

Contents

Exe	ecutive Summary	3
1	Introduction	4
2	Context	5
3	Methodology	5
	3.1 Approach	
4	Literature review	6
5	Review of target setting legislation 5.1 Target setting within the UK and devolved administrations 5.2 Legislation setting targets for waste management indicators 5.3 Legislation setting targets for GHG emissions reductions	8 8 9 11
6	Target setting legislation for poverty reduction 6.1 Child Poverty (Scotland) Act 2017 6.2 Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019	14 14 15
7	Commonalities in target setting across the UK 7.1 Introduction of legislation 7.2 Amendments 7.3 Monitoring 7.4 Enforcement 7.5 Measures of success 7.6 Reaching targets	15 15 16 16 16 17 17
8	Circular ecomony target settings for the wider EU 8.1 Circular Economy Act (Andorra) 8.2 Relating to the fight against waste and the circular economy (France) 8.3 Circular Economy and Miscellaneous Provisions Act 2022 (Ireland) 8.4 Further EU legislation referencing the Circular Economy	17 18 18 19
9	Non statutory CE targets 9.1 EU Circular Economy Action Plan 9.2 Regional strategies with CE targets	19 20 20
10	Summary of findings 10.1 Recommendations on the integration of targets 10.2 Circular economy targets	21 22 22
11	Final Thoughts	23

Executive summary

Target-setting legislation is an incredibly complex landscape to navigate, as it requires a careful balance of demand-based and market-based values that satisfy various stakeholders' needs. The review of literature and existing policies demonstrates that targets can effectively drive transformation and fulfil an overarching, long-term goal (e.g., GHG emissions reduction). However, prematurely introduced targets may have unintended consequences and can fuel mistrust from the public, highlighting the need for thorough evaluation and research before statutory implementation.

The UK has implemented target-setting legislation to reduce emissions, waste, and poverty. Overarching targets are typically set within primary legislation. Powers to set interim or sector-specific targets are usually placed within primary legislation, with targets to follow in secondary legislation or on a non-statutory basis. Both target types are generally implemented following advice from an independent specialised body, such as the Climate Change Committee (CCC), in the case of emissions reduction targets. Evidence provided by these technical bodies often concludes in amendments to legislated targets.

A review of European target-setting legislation demonstrates that only France and Andorra have statutory targets framed within a Circular Economy (CE) context, primarily focusing on waste reduction. Ireland has recently implemented legislation creating powers for future CE targets in priority sectors, such as construction and agriculture.

Of the three European countries with CE legislation, Ireland is most similar to Scotland in economics and material flows; therefore, it could provide the most appropriate frame of reference for Scotland's Circular Economy Bill. In addition to the legislation set out by these three countries, the European Circular Economy Action Plan sets out guidelines for CE legislation across Europe. This paper also identifies regional strategies which use the term "Circular Economy".

Update - June 2023

This paper was researched and written in 2022. Therefore, the policy and examples presented within this report may not be the most current versions or conclusive. Zero Waste Scotland is continuously developing knowledge of the circular economy (CE), through research to increase our evidence and insight to help achieve our goals to inform policy, and motivate individuals and businesses to embrace the environmental, economic, and social benefits of a circular economy.

Zero Waste Scotland supports the Scottish Government with policy and legislation development relating to the Circular Economy on an ongoing basis.

1 Introduction

This paper identifies target-setting legislation in the UK and the devolved administrations, including any legislated monitoring, and highlights considerations for the Scottish Government while designing a CE framework for Scotland. This paper uses Zero Waste Scotland's definition of Circular Economy, also adopted by the Scottish Government's consultation on a Circular Economy Bill¹:

- Reduce the demand for raw materials.
- Reuse, repair, and manufacture by designing and selling products and materials to last as long as possible.
- Recycle waste and energy to maximise the value of waste.

This work focuses on how targets have been introduced in related policy areas (e.g., environmental, climate or waste targets) to provide insight into what constitutes successful legislation. It considers how legislation introduces, modifies, monitors, and enforces targets. Our analysis primarily focuses on targets in policy areas related to the CE (such as climate change, environmental targets and waste and recycling targets). Examples from the UK and the devolved administrations were the primary focus of this work; however, the paper also discusses CE legislation which has been implemented within the EU.

