holistic understanding but also emphasised environmental examples throughout, aligning with their professional roles which naturally leads them to consider this aspect within a broader context.

In contrast P1, P2, P3, and P8 articulate a highly holistic approach, which are notably passionate and detailed, reflecting a moral commitment to integrate sustainability, going beyond compliance or institutional commitment. This level of advocacy aligns with Leal Filho (2020) who suggests it is essential for the necessary transformative leadership needed to encompass all aspects of sustainability and to revolutionise sustainability education (Wamsler, 2023. However, despite their commitment and passion, these participants lack the authority needed to implement systemic change.

CDA of the interview transcripts highlights contrasting conceptualisations to policy discourse which predominantly emphasised the environmental pillar, while participant responses promote the social dimensions (see Figure 16 and 17). Notably, those advocating social sustainability (P1, P2, P3, P6, P7, P8) provided more extensive responses compared with those focusing more on an environmental focus (P4, P5).

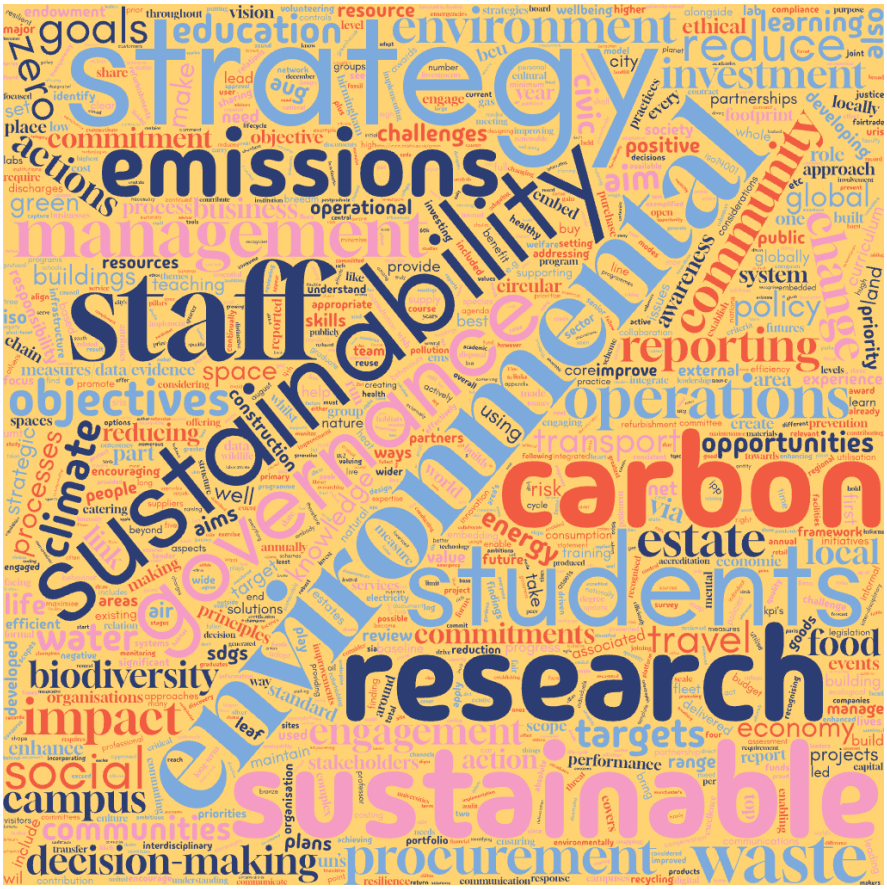

Figure 16: Wordcloud of policy

Figure 17: Wordcloud of interviews

Participants who framed sustainability through a social lens, focused on attributes like ‘justice’, ‘equity’, ‘repairing damage’ and ‘empowerment’, indicating a values-driven conceptualisation. Conversely participants who emphasised environmental aspects used words including ‘carbon-neutrality’, ‘energy-savings’, frequently referencing governance structures, alluding to a more technical, solution-focused discourse. This divergence reflects Haase et al’s (2000) idea of interrelatedness, seeing sustainability not as an isolated idea, but one that intersects with other attributes. These linguistic differences highlight distinct conceptualisations of sustainability - operational (P4, P5) and holistic (P1 P2, P3, P6, P7, P8). Indeed, P1 stated:

> “People associate sustainability with operational stuff like recycling bins or energy savings, but it’s much broader”

This highlights the need for a more holistic view of sustainability extending beyond tangible outcomes, to encompass social and economic dimensions.
This tension also reveals how job roles influence perspectives, with leadership (P4, P5) typically focusing on measurable outcomes, whilst academic staff and researchers promote a transformative approach.

A key example of this tension is illustrated throughout recurring discussions regarding the SDGs, with some participants viewing them as a guiding framework, whilst others critique their effectiveness, as illustrated below.

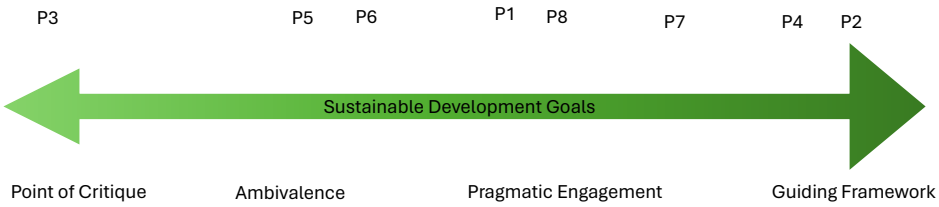

Figure 18: SDG engagement

Policy analysis revealed that HEIs broadly align with SDGs, and many participants cite positive aspects of having a singular framework.

P2 highlights the value of them, stating:

> "The SDGs have just made sustainability a really simpler language for people to understand, so I'm very grateful for that."

While P7 says:

> "The SDGs provide a global framework that helps us map our environmental work and tie it to broader challenges… [They] encourage us to think holistically about sustainability, connecting environmental, social, and economic dimensions in ways we hadn't before."

And P3:

> "The SDGs offer a powerful lens to unify issues across disciplines and bring them into a single conversation about sustainability."

Despite these positive elements, participants stress the need for more authentic engagement to fully integrate the social and economic dimensions of the SDGs.

P8 highlighted that:

> “Students need to understand inequality and climate justice—these are crucial parts of the SDGs that often get overlooked."

While P6 stated:

> "We need to educate students on both environmental and social dimensions... It’s not enough to reduce emissions if we’re ignoring equity and justice."

Consistent with P7:

> "We map the UN Sustainable Development Goals against our environmental sustainability work... but it’s largely focused on the environmental plan."
>
> "We’re trying to move towards a more holistic strategy that reflects the SDGs in their entirety, not just cherry-picked aspects."

And P2:

"The SDGs have simplified sustainability language, but the focus remains on environmental goals. Social aspects often lag behind."

Concerns were raised by P3 regarding the underlying reasons for engagement with the SDGs by HEIs, stating:

"The SDGs have become corporatised, credentialised... They're now embedded into how universities brand and position themselves in the competitive league-table landscape."

Indeed, P2 stated that the reasons SDGs had taken off was:

"because other leaders or universities around the world adopted it, and there's some momentum there. So it's the classic thing in higher education, if we're not doing it, we're going to be left out"

Indeed, some participants see the SDGs as the commodification of sustainability, P3 argues that universities use the SDGs as a "means of branding, which creates cynicism among academics", they claim there is a "real gap between rhetoric and authentic engagement". While P8, acknowledges that they are often used as a 'tick box' exercise, and P6 suggests that the SDGs reliance on metrics, encourages HEIs to align more with environmental aspects as they are more tangible than areas like equity and justice. These comments allude to the practice of greenwashing, which will be explored further in the *'Implementation'* meta category.

Nonetheless, the SDGs are recognised as a clear and accessible framework enabling HEIs to conceptualise and organise sustainability efforts by simplifying the language encouraging action (P1, P2, P3, P4, P6, P7, P8). Participants note the

SDGs as a mobilising force (P3) promoting interdisciplinary engagement, encouraging HEI alignment with global challenges. As P2 articulated:

> "The beauty of the SDGs is their interconnectedness…tackling one often advances others, creating a broader impact"

Participants also valued the interconnected nature of the SDGs, encouraging a broader understanding intersecting multiple dimensions, and are:

> "The most effective way in which you can produce a framework to capture the entirety of the variables, that corresponds to societal well-being, economic well-being and ecological well-being in kind of a one stop shop readily"
> (P3).

5.2.3 Synthesis of Policy and Transcripts

The CA and CDA revealed several tensions surrounding the conceptualisation of sustainability, leading to two distinctive conceptualisations:

- Operational-Environmental Sustainability
- Holistic-Social Sustainability

Both conceptualisations are grounded in reoccurring attributes, antecedents and consequences highlighted across the data set, providing the themes for synthesising the policy and interviews. The operational-environmental outlook reflects tangible, outcome-focused approaches, while holistic-social sustainability reflects a broader values-focused lens.

5.2.3.1 Operational-Environmental Sustainability

The lack of a coherent definition, combined with the current competitive, neoliberal market (Kreinin and Aigner 2022; Powell et al., 2024) drives HEIs to focus on tangible, measurable outcomes. Environmental metrics, such as carbon reduction are significantly easier to quantify than social and economic dimensions, making them the dominant focus in institutional strategies. These tensions are noted between university policy and participants 1, 6, 7, and 8 and critique the narrow, overemphasis of environmental aspects noting conflicts between their universities operational focus and their own holistic perspectives. P2 and P3, align more closely with their HEI policies intentions, viewing sustainability with potential to drive interdisciplinary action. However, P2 calls for deeper integration of social justice, urging institutions to move beyond branding efforts, while P3 critiques the commodification of sustainability, calling for authentic engagement.

In contrast, P4 and P5 perspectives strongly align with their universities policy, framing sustainability as an institutional responsibility in response to the climate emergency, prioritising environmental targets over holistic sustainability, rationalising the approach as pragmatic and necessary (P5). Notably both participants contribute to policy development, embedding institutional obligations and measurable outcomes yet, both recognise their institutions lack focus on social and economic pillars. P4 admitted their university was “weak” at embedding sustainability in the curriculum, while P5 stated “social sustainability remains vague and underexplored”, citing previous leadership and funding as a barrier.

Policy and transcripts both position sustainability within HEI primary through quantifiable environmental metrics. Each university sets goals towards achieving net zero in a specific timeframe, with operational priorities such as energy efficiency (Uni A-H) and circular economy (Uni C, Uni E and Uni H). As standalone efforts, they reflect a systems-based, piecemeal approach to sustainability

(Popper, 1945). Some policies refence established frameworks, as illustrated in Table 25:

Framework	Uni A	Uni B	Uni C	Uni D	Uni E	Uni F	Uni G	Uni H
ISO 14001		✓	✓				✓	✓
BREEAM		✓		✓	✓		✓	✓
Passivhaus				✓	✓			
Living Estate Framework								✓
Responsible Futures Framework		✓						
LEAF (Lab Efficiency)				✓				

Table 25: Frameworks

Whilst no laws mandate HEIs adopt these frameworks, participants suggest that HEIs align with broader benchmarking standards for various strategic reasons:

- Formal recognition of sustainability performance (P4, P5)
- Branding opportunities (P2, P3)
- External pressures (P8, P3)

However, this causes issues, not least due to a sense of tokenistic practices and greenwashing (to be explored later), but the inconsistencies between award systems creates challenges for HEIs. Table 26 highlights disparities in sustainability rankings:

	QS Sustainability Ranking		THE Impact Ranking	People and Planet Award	
	Globally	Nationally	Global	Award	Ranking
Uni A	781	72	-	2:1	46
Uni B	359	50	101 - 200	1st	7
Uni C	65	62	-	1st	11
Uni D	3	1	2	2:1	38
Uni E	126	31	-	2:1	37
Uni F	29	9	101-200	2:2	76
Uni G	1201	85	-	1st	27
Uni H	17	4	92	1st	16

Table 26: Rankings

Notably, Uni B and D illustrate this issue well, Uni B ranked 359th in the QS award, 101 – 200 in THE rankings, and 7th in the People and Planet Award. Whereas Uni D, ranked highlight in both QS and THE, yet comes only 38th in the People and Planet Award. These disparities reflect variations in criteria, priorities and methodologies forcing HEIs to navigate competing frameworks while prioritising measurable environmental metrics to remain competitive.

P4 describes THE as:

> "a formal ranking system that actually measures how good we are"

Yet other participants highlight that this competitive market results in environmental priorities taking precedent. As P8 illustrates:

> "arguably the education stuff affects more people, but net-zero is easier to measure."

This indicates that institutional pressures and external benchmarks drive sustainability initiatives, foregoing social and economic elements, in favour of ranking-aligned goals.

The absence of a unified mandatory framework or definition allows institutions to interpret and prioritise criteria differently and naturally shape strategic priorities within each institution's context. As discussed earlier, the SDGs offer a global framework with simplified language (P2) and a structured approach which HEIs

can align their practices with. All Universities except Uni E make some reference to them within their sustainability literature, and while they are lauded for their interconnected nature interviewees were concerned about their practical implementation. For example, P8 warns of “cherry-picking metrics”, whereby HEIs focus on palpable, environmental goals (SDG13), while overlooking social and economic focused ones (SDG 1, 2, 3). This reflects macro-level conflicts and challenges across HE, where the commodification of universities has led to rankings and awards both guiding and constraining approaches, leading them to promote measurable outcomes over holistic integration.

5.2.3.2 Holistic-Social Sustainability

Participants often emphasised sustainability as a holistic and transformative concept, challenging the narrower environmental focus by emphasising social equity and human wellbeing. P6 asserts that:

> “sustainability must include social justice and equality—otherwise, it’s incomplete”

While P3 declares:

> ”sustainability has to be embedded in everything—from curriculum to research to partnerships—if it’s going to be authentic”

Table 27 illustrates frequently used key words and phrases by participants.

Participant	Key terms and phrases
P1	Responsibility, well-being, repairing damage
P2	Fairer, equitable society, outreach work, civic participation and volunteering
P3	Equality, justice, fairness, revolution, rights
P6	Societal change, changemakers
P8	Ethical and impactful, climate justice, global south, inequality, decolonising

Table 27: Participant key terms

These terms create a sense of moral duty and collective responsibility underpinning their conceptualisation of sustainability, weaving in aspects of equity and social justice driving transformative change across HEIs and consequently society at large.

Some institution approaches reflect this notion, for example, Uni G explicitly links sustainability with community engagement, equity and social justice with the following statements:

> "Sustainability underpins and supports our university's aspirations to be a global civic university."
>
> "Mission: To be a sustainable university contributing towards a sustainable world."
>
> "Addressing inequalities through sustainable practices:
>
> "Conducting world-class research on the environment, social justice and development, consistent with addressing the UN's Sustainable Development Goals, will continue to be a strategic priority for the university."

While Uni D does highlight a moral obligation, its messaging tends to have an environmental undertone, for example it uses phrases such as:

"We're committed to social responsibility and strive to make a positive difference to both society and the environment through our teaching, research, public engagement and day-to-day operations."

"Environmental, ethical and social responsibility"

Under their 'Creating a Sustainable Future' section, it focuses on:

- Infrastructure
- Pollutants
- Soil
- Energy
- Climate change
- Farming

While they integrate the SDGs throughout operations, policy and communications, its conceptualisation of sustainability is environmental centred, with less focus on social responsibility.

As outlined earlier, the social side of sustainability is difficult to measure and HEIs must evidence their contributions to secure funding, attract students and maintain credibility. The SDGs provide a holistic framework, supporting HEIs to demonstrate holistic contribution, yet its integration varies significantly across the sector. Out of the eight universities, only Uni D and H write an SDG report outlining their progress across the goals, demonstrating a commitment to holistic sustainability. However, disparity appears between rhetoric and practice, for example P8 raises concerns of universities using the SDGs as a "tick box exercise", echoed by P6 and P3 who claim they are increasingly used as a branding tool rather than transformational change.

Conflictingly, P3 recognises them as a useful reference point for framing, evidencing and compliance, while P8 says that they facilitate discussions regarding global challenges while focusing on local impact, acting as:

> "a framework we look to, particularly for aligning the curriculum to global priorities like climate action and reduced inequalities…[but] we're not hanging everything on the UN Sustainable Development Goals, but that's kind of a good reference because we're looking at things like inequality and how things relate to the global South and climate justice."

P4 demonstrates a more structured effort stating:

> "All our courses now have an SDG tag, so everyone studying anything will know what SDGs they're addressing."
>
> "We participate in the Times Higher ranking for SDG impact, and by tagging everything we're able to collect that information very quickly."

These examples illustrate a key debate as outlined in the memo below (Box 3) as to whether the SDGs facilitate a holistic and transformative sustainability agenda, or whether they are unintentionally creating a metric-driven tool to meet ranking criteria, but as P1 reflects "does it really matter?"

Reflective Memo: Use of SDGs

Uni D and Uni G both write a report about their work towards the SDGs, but their approach is different. XXX said, they don't hang everything off them, but use them as a framework, while XXX says they specifically label everything they do against them and use this to submit to THE. This raises the question of the motivation for using the SDGs, is it because it is a holistic and potentially transformative framework, or it is to meet criteria in ranking systems. But as P1 states, "does it really matter?"

Box 3: Reflective Memo: Use of SDGs.

5.3 Implementation

This section provides an overview of how sustainability practices are implemented within HEIs. It focuses on key themes that dominate both the policy and interviews, drawing on CDA to reveal a spectrum of institutional responses. The synthesis incorporates PIT and IT to interpret how normative pressures influence HEI priorities leading to implementation gaps and '*greenpartitoning*' (RQ 3 and 4).

5.3.1 Policy

The policy analysis revealed how an institutions interpretation of sustainability influences its implementation (RQ 3), resulting in a diverse range of approaches. This section is split into three themes, governance, operational approaches and system-based approaches, allowing CDA to unpick how sustainability is embedded and enacted in practice.

5.3.1.1 Governance

The analysis of university policies uncovered varied implementation techniques, influenced by governance structures, leadership roles and institutional mechanisms. These approaches range from collaborative, bottom-up models, where sustainability is driven by grassroot initiatives, to top-down, centralised frameworks lead by senior leadership ensuring strategic alignment, as illustrated in Table 29.

University	Overall Governance Type	Sustainability-Specific Governance Type	Senior Leadership Roles	Operational/Other Roles	Specific Groups/Committees	Top-Down / Bottom-Up	Mechanisms	No of Policies
Uni A	Collaborative	Collaborative	None specified	Sustainability Team and Environmental Champions	Global Challenges Strategic Oversight Group	Mixed	EcoCampus Platinum Certification; Engagement Initiatives; Annual Reporting	11
Uni B	Collaborative	Collaborative	None specified	Director of Sustainability; Green Impact Leader	Global Hub for SDG 16	Bottom-Up	BS 8555 Phased EMS; Engagement Initiatives; SDG 16 Projects	7
Uni C	Strategic/Integrated	Strategic/Integrated (with operational aspects)	PVC for Sustainability and Climate Action	Head of Sustainability	Sustainability Executive Committee	Top-Down with Support	ISO 14001:2015-Certified EMS; Annual Reporting; Governance Oversight	20
Uni D	Centralised	Strategic/Integrated	Vice-President for Social Responsibility	Director of Environmental Sustainability	Environmental Sustainability Committee	Top-Down	Annual Reporting; Governance Oversight	6
Uni E	Centralised	Strategic/Integrated	Vice-Chancellor; Environmental Sustainability Working Group	Working Group Lead	Environmental Sustainability Subcommittee	Top-Down	Annual Reporting; Oxford Sustainability Fund; Governance Oversight	6
Uni F	Strategic/Integrated	Strategic/Integrated	None specified	Director of Environmental Sustainability	Sustainability Steering Group; Environmental Sustainability at XXX (ESAY)	Mixed	ISO 14001-Certified EMS; Annual Sustainability Reports; Engagement Initiatives	6
Uni G	Strategic/Integrated	Strategic/Integrated (with operational aspects)	PVC for Sustainability	Environmental Officer; Sustainability Team	Environmental Sustainability Working Group	Top-Down with Support	ISO 14001:2015-Certified EMS; Annual Reporting; Governance Oversight	5
Uni H	Centralised	Strategic/Integrated	None specified	Sustainability Manager; Cabot Institute Director	Environmental Sustainability Strategy Monitoring and Implementation Group (ES-SMIG)	Mixed	ISO 14001:2015-Certified EMS; Annual Sustainability Reports; Governance Oversight	6

Table 28: Governance overview

Universities that adopt a more collaborative approach emphasise participation from students, staff and external partners. For example, Uni A conducts a *Green Impact Program*, a 'grassroots-driven initiative', where staff and students collaborate to develop sustainability projects:

> "Green Impact Leaders will work collaboratively with operational teams to advance sustainability goals, supported by senior leadership"

They also encourage:

> "Environmental champions and operational staff…to take ownership of localized sustainability projects" *and collaboration with* "with community organizations and local councils to implement sustainability initiatives that benefit both the University and the wider community".

Uni B collaborates with students through *Responsible Futures*, which places emphasis on student-driven action across all disciplines, curriculum design and policy development, ensuring:

> "Students and staff were consulted throughout the development of the strategy, and their input is reflected in the goals set by the University"

They also adopt the *Green Impact Program* which:

> "engages staff and students to drive departmental changes that reduce the University's environmental footprint."

These reflect bottom-up models as they empower stakeholders to drive sustainability projects that contribute to broader, university-wide policy. Both universities use language throughout their policies that promotes collaboration, such as:

- "encouraged to take ownership"
- "work collaboratively"
- "consulted throughout"
- "engages staff and students"

This collaborative model reflects shared power and inclusivity whilst ensuring a diverse range of perspectives shape sustainability goals. However, while such language highlights participatory governance, there is a lack of named leadership positions at these universities. This could mask tokenistic involvement as ultimately decision-making remains centralised; therefore, it is difficult to assess the authenticity of shared ownership due to a lack of clear governance structure.

Uni F adopts a strategic/integrated approach, combining top-down strategy alignment with participatory action evidenced through several statements:

"Sustainability remains central to the University's strategic vision, and we are committed to advancing our efforts in impactful ways, as we take positive progressive steps to enhance our existing work."

"Such ambitious impetus can't be achieved alone. Collaboration is key and it's also something that's been built (quite literally) into our foundations."

"Sustainability is and will continue to be embedded in our responsibilities and values."

These quotes and the repeated use words such as 'embedded', 'vision' and 'collaboration', highlight the integration of sustainability into the institutions

foundational values and operational systems, seeing it not as an auxiliary action, but as a core institutional priority. Furthermore, they established two groups, one which focuses on strategic direction, and one to lead practical implementation. This hybrid model offers a balance of leadership oversight while embracing collaborative, grassroot level to ensure efforts align with institutional priorities.

Uni C falls also within the strategic/integrated band, but tends to include more operational based language, than participatory governance or grassroot innovation. Their sustainability policy is titled, *"Transforming Futures Climate Action and Sustainability Strategy 2020-2030",* indicating an action-orientated discourse. They have the highest number of sustainability related policies and statements, covering:

- Clean Air
- Fairtrade
- Fossil Fuel
- Palm Oil
- Plastics
- Supporting Research
- Use of Animal Skins, Hair, and Feathers

The policies and statements, represent a commitment to go beyond compliance requirements to contribute to wider, societal impact. This is supported through governance, providing clear lines of accountability and oversight, through the roles of:

- PVC for Sustainability and Climate Action
- Sustainability Executive Committee

These top-down structures are complemented by over-arching principles that govern communication and engagement around sustainability, including:

- to offer and promote positive action
- to link to wider "big picture" challenges and opportunities
- to provide opportunities for students and staff to help set the sustainability agenda
- to encourage students and staff to engage in improving the University's environmental sustainability performance
- to provide opportunities for students and staff to engage in the study of sustainability within the curriculum

Uni C also has a range of grassroots initiatives, including a '*Sustainability Engagement Programme'* which enables staff and students to play an active role in achieving the universities sustainability targets, and '*The Living Lab'* which provides a programme for students, staff and researchers to use their campus as a testbed for projects. Such initiatives merge top-down strategy and localised action, thus creating a participatory, collaborative approach.

Uni D, E and H, all have centralised governance structures, whereby decision making is concentrated into a single, central governing body, which they use to systematically integrate sustainability. This is evidenced through the creation of Councils or Subcommittees allowing oversight of implementation activities across each institution, creating direct lines of accountability whereby they report directly to the planning and resource committees.

They have all made commitments to embed sustainability into governance:

"Embed environmental sustainability into plans, policies, processes and everyday activities that are recognised and valued within the institution…and within our core business commitments"" (Uni D)

"We will embed environmental sustainability in the University's governance and decision making and as a University priority." (Uni E)

"Integrate sustainability into all governance streams, ensuring that decision making is aware of and where possible accounts for sustainability impacts" (Uni H)

The centralised structures used by Uni D and E suggest a top-down approach to decision-making and implementation, which promotes consistency yet may exclude marginalised voices and grassroots initiatives. In contrast, Uni H embraces the grassroot level, by emphasising not only internal stakeholders, but also the wider community, identifying it as one of their four key pillars, stating:

"Create and support a network of engaged students and staff, and bottom-up initiatives which emerge from them."
And to "run Green Apple curriculum innovation scheme to support bottom-up activities by staff and students."