Whilst the potential list of indicators for a CE and associated targets are much broader than those discussed within this paper, waste/recycling and emissions targets are currently the most widespread in legislation. Waste and recycling targets are easily quantifiable, whilst emissions reduction targets are more complex and are upheld by a series of indicators across different sectors. As a result, monitoring frameworks between these approaches differ. Although CE policy will likely move towards an established indicator framework as is present within emissions reduction legislation, the lack of data availability and consensus on which indicators to monitor is currently a barrier. Therefore, existing CE legislation focuses primarily on waste and recycling targets as the complex monitoring frameworks and indicator set, as are present in climate legislation, are not yet established enough to provide similarly robust framework. This paper also discusses Scottish legislation, which sets targets and monitoring requirements for equally complex issues, such as child poverty.

 $^{1\ \}underline{https://www.gov.scot/publications/delivering-scotlands-circular-economy-consultation-proposals-circular-economy-bill/}$

2 Context

This paper intends to help inform the Scottish Government on how to include targets in its proposed Circular Economy Bill. The consultation on this bill closed on 22 August 2022 and has undergone analysis². Proposal 2 of the consultation sought feedback on taking enabling powers to set statutory targets through secondary legislation in relation to the circular economy.

The consultation highlights several high-level indicators that could be used to measure consumption, including those that can be sourced from Zero Waste Scotland's Material Flow Accounts. It also presents a monitoring framework to inform policy choices, design specific targets on broader circularity measures, and integrate considerations on wider social, economic, and environmental impact. The consultation responses demonstrated that 86% of the respondents support the proposal to set statutory targets. Of these, the average response score was 4.9 out of 5 (5 indicating strong support). The participants felt that voluntary targets were ineffective, and evidence-led statutory targets could be more effective in driving the change towards a circular economy.

The Scottish Government published Making Things Last: a circular economy for Scotland³ in 2016. The current Circular Economy Bill consultation proposes strengthening this approach by placing a duty on Scottish Ministers to publish or refresh a CE strategy every five years. Making Things Last, amongst other ambitions, proposed a food waste reduction target of 33%, the first of its kind in Europe. It also refers to existing waste reduction targets, including reaching a 70% recycling and a 5% landfill target by 2025, none of which are statutory but have informed decision-making in waste management. These were introduced in Scotland's Zero Waste Plan in 2010.⁴

3 Methodology

3.1 Approach

Initially, this paper reviews the literature on existing analyses of target-setting legislation. This section will provide an overview of academic literature on target-setting legislation and incorporate findings established by previous reviews within Zero Waste Scotland.

This project primarily focuses on target-setting legislation within the UK and devolved administrations, with the website <u>legislation.gov.uk</u> being used to identify relevant legislation. The terms "target" and "targets" were used to conduct the search on this platform. Policies relating to education were eliminated due to a lack of relevancy. Other search engines were used to identify broader EU legislation. Whilst the legislation included in the review focuses primarily on topics related to the CE (e.g., emissions and waste reduction), it also includes more general target-setting legislation within Scotland [e.g., the Child Poverty (Scotland) Act 2017] as these provide insight into how the Scottish Government monitors and enforces statutory targets.

² https://www.gov.scot/publications/delivering-scotlands-circular-economy-proposed-circular-economy-bill-consultation-analysis/pages/8/

³ https://circulareconomy.europa.eu/platform/sites/default/files/making_things_last.pdf

⁴ https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2010/06/scotlands-zero-waste-plan/documents/00458945-pdf/00458945-pdf/govscot%3Adocument/00458945.pdf

Sixteen pieces of legislation have been identified for this paper. The following six acts and regulations were identified through legislation from the UK Government:

- Producer Responsibility Obligations (Packaging Waste) Regulations 1997.
- Waste and Emissions Trading Act 2003.
- Climate Change and Sustainable Energy Act 2006.
- UK Climate Change Act 2008.
- Energy Act 2013.
- UK Environment Act 2021.

Four acts and regulations were identified within legislation from the Scottish Government:

- Climate Change (Emissions Reduction Targets) (Scotland) Act 2019.
- Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019.
- Child Poverty (Scotland) Act 2017.
- The Waste (Scotland) Regulations 2012.

Three pieces of legislation were identified from other devolved governments:

- Waste (Wales) Measure 2010.
- Environment (Wales) Act 2016.
- Climate Change Act (Northern Ireland) 2022.

A further three acts were identified through European governments:

- Llei 25/2022, del 30 de juny, d'economia circular (Andorra).
- Circular Economy and Miscellaneous Provisions Act 2022 (Ireland).
- LAW n° 2020-105 of 10 February 2020, relating to the fight against waste and the circular economy (France).