"We will create a University that ensures that a wide range of individuals and communities have opportunities to participate in and to shape research, education and wider university life as they relate to sustainability"

This differs from Uni D and E, where the primary focus is top-down control, with power concentrated in the leadership roles, which could lead to prioritisation of institutional reputation over genuine environmental or social change. Uni H indicates transformative practice through its unique method of amalgamating governance with community-focused values. Whereas Uni D and E take a traditional centralised, top-down approach to decision making, Uni H offers inclusivity, embracing sustainability as part of its core identity, engaging both

internal and external stakeholders to commit to a cultural transition rather than performative compliance.

5.3.1.2 Operational Approaches

Analysing how universities align operational approaches with systemic goals allows insight into whether sustainability is treated as a compliance-driven activity or as a transformative practice. Each university demonstrates strong operational compliance through standardisation, measurability and accountability, as illustrated in Table 29:

University	Standardisation	Measurability	Accountability
Uni A	Standardised under ISO 14001, ensuring operational consistency across waste, energy, and emissions management. EcoCampus Platinum Certification.	Progress measured against a 2009–10 baseline, showing a 45.5% reduction in emissions. Solar energy generation tracked annually.	Annual sustainability reports and ISO compliance audits ensure accountability in achieving net-zero carbon by 2050.
Uni B	Uses a comprehensive EMS aligned with BS8555 standards. Policies support waste, biodiversity, and emissions goals.	Progress measured annually, with updates on emissions reduction, energy savings, and waste minimisation initiatives.	Sustainability performance audited externally to ensure compliance with BS8555. Reports on alignment with the UN SDGs.
Uni C	Aligns with ISO 14001 standards, using structured environmental management systems for waste, energy, and emissions.	Carbon neutrality by 2030 tracked through annual reporting on emissions reductions, waste-to-energy, and sustainable travel initiatives.	Publicly shares progress via sustainability reports and works with stakeholders to ensure transparency and active participation.
Uni D	Operates under the Zero Carbon Masterplan, guided by scientific recommendations from the Tyndall Centre. Includes structured frameworks like Scope 3 tracking and green procurement policies.	Carbon budgets and regular sustainability reports track progress toward net-zero by 2038. Waste and recycling goals are benchmarked annually.	Reports progress via annual sustainability reports and audits, ensuring alignment with the Paris Agreement.
Uni E	Structured through the Environmental Sustainability Strategy, incorporating biodiversity net gain and alignment with local and global climate goals.	Annual reporting; Progress reviewed every five years, with specific targets for net-zero carbon, biodiversity, and waste reduction (e.g., 58% recycling rate target).	CMP-funded projects undergo detailed monitoring. Publicly reports on biodiversity, food sustainability, and emissions data annually.
Uni F	ISO 14001-Certified EMS; Aligns with UN SDGs, embedding sustainability across operations. Structured frameworks support waste, renewable energy, and carbon neutrality by 2030.	Annual reporting tracks emissions reductions, waste-to-zero initiatives, and renewable energy investments.	Transparent reporting mechanisms actively involve students and staff in shaping and monitoring sustainability progress.
Uni G	Operates an EMS certified to ISO 14001:2015, providing systematic management of environmental impacts across its campuses.	Progress measured through targets for net-zero carbon emissions for Scopes 1 and 2 by 2030 and Scope 3 by 2037/38, with updates via annual Environmental Reports.	EMS audits (internal and external) and Ec+F7:H8oCampus Platinum status achieved in 2013 reflect its commitment to compliance and improvement. Updates on progress shared publicly.
Uni H	Adheres to ISO 14001, embedding environmental compliance into all university operations. Focuses on Circular Economy principles for waste management.	Annual reporting measures progress on carbon neutrality goals, recycling programmes, and energy efficiency projects.	Audited annually for ISO 14001 certification. Engages staff and students through participatory governance to ensure shared ownership.

Table 29: Operational compliance

The majority have been awarded the ISO 14001 certification (Uni A, C, F, G and H) or BS8555 (Uni B). Although Uni D and E do not explicitly mention these accreditations, they do offer detailed aims to reduce emissions and improve energy efficiency, which suggests an alignment with the ISO standards. Indeed, there is a diverse range of sustainability efforts outlined within policies, as illustrated below:

University	Sustainability Efforts
A, C, D, E, F, G, H	Net-zero targets
A, C, D, E, F, G, H	Reducing emissions
B, F, H	Carbon neutrality
D, E, F	Biodiversity net gain
B, D, E, H	Ethical investments
D, E, F	Diverting 100% waste from landfill
C, D, E, F, H	Governance structures
D, E, H	Sustainable food initiatives
C, F, H	Plastic reduction (eliminating single-use plastics)
A, C, D, E, H	Sustainable travel policies
A, C, D, E, F, H	Renewable energy use
B, C, D, E, H	Sustainable procurement
C, D, E, F, H	Circular economy and waste reduction
B, C, D, F, H	Student and staff sustainability engagement

Table 30: Sustainability efforts

Each institution evidences a systematic approach ensuring consistency and accountability, tracked through regular annual reporting, a central feature of compliance-driven strategies. However, as there is no overarching quality assurance framework, there is also a range of approaches to reporting including public-facing environmental reports (Uni D, E and H), external audits (Uni C, G and H) and SDG reports (Uni D and H) to enhance credibility.

Uni D, E and H, demonstrate a high level of performance with regards to operational systems, with Uni D creating unique mechanisms to achieve zero-carbon milestones by operating under the '*Zero Carbon Masterplan'*, informed by scientific recommendations. Uni E operates under five-year review cycles, to achieve their ambitious net-zero and biodiversity targets and investment in carbon

reduction projects. While Uni H combines ISO compliance with circular economy principles to:

> "Redefine how our institution manages its resources, away from a linear model of 'make, purchase, consume and dispose"

Uni H holds itself accountable through:

- The Sustainability Council
- Ensuring each of the 16 areas has a delivery plan
- Annual RAG rating of each area
- Annual SDG progress report and any correction action needed.

Uni H evidence alignment between practical implementation and strategic goals and offers a comprehensive approach to performance monitoring which they use to inform continual development against the SDGs. They have an approach which amalgamates regulatory compliance with innovative methods of monitoring illustrating a transformative shift towards cultural change.

In summary, each institution offers a range of evidence that supports operational compliance drawing on environmental metrics, annual reporting and external accreditations. However, the depth of these efforts varies, and consequently the preceding changes in response to annual reports, with some focusing on meeting minimal benchmarks and others, such as Uni H, who seek long-term change. The lack of a cohesive definition and quality assurance framework across HEIs gives way to variation in implementation and assessment. Nonetheless, operational benchmarks and criteria provide a foundation to begin transformative practice and cultural change.

5.3.1.3 Systems-based Approaches

While operational compliance provides the foundation for sustainable HEIs, system-based approaches are essential for embedding sustainability into the broader institutional framework. Table 31 provides a summary of the system-based approaches across institutions:

University	Teaching and Learning	Research	Community and Cultural Engagement
Uni A	Sustainability integrated into the curriculum, fostering responsibility and sustainability-focused graduate attributes. Optional modules are primarily course-specific, not institution-wide.	Encourages research addressing environmental and social sustainability challenges.	Actively engages students and staff in sustainability initiatives, creating a shared culture of responsibility.
Uni B	Embeds sustainability into programmes, particularly focusing on justice and equity. Optional modules are limited in scope.	Cross-disciplinary research aligned with the SDGs, focusing on social and environmental justice.	Focuses on community-based projects and global partnerships to promote sustainability efforts locally and internationally.
Uni C	Sustainability embedded across disciplines, offering dedicated modules and fostering systemic thinking. Offers optional modules like "Sustainability in Practice" and interdisciplinary units open to all students.	Interdisciplinary research initiatives tackle global challenges, including climate action and social equity.	Collaborates with local authorities and external partners, enhancing impact beyond the campus.
Uni D	Aligns teaching with SDGs, integrating sustainability themes into courses to address global challenges. Includes optional interdisciplinary modules like the "Sustainability Challenge", available to all students.	Focuses research on real-world sustainability challenges such as biodiversity, climate change, and social justice.	Engages the community through local sustainability initiatives but lacks widespread participatory governance structures.
Uni E	Offers sustainability-focused modules and interdisciplinary teaching programmes. Optional units accessible to all students are limited.	Research contributes to global sustainability knowledge through institutes like the XXX School.	Participates in public engagement events and partnerships, though heavily reliant on hierarchical governance.
Uni F	Provides sustainability-themed modules and develops graduate attributes focused on climate action and social responsibility, available to students across disciplines.	Research addresses global sustainability challenges through interdisciplinary approaches.	Actively involves staff and students in shaping sustainability strategies, fostering a participatory and collaborative culture.
Uni G	Some efforts to embed sustainability into the curriculum, but these are not institution-wide or deeply integrated. No evidence of optional modules accessible to all students.	Limited evidence of sustainability-focused research.	Minimal engagement with local or global sustainability networks, with efforts largely operational rather than systemic.
Uni H	Sustainability is a core theme across disciplines, fostering interdisciplinary learning and systemic understanding. Offers optional cross-disciplinary modules like "Sustainable Futures", promoting participation from all faculties.	Research focuses on addressing critical environmental and societal challenges, often tied to the UN SDGs.	Strong community engagement through partnerships and initiatives like the Green Apple scheme, amplifying cultural change.

Table 31: System based approaches

Across the policies and sustainability literature, four common themes emerge:

- Integration of SDGs
- Experiential Learning
- Interdisciplinary Approaches
- Student Engagement

The degree to which institutions integrate sustainability across these themes varies considerably, from transformative practice which drives cultural and systematic change, to isolated efforts of engagement that appear largely symbolic.

There are examples of transformative change, illustrated throughout Uni B and H's policy documentation whereby they embed the SDGs into curriculum development and research strategies using aspirational and direct language to illustrate their commitment.

Uni B aims to be a "truly sustainable university" which:

> "help staff and students become responsible 'global' citizens in the face of the environmental challenges ahead of them."

They frame sustainability as a pillar of teaching and recognising, that embedding sustainability into all forms of learning is an essential in:

> "ensuring that every graduate is equipped to address global sustainability challenges."

They also engage with the whole-institution change programme - '*Responsible Futures'* - an accreditation initiative from the SOS which engages students to embed sustainability and climate justice in all areas of learning, policy and institutional culture (SOS, 2024).

Uni H, makes clear commitments to their students, using aspirational and inclusive language to embed sustainability within its core identity, as illustrated below:

> "Through teaching and learning, our students will be enabled to have a positive sustainability impact on the world. We aspire for students to understand the ways in which sustainability challenges may impact their personal and professional lives and opportunities to engage more deeply with sustainability through the formal and informal curriculum". Through their curriculum they "aim to prepare students to be sustainability-literate, equipping them with the knowledge and skills needed to make impactful changes in their future careers and lives."

Both universities integrate sustainability as a core theme across their teaching, learning and research by ensuring:

> "Training for all staff and students, empowering individuals to understand, measure, and reduce their carbon footprints in their professional and personal lives"
> (Uni B)

> "Conducting world-class research on the environment, social justice, and development, consistent with addressing the UN's Sustainable Development Goals".
> (Uni H)

Their commitment is designed with the aim of long-term transformational effects on graduate capabilities and social contributions. This is evidenced by collaborative partnerships within the local city, to achieve "European Green Capital" demonstrating its commitment to integrating within broader societal structures for long-term systemic change.

Uni B positions itself as a leader in research:

> "A hub for research, information and good practice into SDG 16 and to increase awareness of all the goals to students, staff and the general public."
> (Uni B)

At Uni B, SDG 16 is the focus of a series of research projects, which places them in a unique leadership position exemplifying transformative practice as they shape international conversations and actions. They blend research excellence with curriculum innovation to create a collaborative, synergistic framework equipping students and researchers to address global sustainability challenges.

Both universities evidence a clear, holistic strategy with a balanced focus on the curriculum, research and collaboration. Their strategies emphasise integrating sustainability as a transformative framework, which shapes the institution's identity. They drive systemic, cultural change to address global challenges innovatively and inclusively, while inspiring students to become global change agents, aligning their educational initiatives with impactful societal outcomes.

Uni D and Uni E emphasise research as a dominant focus in their policies, overshadowing curricula development and integration. They employ distinct tones within their strategies often focusing on practical, action-driven outcomes.

Uni D states:

> “all of our degree programmes are kite-marked against the United Nations SDGs”

While this reflects alignment with the SDGs, it suggests compliance over transformation, and without meaningful curricula content risks being seen as tokenistic. Students have the option to engage with sustainability initiatives, including:

- The University College for Interdisciplinary Learning (UCIL), which includes SDG-related work within their programmes.
- The Stellify program, which is a student-focused initiative promoting social responsibility

However, these are ‘bolt-on’ courses, rather than core educational philosophy, and their curricula efforts appear secondary to broader research and engagement initiatives. Uni D positions itself as a thought leader by using phrases such as, “world-leading”, and “interdisciplinary collaboration”, where to highlight its contributions to global issues.

Comparably Uni E prioritises research over curricula transformation, adopting a forward-thinking, yet academic tone:

> ”We promote communication, coordination, and collaboration between environmental sustainability and environmental justice researchers through the XXX Network for the Environment."

Uni E frames itself as a global pioneer by claiming its initiatives are:

> "Helping us to better understand the complexities of the interaction of human activities and the environment."

Uni E also highlights its efforts to fund projects on negative emission technology and biodiversity gain, portraying itself as groundbreaking, globally impactful and able to translate academic knowledge into tangible global solutions. However, their efforts towards curricula development do not demonstrate the same commitment. Uni E states they offer students an opportunity to:

> "Become sustainability leaders of the future"

However, this ambition is not well-support with concrete actions, instead they lean towards conservative enhancements of existing programs, alongside optional courses rather than university-wide transformation.

Applying CDA revealed that both institutions prioritise research agendas with limited efforts to embed sustainability into the curriculum. They place notable emphasis on advancing sustainability related research, which is framed as globally impactful and designed to produce tangible solutions to environmental issues.

Uni F positions itself as a proactive leader, emphasising:

> “All students of the XXX are equipped to become leaders of change, able to take action on the most pressing global issues, including sustainability and climate change”.

They identify three strategic goals surrounding SDG4 (Quality Education) with include:

> - Deliver a suite of wide-ranging programs of learning that provide necessary competencies and empower students to make a positive impact on sustainability
>
> - Provide engaging and focused opportunities outside of teaching to quip students with practical knowledge and experience of effective sustainability actions
>
> - Lead our students by example through environmentally sustainable teaching operations

However, the programmes and opportunities are optional, aligning with Uni D and E, thus lacking the capacity to be labelled as ‘transformative’ practice. Unlike other universities, Uni F has a strategic mission based upon SDG 11 (Sustainable Cities and Communities):

> “To communicate, co-curate and facilitate impact and change based on the applied public and social value of our research, teaching, resources, knowledge and networks to address societal needs and empower civic engagement for the creation of a sustainable society.”

Whilst their research mission is clear:

> ““To be a global leader in research for sustainability and sustainable development, developing interdisciplinary understanding and solutions to key local, regional and global sustainability challenges, and promoting more sustainable research practices”

This approach demonstrates Uni F's commitment to cross-disciplinary collaboration, framing itself as an agent in research outputs and the broader community.

Uni G adopts compliance-based integration, which is a largely procedural systematic approach aligned with external frameworks. They highlight two aims in line with SDG 4:

- To support all students in gaining knowledge and skills to deliver sustainable development
- Ensure staff are equipped with the knowledge and skills to deliver a sustainable curriculum

The underpinning practical actions for this are the completion of course approval forms and mapping against the SDGs, highlighting compliance and tokenistic efforts, rather than meaningful curriculum integration. Uni G demonstrates an effort toward staff training through its own SEDA course, which prioritises accreditation and formal compliance rather than innovative practice.

Uni G also places heavy emphasis on research prioritising collaboration, through:

- Local, regional and global research projects with Faculty Research Centres and Groups
- Collaboration with external organisations

Despite evidence of strong engagement with research, Uni G lacks clear interdisciplinary initiatives, reflecting fragmented integration across its faculties.

These findings highlight a spectrum of sustainability integration, ranging from transformative approaches (Uni B and H) to governance structures, curriculum

development and student engagement, to compliance-based approaches (Uni G) which recognise external frameworks but do not necessarily embed them. These variations illuminate the importance of conceptualising sustainability efforts as a continuum, ranging from fragmented, compliance-driven actions to innovative, transformative system-wide change. These findings will act as a foundation for the 'Sustainability Integration Framework' (SIF), which will be explored in the discussion section of this thesis.

5.3.2 Interviews

The interviews revealed discrepancies between the policy rhetoric and practical implementation. Each participant recognised a growing response to sustainability across the sector, but their accounts revealed underlying tensions with structural and persistent barriers to embedding sustainability meaningfully.
This section is split into three themes, leadership, challenges and greenwashing, providing an insight into real experiences of sustainability practice in HEIs.

5.3.2.1 Leadership

The interviews underpinned the essential role of governance and leadership in shaping sustainability efforts across universities. Every participant referred to leadership as a catalyst for driving structural change, indeed P4 commented:

> "My tenure as VP was instrumental in advancing our sustainability goals",

While P5 noted that prior to the introduction of formal governance structures, they had fragmented efforts, stating:

> “We has a Sustainability Steering Group…although they didn’t really have the mandate to have to do anything”.

Both P4 and P5’s universities demonstrated clear governance structures which were echoed throughout the interviews, with P4 outlining:

> "We’ve changed the governance of it. There is a formal committee now, - the Environmental Sustainability Committee, which reports up to the main committee that runs the university...(and) up to the board and I have to go to the board at least once year to talk about environmental sustainability. So, there are clear lines of accountability. Which is important if take it seriously, you've got to be accountable for it.... So those structures are important. And then we've got a Head of Environmental Sustainability who is responsible who sits within estates and facilities but is responsible for the whole strategy.”

P4 emphasised that level of commitment is supported through not only governance but also through funding commitments of over £150 million. P5 discusses the immediate changes post-implementation of Uni E’s 2021 Sustainability Strategy:

> “Immediately attacked the governance issue because we hadn't had appropriate governance for sustainability…. we now have twice termly meetings of our Environmental Sustainability Subcommittee”

They illustrate clear links between governance and funding, stating “about five million pounds a year on sustainability projects” was allocated in response to the strategy. It is evident that integrating sustainability into governance, provides a framework for accountability whilst ensuring strategic alignment, making it easier to achieve financial investment, which is often a direct outcome of governance prioritisation.

Leadership emerged as a double-edged sword, in that it acts as both a key enabler and potential barrier. P2 and P3's highlight this with the below comments:

> ”When leadership adopts sustainability as a priority, they hold the levers to make real changes”
>
> (P2)
>
> “Without clear leadership backing, sustainability remains an afterthought”.
>
> (P3)

These sentiments illustrate the leadership's role in defining priorities reflecting a top-down power dynamic, where transformative change requires senior management. P2 highlights how normative and mimetic pressures influence practical application stating:

> "Leadership has understood that lots of universities have adopted SDGs, and there's momentum there. It's that classic thing in higher education—if we're not doing it, we're going to be left out”.

The interviews demonstrated that each university was at a different stage regarding leadership development, with P8 reflecting on the recent appointment of a PVC for Sustainability:

> “We've got XXX as Pro VC for Sustainability, and it's brilliant that he's got it named in his job title...It's good that it's been recognised at that level”
>
> “We're trying to create a sustainability oversight board led by XXX replacing the old environmental committee that was too operations-focused”

P8 highlights the value of naming a PVC as a Sustainability Lead, as it demonstrates institutional commitment, and brings about substantial change.

Despite strong rhetoric, P6 alluded to mismatch between leadership commitment and practical action, stating:

> “Sustainability is one of the XXX core principles, but I don't think environmental sustainability is at the heart of our decision-making, which is what you would expect if something is a core principle”.

This notion was reflected by participants who continually note top-down priorities on measurable outcomes such as net-zero, over less-tangible educational and cultural integration, as illustrated in the quotes below:

> “The VC…sort of said, you know, we're putting so much funding behind net zero as like a focus because that's something that we've said we're doing by 2030.
>
> But arguably the education stuff is going to affect more people because it's all the students that are then going to go out into the world and hopefully make changes.” (P8)
>
> "The university has committed £150 million already to the program, focusing on building-by-building retrofits, but embedding sustainability in teaching and learning doesn’t get the same attention." (P4)
>
> "We’ve been buying renewable energy to hit scope 2 targets, but broader efforts like embedding sustainability across the curriculum are still optional and limited." (P5)

Several participants suggested a systemic preference for measurable outputs in governance and reporting:

"Carbon and biodiversity data are included in financial statements, but there's no similar tracking or reporting for educational reforms in sustainability."

"The annual sustainability report tracks emissions and biodiversity progress but doesn't address how well we're embedding sustainability into education or research." (P5)

"Governance structures focus on environmental metrics, but things like curriculum mapping and embedding sustainability education remain voluntary efforts." (P7)

"We now report to a formal Environmental Sustainability Committee, which feeds into the university's Planning and Resource Committee and up to the board. I present at least annually on sustainability progress." (P4)

As P4 states securing funding for energy efficiency projects is straightforward, but to embed sustainability into the curriculum lacks similar support. While P2 and P3 discuss the role normative pressures, including rankings and student voice can have on HEIs prioritising measurable outcomes:

"I think there are contexts in which sustainability is really just a commercial opportunity for branding and positioning within a competitive league table-based marketplace" (P3)

"The measure that we've defaulted to, rightly or wrongly, is the times higher impact rankings. Personally, I think they are the wrong indicators, just like because the indicators are an interpretation of the SDGs via the Times" (P2)

"What's more interesting about sustainability is that the SDGs and sustainability have become increasingly more attractive…because it leadership is recognised that lots of universities have adopted it, but it's really in my opinion being driven by young people who want more sustainability in their degrees" (P2)

The findings provide evidence to support the notion that leadership often prioritise measurable outputs and rankings to enhance their reputation, consequently resulting in higher student numbers, securing funding and enhancing their reputation.

While top-down leadership focuses on tangible outputs, grassroots efforts are often driven by passionate staff as noted by several participants. P1 refers to the Special Interest Group they are in, at Uni A:

> "we just ploughed through, and we just said no, we are doing this. So, I think assertive, not taking no for an answer and just finding a way of making it meaningful… it's a small group of and we don't meet often, we just do things, we just crack on and do things."

P3 declares:

> "There's a sense in which it's, as I said, the Cinderella agenda of sorts based on volunteerism, goodwill, bottom up. Top-down signalling, in rhetoric and narrative, bottom-up activity in work. From those people, sufficiently motivated and enthused and persuaded…. but because it's bottom-up action, it's dependent on the volunteerism of those people involved"

P8 notes, that prior to her new role, she undertook sustainability as an additional responsibility:

> "I did it when I was in physics, and it was loads of work and it was like probably there should be a member of staff doing this"

These comments illustrate a systemic issue whereby institutions rely on voluntary engagement to push cultural change, without formal governance structures of sufficient funding.

Overall, participants recognise the influence leadership has in securing transformative change, however, there is an underlying concern that rhetoric does not always match practice, with environmental aspects of sustainability taking priority over more culturally focused changes. This notion is compounded by those

in leadership positions (P4, 5) who recognise this disparity, with short-term environmental gains over prioritised long-term societal change. However, there are concerns regarding discrepancies between discourse and practice, with ES exceeding cultural reform. Even those in leadership positions (P4, 5) recognise the dominance of measurable outputs over less-tangible sustainability efforts, reflecting short-term gains over long-term societal change.

5.3.2.2 Challenges

Participants were asked about the universities efforts to embed sustainability into the curriculum. Several challenges were highlighted as depicted in Table 32.

Category	Challenge	Details/Examples
Interpretations	Differing interpretations of sustainability	Sustainability is defined differently by stakeholders, making it difficult to develop a unified approach. P1 and P5 both acknowledged that this variability complicates integration efforts. Universities often prioritise environmental issues over social and economic dimensions of sustainability, leaving curricula fragmented. P2 and P6 both highlighted this issue.
Operational Focus	Prioritisation of measurable operational goals over educational transformation	Universities often focus on operational targets like carbon reduction and biodiversity net gain, with education receiving less attention. P5 admitted that operational sustainability has received more investment than educational efforts.
Leadership	Lack of prioritisation from leadership	Leaders often prioritise operational sustainability (e.g., net-zero targets) over embedding sustainability in education. For instance, P5 noted that previous Pro Vice Chancellors did not see education for sustainable development as relevant.
Governance	Fragmented governance structures	Governance structures are often complex and slow to act. P5 described how decisions related to sustainability in the curriculum are mired in a governance-heavy culture.
Resource Allocation	Insufficient funding and staff support	Both P4 and P6 highlighted that sustainability efforts often lack adequate funding and staff resources, making long-term integration into curricula difficult.
Cultural Resistance	Academic autonomy and resistance to top-down mandates	Academics often resist mandates to include sustainability, preferring discipline-specific approaches. P5 noted that sustainability integration must be "academically led" to gain traction.
Curricular Overload	Limited room in existing curricula	P1 and P3 mentioned that many departments claim they lack space in the curriculum to include sustainability content due to already packed course schedules.
Measurement Challenges	Inadequate metrics for assessing sustainability integration	P6 criticised "tick-box" approaches like SDG mapping, which fail to capture the depth or quality of sustainability education.
Interdisciplinary Silos	Difficulty integrating sustainability across disciplines	Disciplines like environmental science incorporate sustainability naturally, but areas like arts and humanities remain underrepresented, leading to uneven integration across programmes.

Table 32: Challenges

While several of these topics (1-4) have been discussed previously, it is worthwhile to revisit the impact of diverse interpretations of sustainability, as this was consistently cited as a cause of contention. As explored earlier, many participants articulated that sustainability means different things to different people: some focus on operational systems (P4, P5, P8), while others prioritise broader philosophical and justice-based considerations (P1, P2, P3, P6, and P7).

This varied understanding shapes the implementation of sustainability into the curricula, where CDA underpins the themes of operational sustainability (OS) exceeding curriculum integration. P4 and P5 acknowledge the heavy focus on environmental aspects, often neglecting social and economic dimensions, P4 admitted:

> “That’s where we're weak at. That's what we're looking at now and saying how do we introduce environmental sustainability into all degrees, across the curriculum. That will be part of our next part of our strategy is about students get.”

This comment frames curriculum integration as an afterthought despite P4s recognition that:

> ”If you want real change, then it has to happen because we teach 46,000 students and they are all potential change makers and the greatest change you will have is by convincing even half of those.”

Similarly, P5 acknowledges the heavily mandated governance structures, openly admitting a lack of commitment to embedding sustainability into the curriculum and has only recently shifted from its original stance of:

> “Not really our thing, not really relevant to us… just a bit lukewarm, basically… Didn’t really see that there was a piece of work to do around education for sustainable development”
>
> “…even getting agreement to do a baseline review of the curriculum was a significant shift”

They recognised that any curricula efforts largely align with environmental themes and discipline specific courses, rather than whole institution integration. P5 uses the medical school as an area of:

> “…amazing practice, where the curriculum has been well and truly greened”

However, they highlight this as one area, asserting that there will never be a university-wide sustainability mandate, stating:

> “I mean that's a fundamental that we've been told we can't do”.

These comments highlight the autonomy of academic departments, as both a strength and a barrier, whereby academic freedom is seen as sacrosanct, yet unless driven by voluntary engagement of passionate individuals, can inadvertently perpetuate academic inertia.

Both interviews sparked key points of reflection, raising several questions illustrated within the reflective memo below:

Reflective Memo: University Priorities

Reflecting on my conversations with P4 and P5, it’s striking how the largest universities, despite their resources and influence, don’t prioritise embedding sustainability into education. Both acknowledged gaps, with P4 admitting it’s a "weakness" and P5 explaining that, historically, leadership didn’t see it as a priority. It seems the focus remains heavily on environmental goals like net-zero targets, while education and the broader social dimensions of sustainability take a backseat. A second key thought is the reliance on leadership buy-in. Both highlighted how progress only happens when leaders champion it, but this creates uneven efforts, especially when governance structures are slow and fragmented. It raises the questions:

Does the emphasis on operational sustainability, such as carbon reductions, mask a lack of genuine commitment to embedding sustainability into the core of what universities stand for—education and research?

Are these institutions genuinely committed to systemic change, or are they engaging in a form of greenwashing by focusing on measurable outputs while neglecting transformative efforts in teaching and learning?

How do we move from isolated initiatives to embedding sustainability meaningfully across all disciplines?

P3 argues that sustainability as a concept should allow us to think “across disciplines”, to bring together issues of “justice, equality and ecological impact”. This is echoed by P2 in the following example of conflicting perspectives:

"So, for example, in my job, when I talk about sustainability and I'm talking about forced migration due to extreme weather or something like that.
Then it becomes a debate about human rights and refugees.
People don't really see that as a climate issue or or an issue relating to environmental damage.
They see it as a political issue, potentially. I suppose you would say.
Whereas if you see a chimney in the middle of a university pumping out 24 hours a day (you do link it to the environment.)
So, I think there's more of like a psychological thinking in society that they want to know that emissions are being reduced.
And that things are being recycled because you can.
So it's a tangibility, but it's a measurable tangible as well."

P6 reinforces this perspective by sharing their observations of disciplinary differences in language and focus, with social sciences emphasising topics surrounding justice and the sciences prioritising global challenges such as climate change. P6 acknowledges efforts to bridge disciplines though the university suit of optional modules, open to all students, however these are "all in the optional space", putting the onus on students, rather than transforming the curriculum.

Several participants note challenges towards interdisciplinary models, with P3 commenting that sustainability cannot be treated as a universal concept, that it must be tailored to specifics within each academic field. P4 suggested piloting context-based, credit baring sustainability modules in medicine and engineering but commented that it requires academic buy-in, which is cited as a challenge by several participants.

P1, 6 and 8 illustrated this challenge:

"People see it as something new….some people are like too busy, no space in the curriculum, no time, haven't had a coffee break today, can't even begin to think about it"
(P1)

"It often feels like you're trying to push something for people who are just busy and it's not, maybe always a priority"
(P6)

"It's seen as another thing. It's something else that I've got to do"
(P8)

These comments highlight that some academics see sustainability as irrelevant to their disciplines, that they do not naturally align with sustainability thus making it difficult to incorporate unless explicitly reframed.

P4 pointed out that sustainability should be context-based, which provides more authenticity to the subject and avoids superficial implementation which can result in shallow engagement. Indeed, P5 argues that sustainability must be "academically led", however, there are conflicting opinions regarding the practicality of this, specifically in relation to resource allocation, cultural resistant and curriculum overload.

This coupled with academic burn-out, low staff morale and a lack of job security (P1, P2, P3, P6 and P8) results in only those "people, sufficiently motivated and enthused and persuaded" (P3) driving the sustainability agenda further. This creates a dependence on motivated individuals to implement curricula changes, rather than structural or institutionalised support.

Throughout the interviews there is a clear disconnect between the conceptualisation of sustainability and its implementation. HEIs are promoting 'optional-sustainability' - both to staff embedding it within programs, and to

students electing modules, reinforcing the perception that sustainability education is a peripheral concern rather than a core educational priority.

There are no effective systemic incentives or institutional mandates to embed sustainability as a shared responsibility, remaining as “something extra to do” (P1, P7). This results passionate individuals driving change, which is not sustainable in itself. Moreover, the lack of university mandate means that only the most engaged students participate with sustainability initiatives, undermining the transformative potential of HEIs to address global challenges and drive systemic change.

5.3.2.3 Greenwashing

Applying CDA uncovered a gap between institutional rhetoric and practical implementation, revealing potential ‘greenwashing’ concerns across the sector. While HEIs typically frame themselves as leaders, participant insights suggest that progress does not align with stated ambitions.

Several participants echo these concerns:

> “Across the sector, there are really quite significant variations in how authentic different universities' engagements with sustainability really are." (P2)
>
> “There's still a sense, I think in many institutions have a certain Cinderella status to sustainability agendas. When I think about how sustainability is positioned within this university, a lot of the language would suggest that it was primary. But in terms of workloaded and institutionally backed? It's notable how it is lagging behind other agendas such as equality and diversity agendas, for instance.” (P3)
>
> “There's a bit of a mismatch, I think, between the kind of aspiration and then the kind of norms of of business as usual.” (P6)
>
> “It's all in the strategy, like there's a whole pillar in the strategy, all about sustainability and there is funding behind it. But maybe still not enough for all the things that we would like to do. (P8).

There have also been instances where progress has not aligned with policy ambitions, for example P7 notes:

> "We did set up a sustainability in the curriculum course for staff. Unfortunately, we can't. We can't run that anymore because resource again has been the issue there."

And when discussing periodic reviews, they stated:

> "But again, that's had mixed results because we haven't had the resource to properly then manage that and upskill people who sit on the approvals boards and members of staff as to, you know, what they can do to make kind of real change there."

P3 commented on accreditation and workload issues stating:

> "Students get nothing for it. It's quite onerous….no one took the assessment, so no one completed it."
> "Staff were not work loaded to do it, and there was quite a lot of unhappiness about that."

These examples highlight clear systemic challenges notably resource constraints, which hinders successful integration. While ambition is there, it is not always met with sufficient institutional support. Furthermore, P3 highlighted a shift towards financial and reputation motives, stating:

> "The university is now talking about how it can commercialise this unique initiative"

This underscores tensions surrounding sustainability efforts driven by normative pressures leading to branding, ranking and profitability motives over need for

systemic change. P4 repeatedly noted rankings as a priority, highlighting that when they did not participate in the QS awards, public information was used, which resulted in a drop in their rankings:

> "We went out from being about 50 something because we didn't participate in it, to this year when we submitted it, we became third in the world"

This demonstrates the power rankings have in influencing strategic priorities and elevating institutional reputation. P2 also notes that their institution also aligns with ranking frameworks, stating:

> "We've defaulted, right or wrongly, to the Times Higher Impact Rankings"

However, they demonstrate scepticism:

> "I think personally they are the wrong indicators… but it gives a focus"

Both participants note that ranking frameworks can incentivise performance but also surface-level engagement. Which is evident when funding allocations lead to measurable outcomes taking precedence over curricula integration or social justice measures. Participants present a level of trepidation surrounding the authenticity of intuitional commitment towards transformative, meaningful change with institutional strategies seemingly shaped by normative pressures.

5.3.3 Synthesis of Policy and Transcripts

While many academics have criticised HEIs for responding slowly towards the integration of sustainability (Sterling, 2010; Hanlom et al., 2012; O'Brien et al., 2013; Fazey et al, 2018; 2020; Yanez et al, 2000; Bina and Pereira, 2020), it is evident that universities are responding to the international call to action by incorporating sustainability into institutional strategies, values and missions. HEIs exhibit a range of approaches towards the implementation of sustainability policies, and PIT offers a lens to understand the interplay between the varying dynamics that influence practice (Huang, 2004; Lipsky, 1971; Saunders et al., 2015; Seva and Jagers, 2013).

HEIs have made ambitious commitments focusing on measurable outcomes in terms of net-zero targets, biodiversity measures and alignment with the UN SDGs. However, CDA of the policy and transcripts revealed several disparities between the rhetoric and practice. Indeed, PIT highlights the influence policy-flow (top-down/bottom-up) has on shaping outcomes, noting that leadership is fundamental for managing change processes (Akins et al. 2019). Institutions tend to prioritise operational-based changes focused on metric-driven outcomes, leaving gaps in systemic reforms, particularly in terms of curricula development. This section will synthesise the data with literature and focus on leadership and implementation gaps.

5.3.3.1 Leadership

The ICFE (2021) strongly urged HEIs to "rethink education in a world of increasing complexity, uncertainty, inequalities, risks *and* possibilities". Whilst many academics are calling for universities to renew their commitment to serving the public good, advancing societal change and creating post-disciplinary structures (Fazey et al., 2021). To achieve this, HEIs require strong leadership that aligns strategy with action to achieve a transformative shift to change structures, mindsets and beliefs (Advance HE, 2023; O'Brien, 2012; O'Brienn and Sygna,

2013). However, Ferrer-Balas et al., (2010) voiced concerns that there can be a lack of institutional commitment, often resulting in piecemeal efforts rather than systemic transformation.

PIT provides a useful framework to understand the effectiveness of leadership models across the HEIs, emphasising the role of top-down directives and bottom-up agency (Lipsky, 1980; Elmore, 1979). HEIs unanimously position leadership as a catalyst for change, echoing Sterling's (2004) perspective that university management play a key role in encouraging staff to embrace new approaches. However, participants often refer to the role of passionate individuals pushing the agenda forward, particularly in terms of curricula integration. This reflects several authors who argue that HEIs often have isolated areas of good practice, led by motivated individuals or students, rather than systemic institutional support (Gale et al., 2015; Brundiers, 2020; Vogel et al.,2023)

Indeed, while each university has created formal sustainability policies and structures, including PVC roles, councils, and committees highlighting a level of accountability, PIT suggests that true implementation is witnessed through its implementation by 'street-level bureaucrats' (Lipsky, 1980). The importance of leadership resonates with all interviewees, however many (P2, 3, 6, 7, 8) voiced concerns over institutional priorities and the gap between policy rhetoric and practical implementation, which aligns with PITs 'implementation gap' where systemic barriers, competing priorities and institutional contexts hinder full policy enactment.

Mori et al (2021) and Sterling (2004) highlight that to engage with systemic change, institutions must embed sustainability into their core mission and values, which is evidenced within the policies. Policy rhetoric claims that sustainability informs decision making and strategic planning, however this is not supported by participant responses, who highlight an overemphasis on operational metrics with less tangible outcomes as an afterthought. Several participants (P2, 3, 4, 5) highlight that leadership decisions are driven by normative pressures, such as

rankings, compliance frameworks and funding. Consequently, this leads to HEIs adopting a piecemeal approach (Mishra, 2020) focusing on measurable achievements over holistic transformation thus limiting their potential for creating deep, systemic changes (Sengupta 2021; Fraser 2023). Leadership decisions are driven by external validation (P4, P5) over internal core values, reinforcing operational compliance as the key focus. Indeed, OS is a necessary foundation (Brundiers, 2020) recognised by participants, but current efforts fall short of transformative change.

The analysis of the policies found three dominant leadership models:

- Collaborative (Uni A and B)
- Strategic/Integrated (Uni C, F and G)
- Centralised (Uni D, E and H)

These models embrace different policy flows that incorporate PITs forward and backward mapping as illustrated in the Table 33.

PIT Component	Centralised	Collaborative	Strategic/Integrated
Policy Flow	**Top-down** flow dominates. Senior leaders write policy which is handed down as a directive. Little input is sought from lower levels, so policy arrives pre-packaged. This forward-mapped approach can enforce quick action on select issues but may ignore local context.	**Bottom-up** influences are strong. Ideas and initiatives are sought from key internal stakeholders and inform policy. Policy flow is more consultative, reflecting stakeholder insights (akin to backward mapping). This fosters context-sensitive strategies, though it can lack overarching coordination.	**Bidirectional flow.** Top leadership sets vision but actively incorporates feedback from grassroot level. Policy development is iterative: high-level goals are adjusted based on ground-level learning. A "sandwich" model of change prevails, combining top-down guidance with bottom-up input for a coherent yet adaptive policy (Fullan and Fullan, 1993; Trowler et al., 2013)
Implementation Style	**Forward-mapping**: Plans are designed at the top with predefined targets and rolled out via formal programs. Little modification is made during rollout; success is measured against the initial plan. This can yield quick outcomes in controlled areas.	**Backward-mapping:** The approach is iterative – policies evolve as stakeholders report what works. This flexibility ensures relevance but can make the overall strategy fragmented if not aligned upward.	**Hybrid:** The implementation is guided by strategic goals but continuously informed by on-the-ground feedback. Policy design anticipates local variation (built-in flexibility) and *backward maps* by considering implementers' capacities from the start.

Table 33: Policy Flow and Implementation Style

Centralised models often rely on forward mapping, which sees policy cascaded from the top-down with limited communication between stakeholders leading to reinforcement of strategic aims (Florino, 2005). Conversely, within the collaborative model backward mapping is implemented, which sees policy shaped by key stakeholders, such as students and faculty (Elmore, 1979). The strategic/integrated model attempts to blend these, creating a bidirectional flow that aims to set the overarching aim from the top, based upon ground level learning. However, PIT necessitates the need for middle-tier agents for this to be considered an ideal scenario for long term change, highlighting academic leaders as a critical component of change (Brinkhurst et al., 2011; Fullan and Fullan, 1993).

The leadership roles of each model are outlined below:

PIT Component	Centralised	Collaborative	Strategic/Integrated
Leadership Roles	Senior leaders (e.g. PVCs, executive teams) tend to shape and drive the sustainability agenda. There's little room for adaptation, and policies may feel disconnected from day-to-day realities, particularly in academic departments.	Action is driven by passionate individuals—staff, students or informal working groups—who carry forward sustainability through grassroots efforts. These actors bring authenticity and innovation, but their work is often under-recognised and relies heavily on personal commitment. Without formal structures or resourcing, efforts can be difficult to sustain or scale.	Leadership sets the direction but actively involves wider stakeholders across departments and levels. There's an understanding that embedding sustainability requires engagement at all levels. Staff and students are contributors, not just implementers. This model encourages feedback, cross-campus alignment, and shared responsibility.

Table 34: Leadership Roles

Those identified in senior leadership positions (P4, 5) often demonstrated more managerial characteristics, that promote stability and preserve established routines (Senge et al., 1999) whereas true leadership often comes from grassroots level (Kotter, 2008). Stephens et al. (2008) observe that bottom-up engagement is essential for cultural transformation as it promotes staff and student engagement (Sterling, 2004), however, this is not evident within participant responses. Many participants, (P1, P2, P3, P6 and P8) voiced concerns that grassroots initiatives reflect systemic issues such as:

- Lacking institutional support
- Reliance on good-will of individuals
- Increased workload pressures

This leads to sustainability fatigue, making long-term efforts unsustainable and limiting the scalability of grassroot initiatives.

Uni A and B demonstrate collaborative practice, by valuing grassroots efforts that inject innovation and authenticity (Brundiers, 2020; Sterling, 2004) while also providing strategic direction and resources. Indeed, P1 and 2 note far more examples of collaborative projects than other participants, citing programs such as *'Green Impact'*, '*Responsible Futures'*, alongside student placements, and community partnerships. These initiatives specifically aim to connect grassroots initiatives with strategic leadership, showcasing how universities can potentially achieve systemic integration. However, neither university has a named person in a leadership role (PVC) which can result in challenges. This was reflected on by P1 who described a scenario where sustainability efforts are driven by informal groups and personal commitment, stating:

> "We just ploughed through and we just said no, we are doing this….not taking no for an answer and just finding a way of making it meaningful"

Participants (P1,2,3,4,6,7,8) note that policy rhetoric is often hindered by resource constraints, lack of systemic recognition, staff reluctance and institutional inertia. The literature highlighted that a new perspective of leadership is required (Ferdig, 2007) that embraces transdisciplinary working (Broman et al., 2017b) to create current and future benefits (Hargreaves and Fink, 2012; McCann and Holt, 2010) while balancing financial and socio-ecological interests.

Uni C is well-established in its sustainability journey, emphasising a whole-institution approach and has the highest number of sustainability related policies, thus demonstrating a unique style of leadership. However, while P3 comments on the progress made, they express concern regarding resourcing and role scalability, highlighting operational and systemic challenges that undermine the policy ambition. P3 notes:

> "Top-down signalling in rhetoric and narrative. Bottom-up activity in work from those people, sufficiently motivated and enthused and persuaded. And nothing in the middle"

Uni C's governance structure and extensive policy list reflects a strategic commitment, setting it apart from other universities, however grassroots initiatives are not systemically integrated into the institutional frameworks, thus leaving them vulnerable. Furthermore, from a PIT perspective the lack of middle agents to co-ordinate practice and facilitate feedback may result in only partial enactment and difficulties in implementation (Howlett et al., 2009). Indeed, concerns raised by P3, regarding resource, scalability and a lack of middle-level support illustrate systemic barriers that prevent it from evolving into a benchmark institution for transformative leadership.

The findings reveal a diverse range of leadership frameworks, ranging from strategic leadership with specific roles and policies, (Uni C and G) to heavy reliance on grassroot action often constricted by resources and systemic support (Uni A and B). As Leal Filho et al. (2018) suggest, leaders are not willing to fully commit to systemic change due to conflicting priorities, power dynamics and resource allocation practices. Participants echo this claim, suggesting that

metric-driven, operation focused outcomes are driven by normative pressures, which in turn influence funding.

PIT gives credence to this by highlighting that a policies success is determined by how well it aligns institutional capacity with stakeholder engagement whilst working within its own contextual limitations (Huang, 2004; Lipsky, 1971; Saunders et al., 2015; Seva and Jagers, 2013). This combined with evidence of institutional inertia and a lack of middle-level support means that HEIs are yet to reach the full realisation of their sustainability ambitions. The analysis shows that leadership is a catalyst for change, but to be a catalyst for *transformative* change requires a balancing of top-down strategic vision with grassroots values and participation. This needs to be met with adequate resourcing, across all areas of HEIs, not just operational systems, and systemic support to ensure scalability and integration, so that institutions can become benchmarks for sustainability leadership. This will be explored further in the development of the SIF, in the discussion section.

5.3.3.2 Implementation Gaps

Each university demonstrates a commitment to sustainability as part of its core mission, aims or values (except Uni E), however a clear gap exists between rhetoric and practice with sustainability efforts often fraught with challenges. PIT highlights the challenges of policy enactment, especially when top-down approaches do not align with contextual realities (Pressman and Wildavsky, 1973; Elmore, 1979). The type of leadership model employed can indicate the level of risk with regards to an implementation gap, as illustrated below:

PIT Component	Centralised	Collaborative	Strategic/Integrated
Implementation Outcomes	**Risk of implementation gap: High.** As policy is imposed, it can result in partial compliance from staff creating a gap between policy and actual practice . The rehtoric-practice is evident – ambitious plans may result in modest changes.	**Risk of implementation gap: Medium.** Some gaps can be narrowed where bottom-up enthusiasm aligns with policy. In areas without champions, however, initiatives may stall due to lack of support. Because efforts are fragmented, there can be pockets of excellence alongside neglect elsewhere.	**Risk of implementation gap: Low.** Policy and practice are more closely aligned. Clear vision plus engaged stakeholders mean policy and practice align more closely.

Table 35: Implementation Outcomes

Policies tend to use ambitious, powerful and positive language to frame sustainability, committing to embed it across all aspects of university functions, including operations, decision making, curriculum, research and community engagement. However, participants operating in centralised and collaborative models indicate that practical implementation often falls short, which Lipsky (1980) suggests can result from top-down prescriptive policies which are insufficiently supported at ground level. Participants highlight that operational-metrics receive higher priority than system-based reform, for example curricula development, which often remains an optional extra for students rather than full integration (P1, 2, 3, 4, and 5). This could be due to a reliance on forward-mapping where implementation does not consider the contextual needs of those enacting the policy. System-based changes rely on collaboration, and academic buy-in to achieve cultural change which cannot be easily mandated or measured. As such operational metrics are easier to achieve hence closer alignment between policy and rhetoric.

Each university identifies metric-driven targets whereby they report significant progress, consequently funding has been allocated towards operational projects and developing infrastructure (P4 and 5). There are genuine efforts being made including:

- Zero waste to landfill (Uni E)
- Retrofit buildings to improve energy efficiency (Uni D)
- Reduce emissions (Uni A – E)
- Disinvestment from fossil fuels (Uni H)
- Enhance biodiversity on campus (Uni A)

Annual reporting has been positively met by participants, noting that reporting is transparent, demonstrates improvement, consistency and accountability (P3, 5 and 6) and allows for "real strides in OS" (P5). Participants indicate a strong level of correspondence between OS rhetoric and practice, as it is supported through strategic priority and resource allocation, resulting in clear, measurable outcomes that are evidenced through annual reporting.

However, participants highlight significantly less progress in system-based approaches, including the curriculum, research and community engagement. Curriculum discussions dominated interviews with participants noting serious concerns of decoupling perpetuated by:

- Resource constraints
- Institutional inertia
- Preference for measurable outcomes
- Academic reflectance

When funding allocations do not support institutional missions, there is an overreliance on volunteerism, leading to burn out which limits its scalability (P7), making systemic change unsustainable. P6 commented that staff are expected to add sustainability into their teaching, on top of everything else, which has led to cultural resistance as sustainability is treated as an add-on, rather than a transformative action.

Some authors claimed that if viewed through an SD lens, quality metrics could be used to transform sustainability into the curricula (El-Khawas, 2007). Indeed, when HEIs incorporate all three pillars of sustainability it can enhance the institutions reputation and attract students, (Lozano et al., 2013; Riberiro et al., 2020) however, it seems to be having the opposite effect. HEIs appear almost reluctant to fully embed sustainability into the curriculums, opting for a 'bolt-on' (Sterling, 2004) approach, and putting the responsibility onto students to engage in optional, non-credit baring modules. HEIs value rankings and consequently they prioritise actions that increase their reputation. However, as there are no holistic frameworks that measure student satisfaction, outcomes and sustainability, HEIs are not engaging in holistic practice. It is evident that we have a partitioning of quality metrics, and as a result universities are adopting what I will refer to as 'greenpartitioning'.