At the time of writing, these were the only identified statutory targets. This list may not be conclusive of all statutory targets relating to the circular economy. Whilst the list of statutory targets is relatively small, many more targets within this space are non-statutory. Therefore, this paper has also identified other national and regional strategies which set targets to drive the move towards a CE. These documents could act as a guide for what future targets may look like in Scotland.

4 Literature review

Target-setting legislation is primarily used within climate and energy law to impose overarching duties on the Government to tackle long-term issues in the public's interest. Targets for complex issues, such as climate change, are generally long-term (i.e., over at least ten years), as they require radical change and time to deliver. Additionally, long timeframes allow problems in the public interest to have an overarching approach beyond different governing parties and their political interests.

In theory, targets allow government policy and its delivery to be held accountable. It can also assist with establishing trust between the public and the Government, enabling progress to become tangibly evidenced.⁵ Legal obligations allow businesses and communities which need

to implement changes to adjust for situations with long-term implications, including business-based and financial decision-making, without the threat of new governments changing guidelines.

Targets are used as a regulatory tool (e.g., promoting the use of ultra-low emission vehicles/ULEVs), and regulatory instruments underpin these (e.g., removing vehicle tax for ULEVs). Target-setting is an incredibly complex process that requires careful balancing of market-based (e.g., cost-effectiveness, individual freedom) and demand-based values (e.g., climate justice, public accountability). Whilst markets are subject to national legislation, too stringent targets can threaten equity. It is vital that if targets are set in place, they are transparent and based on thoroughly researched frameworks that ensure the targets can realistically be met and are designed in line with social justice values (e.g., equity, fairness).6

Concerns regarding target-setting legislation include a lack of an accountability framework for governments in case targets are not met and being utilised as a symbolic means of satisfying public interest without actual tangible action. However, they do lay a basis for potential legal action against governments not acting to fulfil targets. An example of this can be seen with in the case of Friends of the Earth, ClientEarth, and Good Law Project vs the UK Government, in which the High Court ruled that the Government has not been fulfilling commitments of the Climate Change Act 2008. Therefore, setting targets demonstrates a commitment beyond that of a Parliamentary term.

In 2009, the European Commission passed legislation to reduce CO₂ emissions from newly registered vehicles. A review concluded that an overarching climate target may have been more appropriate due to the uncertainties in the development of technology which may affect a legislated target in future. The study also highlights inaccuracies in the original justification of these targets, which used "poorly justified and misleading" linear regression models on predicted emissions reduction. Targets can also have unintended consequences on consumer behaviour. For instance, volume-based waste fees are in place in Korea, resulting in both a decrease in overall waste production and an increase in recycling rates. To reduce levels of food waste, authorities attempted to increase the cost of food waste per kg. This, however, resulted in an increase of food waste within municipal waste, which cost citizens less to dispose of. These examples highlight the importance of thoroughly researching the potential impact of a statutory target and an effective pathway to achieving the target prior to its implementation.

⁶ Hilson C. Hitting the target? Analysing the use of targets in climate law. Journal of Environmental Law. 2020;32(2):195-220. doi:10.1093/jel/eqaa004

⁷ Lee A, Leslie J. Judicial Review of Target-Setting Legislation. Judicial Review. 2010;15(3):236-241. doi:10.5235/108546810793129277; Rutter J, Knighton W. Legislated Policy Targets: Commitment Device, Political Gesture or Constitutional Outrage?; 2012.

⁸ https://www.judiciary.uk/wp-content/uploads/2022/07/FoE-v-BEIS-judgment-180722.pdf

⁹ Frondel, M., Schmidt, C. M., Vance, C. (2011). A regression on climate policy: The European Commission's legislation to reduce CO2 emissions from automobiles. Transportation Research Part A: Policy and Practice, 45(10), 1043–1051. https://doi.org/10.1016/j.tra.2009.12.001

¹⁰ Dr Kwang Yim Kim, 2022. Food waste recycling in Korea. https://www.youtube.com/watch?v=FiM9DUIk-7Dw&t=2s

A review of target-setting in climate law by Hilson (2020) recommended the following:

- Long-term national targets set into legislation can help to offset interim economic, competitive measures, which may detract businesses from engaging in technological and structural transitions towards more sustainable practices.
- Interim legal targets ensure progress is maintained, however not too short-term, as this can compromise flexibility, cost-effectiveness, and equity. 11

Targets should be reviewed and updated regularly as emerging evidence may provide more appropriate approaches to achieving overarching goals. An independent body which reviews the implementation of a long-term policy strategy can be an essential tool to ensure that the commitment is adequately driven during changes in Parliament and, thus, political outlooks. In Scotland, for instance, Environmental Standards Scotland was established through the UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021 to ensure environmental laws and standards are adhered to in Scotland, replacing the European Union's previous scrutiny and enforcement role.