The term 'greenpartitioning' refers to practice whereby sustainability efforts are divided into operational achievements and systemic reforms. Where greenwashing indicates intentional deceit (Tateishi, 2017: p.3), greenpartitioning sees practice divided, with measurable outcomes taking priority over systemic reforms. The term recognises the genuine efforts made in OS, while acknowledging neglect of sustainability efforts in other areas, such as education, creating an imbalance as evidenced within policy terminology, and participant observations. PIT suggests that when policy implementation is fragmented it can result in a disconnect between the boarder aims within sustainability policies and the scope of actual change. The synthesis of data demonstrates that universities prioritise OS efforts over broader system-based reforms, because they are easier to measure, fund and report on. This allows institutions to evidence and promote their ES achievements to the market, while neglecting true integration of sustainability into core educational practice and culture, perpetuating a fragmented approach to sustainability.

5.4 Impact

This section analyses the impact of sustainability practices highlighted within the policy analysis and interview discussions. It focuses on how HEIs can impact everyday practices and long-term priorities and uncovers intended and unintended consequences of sustainability practice on both students and staff (RQ 4).

It draws upon PIT's notion of 'street-level bureaucrats' (Lipsky, 1980) to uncover how the formal strategies presented within policy are presented and enacted, as seen through the eyes of participants. It builds upon the earlier exploration implementation gaps and adds to the conceptual analysis by examining the consequences associated to reveal how some attributes, such as leadership are enacted differently across the sector.

Finally, it draws upon IT (DiMaggio and Powell, 1983) to unpick institutional identities and values, and how these are used in a strategic manner to reinforce legitimacy. It also explores visions for the future that participants hold, before moving on to analyse the tangible and transformative impact HEIs can have.

5.4.1 Policy

The policy analysis utilises the theoretical framework to explore three specific areas, behavioural change, operational change and reputational effects, noting their interrelated nature.

5.4.1.1 Behavioural Change

The policy language surrounding behaviour change is used to encourage and mobilise individuals towards developing sustainability awareness and practice, for example:

"To help staff and students become responsible 'global' citizens in the face of the environmental challenges ahead of them"
(Uni B)

"We will normalise sustainability in staff and student behaviours"
(Uni C)

"We hope to inspire staff and students to embrace change and to find new ways of living and working sustainably."
(Uni E)

"We will ensure all students…are equipped to become leaders of change, able to take action on the most pressing global issues, including sustainability and climate change"
(Uni F)

"Encourage positive behaviour change and a green culture at BCU. Upskill students and staff in their environmental awareness and ability to make positive change"
(Uni G).

"We need to have a shared understanding of what the University is setting out to achieve, what actions we can take individually and collectively, as well as encouraging sustainable behaviours."
(Uni H)

Throughout these quotes there is an air of collective responsibility, positioning students and staff as active agents of change. Uni B and F use an aspirational framing, positioning students as empowered change-makers, while also recognising the institutions' role in supporting them to develop the skills and knowledge required for action. They use terms such as 'global citizens' (Uni B) or 'leaders of change' (Uni F) implying a moral responsibility that connects local actions with global impacts. However, words like 'encourage', 'equip', 'help' and 'normalise' reflect a notion of voluntary participation, avoiding mandates that embed sustainability as a systemic requirement.

Uni B offers several initiatives focused on behaviour change including:

- *Green Impact:* which helps **staff** to adopt greener habits in their workplace
- *Responsible Futures:* awarded to universities which are helping **students** gain skills and experience they need to thrive as global citizens
- *Carbon Literacy Training:* For **both staff and students** to take meaningful steps together, contributing to collective action on the climate emergency

In addition to these courses, Uni B also:

- Offers guest lectures to students
- Provides induction training to both staff and students
- Engages with SDG Teach-In
- Has a volunteering in the community programme

These combined efforts create a holistic approach to behaviour change across Uni B's community. They engage both staff and students through structured initiatives and programmes to create a culture of environmental responsibility and action.

Uni E emphasises behavioural changes in relation to ES, noting specific behaviour interventions:

"Half the meals available at most University outlets are vegetarian or vegan."

"End the use of bottled water and ensure tap water is freely available to all staff, students and visitors"

"Roll out a large-scale engagement programme to encourage energy saving across departments."

Uni E takes a pragmatic attitude towards behaviour change, and highlights unique methods of measuring success:

"Environmental sustainability food labelling is being trialled to evaluate behavioural change linked to better awareness of the impact of food production".

They present a blend of systemic changes intertwined with individual responsibility; however they avoid formalised behaviour change programs like those used in Uni B, choosing operational interventions instead.

Uni H talks about a "shared understanding" while promoting individual and collective action, balancing personal responsibility with collective actions. They highlight several key objectives including a:

"broad sustainability behaviour change campaign that aims to educate and engage staff and students as individuals while bringing together the four pillars of the Sustainability Strategy".

This is a research informed program with evidence coming from the '*Intergovernmental Panel on Climate Change'*, and University of Leeds which emphasises the impact individual action can have in wealthy countries.

"As part of the campaign, the Sustainability Team organised 22 events and activities, attended by approximately 1,000 staff and students during the 2022-23 academic year".

Uni H also offers a partnership opportunity which:

"Works with students and our local community to mainstream student social action… students to skills in climate action planning and partner with local businesses to develop a Climate Action Plan (CAP)".

However, upon trying to access more information about this programme it appeared to have ceased operating in Jan 2025 due to budget cuts.

Uni H has a wide range of volunteer roles for:

- Green Labs
- Green Impact Project Assistance
- Climate Action Volunteer
- Pop up Events

It also offers:

- Paid work for students to support departments to produce their CAP
- Green Week
- Allotment and community garden
- Tips for basic behaviour changes when attending or organising events
- Staff training modules.

Uni H offers a balanced approach of individual and shared responsibility, combining evidence-based behaviour change programs with practical volunteering opportunities and community-driven initiatives to create pathways for impactful action.

Universities demonstrate a range of strategies that blend strategic initiatives with stakeholder empowerment fostering an environmentally aware community. The success of these initiatives is assessed through:

- Quantifiable Metrics
- Training and Certifications
- Annual Reporting
- Engagement Levels

These metrics allow HEIs to showcase their efforts by linking behavioural impacts with tangible outcomes that reflects their broader goals. Most institutions focus on equipping students and staff with knowledge and skills through structured programs (Uni A, B, C, D, F, G, H), while others implement behaviour interventions

directly linked to operations, removing voluntary participation as a barrier to change (Uni E). Typically, HEIs avoid mandates and rely on voluntary participation, which is evident in terms such as ‘encourage’, ‘equip’ and ‘help’, depicting the role of individuals within a collective framework. This facilitates a shared strategy that contributes to SDGs through inspiration and grassroots initiatives, without enforcing mandatory obligations.

5.4.1.2 Operational Change

Operational change is a core aspect across sustainability strategies, with key actions focusing on:

- Campus infrastructure
- Energy use
- Procurement
- Waste management.

There is a wide range of approaches, with some HEIs making significant investments to reduce their carbon footprint and improve energy efficiency. Uni D makes several commitments to OS:

> “The climate and ecological emergencies we face will require a transformational response”
>
> “Annually we spend around £500m to support our day-to-day operations and understanding the environmental, social, and economic impacts of what we buy, how we buy and who we buy from will help us deliver this strategy.”

They take a multi-faceted approach to OS, highlighting key areas as:

- Zero Carbon Commitment
- Sustainable construction and campus management
- Waste and resource management
- Energy use

- Travel and transport
- Responsible procurement and investments
- Biodiversity
- Laboratories

Uni D commits to a range of specifics including, but not limited to:

- "Achieve zero carbon emissions in our operations (Scopes 1&2) by 2038 and without exceeding our "carbon budget".
- "Reduce our energy consumption by a total of 10%"
- "Aim to limit annual emissions from air travel to 50%"
- "Recycle 45% of the waste produced as a result of campus operations."
- "Achieve 20% biodiversity net gain on all major construction and refurbishment projects. Increase the quality and quantity of existing green space, achieving a 10% increase in urban green space, from 2018 levels."
- "Require all laboratories to achieve a LEAF award to a minimum of Bronze and adopt a 6R "responsible plastics protocol" by August 2025. 25% of labs to achieve minimum of LEAF Silver."
- "Reach 100% renewable energy use within the endowment investment property portfolio."

They highlight:

"The dynamic nature of the environmental challenges facing the University and society means that regular review and reporting is essential".

Uni D has a strong governance structure which ensures regular monitoring, reviewing and reporting on progress made which reinforces accountability and integrates sustainability into the decision-making process.

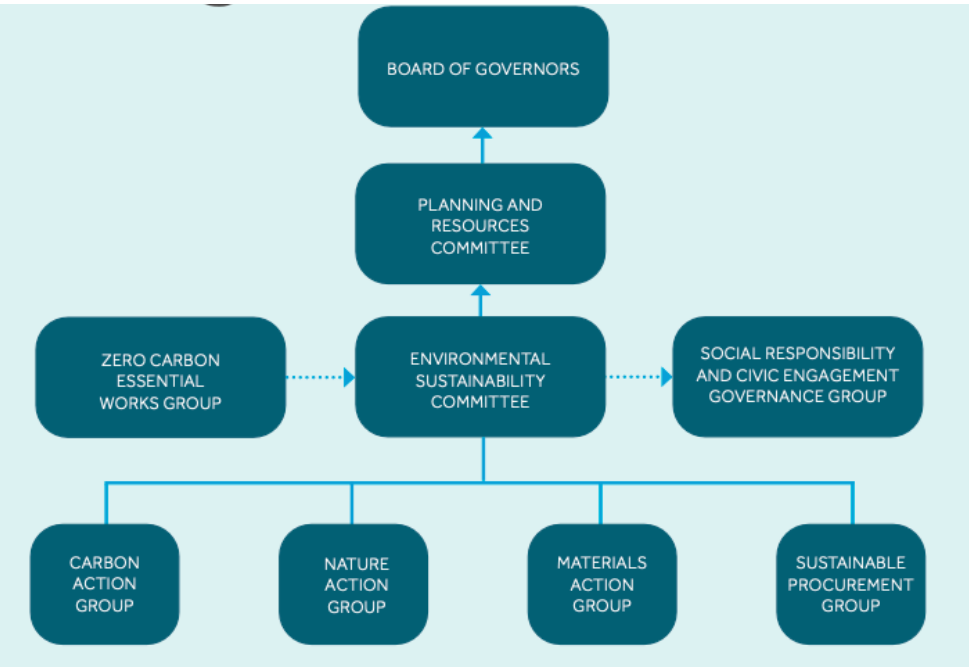

Figure 19: Uni D's governance overview

Uni D's approach consists of quantifiable, ambitious targets, emphasising long-term strategic planning that align with international policy, such as the Paris Agreement. They integrate multiple aspects of campus operations to reduce waste and achieve carbon neutrality within an eco-friendly environment. Their progress is measured through strict reporting mechanisms and annual reviews aligned with the latest scientific research, ensuring continual progress. The governance structure embeds OS into institutional decision-making by providing clear action pathways and reporting mechanisms supported by adequate financial backing, illustrating a commitment to operational excellence.

Uni E adopts a similar comprehensive approach to blend strategic investments with measurable targets. Uni E makes additional commitments to:

- Solar panel installations
- Environmental food labelling
- Plant-based offerings
- Elimination of bottled water

They also have an innovative approach to assessing biodiversity impact, not seen at other HEIs, called the "*Mitigation and Conservation Hierarchy*". This approach helps mitigate negative environmental impacts and enhance positive ones by addressing their impact through these actions:

1) Refrain – refrain from actions that damage biodiversity

2) Reduce – reduce the damage our remaining actions create

3) Restore – restore biodiversity that has been damaged

4) Renew – renew and enhance nature

Uni E also has specific funding mechanisms, introducing:

"A new fund….to finance the income and expenditure related to implementing the Environmental Sustainability Strategy making £200 million available for sustainability initiatives over the next 15 years".

"Carbon Management Programme (CMP) which has invested £1 million a year in carbon reduction projects across our estate"

"XXX University Endowment Management (OUem). This is a wholly owned subsidiary of the University and manages over £4bn of charitable money on behalf of the collegiate University".

This multi-stream funding model ensures continuous and robust investment in line with strategic priorities to mitigate environmental impact and achieve long-term environmental targets.

Uni H differentiates itself by committing to a circular economy, redefining how it manages its resources to move away from a linear model of 'make, purchase, consume and dispose to one which:

- Prioritises the use of regenerative resources – reusable, non-toxic, renewable.
- Preserves and extends the life of what's already been made – repair, upgrade, upcycle.
- Turning waste into a resource – reuse, remanufacture, creating a secondary resource, recycling, no-landfill.
- Designing for the future – longevity, low maintenance, reusable, adaptable.
- Collaboration – working with the supply chain as partners, within and outside the university.
- Rethinking our business model – Whole life costing and life cycle analysis
- Incorporating digital technology – Offering opportunities to connect organisations in delivering the six principles above.

Uni H makes specific declarations to:

"Preserve and extend the life of what's already made: repair, upgrade, upcycle" and "turning waste into a resource".

Key projects include:

- *Re-Store Program*: An innovative circular economy practice that reuses furniture across the campus, saving over £130,000 and diverting 22.8 tonnes of waste from landfills.
- *Training for Purchasers*: Training on circular economy principles and how to integrate into operations
- *XXX Big Give Campaign:* Encourages students to donate unwanted items when they relocate, preventing 16.8 tonnes of waste, and generating £48,000 for charity.

Uni H generates a sustainable proportion of its sustainability funding through these projects, demonstrating innovative thinking that aligns environmental impact with financial benefits, demonstrating an operationally efficient model.

It is important to note that Uni D, E and H are Russell Group Universities, which typically have access to significantly higher levels of funding than other institutions, such as Uni A, B and F. Nonetheless, these institutions have made equally ambitious targets towards net zero, Uni A and F aim to achieve net zero carbon emissions by 2050, while Uni B aims for 2040. Despite having fewer financial resources, these institutions demonstrate a commitment to ES and maintain a consistent focus on achieving net-zero. Uni A also highlights the impact IT has on their carbon footprint and developed a:

> "State-of-the-art water-cooled data centre…providing energy-efficient housing for current and future departmental servers".

Despite differences in financial capacity, all institutions are taking steps to align their sustainability targets with global standards, demonstrating that impactful change is achievable regardless of financial constraints.

Uni B proclaims:

> "Understanding and managing the impact our actions have on people and on the environment both locally and globally is an essential part of being an ethical and socially responsible institution"

They have made commitments to supporting, using and promoting Fairtrade, ensuring retail outlets, internal meetings, and campus events use Fairtrade products, where feasible. They have also made specific commitments prohibiting direct or indirect investments in:

- High impact fossil fuel producers
- Manufacturers of civilian firearms, controversial and nuclear weapons
- Tobacco manufacturers
- Adult entertainment
- Alcohol
- Gambling

These commitments reflect the institution's value base by integrating ethical and sustainable practices into its operations and financial decisions, ensuring its actions support ES and societal well-being.

Despite different financial contexts, all HEIs demonstrate a clear commitment to ES, achieving net-zero and aligning strategies with global standards. Each institution demonstrates how HE can serve as a model for achieving long-term environmental targets, in line with unique financial capabilities and strategic priorities.

5.4.1.3 Reputational Effects

Analysing the policies uncovered an awareness among HEIs between the impact sustainability efforts have on institutional reputations. These findings are viewed through an IT lens which posits that institutions compliance with sector norms to gain legitimacy (DiMaggio and Powell, 1983). Indeed, some HEIs position themselves as global leaders, reinforcing their institutional legitimacy by using language that establishes credibility and claims authority, for example:

"We will be recognised globally for the excellence of our people, research, learning and innovation, and for the benefits we bring to society and the environment"
(Uni D)

"Ground-breaking research and innovation are at the heart of our success in global university rankings."
(Uni E)

"The University has won several awards for its sustainability work, including 4 sector-wide Green Gown awards, a national energy efficiency award and a Times Higher sustainable development award"
(Uni H)

These quotes highlight how universities showcase awards, rankings and reputations as a means of constructing and reinforcing their values and identities. CDA reveals power dynamics, ideologies and identity claims that are embedded in the statements, for instance, Unis C, D and H provide an interesting narrative around global leadership and impact, writing statements that use aspirational and visionary language to embed sustainability into broader ambitions. Indeed, terms such as:

- *Global hub*
- *International reputation*
- *Recognised globally*

position universities as world-leading actors, reinforcing their status through research, alignment with SDGs and partnerships with policymakers and industry leaders. This process is referred to as institutional isomorphism, which is defined as a process whereby universities mimic practices that are rewarded or recognised across the sector (Deephouse, 1996).

Uni E frames its sustainability impact through its "groundbreaking research" as central to their success in global rankings, highlighting the significance of research

excellence on institutional prestige and global recognition. Uni E uses several statements that position itself as pioneers in ES solutions, stating:

> "We are committed to leading the way on environmental sustainability through its research and teaching"
> "Our ambition is to play an important role in protecting, restoring and enhancing nature."
>
> "The University is already playing a leading role in tackling these issues through the application of its research, policy advice and educating its students."

They make claims that their research is:

> "Improving our understanding of global temperature increases, extreme weather and biodiversity loss… to make a positive impact on our changing world", which is "at the heart of our success in global university rankings".

By linking sustainability efforts to research leadership and rankings, Uni E creates a discursive pattern where its environmental research is not only impactful, but also prestige-enhancing. This positioning aligns sustainability with the neo-liberal competitiveness of today's HEI sector, whereby they also portray the university as influential in shaping the research funding priorities of UK government and charities. Through this discourse Uni E shapes its sustainability strategy to portray a moral imperative intertwined with strategic priorities in an international market.

Similarly, Uni D emphasises leadership and ambition, placing itself as a pioneer in addressing global challenges, aims to:

> "Be in the top 2% of Universities globally for impact on the SDGs"

Uni D highlights its achievements on the first page of the strategy, highlighting a performance-driven angle focused on global-recognition through measurable outcomes. Indeed, all the HEIs use statements that frame their sustainability credentials around objective achievements, using external validation like rankings and awards to build legitimacy by demonstrating compliance with recognised environmental standards.

Uni H combines external validation as a promotional tool with student activism, local collaboration, policy engagement and climate leadership. Aligning with Its concept of *institutional differentiation,* Uni H highlights themselves as being a pioneer and having a first-mover advantage, going beyond compliance and leading innovative practice by outlining key achievements:

- The first UK HEI to declare a climate emergency in joint action by students' academic and professional service staff
- The first to develop a HEI travel plan in 1999
- The first to apply BREEAM scheme to new buildings
- The first Russell Group university to be certified to ISO14001
- Collaboration with local city to be the first UK city to be European Green Capital

They also highlight the role of research:

> "Conducting world-class research on the environment, social justice and development, consistent with addressing the UN's Sustainable Development Goals".

These combined efforts support Uni H to:

"To create a global civic University, which will be a meeting point for different forms of expertise and experience from across society",

"Address global challenges like climate change, deforestation, mental health and social inequality….will enhance the Universities global standing".

The language that Uni H uses frames it as a proactive institution that not only aligns with international benchmarks but sets a precedent for others. They uniquely position student activism, local collaboration and global policy engagement into its strategy reinforcing its leadership status, while demonstrating how sustainability can be positioned as an ethical duty and competitive advantage.

Uni A, B and G provide examples of leveraging external validation from awards and rankings to evidence sustainability efforts:

"XXX hold EcoCampus Platinum accreditation in recognition of work done to embed environmental sustainability, compliance and processes"
(Uni A)

"XXX is celebrating a significant milestone after being ranked as the second most environmentally friendly university in the country."
(Uni B)

"Our position in People and Planet University League went up from 31st (2:1) in 2021/22 to 26th place (1st) in 2022/23. In the University League, we continue to perform well in our policy, environmental management system, auditing, and delivery."
(Uni G)

They demonstrate a policy-driven, systematic and structured approach highlighting compliance and processes, for example:

- Uni A's use of terms such as 'embed', 'compliance' and 'processes'

- Uni G highlights EMS, policy, auditing and delivery as key strengths behind its success in the People and Planet League
- Uni B also highlights its success in being the second most *environmentally* friendly university

The People and Planet League rates universities by environmental and ethical performance, however, they have more categories aligned towards environmental metrics as illustrated below:

Category	Classification
Carbon Reduction	Environmental
Education for Sustainable Development (ESD)	Both
Energy Sources	Environmental
Environmental Auditing & Management Systems	Environmental
Ethical Careers and Recruitment	Ethical
Ethical Investment and Banking	Ethical
Managing Carbon	Environmental
Policy and Strategy	Environmental
Staff & HR	Both
Staff and Student Engagement	Both
Sustainable Food	Environmental
Waste and Recycling	Environmental
Water Reduction	Environmental
Workers' Rights	Ethical

Table 36: Ranking criteria

As a result, some HEIs prioritise work around operational targets may perform favourably in these rankings without addressing ethical considerations. This is evidenced by Uni G, who achieved a 1st, but notes the growing role that metrics and audits are having in shaping sustainability rankings, by stating:

> "The league does highlight opportunities for the University to make improvements in areas such as ethical investment".

External validation incentivises HEIs to favour quantifiable actions as they are more readily measured and rewarded. Consequently, institutions that emphasise policy-driven EMS and compliance frameworks benefit from these ranking systems where language of accreditation, compliance and structured governance aligns with ranking performance metrics, ensuring recognition, competitive advantage and credibility.

There is an intricate relationship between HEIs, reputations and sustainability efforts. Universities use rankings, awards and accreditations to position themselves as national and global leaders in sustainability, reinforcing their legitimacy through external recognition. Indeed, the CDA uncovers power dynamics and ideological underpinnings to give credence to this argument, with Unis D and E explicitly framing their work as prestige-enhancing by linking research and SDG outputs to global rankings, research funding and policy influence.

The findings highlight the influence the neoliberal market has on establishing institutional differentiation by showcasing leadership in sustainability through international status rather than transformative efforts. Moreover, there is concern that the rankings reinforce the prioritisation of OS, not least through the ranking criteria, but also because it is easier to measure and evidence quantifiable metrics over less tangible aspects such as social impact, equity and long-term commitments. Uni H uniquely blends student activism, civic engagement and local collaboration to justify its global influence, positioning themselves as first-movers, reinforcing sustainability as a moral imperative and strategic advantage. Nonetheless, while rankings and awards offer external validation and credibility, they may increase focus on specific actions over others which comes at the expense of social justice, equity and inclusion.

5.4.2 Interviews

Participants noted a significant shift in discourse surrounding sustainability, moving from SD lens to a broader, more holistic and integrated understanding (P1, P2,P 3 and P7). Indeed, P2 comments that:

> "The shift from sustainable development to sustainability in my opinion, was probably born out of a greater understanding".

P2 suggests that SD is a very broad and contradictory concept:

> "It might support that community, but it might not support the environment" (P2)

Sustainability emphasises long-term systemic balance to bring, blending economic, social and environmental pillars to achieve a more holistic approach. As P3 notes, sustainability should bring:

> "Equality to all of this…to look at everything in through the lens of sustainability". (P3)

This shift in discourse reflects an evolving understanding of sustainability directly influenced by HEIs, whom "are responsible organisations" (P4) that play a pivotal role in shaping perceptions through their priorities and actions. Interviews revealed that sustainability practices not only drive awareness but also impact on the experiences of students and staff, both of which shall be discussed.

5.4.2.1 Students

Across the transcripts participants highlighted that students are not passive beings but are active agents in:

- Driving the sustainability agenda (P2)
- Demanding curricula reforms (P1)
- Influencing policy (P5)

Indeed, P2 comments:

> "Students are driving it forward"

P3 reflects on how student feedback regarding the lack of climate education in their course, resulted in a university-wide response. Climate crisis education became a focus which can the introduction of ESD leads and the creation of an optional course, created by an interdisciplinary group of academics. While the course lacks formal recognition and there has been no workload allocation for staff, it signifies a shift to a systematic approach across the institution, driven by the student voice. What began as a single conversation became the catalyst in a university-wide response, highlighting the interplay of impact between HEIs and students.

P8 provides examples of student influence at top-level decision-making, highlighting students as a central reason to allocate resources to ESD, they note how the VC is:

> "Really keen to fund it…(because) arguably the education stuff is going to affect more people (than operational measures) because it's the students that are then going out into the world and hopefully make changes".

Furthermore, P2 highlights students' proactive roles in projects he has designed:

> "They are really at the centre of it and particularly on the refugee advocacy project that they're, they seem to be leading it".

These comments signal a shifting discourse from symbolic gestures towards the student voice, to tangible institutional change, recognising the crucial role students have in shaping HEI narratives. However systemic barriers are evident, necessitating structural reinforcement to embed student influence into policy, rather than remining dependent on individual advocacy. Nonetheless, these participants challenge traditional perspectives framing students as passive recipients of education and illustrate the impact students have on large-scale institutional change. HEIs increasingly justify funding with explicit links to student impact, extending beyond the university into wider society.

Several participants highly commend the impact students have in the wider community, as a direct result of institution projects:

> "Students lead on projects, they're in our special interest group and they're on a sustainability placement. So instead of like in their nursing course, they have to do lots of different placements and things. We give them protected time, because I think again it's what it says to students that hidden message around, yeah, we've talked in the classroom, but we really value this.
>
> So we're going to give you protected time to do it not just be a tokenistic one-hour lecture never to be thought of again. So, the students have to evaluate what's in the curriculum, they go around the campus, they have to contact the states, they have to contact the Dean, they have to spend quite a bit of time doing stuff like that and then what they get signed off on are things like communication, leadership, teamwork.
>
> So we took a sort of open, flexible module that existed already, they kind of do anything as long as it's something to do with kind of generic topics like that. And then they audited the skills room, they've done some like plastic evaluation stuff. We also connect them in with research projects that are happening already and then they come up with the report and then the report goes out on the website on Earth Day and then we sort of link it in with our annual conference.
>
> P1

> The students are driving it forward in that I've designed the projects so that they are really at the centre of it and particularly on the refugee advocacy project that they're, they seem to be leading it."
>
> We have currently two projects that students can engage in, in terms of civic participation or volunteering: one is around supporting organisations to become net zero or develop net zero strategies and tackle climate, and the other one is to encourage students to be advocates for refugees.
>
> P2

> We have things like a sustainability clinic which links our students and staff with local and national organisations looking to do something on sustainability. So they've got a problem, the students spend some time studying that and propose solutions.
>
> P6

P1, 2 and 6 provide examples of how student engagement extends beyond the classroom, with students actively leading and participating in both local and international projects, across disciplines. P1, demonstrates how students directly contribute to sustainability goals by leveraging their placements to conduct sustainability audits and evaluate campus infrastructure to present their findings at a conference. Moreover, P2 discusses student-led refugee advocacy, highlighting how students lead on civic engagement efforts. While P6 discusses structured research opportunities with charities, businesses and NGOs to help them achieve their sustainability goals, co-developing solutions to social and environmental challenges, and ensuring marginalised voices are part of the sustainability discourse.

These examples illustrate an interesting dynamic where HEIs facilitate grassroot student-led efforts by providing partnerships, protected time, funding and learning spaces, resulting in tangible impact. However, while HEIs are providing a range of meaningful opportunities with structured support they often rely on passionate students and volunteerism, raising questions about long-term viability and integration. P3 highlights the lack of workload recognition for staff which can

hinder scalability of such initiatives, so while these grassroots projects may thrive, they are dependent on individual effort rather than embedded institutional commitment.

P8 highlights a structured response at Uni H:

> So there's also this programme called the Sustainability Champions Programme, which is basically where schools can pay £3000 to fund a student member of staff for the year that works. It's really flexible. They work sort of four to six hours per week when they can fit it in on curriculum projects, curricular or extracurricular..
>
> We've been working with some of them to basically do student research on students and how they think, how they perceive if any sustainability stuff is in their teaching.
>
> P8

This is a structured programme which employs students to drive sustainability-related projects within their schools, not only embedding sustainability into academic and operational structures but also promoting students as active agents. P8 highlights how this initiative moves beyond volunteerism to institutional engagement with financial backing, demonstrating a stronger commitment to embedding sustainability into formalised structures and strategies. P8 provides another example where students organised a sustainability-focused careers event:

> Two sets of sustainability champions clubbed together in groups of threes from different departments and ran these careers events last year, and one of them had like 100 students sign up and then like 60 plus on the day, which was amazing.
>
> P8

This example illustrates the wider impact of structured student engagement, where they have linked sustainability to career development, incentivising student participation and positioning sustainability as a key professional skill.

Indeed, P7 notes that they are making a conscious effort to link sustainability to real-world employment:

> "Looking at whole employability framework that they're rolling out across the university…. Getting faculties to view it from a sustainability perspective…looking at kind of global issues, the sustainable development goals…employability and green skills angle",

This sentiment is echoed by P2:

> "More and more companies are adopting sustainable practices and have certain expectations that future employees…have an awareness of sustainability".

They also note a student-awareness, highlighting a peak in student engagement in between March and May:

> "They realise that engaging with these projects does impact on their future employability"

This highlights a shift in student perceptions; initially engagement starts with personal interest or activism, however the motivating factor morphs into strategic career progression. HEIs are facilitating this by:

- Integrating green entrepreneurship initiatives (P2)
- Specific sustainability placements (P1)
- Sustainability clinics (P7)
- A focus from careers services (P2 and P8)

P2 highlights issues complexities in aligning sustainability commitments with practical career opportunities, particularly when sectors are transitioning to more

sustainable practices, and developing ethical employment policies. Furthermore, P2 notes the difficulty in abandoning fossil fuel-funded organisations for placements, discussing tensions between ethical commitments and providing students with real-world employment opportunities.

The transcripts illustrate the dynamic relationship between HEIs, students and society, where they each concurrently influence and reinforce sustainability agendas. Participants provide rich examples of students advocating for reform (P2), leading grassroot projects and engaging in sustainability initiatives (P1, P2, P7). These efforts prompt HEIs to create policies, structured programs and employability frameworks (P1, P2, P8) which are supported through funding and external partnerships, to equip students with green graduate skills. As students transition into the workforce, they influence society by amalgamating their sustainability knowledge within their work environments. In turn this places external pressure on institutions, as society demands more 'green skills' of the future workforce (P2, P4, P5, P8). This dynamic cycle demonstrates that sustainability is not a static commitment, but a continually evolving cycle of learning, implementation and transformation reinforcing HEIs role in societal development.

5.4.2.2 Staff

P6 suggests that staff development has more potential than student education, stating:

> "There's a stronger case for it to be mandatory for leaders and staff than there is for students because, changing the way a member of staff does something is going to impact so many people".
>
> "After some time speaking to the Dean, we're looking at organising that training for heads of department and then from there encouraging staff within departments to do that. So yeah, kind of trying to win, win the argument".

P6's comments are two-fold, on the one hand they value a top-down approach, but on the other indicated staff reluctance. Embedding training at leadership level allows information to be cascaded and ensure strategic commitment, however, the necessity to 'win the argument', suggests there is a resistance from staff.

This aligns with other participants perspectives (P1, P3, P5, P8) that staff are seeing it as:

> "Another additional thing we've got to do"
> (P7)

P8 states that:

> "We've run loads of different talks and things in the past…they're all on our SharePoint. Whether anyone takes time to watch them I don't know"
>
> "Academics can opt in to take so they run a module all about sustainability".

As participation is optional, the impact of staff sustainability training may be limited across HEIs, P3 reinforces this with concerns about staff workload, stating:

> "Staff are not work loaded to do it, and it's quite a lot of unhappiness about that".

This suggests that staff do not have the necessary time or workload allocation to engage with optional training, which can lead to inconsistencies in implementation.

P5 highlights "pockets of excellence", but notes that good practice is not embedded, and reliant on having an engaged course leader

While P8 notes:

> "Some schools are much further ahead…is that because they've got really motivated people?".

Similarly, P3 comments:

> "If you've got course leaders that are only engaging with it because they're being told to, how do you give them ownership, how do you encourage it?".

This highlights a real challenge for HEIs as mandating training can lead to compliance rather than meaningful engagement, whereas voluntary participation limits engagement and creates inconsistencies. Throughout the transcripts there is underlying tension between institutional mandates and staff autonomy. Without clear structural support such as workload allocation, staff training is not having the rhetorical impact outlined in policy. In fact, it is creating a negative perception of sustainability as an additional responsibility, as articulated by P7:

> "There's been push back in some areas…thinking this is another thing to think about. There's already so many different requirements and pressures on academic staff".

It is evident that the current approach is not having the desired impact on staff and training needs to be embedded into existing professional development frameworks, so that it is seen as an integrated aspect, not an obligation or burden.

Despite these challenges, staff that do engage with sustainability find it personally rewarding:

"It is the thing that keeps me going. It brings positivity and job satisfaction" (P1)

P6 discusses the excitement new projects bring her, while P2 exudes satisfaction when discussing international work with refugees. Each participant demonstrates a sense of pride in their work, they emphasise intrinsic motivation and a sense of purpose. There are discussions the broader impact of projects that are deeply meaningful for individuals, including:

- Interdisciplinary collaboration (P6)
- City-wide impact (P4)
- Global influence (P5)
- Social justice (P2)
- Civic engagement (P3, 8)

There are also discussions around staff opportunities for growth, relating to behaviour change through programmes including *'Green Impact'* (P1,2 and 7), which provides structured and accredited recognition for environmental and social responsibility efforts. Interdisciplinary initiatives foster collaboration and community-building between staff and students across disciplines, indeed, P4 describes how sustainability projects have created stronger networks across the institution, facilitating knowledge sharing and collective problem-solving.

Other participants note positive community building through sustainability groups, P7 refers to *the Environmental Champions Staff Network*, whilst P1 praises the *Special Interest Group* (SIG) as:

"A bunch of staff that are just really keen. Like I said, they almost can't get enough of this".

These networks cultivate a sense of belonging and shared purpose amongst staff, and while participants have concerns regarding low morale and staff burnout, there is a sense of purpose for those who are engaged. They are part of meaningful action towards shaping institutional and societal change and highlight the pressing need for institutions to move past a reliance on their goodwill to create more structured opportunities. This would support a paradigm shift to view sustainability as integral to institutional culture thus aiding HEIs in advancing sustainability goals, whilst contributing to staff satisfaction, collaboration and consequently, retention.

5.4.2.3 Visions

Each interview ended with the question:

> "How do you envision the role of sustainability evolving in the foreseeable?"

This elicited a varying range of responses from optimistic, cultural transformation (P4 and P5) to uncertainly and scepticism (P3).

P3 expressed deep uncertainty, reflecting the unpredictable nature of sustainability integration, which is dependent on external societal priorities and internal decisions. They suggest a range of futures:

There's a sense in which what happens in higher education will reflect what's happening in society.
So what, what are the implications of progressive?
Increases in the volume and the implications of knowledge of ecological crisis upon people's relationship to that.
Will we see a corresponding radicalization?
And through that engagement with sustainability facing actions.
Or will we see an exhaustion?
A fatigue.
A defeatism.

P4

P3 states HEIs naturally reflect what happens in society, so if we see a movement in recognition of the climate crisis, HEIs will follow suit, yet if sustainability loses momentum, then HEI efforts may stagnate. They repeatedly reference uncertainty about the future of the sector and sustainability, acknowledging differing approaches across institutions dependent on external pressures, financial constraints and institutional priorities. P3 ponders if we will see a radical shift towards sustainability as the climate crisis continues to impact across the world, or whether we are:

"Reaching some form of ceiling of capacity. Tolerance or energy for this issue"

P3 expresses real concern about a fading agenda emphasising that to gain transformative movement depends on how HEIs embed sustainability into its structures.

Others are more optimistic, with P5 stating:

"I hope we achieve our goals. Net zero carbon by 2035, and we're certainly working as hard as we can to get there".

They also envision a stronger push from students and highlighting the importance of collaborating with them to tackle specific sustainability challenges. They are reinforcing students' role in driving sustainability efforts, suggesting they could:

> "Highlight areas where they can be really helpful that we can't really tackle"

P5 questions whether sustainability teams are structurally best off within or out of the estates, noting that other institutions:

> "Have a sustainability hub centrally and they've made a big difference very quickly"

P5s indicates hope that sustainability will continue to grow as an institutional priority, and as such, internal structures could change to reflect the shift. They suggest that sustainability will continue a positive trajectory, especially if they collaborate with students and adapt as an institution and demonstrate a clear commitment to sustainability as a core value.

P4 declares:

> "I would like us to be one of the leaders in the field",

They stress the responsibility that university must lead sustainability efforts within the local and global community. P4 also advocates for a broader understanding of the term, to move it from a niche activity to an institutional obligation. They offer a unique position that implores transparency in all aspects, stating:

> "It's not this sort of soft left-leaning woke sort of image of responsible university…we do animal research, but we are completely transparent about it…we're not going to hide it".

They suggest that the future of sustainable practice should centre around open and honest communication to avoid greenwashing and superficial commitments. P4 also recognises several areas for growth, welcoming the challenge of further progress, notably within the curriculum, admitting it to be a weak part of their efforts. They highlight that it will be the next focus of their strategy and state:

> "We need to start piloting sort of programmes where we start introducing in curriculum and it will be tagged with SDGs".

They acknowledge there is a long way to go to fully transform the institution, however, they offer a pragmatic yet optimistic outlook for the future, which incorporates institutional responsibility and structural change to embed sustainability across all core functions of Uni D.

Indeed, other participants envision positive trajectories, with P1 predicting that *'The National Institute for Health Research'* will require all healthcare research to have sustainability embedded in it. They comment that sustainability needs to move beyond talk in the classroom and take more practical action. P2 acknowledges institutional efforts to embed sustainability into the curricula :

> "We've got a really good trajectory…all new degrees will require it",

They also highlight employers influence on the agenda commenting that HEIs must respond to industry trends, suggesting that employability will become a key driver as industries increasingly require sustainability competencies. P6 recognises the progress just in the last two years, stating that they are “really only in their infancy”, underscoring that while efforts are still developing, momentum is strong.

However, P8 raises a valid point that to maintain momentum staff must be engaged, consequently sustainability must be embedded systemically into all aspects, including staff development and workload structures so that it is viewed as a requirement and not an option. With that said, the overarching sentiment among participants is one of optimism and progress, whereby:

- The curricula will evolve
- Employability will be a key
- Adequate resourcing will be allocated
- Institutions will redefine their institutional identity to drive cultural and systemic change

Participants reflect a consensus that sustainability remains in its infancy, but momentum is strong, there is a collective drive towards student collaboration, transformative actions and accountability. An air of caution is warranted with regards to HEIs mirroring societal demands which can fluctuate in response to varying pressures. HEIs must continue their current trajectory, overlooking any potential issues like shifting priorities, financial constraints or normative pressures.

5.4.3 Synthesis of Policy and Interviews

Bringing together the policy analysis and interview data reveals the broader impact that sustainability has across the sector and broader contexts. It is informed by IT

to explore the pressures influencing sustainability practices, and how institutions are enhancing legitimacy through external frameworks (DiMaggio and Powell, 1983). It also provides an overview of how sustainability commitments translate into tangible and transformative outcomes, drawing upon PIT to uncover how policy enactment at grassroots level, revealing implementation gaps and challenges. Finally, it adopts CA to consider the consequences of practices and how abstract concepts such as 'impact' translate from discourse to lived experience.

5.4.3.1 Tangible and Transformative Impact

The synthesis of policy and interviews demonstrates that HEIs have made tangible progress in their OS, in line the UK legislated net-zero targets for 2050 (OfS, 2020). Each sustainability strategy outlines actions that align with global frameworks, including:

- Renewable energy investments
- Infrastructure remodelling
- Transport policies to reduce carbon footprints
- Carbon literacy training (Uni B)
- Divestment from fossil fuels (Uni D, E, G and H)
- 100% renewable electric (Uni D and E)
- Circular economy practices (Uni C)
- Waste minimisation
- Reuse initiatives
- Elimination of single use plastics
- Promotion of vegan food (Uni E)

However, bolder commitments tend to come from Russell Group HEIs (Uni D, E and H) as smaller institutions face financial constraints that hinder rapid decarbonisation. Lightfoot (2016) cites funding as a key barrier in achieving net-

zero, and this is echoed throughout the policy and directed within transcripts. As P3 comments that whilst sustainability strategies exist the rhetoric is often not reinforced financially, making actionable change challenging. This is evidenced within strategies that have overly ambitious targets but lack clear implementation strategies. Indeed, P7 notes that training initiatives outlined in the strategy were rescinded they go on to express concern about the future:

> "The funding crisis that we're kind of in as a sector. That will potentially have quite a big impact with regards to what we can do"

This reflects Hill and Hupe's (2002) broader concern regarding policy fragility, where ambitious ideas are vulnerable due to financial constraints, giving further validation to the implementation gap between policy intention and long-term practice. Ruane (2023) expressed concern regarding the OfS removal of statutory reporting for carbon reduction tracking that could result in HEIs experiencing financial difficulties deprioritising environmental commitments.

HEIs appear to adopt sustainability plans through a piecemeal process (Mishra, 2020), implementing localised strategies such as:

- Zero waste to landfill (Uni E)
- Retrofit buildings to improve energy efficiency (Uni D)
- Reduce emissions (Uni A – E)
- Disinvestment from fossil fuels (Uni H)
- Enhance biodiversity on campus (Uni A)

While these initiatives contribute to decarbonisation, approaches are inconsistent across the sector, and often dependent on the conceptualisation of sustainability and funding allocations. This reflects the normative and coercive pressures of the

sector (DiMaggio and Powell, 1983) which sees institutions adopt specific practices to align with sector norms and to achieve legitimacy through rankings and secure funding.

Resource allocation is pivotal and unquestionably influences the scale and speed at which HEIs can implement changes. Larger universities, such as Uni D, E and H have greater financial backing facilitating more ambitious targets, the capacity to invest in large-scale renewable energy projects and circular economy initiatives (Findler et al., 2019). However, smaller institutions are making considerable impact through targeted interventions such as:

- Green transport (Uni C)
- Carbon reduction programs (Uni A)
- Hedgehog-friendly campuses and allotments (Uni G)

These smaller actions reinforce the feasibility of sector-wide transformation (Ruane, 2023) and give notion to Lipsky's (1980) framing of front-line staff as 'street-level bureaucrats' whose conceptualisations, time and commitment can significantly shape the impact of policy.

It is evident that sustainability is not a static commitment, but a dynamic and constantly evolving process influenced by normative and coercive pressures. The analysis reveals a circular model of sustainability impact, as illustrated below.

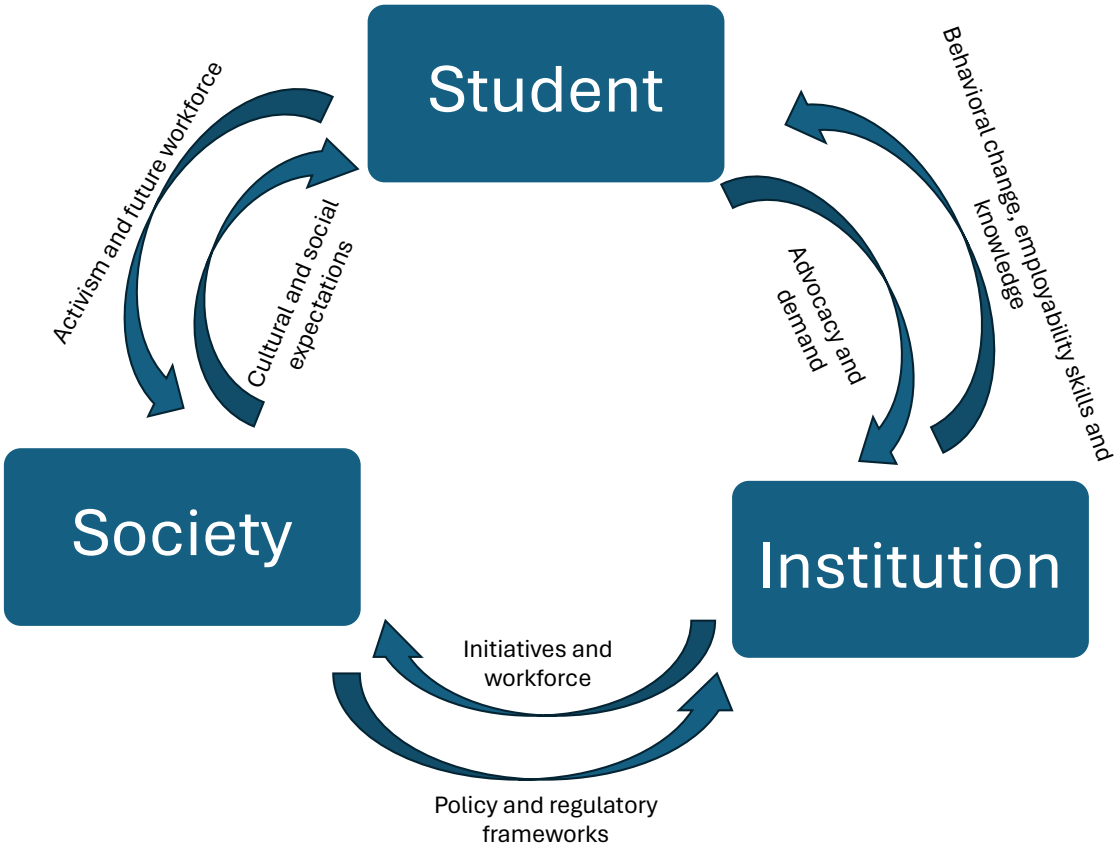

Figure 20: Sustainability impact on stakeholders

While HEIs tend to work in silos, sustainability does not exist in isolation and is shaped by:

- Societal influences (P1-8)
- Global movements (P3)
- Political and economic pressures and priorities (P4 and 5)
- Industry expectations (P2)

This aligns with the literature review highlighting HEIs as key in nurturing sustainability transitions (Leal Filho et al., 2004), as central hubs of knowledge generation and exchange, promoting civic engagement and skills development (UNESCO, 2017). Furthermore, as highlighted by P3, the relationship between HEI and society increasingly shapes institutional responses, priorities and strategies,

particularly as student expectations grow (QS, 2023; THE 2024). Indeed, research suggests student demand is an essential component is shaping policies, with 89% of students calling for sustainability to be embedded into courses (SOS, 2023). This aligns with bottom-up policy enactment (Hill and Hupe, 2002) where society acts as a fundamental driver of change. It dictates operational and educational frameworks whilst influencing how students engage with sustainability (P1, P2, P3) and reinforces the idea that students are critical in shaping HEI policy.

Consequently, HEIs respond through governance, curriculum and operational strategies to ensure that students are equipped with the competencies for sustainability-driven careers (UNESCO 2017; Leal Filho and Brandli, 2016). Some institutions have begun to embed green skills (Uni B) and employability frameworks (Uni F) into their degree programmes, while others have partnered with NGOs (Uni G, H) aligning academia with workforce expectations and ESG frameworks (Gamlath, 2020). Students at Uni D, E, G and H gain real world experience with local and global partners in projects to help tackle real-world sustainability issues reflecting calls for experiential learning (Sterling, 2004; Warwick and Lamberton, 2020) and transdisciplinary collaboration (Zilahy and Huising, 2009; Radinger-Santos and Horta, 2018). While those at Uni A have protected time to undertake sustainability placements due to a rising expectation that sustainability should be incorporated into research and practice, reflecting a sector-wide shift to align with UNESCOs (2017) emphasis on employability-orientated education.

In recognition to growing employer expectations HEIs are increasing opportunities for students to engage with structured programmes, allowing students to gain applied experience, develop interdisciplinary solutions and influence HEI policy from within. Prospects (2022) suggest that students who participate in sustainability-focused education are more likely to pursue careers that align with societal impact, while Tillbury (2011) suggests sustainability competencies are an employer expectation. However, as noted by P3, and P5, these efforts are not embedded and often rely on students opting in, which effects participation levels

(Shepard et al., 2019; Leal Filho et al. 2021). While HEIs are increasing opportunities, aligning the curricula and offering more career development strategies, there is a challenge in ensuring these efforts are ingrained into university-wide priorities, rather than “pockets of excellence” (P5).

HEIs play a dual role - firstly they are policy makers who shape institutional strategies and influence national and international policy (Uni B, D, E and H), and secondly, they act as facilitators of grassroots movements led by students and staff. This duality illustrates the complex dynamic whereby both top-down and bottom-up approaches are evident. At policy level, most institutions whether explicitly (Uni B, D) or implicitly (Uni E and H) align with the SDGs, and net-zero commitments (all), whilst actively contributing to global research, policy dialogue and sustainability governance. This reflects broader trends of HEIs leveraging their research, teaching and enterprise to influence policy and position themselves as key actors in the sustainability discourse (Leal Filho et al., 2021). However, as Fazey et al. (2021) point out, and as the data suggests, while HEIs are strategically aligning themselves with sustainability agendas, their commitments vary, and the rhetoric does not always align with practice. This results in some meaningful practice and others engaging in surface-level rhetoric for reputational gain.

While some position themselves as global leaders (Uni D, E and H) others struggle to embed sustainability meaningfully due to academic inertia, resource allocation and competing priorities (P3, P6, P7). Uni D, E and H use their sustainability commitments as a strategic tool for global recognition, however P3 critiques the performative nature, highlighting it as a tension between symbolic commitments and transformative action. Indeed, research demonstrated that HEIs are increasingly using their sustainability credentials as a competitive advantage (QS, 2024; THE, 2024) sometimes prioritising external validation measures over systemic cultural change (Conway, 2021). The influence the neoliberal market has cannot be disregarded; HEIs are forced to prioritise reputational metrics in order to survive, which leads to potential greenwashing (McGowan, 2020; Healter, 2023) or greenpartitoning, rather than transformative change.