Zero Waste Scotland has reported on possible indicators for a CE monitoring framework and is continuing to review evidence in this area. Early thoughts were that whilst the identified core high-level indicators had great potential to facilitate the drive towards a CE, they are insufficient to fully monitor all aspects of the transition to a circular economy. A broader range of indicators, such as environmental footprints, economic & social impacts, policy, process, and behaviour indicators, must supplement them. At the time of writing, it was identified that the timeliness of data availability was a barrier (e.g., the current version of the material flow account currently has to rely on four-year-old trade data from 2018).¹⁴

The following section evaluates how targets have previously been set within UK legislation.

5 Review of target-setting legislation

5.1 Target-setting legislation within the UK and devolved administrations

Target-setting legislation within UK primary legislation sets targets for climate action, poverty reduction, education, and international development. This paper will focus on two broad policy areas: climate action and poverty reduction. Legislation on climate action (e.g., GHG emissions and waste reduction) is most closely related to the circular economy, but the way in which poverty reduction targets are legislated can provide insight into how the Scottish Government has approached target-setting.

Target-setting legislation in the UK and devolved administrations primarily focuses on waste and emission reduction. The following sections will look at legislation setting targets based on waste management and GHG emissions reduction indicators, respectively.

¹¹ Hilson C. Hitting the target? Analysing the use of targets in climate law. Journal of Environmental Law. 2020;32(2):195-220. doi:10.1093/jel/eqaa004

¹² Rogelj J, Geden O, Cowie A, Reisinger A. Net-zero emissions targets are vague: three ways to fix. Nature. 2021;591(7850):365-368. doi:10.1038/d41586-021-00662-3

¹³ Averchenkova A, Fankhauser S, Finnegan JJ. The impact of strategic climate legislation: evidence from expert interviews on the UK Climate Change Act. Climate Policy. 2021;21(2):251-263. doi:10.1080/14693062.2020.1819190

¹⁴ Taylor E, Millar F. Zero Waste Scotland Thoughts on Indicators. 2021. (unpublished)

5.2 Legislation setting targets for waste management indicators

5.2.1 Producer Responsibility Obligations (Packaging Waste) Regulations 1997 (UK)The Producer Responsibility Obligations (Packaging Waste) Regulations 1997 is one of the earliest pieces of UK legislation which discusses a target relevant to the circular economy.
When initially laid, it set out in Schedule 10 that the UK's targets for recovery and recycling would be:

- By 2001, recover between 50-65% of packaging waste.
- Within this target, between 25-45% of the total weight of packaging materials is to be recycled (minimum of 15% of weight for each material type).

It also designates an "appropriate agency" to monitor these activities, although this is not specified within the Act. Schedule 2 of the original regulations outlines the mechanism to determine material-specific and producer-specific targets. There have been various amendments to the regulations, including to definitions and mechanisms for calculations over the years. Subsequent targets are announced by the Secretary of State and introduced as amendments to the original Act.

The process of developing targets for these ongoing amendments is politically sensitive and involves careful balancing of stakeholder interests. Scotland transposes these amendments into Scottish law through various Statutory Instruments, such as The Producer Responsibility Obligations (Packaging Waste) Amendment (Scotland) Regulations 2020.

Table 1 Statutor	y EPR Recy	cling targets	in Scotland	for 2021	and 2022
-------------------------	------------	---------------	-------------	----------	----------

Materials	2021	2022
Glass	81	82
Plastic	59	61
Aluminium	66	69
Steel	86	87
Paper/Board	79	83
Wood	35	35

This legislation will soon be amended to allow for data reporting requirements which lead into the new EPR scheme, which will replace previous legislation. Obligations of the new scheme will come into place from 2024. This new legislation will likewise introduce regular interim targets (including a final target for 2030), led by regular monitoring and evaluation.

5.2.2 Waste and Emissions Trading Act 2003 (UK)

The Waste and Emissions Trading Act 2003 is one of the first pieces of legislation in the UK which mandates annual reports and ministerial reviews to analyse progress. The Act does not legislate specific targets, but the Secretary of State is mandated to consult with leaders of devolved nations to set annual non-statutory waste reduction targets. The amount of biodegradable waste sent to landfill is the sole indicator used within this legislation. Each authority is responsible for appointing a person to be the monitoring authority for its area and making provisions to ensure targets are met. The Act sets out that penalties may apply if targets are not met.