While top-down policies provide the strategic framework necessary to incorporate sustainability into HEIs, the data also evidences clear facilitation of grassroots movements and the power of student advocacy. Participants provided clear examples of how the student voice can lead to university-wide responses (P3), policy development (P5) and research contributions (P1, P6). Indeed, the role of students driving sustainability agendas is widely documented (Leal Filho and Brandli, 2016; SOS, 2023), with recent surveys showing student demand (SOS International, 2021; QS 2023). However, despite the power of the student voice, HEIs often rely on voluntary engagement rather than systemic transformation (P5 and 6), which results in inconsistencies in student experience (Shephard et al., 2019; Vogel et al., 2023). Indeed, P2 notes an increase in student engagement during March to May when student consider their future employment, suggesting career progression is becoming a key driver in participation (Prospects, 2022; Warwick and Lamberton, 2020). This highlights a concern that students only engage because of a direct, personal benefit, rather than a societal responsibility or as integral to their education. This mirrors critique that sustainability in HEIs often fall short of instilling long-term commitment (Sterling, 2004; Hilger and Keil, 2022) and reinforces the idea that sustainability education should be non-negotiable (P6, 7) and embedded into all aspects of HEIs (UNESCO, 2017; Leal Filho et al., 2021).

To address inconsistencies in student engagement, some institutions are using more formalised approaches. For example, Uni H has introduced paid roles, where students lead on sustainability projects (P8) which creates a financially inclusive model (Vogel et al; 2023). Uni A has accredited sustainability placements with protected time, which research suggests encourages students to seek sustainability-related careers (Rusinko, 2010; Ryan and Deci, 2000; Warwick and Lamberton, 2020) due to increased environmental and societal responsibility (Mochizuki and Fadeeva, 2010). Meanwhile, Uni D, E and H offer interdisciplinary research opportunities directly related to assessments, embracing literatures recognition that transdisciplinary working is essential for solving sustainability

challenges (Lang et al., 2012; Wiek et al., 2011). Integrating sustainability in a mandatory format, directly related to courses allows HEIs to provide equitable, long-term engagement, thus equipping students for sustainability related careers and increasing societal impact (Sterling 2004; UNESCO, 2017).

However, while some institutions are progressing towards this goal, systematic challenges remain. Staff engagement was highlighted as a key challenge (P1, P3, P7 and P8) due to a lack of structural support as emphasised in literature (Fazey et al., 2021; Kamolins, 2024). Policy rhetoric emphasises the role of staff, with statements such as:

"Embed a culture of sustainability thinking and practice in the work we do"
(Uni A)

"Bring staff and students together to address sustainability right across the institution"
(Uni B)

"We will normalise sustainability in staff behaviours"
(Uni C)

"Ensure staff and students understand they all have a role to play in reducing our negative environmental impact"
(Uni D)

"We will develop a large-scale engagement programme to build support and involvement for the strategy with staff and students"
(Uni E)

"We have been working together with our staff and students to turn those founding principles into sustainable action"
(Uni F)

"Encourage positive behaviour change and a green culture"
(Uni G)

"We invite our staff, students and stakeholders to help deliver our vision of a sustainable University"
(Uni H)

Research suggests HEIs often fail to integrate sustainability into staff roles, rather they depend on passionate individuals (Shephard et al., 2019; Leal Filho et al., 2021), which results in inconsistent application (Warwick and Lamberton, 2020). Indeed, transcripts revealed an overreliance on staffs' goodwill to drive grassroot projects with an expectation that they will engage with this work voluntarily (P3 and 6), rather than embedded commitments. HEIs typically do not recognise sustainability in academic workload models, rather it is seen as an additional burden. This results in its de-prioritisation in favour of performance related tasks, such as research outputs (Bessant et al., 2015) consequently, implementation discrepancies arise (P1, 6, 8). To address this issue, HEIs must take steps towards transformative practice, like, Uni H who take a more structured approach by formally integrating:

- Mandatory induction training for all staff
- Specific leadership training

Research indicates that when sustainability training is embedded into CPD and leadership training, it starts a cultural shift towards sustainability as a shared responsibility, not an optional extra or cumbersome task (Sterling and Scott, 2008; Lozano et al, 2013).

HEIs demonstrate influence on policy, students and wider societal change, they position themselves as leaders aligning with international mandates (UNESCO, 2017). Sustainability initiatives have led to:

- Curriculum reforms (Uni C)
- Incorporation of green skills (Uni B and F)
- Student-led policy influence (P3, P5 and P8)

However, challenges exist, including:

- Staff workload (P1, P3, P7)
- Seasonal participation (P2)
- External motivations (P2, P7)

The findings illustrate sustainability as a dynamic concept (Rodgers, 1989) which is continually redefined through normative pressures. It highlights the need to move beyond voluntary opt-in model, to systemic integration. However, despite these barriers, HEIs are increasingly advancing academic research, industry practice, learning, education and societal impact (Orr, 1992; Tilbury, 1995; Sterling and Scott, 2008). Indeed, they remain powerful agents in shaping societal norms and supporting students to become sustainability competent through curriculum integration, experiential learning opportunities and transdisciplinary research initiatives.

6. Discussion

6.1 The Paradox of Defining Sustainability

Cotton et al (2007) highlighted accessibility issues surrounding sustainability, due to its abstract nature, broadness and interchangeable associated terminology (Bessant and Tidd, 2009; Daramola, 2024). The data supports the existing literature asserting the absence of a universal definition (Leal Filho et al, 2024; Vogel et al., 2023), as such, Gulikers and Oonk (2019) suggestion that sustainability is a 'wicked problem' seems apt. However, P1, P5 and P6 question whether it is even necessary to define it, suggesting a rigid definition can lead to unsustainable practice which constrains the flexibility required to meet complex and evolving global challenges. Indeed, UNESCO (2005: p.2) observed that sustainability itself is "a constantly evolving concept", and to tie a definitive definition to it, opposes its very nature, only serving purpose for a specific moment in time, thus making it immediately redundant.

The philosophical foundation of this research respects different interpretations and does not seek one single truth (Leal Filho et al., 2017, Vogel et al, 2023). The data references the three pillars - 'economic', 'societal' and 'environmental', (WCED, 1987), however while the original model presents them as equally important, in practice they are imbalanced. Policy (Uni A - H) and leadership (P4 and P5) emphasis environment sustainability, while grassroot sustainability advocates (P1, P2, P3, P8) prioritised the social dimension, with little reference to economic sustainability by either. The challenge of facilitating a holistic approach may lie within national legislation and policy framework that guide HEIs, including:

- Climate Change Act (2008)
- Environmental Protection Act (1990)
- Sustainability and Climate Change Strategy (2023)
- Quality Code for Higher Education (2024)

While the DfE (2023) and QAA (2024) both consider how its policy interacts with the social and economic aspects of sustainability, their guidance does not fully support HEIs to develop an integrative framework.

In contrast global legislation and sector guidance such as:

- The United Nations Decade of Education for Sustainable Development (UNESCO, 2005)
- The Global Action Programme (GAP) on Education for Sustainable Development (UNESCO, 2014)
- Education for Sustainable Development: Towards achieving the SDGs" or "ESD for 2030" (UNSECO, 2021)
- Advance HE, the Higher Education Academy, and the Quality Assurance Agency Frameworks (2014,2021, 2024)

suggest a more holistic conceptualisation, however their implementation is voluntary, leading to inconsistent implementation.

As El-Khawas (2007) asserts, HEIs operate in a neo-liberal environment, fraught with accountability, measurement and quality assurance, which shapes policy, leadership interpretation (P4 and P5) and enactment. Strathern (2000) labels this an 'audit culture' where HEIs align sustainability practices with short-term performance metrics exacerbated by TEF, REF and sustainability rankings (Jarvis, 2014). Reporting strategies typically lean much more towards environmental aspects (P2), with institutions prioritising these efforts, as outlined below:

University	Sustainability Efforts
A, C, D, E, F, G, H	Net-zero targets
A, C, D, E, F, G, H	Reducing emissions
B, F, H	Carbon neutrality
D, E, F	Biodiversity net gain
B, D, E, H	Ethical investments
D, E, F	Diverting 100% waste from landfill
C, D, E, F, H	Governance structures
D, E, H	Sustainable food initiatives
C, F, H	Plastic reduction (eliminating single-use plastics)
A, C, D, E, H	Sustainable travel policies
A, C, D, E, F, H	Renewable energy use
B, C, D, E, H	Sustainable procurement
C, D, E, F, H	Circular economy and waste reduction
B, C, D, F, H	Student and staff sustainability engagement

Table 37: Sustainability efforts

This diversity complicates standardised measurement, and despite guidance from Advance HE, HEA (2014) and QAA (2021) on embedding sustainability into the curricula, HEIs and interviews demonstrate limited engagement with these resources. Instead HEIs often align their sustainability practice with the SDGs, potentially due to their universal applicability, simplified language and prominence in international assessments. However, as illustrated there is a spectrum of engagement:

Comprehensive SDG integration	Uni B, D, and H embed sustainability across operations, governance, teaching, and research. Uni B works directly with the UN. Uni D and H publish annual SDG reports, demonstrating a commitment to a holistic approach.
Minimal SDG engagement	Uni E does not reference SDGs in policies or media, instead focusing on environmental priorities, overlooking broader social and economic sustainability dimensions.

Table 38: Overview of SDG spectrum

Some universities adopt comprehensive strategies embedding sustainability across all areas of the institution (Uni B, D and H), while others make no reference to the SDGs (Uni E). Some align with the SDGs as a response to sustainability rankings (Uni D) to increase their positioning within THE Impact Rankings and QS Sustainability, suggesting a strategic, performance-driven approach. Evidently,

when sustainability is used as a ranking strategy it perpetuates the metric-driven lens which creates an environmentally heavy conceptualisation of sustainability. P5 emphasises that ES is more quantifiable, thus lending itself to accountability and reporting. Consequently, this reinforces a narrow conceptualisation of sustainability, which prioritises tangible outcomes, overlooking less measurable social and economic outcomes, negating the holistic perspective needed to address global challenges effectively (UNESCO, 2017).

Some participants describe sustainability as a 'lens' (P1, P2, P3, and P8) which should be used as a guiding framework embedded across all aspects. However, this clashes with the HEI tendency to compartmentalise sustainability, often siloing it into environmental policies, reflecting a lack of cohesive strategy. Research (Lozano et al., 2013; Leal Filho and Brandli, 2016; Lal Filho et al., 2017; Neary and Osbourne, 2018; Leal Filho, 2020) suggests support for wider, systemic integration of sustainability metrics into HEI quality assurance frameworks to ensure:

- Alignment of HEI strategies with the SDGs
- Ensuring teaching and research excellence
- Long-term, holistic strategies
- Continual quality enhancement

Indeed, participants recognise the value of the SDGs, viewing them as a 'reference tool', rather than a mandatory framework. However, they also have concerns regarding tokenistic efforts such as using them as a 'tick-box' exercise (P8), which gives credence to Ryan (2023) who refers to the SGDs as a deceptive trap. The findings support his notion that labelling courses with an SDG badge, can be seen as a symbolic action associated with greenwashing (Siano et al. 2017) rather than embedding meaningful learning.

Participants highlight the need for authentic engagement with the SDGs to maintain balance amongst all three pillars. Generally, they recognise the SDGs as

a valuable tool, that provides simplified and accessible language (P2) whilst fostering interdisciplinary understanding (P3). However, UNESCO (2017) argues for integrated frameworks that empower proactive global citizens, which contrasts with the operational-focused models seen in this study. Due to the normative pressures on HEIs, many prioritise short-term, measurable outcomes, perpetuating a fragmented, metric-driven conceptualisation. The disconnect between rhetoric and meaningful, long-term strategies gives credence to participants concerns about tokenistic engagement, underpinning tensions between external perceptions of sustainability and the internal realities.

Returning to P1's comment "does any of it really matter?", reinforces the paradox of defining sustainability, on the one hand policy, leadership and practice demonstrate a clear need for a shared understanding, while on the other the very nature of sustainability resists a fixed definition. Some participants highlight concerns regarding fragmented practices due to the absence of a definition, but others caution that too much ridging risks constraining the flexibility needed to address complex, global challenges. As UNESCO (2005) highlight, sustainability is a constantly evolving concept, and to define it too precisely risks making it obsolete. Indeed, this study has revealed the impossible position HEIs are faced with, too much prescription leads to measurable outcomes taking precedence, whereas too much flexibility can lead to tokenistic, symbolic gestures over meaningful practice. This study promotes the need for a balanced, reflexive approach that recognises and values sustainability's complexity whilst developing shared principles (outlined in the SIF) to support meaningful, embedded action across the sector.

6.2 Sustainability Integration Framework

As Lozano et al., (2013) point out, HEIs are often rooted in traditional, reductionist and mechanistic paradigms, which can limit their ability to adopt transformative approaches to sustainability. Policies demonstrate a shift towards an integrated and ambitious framework with statements including:

"The University strives to embed sustainability into all forms of teaching and learning, how we manage and run our campus and also how we engage with our local and international partners." (Uni B)

"We will develop an integrated, whole organisational approach and normalise sustainability in staff and student behaviours and in the mechanisms of university business." (Uni C)

"Sustainability needs to be woven through the fabric of the University" (Uni D)

"Sustainability is intertwined with all areas of University activity" (Uni G)

However, the analysis revealed the system-based policy rhetoric did not align with practice, and some universities are engaging in *greenpartitioning*, giving credence to claims of cosmetic reform, whereby universities are resisting radical, transformative change (Sterling, 2004).

Sterling's (2004) model provides a valuable insight into implementation approaches; however, it does not address the operational pragmatism and intuitional priorities that dominant universities. Furthermore, it does not account for the complex, neoliberal pressures and rapidly evolving challenges faced by modern HEIs (Harvey, 2007). The analysis highlights that while Sterling's framework promotes systemic change, the institutional behaviours, governance structures and competing strategic priorities can hinder its practical application.

This research proposes a new model: *'The Sustainability Integration Framework'* (SIF), building upon Sterling's (2004) original model to addresses the outlined limitations, it identifies the need for balance between operational systems and system-based approaches, aiming to tackle nuances by directly acknowledging HEI realities. The framework is conceptualised as a staircase model, ranging from isolated and fragmented initiatives to full transformational change. This section will explore how HEIs align with the proposed framework to demonstrate its applicability and relevance to this area of research.

The framework is presented as a staircase model below, completed with defining features, principles and guidelines provided in each subsequent section.

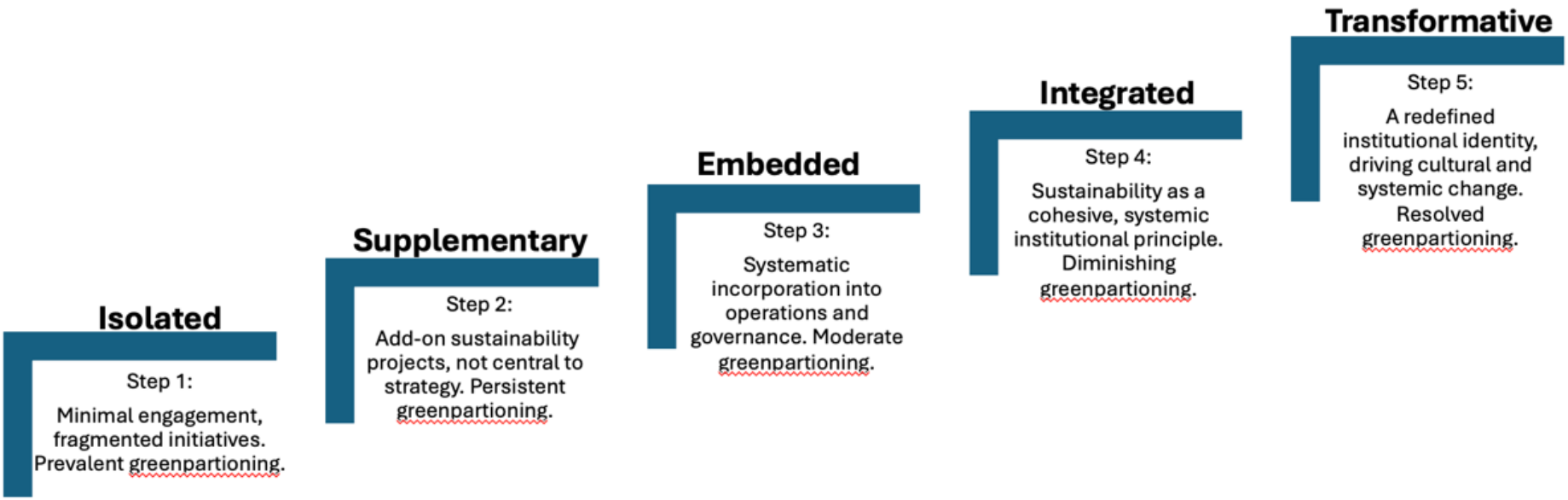

Figure 21: Sustainability Integration Framework

It is important to note that the definitions focus on the ultimate endpoint where all criteria have been fulfilled. An institution must have achieved all of the criteria before progressing to the next stage, therefore whilst within one stage they may be stronger in some respects than others.

6.2.1 Isolated Stage

Isolated Defining Features:

- Sustainability efforts are fragmented, existing as standalone initiatives with minimal connection to the institution's core strategy, governance, or operations.
- Reflects a limited or ad hoc approach, often motivated by external pressures or specific compliance requirements.
- Greenpartitioning is is prevalent, with operational actions (e.g., energy efficiency, waste management) completely disconnected from broader systemic or cultural reforms.

Isolated Principles:

- **Visibility**: Begin making sustainability efforts seen and acknowledged, even if small or disconnected.
- **Legitimacy**: All actions count; even fragmented initiatives are valid starting points.
- **Curiosity:** Encourage dialogue and exploration without needing full consensus or expertise.

Isolated Guidelines:

- Conduct a basic audit of current sustainability activity.
- Appoint a lead (even part-time) or working group to consolidate efforts.
- Develop a shared, institution-wide working definition of sustainability.
- Begin linking at least one initiative to strategy or policy.
- Build basic awareness through internal communications and staff/student engagement.
- Create space for staff and students to express ideas (e.g., forums, surveys).
- Introduce simple metrics (e.g., energy, recycling, participation).

Figure 22: Definition, Principles and Guidelines of Isolated stage

Whereas Sterling (2004) highlighted ‘denial’ as his minimal stage, international and national legislation have resulted in this stage being redundant. At the isolated stage, institutions’ sustainability efforts are fragmented, often lacking connection to the core strategy, operational-systems or system-based approaches. Evidence from the participants demonstrated that some initiatives can be ad-hoc and compliance-driven (P1-8), often with an emphasis on operational-systems, whereby greenpartitioning is prevalent in the institutional approach. Hofman et al., (2022) and Korteling, (2023), highlight that many HEIs face challenges in adopting sustainability due to entrenched norms and institutional inertia, there is evidence to suggest that in general institutions are engaging with reactive actions to comply with external policy, yet demonstrating minimal commitment to embedding sustainability.

When HEIs are operating in the isolated stage they place sustainability on the periphery, and introduce ad-hoc, fragmented efforts that are compliance-driven. There is no integration into the governance structure, core values or system-based approaches with operational actions taking precedence, resulting in clear greenpartitoning practice. While Sterling’s’ (2004) ‘denial’ stage is outdated, many HEIs continue operating in a reactive manner that fulfils requirements rather than societal need.

6.2.2 Supplementary

Supplementary Defining Features:

- Sustainability is treated as an add-on to existing processes, with initiatives running parallel to core institutional functions rather than being fully integrated.
- Often focuses on visible projects or operational improvements without deeper institutional commitment.
- Greenpartitioning manifests here as a visible focus on operational projects (e.g., campus greening or solar panels) while systemic reforms in governance, teaching, or research remain secondary.

Supplementary Principles:

- **Relevance:** Sustainability must connect to institutional purpose—not sit beside it.
- **Responsiveness**: Respond to external pressures with intentional, values-based actions.
- **Inclusivity:** Broaden engagement beyond estates teams to include academic and student voices.

Supplementary Guidelines:

- Move beyond project-based thinking: link initiatives to curriculum, research, or governance.
- Develop a sustainability strategy that reflects all three pillars (environmental, social, economic).
- Map sustainability work across departments to reduce duplication.
- Assign leadership accountability (e.g., Pro-Vice Chancellor or similar) and formal reporting lines.
- Start embedding sustainability outcomes in operational plans and academic development.
- Provide sustainability training or CPD for staff.
- Pilot interdisciplinary, sustainability-focused modules or projects.

Figure 23: Definition, Principles and Guidelines of Supplementary Stage

Similar to Sterling's (2004) 'bolt on' stage, the '*Supplementary Stage'* sees sustainability treated as an 'add-on', whereby the dominant model maintains focus and the system remains largely unchanged. Sustainability runs parallel to the core institutional mission, with visible projects or operational improvements being the priority without any deep commitment from the HEI. An example of this can be seen within the synthesis of Uni G's policy and P7s interview. The policy focuses predominantly on operational improvements and initiatives, that promote pockets of change, however they run parallel to the core institutional functions, and are not fully integrated.

There is clear evidence of a disconnect between the policy and practice, whereby the policy states there is staff training, but in reality, that ran for one year before being rescinded due to resource restraints. Uni G demonstrates clear evidence of greenpartitioning, as operational achievements are the dominating feature of sustainability initiatives. While it has achieved ISO 14001 accreditation, there is less commitment to integrating sustainability into the curricula. As Lindbolm (1959) suggests, many HEIs begin their sustainability journey through incrementalism and while Uni G does mention the importance of sustainability for students, P7 highlighted simplistic practices such as SDG labelling, rather than demonstrating a fully systemic approach to reform. Uni G's example supports Mishra's (2020) sentiment of a piecemeal approach, where they are breaking down the complex problem and addressing it in smaller, more manageable pieces, offering an affordable solution.

While Afisi (2021) claims that these efforts are too slow to achieve radical change, external pressures must be realised, and HEIs need to ensure that any action they implement is affordable, responsible and sustainable. Uni G is the smallest institution in this study and consequently has less financial security to implement radical change. Nevertheless, they evidence attempts to challenge institutional inertia and resilience from stakeholders (CWRU, 2024) through the recent appointment of a PVC for Sustainability, and highlighting ES as a core enabler of

their new strategy. Both actions demonstrate a commitment towards sustainability, that is in line with institutional circumstances.

The supplementary stage remains heavily focused on operations, with clear evidence of greenpartitoning, and deeper integration remaining limited. Institutions may be limited due to resource limitations and as such HEIs engage with an incremental, piecemeal approach. While there is clear intent, HEIs are in danger of tokenistic efforts without commitment to cultural and strategic change. Emerging leadership is essential to ensure rhetoric aligns with practice to ensure meaningful practice.

6.2.3 Embedded

Embedded Defining Features:

- Sustainability is systematically included in key areas such as governance, operations, teaching, and research but is not yet fully aligned across the institution.
- Efforts are structured and consistent, often driven by compliance frameworks like ISO 14001 or equivalent.
- Greenpartitioning becomes less distinct but remains evident in uneven progress, with strong operational systems often prioritized over cultural and systemic transformations.

Embedded Principles:

- **Consistency:** Embed sustainability into key structures, not just where it's easy or visible.
- **Accountability:** Assign responsibility and ensure progress is monitored and reviewed.
- **Balance:** Recognise and act on all three sustainability pillars—environmental, social, economic.

Embedded Guidelines:

- Ensure all schools, faculties, and services have sustainability leads or champions.
- Embed sustainability in procurement, HR, estates, and quality assurance processes.
- Strengthen integration into curriculum using frameworks like ESD (Education for Sustainable Development) and QAA guidance.
- Use recognised frameworks (e.g., ISO 14001, SDG mapping) to drive consistency.
- Develop cross-departmental partnerships and reward innovation in teaching/research.
- Involve students and external partners in planning and delivery.

Figure 24: Definition, Principles and Guidelines of Embedded Stage

The embedded stage represents a shift in priorities, whereby systematic changes have begun in areas including, governance, operational-systems, and system-based approaches. This approach emulates elements of Sterling's (2004) 'built in' stage, where there is a critical and reflective response; however, his model presented a clear divide between 'bolt on' and 'built in', with no intermediate stage. The embedded stage works to address that gap, recognising that sustainably is prevalent in university policy and often refers to initiatives across all aspects of university operations, however the rhetoric may not align fully with practice.

Several institutions demonstrate structured and consistent efforts to integrate sustainability into governance, operational systems and system-based approaches; however, the analysis reveals a lack of full systemic alignment. For example, Uni A systematically addresses operational targets alongside teaching and research, highlighting collaborative involvement from all stakeholders. Sustainability is listed as a core value; however, they do not have a named senior leader, demonstrating examples of where the rhetoric does not align with practice. The lack of leadership role means resources are not allocated proportionality between operations and system-based approaches, reinforcing greenpartitioning. They also have devolved approaches to the curriculum, often relying on volunteerism, with P1 citing staff reluctance, workload and lack of resources as key challenges to full integration.

Uni A presents elements of both 'piecemeal' (Mishra, 2020) and 'incremental' approaches (Lindblom, 1959), while also evidencing CSR. The institution is involved in external-facing initiatives and have strong examples of community engagement (Plumber et al., 2021) which promoting environmental stewardship (Fazey et al., 2021), yet function separately from curricula, research or campus operations (Adhikariparajuli et al. 2020; Wu 2024). Uni A writes:

> "The notion of global challenges and our commitment to the UN SDGs frames all our practices – teaching and learning, research, public and community engagement, campus operations and organisational culture"

Yet, P1 notes a disparity between rhetoric and practice highlighting that they rely on students to opt-in rather than sustainability being fully integrated into the curriculum. Furthermore, they highlight the drive toward curriculum integration comes from passionate staff, who gain "internal job satisfaction" from it, which consequently results in inconsistencies across faculties.

While Uni A demonstrates significant progress towards integrating sustainability into its core functions through structured and consistent inclusion of sustainability-related actions in policy, it is not aligned fully with governance or financial backing. Institutional culture is lagging with staff viewing sustainability is an additional burden. Their '*Global Challenges'* framework, reflects a strong commitment to sustainability but to progress it needs to address governance structures, resource allocation and staff culture.

The embedded stage highlights a move towards more structured and consistent efforts, where greenpartitioning is less prevalent, but still exists. It provides the link between Sterling's 'bolt on' and 'built in' stages to recognise progress but incomplete action. It necessitates the need for governance alignment, resource allocation and cultural change to progress towards sustainability integration.

6.2.4 Integrated

Integrated Defining Features:

- Sustainability is a guiding principle, influencing institutional strategy, culture, and practices across governance, teaching, research, and operations.
- Efforts are systemic, engaging stakeholders at all levels (staff, students, community) and fostering alignment with global frameworks like the SDGs.
- Greenpartitioning diminishes as institutions begin aligning operational outcomes with systemic reforms, ensuring all aspects of sustainability are interlinked and mutually reinforcing.

Integrated Principles:

- **Alignment:** Ensure institutional strategy, values, and practices are aligned with sustainability goals.
- **Systems Thinking:** Understand sustainability as interconnected, influencing all aspects of the institution.
- **Collaboration:** Foster horizontal and vertical partnerships across departments and stakeholder groups.

Integrated Guidelines:

- Ensure sustainability is explicitly reflected in the mission, vision, and strategic plan.
- Foster whole-institution ownership: ensure all staff and students understand their role.
- Institutionalise interdisciplinary collaboration across research, teaching, operations, and civic engagement.
- Build robust participatory governance structures (e.g., sustainability boards with broad representation).
- Align all major decisions (e.g., capital projects, curriculum reform) with sustainability goals.
- Scale up successful pilots into core processes or programmes.
- Contribute to national/international frameworks (e.g., SDG reports, COP engagements).

Figure 25: Definition, Principles and Guidelines of Integrated Stage

Sterling's (2004) 'bult in' stage provided the foundation for this stage, whereby universities are engaging with approaches such as 'Systems Thinking', 'Interdisciplinary Working' and Competency-Based Education' (CBE). The integrated stage is characterised by systemic alignment of sustainability across all areas of the institution, including governance, teaching, research and operations.

Uni H demonstrates an example which is firmly within the integrated stage, evidencing progress towards the transformative. It has comprehensive integration across all areas of governance, operations and education with strong cultural shifts evident, alongside community engagement. Uni H highlights sustainability as a guiding principle in its strategy, which is reflected by:

- Policy commitments
- PVC for Global Engagement who is the Co-Chair of the Environmental Sustainability Strategy Monitoring and Implementation Group (ES-SMIG),
- Academic Director of Sustainability, who focuses on embedding sustainability into academic curricula and frameworks.

Uni H is committed to embedding the SDGS and discipline-relevant aspects of ESD into every degree program. P8 reinforces this through discussions regarding their work to integrate sustainability in ways that are directly relevant specific disciplines. P8 notes that their approach deliberately avoids SDG labelling, viewing it as a tick box, superficial exercise, instead finding ways to make it meaningful to the context of each subject. They acknowledge that there is no uniformed approach, nor centralised mandate, which results in inconsistencies in practice compared to the strong directive tone of the policy. Uni Hs outlines ambitious visions for institution-wide integration, however P8 discusses several challenges, including:

- Resource allocation
- Inconsistent academic engagement

- Lack of mandates
- Prioritisation of environmental over social aspects

P8 notes that because of the focus on net-zero and the current financial crisis resources are often allocated to operational projects rather curriculum development. P8's role is to support academics to integrate sustainability into courses, however their role is a fixed term contract, demonstrating a mismatch between policy rhetoric and practice. Indeed, they comment that due to a lack of mandate, and no top-down directive enforcing a consistent framework, some academics are further along than others. They suggest some academics do not see sustainability as relevant to their courses, particularly social subjects which results in inconsistent engagement.

Uni H is at the forefront of sustainability research and has created a specific research hub, uniting experts through interdisciplinary collaboration to tackle environmental issues. P8 did not specifically address university-wide research strategy, however with over 600 experts and an exhaustive list of publications, the hub demonstrates effectiveness in terms of interdisciplinary research to tackle environmental issues. While the university does engage with social sustainability research through various programmes and special interest groups, it does not engage with it on the same scale which is an area that could be improved when considering transformative integration.

Universities in this category demonstrate that sustainability informs all decision making and is embedded into strategic planning. Efforts are systematic and engage stakeholders to create a structured and consistent approach, greenpartitioning may still be evident but to a lesser extent, while the institution begins to align operational priorities with systemic reforms.

6.2.5 Transformative

Transformative Defining Features:

- Sustainability reshapes the institution's identity, driving systemic and cultural change to address global challenges innovatively and inclusively.
- Institutions are leaders in sustainability, integrating participatory governance, systems thinking, and societal impact into their operations, teaching, and research.
- Greenpartitioning is entirely resolved, as the institution integrates operational systems and systemic reforms seamlessly, setting benchmarks for holistic sustainability.

Transformative Principles:

- **Equity and Justice**: Sustainability must address power, access, and justice locally and globally.
- **Critical Reflexivity:** Regularly question assumptions and challenge norms that inhibit sustainable futures.
- **Leadership through Learning**: Embrace innovation, uncertainty, and co-creation as core to institutional evolution.

Transformative Guidelines:

- Co-create sustainability agendas with local and global communities.
- Lead the sector in publishing, benchmarking, and sharing best practice.
- Embed systems thinking, decolonisation, and climate justice into governance and pedagogy.
- Use sustainability as a lens for evaluating institutional impact and success.
- Create futures-focused learning environments—supporting resilience, complexity, and adaptability.
- Regularly review institutional values and frameworks to reflect planetary boundaries and social equity.
- Mentor other institutions and influence policy at sector, national, and global levels.

Figure 26: Definition, Principles and Guidelines of Transformative Stage

This stage extends Sterling's (2004) 'rebuilt' stage to recognise cultural changes that are overlooked in his original model, this stage looks for examples of where sustainability has explicitly redefined institutional identity, by embedding sustainability at the core of its values, culture and mission. Sterling (2004) focused on structural and educational shifts, whereas in this model it is amalgamated with operational systems and system-based approaches, embracing a whole-institutional approach (Christou et al., 2024) emphasising innovation and inclusivity to tackle global challenges.

It also highlights the importance of institutions as leaders, upholding their societal responsibilities (Zaleniene and Pereira, 2021) by fostering participatory governance, systems thinking and societal impact into all areas of the institution. It recognises the HEIs influence on external systems to create benchmarks, it does this by setting the standards for sustainable practices, extending beyond the campus into collaborative partnerships with both local and global stakeholders to tackle global issues (Sterling, 2004; Lozano et al., 2015), becoming hubs for knowledge sharing, innovation and thought leadership.

While Uni H is progressing towards transformative, no institution fully meets the criteria for the transformative stage. Institutions in the transformative stage place emphasis of sustainability integration into all areas of its practice, and as such greenpartitioning is not evident, through full integration into governance structures, research agendas, operations and pedagogical approaches, they provide microcosms of sustainability (UNESCO, 2014) which can support other HEIs to adopt similar practices, thus driving systemic change in environmental, economic and social domains.

7. Concluding Reflections and Implications

This research sought to develop a comprehensive understanding of how sustainability is defined and enacted within HEIs in the UK. It set out to explore the ambiguity surrounding the wicked problem and provide a practicable framework, the SIF. The frameworks aim is to provide HEIs with clear actions to support systematic and meaningful approaches to integrating sustainability across all aspects of an institution.

Through the creation of a unique theoretical and methodological framework specifically developed for this research, the thesis contributes to knowledge in several ways:

- Contemporary underpinning research design
- Identification of key discourses
- Clear evidence of implementation gaps
- The concept of 'greenpartitoning'
- The Sustainability Integration Framework

This section will address the research questions, implications for theory and research, practice and policy, identify limitations and opportunities for future research before concluding with a personal reflection.

7.1 Addressing the Research Questions

1 – How do different HEIs and key stakeholders define and interpret sustainability?

The definition of sustainability was often inconsistent and ambiguous, however two distinct discourses emerged – one which was environmentally focused, and the other which was socially focused. Although many HEIs referenced the three pillars, there was often greater emphasis on the environmental actions, often

shaped due to normative pressures which was reinforced by participants in leadership positions. Grassroot or 'street-level bureaucrat' participants typically embraced a more values-driven, socially just positioning.

2 - What are the reoccurring themes and attributes associated with sustainability?

Several key themes and attributes were identified, including:

- Conceptual ambiguity
- Values and moral obligations
- Institutional priorities
- Metric-driven approaches
- Strong operational practices
- A tendency to overlook system-based approaches
- Marketisation of sustainability
- Greenwashing and greenpartitioning
- Leadership and governance
- Stakeholder agency
- Transdisciplinary approaches
- Individual passion
- Transformative learning

3 - What external and internal factors influence how sustainability is interpretated and implemented within HEIs?

External factors were centralised on macro-level policy, including the SDGs as well as institutional rankings, league tables and accreditations. Internal factors uncovered included leadership priorities, governance structures, institutional culture, pedagogy and resource availability. Each of these factors contributed significantly to the implementation of policy and often interacted in a complex manner, either supporting or hindering progress.

4 – How do various definitions of sustainability influence policy, practice and outcomes?

Inconsistent conceptualisations uncovered fragmented approaches to embedding sustainability, making it difficult to assess impact. However, institutions that placed sustainability as a core aspect of the culture, embracing internal and external stakeholders were more likely to embed sustainability across all aspects including curriculum, operations and culture. Whereas those with more metric-driven perspectives who prioritised operational approaches were in danger of overlooking system-based strategies. This led to a piecemeal approach which resulted in commendable practice in some respects, e.g. reducing carbon emissions, but often there was a noticeable lack of integration across governance, culture and curricula .

7.2 Implications for Theory and Research

This research applied an analytical lens to the concept of sustainability by combining CDA and CA, and drawing upon PIT and IT, as a result it highlights a need for an interdisciplinary inquiry into the role of language, power and context in shaping sustainability practices. Theoretically, the research reaffirms the importance of interpretivist approaches to understanding complex concepts and recognises that sustainability cannot be meaningfully implemented without considering the neo-liberal, competitive market that HEIs are operating in. As a result of this paradigm HEIs find themselves as both sites of opportunity but also controversy, the SIF provides a theoretical offering to understand institutional change.

7.3 Implications for Policy and Practice

The research advocates for more coherent macro-policy, particularly at a national level, recognising the UK HEI market context. Institutional policies need to provide:

- A clear contextual definition of sustainability
- Quality control metrics which assess all aspects of sustainability, including curriculum integration
- Accountability measures to avoid greenwashing and greenpartitioning
- Alignment with SDGs to ensure consistency and holistic engagement
- Support for capability development
- Protection of academic time to transform pedagogical approaches

This work encourages whole-institutional approaches that move beyond compliance to make radical changes to governance and embed sustainability into all areas of the institution. Specific recommendations are:

- Provide staff with training to become sustainability-literate and confident
- Ensure appropriate financial support and time allocation
- Embed transdisciplinary learning
- Move away from an 'opt-in' model to embed sustainability into all curriculum
- Recognise and embrace student and staff engagement
- Move away from compliancy and embrace radical change

The framework enables HEIs to assess where they are and how they can progress, making it a reflective tool and strategic mechanism.

7.4 Limitations

Sustainability is a concept that undoubtedly has global relevance, however academic fields and global regions are not evenly represented within literature, with countries in the global south and outside the OECD almost certainly being overlooked (Vogel et al., 2023). It is therefore essential to note, that the literature analysis offers a western view of the world, influenced by UNESCO goals, policies and agendas. Furthermore, all of the universities in this study were located in

England making its relevance to wider cultural contexts limited, as it is underpinned by different assumptions to those employed in underrepresented countries (Hart and Nolan, 1999).

Furthermore, the interview sample, while evenly split with regards to gender, consisted of predominantly white, well-educated people of a similar social class. The sample size was also relatively limited and included only academics thus limiting broader staff and student perspectives. As already stated, this work does not seek to offer generalisable findings, and it is essential to note that it offers a restricted world view, situated within HEI in the UK, and can only be regarded as relevant to a certain period.

7.5 Future Research

As outlined, the research limited student and wider staff perspectives which future research should aim to investigate, as there is scope to explore this in greater depth to examine how pedagogical approaches work across a range of disciplines. Future research could also focus on:

- Implement and investigate how the SIF can be used by HEIs
- Case studies of staff and students in transformative institutions
- Explore the impact of CPD in advancing sustainability
- Evaluate implementation processes in specific programmes

7.6 A Personal Note

The entire process surrounding this research has provided a transformative journey in itself. Whilst it was grounded in my own personal experiences as a child and shaped throughout my teaching practice, this work was not just academic, it was a moral obligation which was strengthen through the birth of my son part way through the research process. I have a duty to him to push the sustainability agenda, to continue advocating for change to tackle the inequalities not only within educational systems, but within society itself.

I want him to grow up in a world that cares. A world that acts. A world that wants to do better. This thesis and parenthood have how I see my role as an educator, a researcher and as a global citizen. It has strengthened my resolve that the entire educational system, from the early years to university needs radical systemic change to embrace sustainability in all its forms, to create a sustainable future for all.

Appendix 1: UK HEI Sustainability Commitments (EAUC, 2021)

Institution	Carbon Neutral Target	Declaration of Climate Emergency	SDG Accord Signatory	Sustainability Reporting	Leadership Scorecard	Ethical Investment
Bath Spa University	Carbon Neutral by 2030	X	✓	X	✓	X
Cheltenham Ladies College	X	X	X	X	X	X
City College Plymouth	X	X	X	X	X	X
Exeter College	X	X	✓	X	X	X
Falmouth University	X	X	X	X	X	X
National Star College	X	X	X	X	X	X
Natural Environment Research Council (NERC)	X	X	X	✓	X	X
Plymouth Marjon University	X	X	X	X	X	X
Royal Agricultural University	X	X	X	X	X	X
South Devon College	X	X	✓	X	✓	X
University of Bath	Net Zero by 2040 (Scopes 1,2,3)	✓	X	✓	✓	✓
University of Bristol	Carbon Neutral by 2030	✓	✓	✓	✓	✓
University of Exeter	X	✓	X	✓	✓	X
University of Gloucestershire	Net-Zero Strategy in Place	✓	✓	✓	✓	X
University of Plymouth	Net Zero by 2025 (Scopes 1 & 2)	✓	✓	✓	X	X
University of the West of England	Carbon Neutral by 2030	✓	✓	✓	✓	✓
Arts University Bournemouth	X	X	X	X	X	X
Bournemouth University	X	X	✓	✓	✓	✓
Peter Symonds' College	X	X	X	X	X	X
Southampton Solent University	Net Zero by 2030	X	X	X	X	X
Southampton City College	X	X	X	X	X	X
The University of Winchester	2025	✓	✓	✓	✓	✓
University of Southampton	Net Zero by 2030	X	X	✓	X	X
Abingdon & Witney College	X	X	X	X	X	X
Anglia Ruskin University	X	X	X	✓	✓	X
Bucks New University	Reduce Scope 1 and 2 Carbon Emissions by 50% by 2020	X	✓	X	X	X
Canterbury Christ Church University	X	✓	✓	✓	X	✓
City College Norwich	X	X	X	X	X	X
Cranfield University	X	X	X	X	✓	X
Oxford Brookes University	X	X	X	✓	✓	X
Royal Veterinary College	X	X	X	X	✓	X
The College of West Anglia	X	X	✓	X	X	X
The Open University	X	X	✓	X	X	X
University College of Estate Management	2050	✓	✓	X	✓	X
University for the Creative Arts	X	X	X	✓	X	X
University of Brighton	X	✓	X	X	X	X
University of Cambridge	Reduce Carbon Emissions to Zero by 2038	✓	X	✓	✓	✓
University of East Anglia	Net Zero Campus (Scopes 1&2) by 2030; 100% Scopes 1-3 by 2045	✓	✓	X	✓	X
University of Essex	Scope 1 & 2 Net Zero 2035; Scope 3 TBC	✓	✓	✓	X	X
University of Hertfordshire	Net Zero by 2050	X	X	✓	✓	X
University of Kent	X	X	✓	✓	X	✓
University of Oxford	X	X	X	✓	✓	✓
University of Reading	Net Zero (Scopes 1-3) by 2030	X	X	✓	X	✓
University of Suffolk	X	X	X	X	X	X
University of Surrey	Net-Zero Carbon Emissions Target by 2030	X	✓	✓	✓	✓
University of Sussex	Net-Zero by 2035	✓	X	X	✓	X
Varndean College	X	X	X	X	X	X
Aston University	Zero Carbon by 2030 (48% by 2020/21 from 2005 baseline)	✓	X	✓	✓	✓
Birmingham City University	X	✓	X	✓	✓	X
Coventry University	X	X	✓	✓	✓	X
De Montfort University	Carbon neutral from energy use by 2032, all else by 2045	X	✓	✓	✓	✓
Keele University	Carbon Neutrality by 2030	✓	✓	✓	X	✓
Loughborough University	X	X	✓	X	X	X

Institution	Carbon Neutral Target	Declaration of Climate Emergency	SDG Accord Signatory	Sustainability Reporting	Leadership Scorecard	Ethical Investment
Newman University	X	X	X	X	✓	✓
Nottingham Trent University	Net Zero Carbon (Scopes 1, 2, 3) by 2040	X	✓	✓	✓	✓
Queen Alexandra College	X	X	X	X	X	X
The University of Northampton	X	X	✓	X	✓	X
The University of Nottingham	Net Zero by 2028	X	✓	✓	✓	✓
University of Birmingham	X	X	X	✓	X	X
University of Derby	X	X	X	X	✓	X
University of Leicester	Carbon Neutral by 2035	✓	✓	✓	✓	✓
University of Lincoln	X	✓	X	✓	✓	✓
University of Warwick	Net Zero Scope 1&2 by 2030; Scope 3 by 2050	✓	✓	✓	✓	✓
University of Worcester	Yes - 2030	✓	✓	?	✓	✓
Blackpool & The Fylde College	X	X	X	✓	X	X
Edge Hill University	X	X	X	✓	✓	X
Lancaster University	Carbon Neutral by 2035	✓	X	X	✓	X
Liverpool Hope University	X	X	X	✓	X	X
Liverpool John Moores University	X	X	X	X	✓	X
Manchester Adult Education Service (MAES)	X	X	X	X	X	X
Manchester Metropolitan University	Zero Carbon by 2038	X	X	✓	✓	✓
Runshaw College	X	X	X	X	✓	X
The Trafford College Group	X	X	X	X	X	X
The University of Manchester	Zero Carbon by 2038	✓	✓	✓	✓	✓
University of Central Lancashire	X	X	X	X	✓	X
University of Chester	X	X	X	X	✓	✓
University of Cumbria	X	X	X	X	X	X
University of Liverpool	Carbon Neutral by 2035	X	✓	✓	✓	✓
University of Salford	X	X	X	X	✓	X
Winstanley College	X	X	X	X	X	X
Durham University	X	X	✓	X	✓	X
New College Durham	X	X	X	X	X	X
Newcastle University	Net Zero Carbon by 2030	✓	✓	✓	✓	✓
NCG	X	X	X	✓	X	X
Northumbria University	X	X	✓	?	✓	✓
Teesside University	Aspire to become Carbon Neutral (No Year Provided)	X	X	✓	X	X
University of Sunderland	X	X	X	X	X	X
Hull College	X	X	X	X	X	X
Kirklees College	X	X	X	✓	✓	X
Leeds Arts University	X	✓	✓	✓	X	X
Leeds City College	X	X	X	X	X	X
Craven College	Net-Zero Target 2030	X	X	✓	X	X
Leeds College of Music	X	X	X	X	X	X
Sheffield Hallam University	Net Zero Campus by 2030 & All Activities by 2038	X	✓	✓	✓	✓
Shipley College	X	X	✓	X	✓	X
The University of Sheffield	Carbon Neutral by 2038	✓	X	✓	✓	✓
University of Bradford	X	X	X	X	✓	X
University of Huddersfield	Scope 1 & 2 by 2030, Scope 3 by 2045	✓	X	X	✓	✓
University of Hull	Carbon Neutral by 2027	X	X	X	✓	X
University of Leeds	Net-Zero Target by 2030	X	✓	✓	X	✓
University of York	X	X	✓	✓	✓	✓
Wakefield College	Carbon Neutral by 2025	X	X	X	✓	X
York St John University	X	X	X	X	X	X

Appendix 2: Research Design

Phase	Step	Description	Critical Analysis Method	Critical Discourse Analysis Integration	Concurrent Data Collection and Analysis Method	Contributions to Research Questions
Initial Conceptual Foundation	**Identify and Choose the Concept**	Define the concept (e.g., sustainability), identify and acknowledge its evolving, contextual nature.	Rodgers for defining the concept; Chinn and Kramer for social and contextual framing.	Analyse initial policy documents and stakeholder language to uncover underlying ideologies and initial framing of sustainability.	Collect data from interviews with key stakeholders, institution policy documents, and government policy (both national and international) concurrently to inform the evolving concept definition.	RQ1
	Establish Purpose and Context	Articulate the purpose of the analysis and situate it within social, cultural, and institutional contexts.	Chinn and Kramer to establish broader context and purpose.	Explore how language in policies and literature reflects the social and institutional context of the concept.	Gather background information from institution policies, government policies, and stakeholder input simultaneously for comprehensive context setting.	RQ1. RQ3
	Idenitfy Antecedents	Review historical practices, previous policies, and institutional values that have influenced sustainability within HEIs. This includes examining how past initiatives and decisions shape current understandings and interpretations of sustainability.	Rodgers specifically examins the historical antecendets of a concept.	Examine how historical language and ideologies in past policies have shaped current sustainability narratives and interpretations within HEIs.	Collect and analyse historical documents, conduct stakeholder interviews, and use comparative analysis to triangulate insights on antecedents influencing current sustainability practices.	RQ3.
	Incorporate Diverse Data Sources	Collect data from policy and stakeholder input for multiple perspectives.	Chinn and Kramer for diverse data; Rodgers for flexibility in sources.	Identify variations in terminology and language use across different sources, emphasising power relations and context.	Continuously integrate data from interviews, institution policy, and national/international policy documents to capture multiple perspectives.	RQ1. RQ2. RQ3. RQ4
Dynamic Data Collection and Analysis	**Simultaneous Data Collection**	Collect data from different sources concurrently to capture shared attributes and relationships.	Haase for concurrent data collection; supports identifying interrelations.	Examine how language across data sources constructs and reinforces relationships between concepts.	Analyse institution policy documents, government policies, and stakeholder interviews concurrently for identifying concept interrelations.	RQ1. RQ2. RQ3. RQ4
	Iterative Analysis and Reflexivity	Perform iterative analysis to find emerging themes and attributes, reflecting on social values and assumptions.	Rodgers for iterative analysis; Chinn and Kramer for reflexivity and interaction with findings.	Reflect on how language in data sources reveals evolving attributes and social assumptions.	Regularly revisit and refine analysis with new data from ongoing policy reviews and interviews.	RQ2. RQ4.
	Comparative Examination	Analyse related concepts to highlight overlaps and distinctions for contextual understanding.	Haase for comparative analysis to deepen understanding of related concepts.	Identify how language differentiates and links related concepts, revealing shifts in meaning and influence.	Compare new findings from institution and government policy documents as well as stakeholder interviews to explore related concepts.	RQ2. RQ4.
Identifying Reoccuring Themes, Attributes and Associated Terms	**Determine Defining Attributes and Contextual Basis**	Identify core attributes and validate through comparative methods.	Rodgers for defining attributes; Haase for validation through comparison.	Apply CDA to understand how language use highlights or downplays certain attributes of the concept in various contexts.	Identify attributes through simultaneous examination of interviews, institution policies, and government policies to validate with cross-referencing.	RQ2.
Critical Reflection and Social Context	**Explore Social and Value Implications**	Analyse how the concept interacts with social norms, power structures, and values within HEIs.	Chinn and Kramer for social and value-based implications.	Critically assess how discourse reinforces or challenges existing social norms and power structures.	Integrate findings from policy reviews (institution and government) and interviews concurrently to reflect on social implications.	RQ3.
	Continous Refinement and Reflexivitiy	Continuously revisit and refine understanding based on new findings and stakeholder discussions.	Chinn and Kramer for ongoing interaction with data and stakeholder input.	Track how stakeholder language and policy discourse evolve and influence the understanding of the concept.	Update analysis iteratively with data from ongoing stakeholder feedback and document review.	RQ1. RQ2. RQ3. RQ4
Synthesis and Future Directions	**Synthesise and Hypothesise**	Combine findings to hypothesise future development and implications of the concept.	Rodgers for synthesis and hypothesis formation.	Use CDA to suggest how future discourse could shape the concept and its practical implications.	Use synthesised data from all sources analysed concurrently to build hypotheses.	RQ4.
	Consider Validation Criteria	Reflect on how conceptualisation could be validated in practice and propose future research directions.	Chinn and Kramer for validation criteria and future research considerations.	Explore how validation criteria are communicated and accepted within discourse to inform future directions.	Continuously validate with emerging data from policy analysis (institution and government) and stakeholder input.	RQ4.

Appendix 3: Inclusion and Exclusion Criteria

Inclusion	Exclusion
Include literature that directly addresses education for sustainable development (ESD), sustainability in education, or related policy analysis.	Exclude literature that focuses on general sustainability without a specific link to education or policy, ensuring topic alignment.
Select studies that explore ESD within educational institutions, including schools, colleges, and universities, or frameworks used in education.	Exclude research on sustainability in non-educational sectors (e.g., business or healthcare) as it falls outside the study's scope.
Prioritise literature that focuses on the UK or includes comparative analysis relevant to the UK context, providing specific insights into local practices and policies.	Exclude literature focused solely on regions with significantly different educational policies or systems that may not be applicable to the UK context.
Include recent literature (typically within the last 10 years) to capture current debates, frameworks, and practices in ESD.	Exclude older literature that may be outdated or superseded by recent developments, unless it is foundational to understanding historical perspectives.
Select literature that provides theoretical frameworks, models, or concepts relevant to ESD or policy implementation in education.	Exclude literature that lacks a substantial theoretical or conceptual foundation, as it may not contribute to the depth of analysis required.
Include studies with clear and rigorous methodologies, including qualitative, quantitative, or mixed methods, to ensure credibility and reliability.	Exclude studies with unclear, poorly defined, or weak methodologies that could undermine the validity of the research findings.
Prefer studies frequently cited or widely recognised within the ESD or educational policy research community, as these may represent foundational or influential perspectives.	Exclude lesser-known studies with limited impact or relevance to the field, unless they offer unique insights directly applicable to the research.

Appendix 4: Critical Analysis

Is the paper significant?

- Did the article describe the purpose of the research clearly?
- Can you identify the primary outcome?

Was the research conducted in an ethical manner?

- Was informed consent sought?
- Did it follow BERA guidelines?
- Were ethics considered throughout?

Are the results valid?

- Did the research address a clearly focused question?
- What methods were used to conduct the research?
- Was the approach used appropriate to answering the question?

Were the data collection methods appropriate for the research?

- What methods were used for collecting data?
- Have they been described in enough detail?
- Was more than one method of data collection used?
- Were the methods used reliable and independently variable?

How was the data analysed?

- What methods were implemented to analyse the data?
- What quality control measures were implemented?
- What themes emerged?
- How were the themes derived from the data?

What were the results?

- Did the results answer the research question?
- Are the results credible?
- What conclusions were drawn and are they justified by the results?
- Have alternative explanations for the results been considered?
- Are the results transferable to the wider population?

Appendix 5: Inclusion Criteria for Macro-Level Policy

Criteria	Inclusion	Exclusion
Relevance to National Educational Context	Include policies and frameworks directly influencing educational practices within the national context, ensuring alignment with socio-political factors.	Exclude policies not directly impacting national education, focusing only on region-specific influences.
Explicit Focus on Education for Sustainable Development (ESD)	Include policies that explicitly address sustainable development within educational settings, providing guidelines or frameworks for ESD practices.	Exclude general sustainability policies that do not specifically target educational contexts.
Current Influence and Adoption	Prioritize policies widely recognized or adopted in the educational sector, as these have substantial impact on institutional practices.	Exclude policies with limited or outdated influence on current educational practices, focusing on those with ongoing relevance.
International Frameworks with National Relevance	Include international frameworks with a proven influence on national education policies or adopted principles within the educational sector.	Exclude international policies that have not been directly influential or adopted in the national context.
Educational Component	Include policies that incorporate specific educational components aimed at promoting sustainability or ESD in educational institutions.	Exclude policies solely focused on general sustainability without an educational component.

Appendix 6: Lancaster University Participant Information Sheet and Consent Form

Participant information sheet

Title: Analysing Sustainability Policies in Universities: Developing a Typology of Institutional Responses

My name is Emma Ransome, and I am a PhD student at Lancaster University, I would like to invite you to take part in a research study which investigates the sustainability policies of universities across different types of institutions and regions in the UK.

Please take time to read the following information carefully before you decide whether you wish to take part or not.

What is the study about?

This study aims to analyse sustainability policies within universities to understand the diverse approaches institutions take toward fostering sustainability on their campuses. By examining the development, implementation, and impact of these policies through in-depth interviews and document analysis, the research seeks to identify common themes and unique strategies. The ultimate goal is to develop a typology of institutional responses to sustainability challenges, which will provide a systematic categorisation of different approaches. This typology will offer valuable insights for policymakers, educators, and researchers looking to advance sustainability practices in higher education.

Why have I been invited?

Your university has been chosen to participate in this study due to its recognised commitment to sustainability and its innovative approaches to environmental and social responsibility. As a leading institution in implementing sustainability practices, your university serves as an exemplary model for others. By including your university in this research, I aim to capture a wide range of successful strategies and insights that can inform and inspire other universities in their sustainability efforts. Your institution's unique context and achievements will provide valuable contributions to the development of a comprehensive typology of institutional responses to sustainability challenges.

You have been invited to participate in this study because of your expertise and involvement in the development and implementation of sustainability policies at your university. Your insights and experiences are invaluable for understanding the practical aspects and challenges of fostering sustainability in higher education. By sharing your knowledge, you will contribute significantly to the creation of a comprehensive typology of institutional responses, which aims to enhance sustainability practices across universities. Your participation will help illuminate best practices and provide guidance for other institutions seeking to improve their sustainability efforts.

What will I be asked to do if I take part?

If you choose to engage with this research, you will be asked to participate in an in-depth interview, which will take approximately one hour to complete. During the interview, you will be asked about your experiences, insights, and perspectives on the sustainability policies at your university. The questions will focus on the development, implementation, and impact of these policies. Your responses will be kept confidential and will be used solely for the purposes of this study. Additionally, you may be asked to provide relevant documents or reports that can further inform the research. Your participation is entirely voluntary, and you may withdraw from the study at any time without any negative consequences. Your involvement will significantly contribute to the understanding and advancement of sustainability practices in higher education.

What are the possible benefits from taking part?

Participating in this research offers several potential benefits. Firstly, it provides an opportunity for your university to showcase its sustainability efforts and share best practices with a wider academic and policy-making community. The findings of this study will contribute to a deeper understanding of effective sustainability policies, which can enhance the reputation of your institution as a leader in sustainability. Additionally, the insights gathered from various universities will be compiled into a comprehensive typology, which can serve as a valuable resource for improving and refining your own sustainability strategies. Lastly, by contributing to this research, you will be supporting the advancement of sustainability in higher education, potentially influencing positive changes and inspiring other institutions to adopt more effective and innovative sustainability practices.

Do I have to take part?

No. It's completely up to you to decide whether you take part or not. Your participation is voluntary.

If you decide not to take part in this study, this will not affect your position in the company and your relations with your employer.

What if I change my mind?

If you change your mind, you are free to withdraw at any time during your participation in this study. If you want to withdraw, please let me know, and I will extract any ideas or information you contributed to the study and destroy them. However, it is difficult and often impossible to take out data from one specific participant when this has already been anonymised or pooled together with other people's data. Therefore, you can only withdraw up to 6 weeks after taking part in the study.

What are the possible disadvantages and risks of taking part?

It is unlikely that there will be any major disadvantages to taking part.

Will my data be identifiable?

After the interview only I, the researcher conducting this study and my supervisor, Professor Murray Saunders will have access to the ideas you share with me.

I will keep all personal information about you (e.g. your name and other information about you that can identify you) confidential, that is I will not share it with others. I will remove any personal information from the written record of your contribution. All reasonable steps will be taken to protect the anonymity of the participants involved in this project.

Participants in the focus group will be asked not to disclose information outside of the focus group and with anyone not involved in the focus group without the relevant person's express permission.

For further information about how Lancaster University processes personal data for research purposes and your data rights please visit our webpage: www.lancaster.ac.uk/research/data-protection

How will I use the information you have shared with me and what will happen to the results of the research study?

I will use the information you have shared with me only for research purposes only. This will include my PhD thesis and other potential publications, for example journal articles. I may also present the results of my study at academic conferences or to inform policymakers.

When writing up the findings from this study, I would like to reproduce some of the views and ideas you shared with me. I will only use anonymised quotes (e.g. from my interview with you), so that although I will use your exact words, all reasonable steps will be taken to protect your anonymity in our publications.

How my data will be stored?

Your data will be stored in encrypted files (that is no-one other than me, the researcher will be able to access them) and on password-protected computers. I will store hard copies of any data securely in locked cabinets in my office. I will keep data that can identify you separately from non-personal information (e.g. your views on a specific topic). In accordance with University guidelines, I will keep the data securely for a minimum of ten years.

What if I have a question or concern?

If you have any queries or if you are unhappy with anything that happens concerning your participation in the study, please contact myself via e.ransome@lancaster.ac.uk or my supervisor,

Professor Murray Saunders

Department of Educational Research,
Lancaster University,
Lancaster, LA1 4YL, UK

m.saunders@lancaster.ac.uk

If you have any concerns or complaints that you wish to discuss with a person who is not directly involved in the research, you can also contact:

Professor Jo Warin

Department of Educational Research,
Lancaster University,
Lancaster, LA1 4YL, UK

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Sources of support

In some projects, sensitive and potentially distressing topics may be discussed as part of the research. In such cases, it is good practice to add sources of support participants can turn to.

This study has been reviewed and approved by the Faculty of Arts and Social Sciences and Lancaster Management School's Research Ethics Committee.

Thank you for considering your participation in this project.

Appendix 7: Interview Structure

- How do you personally define sustainability in the context of higher education and how important do you believe sustainability is for higher education institutions?

- What does sustainability mean to your institution?

- Have you noticed any changes in the language or discourse around sustainability over time at your institution?

- Can you describe the key sustainability policies currently in place at your institution?

- How is sustainability integrated into the curriculum at your institution?

- What are the main benefits and challenges to implementing sustainability practices in universities?

- What positive outcomes have you observed as a result of sustainability practices and how is success of sustainability initiatives measured?

- In your experience, what factors have been most influential in the successful implementation of sustainability policies at your institution?

- How committed is the leadership at your institution to sustainability and what impact does this have on the implementation of sustainability initiatives?

- How do you envision the role of sustainability evolving in higher education in the coming years?

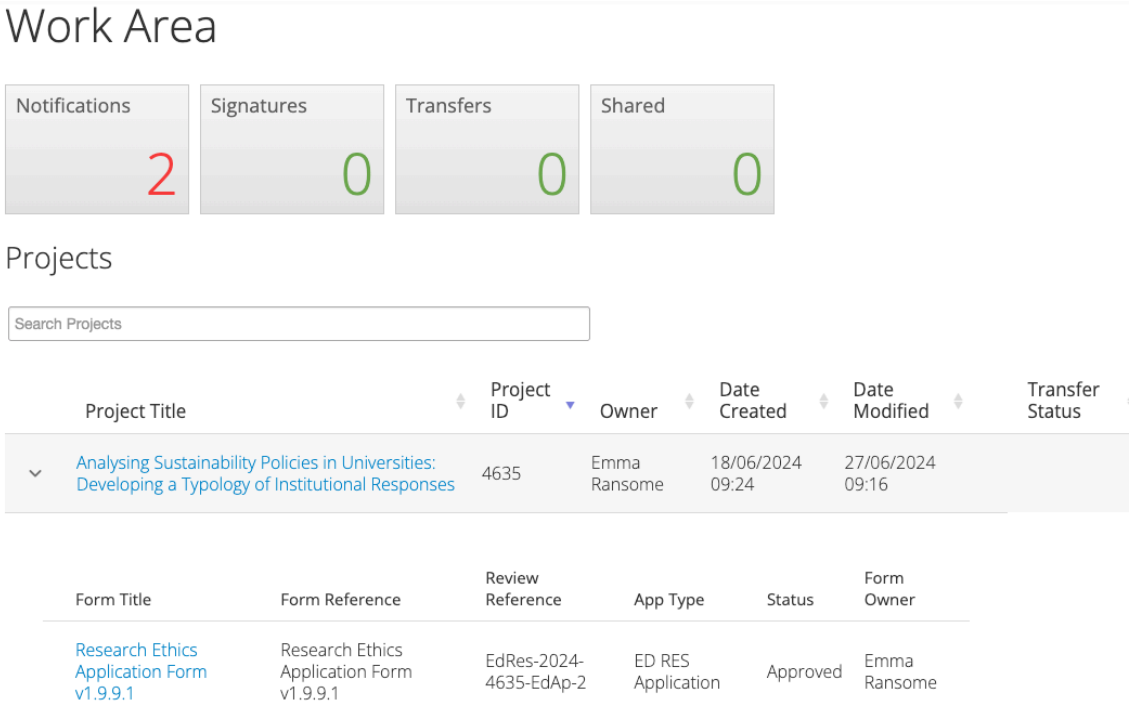
Appendix 8: Themes from Interviews

Relevant RQ		Theme	Subcategory and Code	P1	P2	P3	P4	P5	P6	P7	P8
RQ1	RQ3	Sustainability Definition	Environmental Sustainability	✓	✓	✓	✓	✓	✓	✓	✓
RQ1	RQ3		Financial Sustainability	✓	✓	✓	✓	✓	x	✓	✓
RQ1	RQ3		Social Sustainability	✓	✓	✓	x	x	✓	✓	✓
RQ1	RQ3		Unclear on Meaning of Sustainability	✓	✓	x	x	x	✓	x	x
RQ1	RQ3		Linking Types of Sustainability Together	✓	x	✓	x	✓	x	✓	x
RQ1	RQ3		Negative Connotation to Sustainability	✓	x	✓	x	x	✓	x	x
RQ2	RQ4	Sustainability Goals and Challenges	Ambiguity in Defining Goals	x	✓	✓	x	✓	x	✓	x
RQ2	RQ4		Resource and Funding Constraints	x	✓	✓	✓	✓	✓	✓	✓
RQ2	RQ4		Institutional vs. Individual Priorities	x	✓	x	✓	✓	x	✓	✓
RQ2	RQ4		Balancing Environmental and Social Goals	x	✓	✓	x	x	x	✓	✓
RQ2	RQ4		Linking Sustainability to Institutional Mission	x	✓	x	✓	✓	x	✓	✓
RQ1		Curriculum and Educational Approach	Interdisciplinary Curriculum Efforts	x	✓	✓	x	x	✓	✓	✓
RQ1			Core vs. Optional Modules	x	✓	✓	x	x	x	✓	✓
RQ1			Embedding Sustainability in All Programmes	x	x	✓	x	x	x	x	✓
RQ1			Using SDGs as Curriculum Framework	x	✓	✓	x	✓	✓	✓	✓
RQ1		Perceptions and Attitudes toward Sustainability	Positive Engagement and Optimism	x	✓	x	x	x	✓	x	x
RQ1			Perceived Cynicism and Authenticity Issues	x	✓	✓	x	x	✓	x	x
RQ1			Reluctance due to Overwhelming Workloads	✓	x	x	✓	x	✓	x	x
RQ1			Sustainability as a “Buzzword”	x	x	✓	x	x	✓	x	x
RQ2	RQ3	Leadership and Governance	Leadership-Driven Initiatives	✓	✓	x	✓	x	x	✓	x
RQ2	RQ3		Formal Sustainability Governance	x	✓	x	✓	✓	x	✓	✓
RQ2	RQ3		Accountability and Reporting	x	✓	x	x	x	✓	x	x
RQ2	RQ3		Institutional Priority of Sustainability	✓	x	✓	x	✓	x	x	x
RQ4		Operation Management	Carbon Management and Reduction Efforts	x	✓	x	✓	✓	x	✓	✓
RQ4			Energy Efficiency and Renewable Energy	x	x	x	✓	x	x	x	✓
RQ4			Waste Management and Recycling Initiatives	x	x	x	x	x	✓	x	x
RQ4			Sustainable Procurement	x	x	x	x	x	x	x	✓
RQ4			Campus Infrastructure and Facilities	x	✓	x	✓	x	✓	x	✓
RQ2	RQ4	Resources	Human Resources and Staffing	x	✓	x	x	x	✓	✓	✓
RQ2	RQ4		Financial Resources and Budgeting	✓	✓	✓	✓	✓	✓	✓	✓
RQ2	RQ4		Technological Resources	x	x	x	✓	x	x	x	✓
RQ2	RQ4		Resource Allocation and Prioritisation	x	✓	x	✓	x	x	x	✓
RQ2	RQ4		Training and Development	x	x	x	x	x	✓	✓	x
RQ3		Students	Student Engagement in Sustainability	✓	✓	✓	x	x	✓	✓	✓
RQ3			Student-Driven Sustainability Initiatives	x	✓	x	x	x	x	✓	✓
RQ3			Integration of Sustainability in Student Curriculum	x	✓	✓	x	x	✓	✓	✓
RQ3			Student Feedback on Sustainability Efforts	x	x	x	✓	x	x	✓	x
RQ3			Student Partnerships in Sustainability Projects	x	x	✓	x	x	✓	✓	x

Appendix 9: Themes from Policy and Interviews

Themes from Interviews and Policy	P1		P2		P3		P4		P5		P6		P7		P8	
	Policy Presenc	Interview Presenc	Policy Presenc	Interview Presenc	Policy Presenc	Interview Presence	Policy Presence	Interview Presence	Policy Presence	Interview Presence	Policy Presence	Interview Presence	Policy Presence	Interview Presence	Policy Presence	Interview Presence
Environmental Sustainability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Financial Sustainability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Social Sustainability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Unclear on Meaning of Sustainability	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓
Linking Types of Sustainability Together	x	✓	x	✓	✓	✓	x	✓	✓	✓	✓	✓	x	✓	✓	✓
Negative Connotation to Sustainability	x	✓	✓	x	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓
SDGs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ambiguity in Defining Goals	x	x	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓
Resource and Funding Constraints or Needs	✓	✓	x	✓	x	✓	✓	✓	x	✓	x	✓	x	✓	x	✓
Institutional and. Individual Priorities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓
Balancing Environmental and Social Goals	x	✓	x	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓
Linking Sustainability to Institutional Mission	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Interdisciplinary Curriculum Efforts	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Core vs. Optional Modules	x	✓	x	✓	✓	✓	x	x	✓	x	✓	✓	x	✓	✓	✓
Embedding Sustainability in All Programmes	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Using SDGs as Curriculum Framework	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Research to Enhance Teaching	✓	✓	x	x	✓	✓	✓	x	✓	✓	✓	✓	x	x	✓	✓
Positive Engagement and Optimism	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Perceived Cynicism and Authenticity Issues	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓
Reluctance due to Overwhelming Workloads	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓	x	✓
Sustainability as a "Buzzword"	x	✓	x	x	x	✓	x	✓	✓	✓	x	✓	x	✓	x	✓
Leadership-Driven Initiatives	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Formal Sustainability Governance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Accountability and Reporting	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	x	✓	✓	✓	✓
Institutional Priority of Sustainability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓
Green washing	x	✓	x	x	x	✓	x	x	x	✓	x	x	x	✓	x	x
Reporting and Accountatiblity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Transparancy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carbon Management and Reduction Efforts	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Energy Efficiency and Renewable Energy	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	x	✓	✓	✓	x
Waste Management and Recycling Initiatives	✓	✓	✓	✓	✓	x	✓	x	✓	x	✓	x	✓	✓	✓	✓
Sustainable Procurement	✓	✓	✓	x	✓	x	✓	x	✓	x	✓	✓	✓	✓	✓	x
Campus Infrastructure and Facilities	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Research to Improve Operations	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	x
Biodiversity	✓	✓	x	✓	✓	x	✓	✓	✓	✓	✓	x	✓	✓	✓	✓
Fossil Fuels	✓	x	✓	✓	✓	x	✓	✓	✓	✓	✓	x	✓	x	x	x
Trasnport	✓	x	✓	x	✓	x	✓	✓	✓	✓	✓	x	✓	✓	x	x
Human Resources and Staffing	x	✓	x	✓	x	✓	✓	✓	x	✓	x	✓	x	✓	x	✓
Financial Resources and Budgeting	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓
Technological Resources	x	x	x	x	x	x	✓	x	x	x	✓	x	x	x	x	✓
Resource Allocation and Prioritisation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Student Engagement in Sustainability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓
Student-Driven Sustainability Initiatives	✓	✓	✓	✓	✓	x	✓	✓	x	✓	✓	x	✓	✓	✓	✓
Integration of Sustainability in Student Curriculum	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Student Feedback on Sustainability Efforts	x	✓	x	✓	x	x	x	x	x	x	x	x	x	x	x	✓
Student Partnerships in Sustainability Projects	✓	✓	✓	✓	✓	x	✓	x	x	x	✓	✓	✓	✓	x	✓
Graduate Employability	x	x	x	✓	✓	x	✓	x	✓	x	x	x	x	✓	x	✓
Wellbeing	x	✓	x	x	✓	x	x	✓	x	x	✓	✓	✓	x	x	x
Negative Connotation to Sustainability	x	✓	✓	✓	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	x	✓
Training and Development	x	✓	x	✓	✓	x	✓	✓	x	✓	✓	✓	✓	✓	x	✓
Workload	x	✓	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	✓	x	✓
International Partnerships	x	x	x	✓	✓	x	✓	x	✓	x	✓	x	✓	x	✓	x
Local Collaoration	✓	x	✓	✓	✓	x	✓	✓	✓	✓	✓	✓	✓	x	✓	✓
Graduate Employability	x	x	x	✓	✓	x	✓	x	✓	x	x	x	x	✓	x	✓
Nationald and Global League Tables	x	x	x	x	x	x	✓	✓	x	x	x	x	x	x	x	x
Mission Statements and Values	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	✓
Sustainable Awards	✓	✓	x	x	x	✓	✓	✓	x	x	x	x	x	✓	✓	x
Innovative Research	✓	x	x	x	✓	x	✓	x	✓	x	✓	✓	✓	✓	x	✓

Appendix 10: Ethical Approval



Work Area

Notifications	Signatures	Transfers	Shared
2	0	0	0

Projects

Search Projects

Project Title	Project ID	Owner	Date Created	Date Modified	Transfer Status
Analysing Sustainability Policies in Universities: Developing a Typology of Institutional Responses	4635	Emma Ransome	18/06/2024 09:24	27/06/2024 09:16	

Form Title	Form Reference	Review Reference	App Type	Status	Form Owner
Research Ethics Application Form v1.9.9.1	Research Ethics Application Form v1.9.9.1	EdRes-2024-4635-EdAp-2	ED RES Application	Approved	Emma Ransome

Appendix 11: Attributes, Antecedents, Surrogate Terms and Consequences

Element	Recurring Examples Identified in Policies	Recurring Examples Identified from Interviews
Attributes	Holistic approach	Holistic sustainability (social, economic, environmental)
	Carbon neutrality	Focus on embedding sustainability into the curriculum (often optional)
	Embedding sustainability in curricula and operations	Carbon reduction and net-zero targets
	Community engagement	Student and staff engagement projects (e.g., sustainability clinics)
	Biodiversity	Emphasis on education and interdisciplinary modules
	Sustainable procurement and supply chains	
	Net-zero emissions targets	
	Emphasis on education, research, and innovation	
Antecedents	Recognition of climate emergency	Leadership commitment and governance structures
	International frameworks (e.g., UN Sustainable Development Goals)	Influence of global frameworks, particularly the UN Sustainable Development Goals (SDGs)
	Government legislation (e.g., UK Climate Change Act 2008)	Student and academic pressure for institutional change
	Student and staff demands for sustainability action	Personal commitment from senior staff
	Institutional commitment to sustainability	
Surrogate Terms	Environmental management systems (ISO 14001)	SDGs as key reference points
	Green culture	Net-zero and carbon management
	Sustainability literacy	Sustainability literacy and education
	Climate action	Climate justice
	Ethical investment	Decolonisation and inclusivity in curriculum
	Circular economy	Biodiversity and nature-positive initiatives
	Climate education	
	Sustainable travel	
	Social responsibility	
Consequences	Reduced environmental impacts (waste, emissions)	Enhanced institutional reputation and student recruitment
	Enhanced biodiversity	Increased sustainability awareness among students and staff
	Improved community and stakeholder relationships	Improved student employability
	Increased awareness and knowledge on sustainability	Alignment with international sustainability goals
	Increased institutional reputation and attractiveness	Potential for societal transformation limited by inconsistent integration
	Achievement of external sustainability accreditations and rankings	
	Influence on broader societal sustainability	

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