5.2.3 The Waste (Wales) Measure 2010

The Waste (Wales) Measure 2010 saw the Welsh Government becoming an early adopter of

setting regular statutory waste and recycling targets. It has the most ambitious statutory waste targets of all the devolved nations, with a final target to recycle, reuse, or compost 70% of waste by 2024/25, and a set of interim targets:

- Recycle, reuse, or compost 52% of waste by 2012/13.
- Recycle, reuse, or compost 58% of waste by 2015/16.
- Recycle, reuse, or compost 64% of waste by 2019/20.

Wales successfully achieved all targets and succeeded in its target of 66% in 2019/20, and to date no amendments have been made to the legislation in relation to targets.

However, an amendment was made to establish Natural Resources Wales (NRW) as a public body, with a remit to provide fundamental strategic management and protection of the environment throughout Wales, from regulation and enforcement to maintaining the Welsh Government Woodland Estate (WGWE). Established in 2013, NRW primarily took over the functions of the Countryside Council for Wales, Forestry Commission Wales, and the Environment Agency in Wales, as well as particular Welsh Government function bodies. Whilst local councils are responsible for tracking and reporting, Natural Resources Wales may be asked for advice on decision-making processes and guides the auditing and monitoring processes.

Case study: Welsh waste targets

Prior to the introduction of statutory waste targets, Wales implemented a non-statutory 40% recycling target. Many local authorities sought to achieve this target to improve their performance indicators. In preparation for the introduction of the Waste (Wales) Measure 2010, ministers consulted with the stakeholders for four years to agree upon a scientifically sound and realistic statutory target. Environment NGOs ambition for targets exceeded what some scientific analysis at the time deemed realistic (an initial 60% vs a later agreed 40% recycling target for 2010).

Whilst penalties were legislated for local authorities which did not reach waste targets, these were rarely sought. Instead, prior to issuing a penalty, the Welsh ministers would consult with the local authorities to discuss whether reasonable measures had been taken to reach the targets. It was generally found that extenuating circumstances hindered reaching the target, in which cases penalties were waived.

5.2.4 The Waste (Scotland) Regulations 2012

The Waste (Scotland) Regulations 2012 did not introduce waste reduction measures as part of its regulations. To date, Scotland has no statutory waste reduction or recycling targets. Whilst UK-wide legislation implemented landfill allowances through The Landfill Allowances Schemes (implemented in Scotland in 2005), these were revoked due to a change in European waste definitions. The Waste (Scotland) Regulations 2012 did, however, implement requirements to ensure increased rates of recycling. These were implemented into law by amending the Environmental Protection Act 1990. These amendments included that local authorities must provide "receptacles" to allow for the collection of dry recyclable waste and food waste.

For commercial waste the requirement to recycle is enforced through Section 34 of the EPA (The Duty of Care) under which both SEPA and local authorities have powers. Non-compliance by businesses is an offence punishable by summary conviction or by a fine of up to the statutory maximum. Local Authorities have powers to require appropriate sorting of household waste.

Scotland has implemented non-statutory waste reduction targets within its <u>Managing waste policy</u>. It states the following: "By 2025, we aim to:

- Reduce total waste arising in Scotland by 15% against 2011 levels.
- Reduce food waste by 33% against 2013 levels.
- Recycle 70% of remaining waste.
- Send no more than 5% of remaining waste to landfill".

The Waste (Scotland) legislation is regularly updated, and the most recent version The-Waste (Miscellaneous Amendments) (Scotland) Regulations 2020 consists of a series of amendments to previous waste management legislation in Scotland. It sets some waste prevention measures which reflect core CE principles, such as designing products under circular principles, reducing waste from problematic industries (e.g., manufacturing and construction), and encouraging the donation of durable food. It does not, however, set targets for waste reduction.

5.3 Legislation setting targets for GHG emissions reduction

5.3.1 Climate Change and Sustainable Energy Act 2006

This Act does not legislate precise targets but mandates annual reports and targets for GHG emissions and microgeneration. Initially, the Act set out the requirement for the Secretary of State to write annual reports on greenhouse gas emissions, evaluate the causes of potential increases/decreases and set targets for heat and microgeneration installation by 2009.

The Act wording has since been amended. All sections mandating annual targets (e.g., greenhouse emissions, microgeneration) were repealed. Multiple subsections on annual microgeneration targets and reports made by the Secretary of State to advise local councils were omitted through the Deregulation Act 2015. Annual GHG emission targets were repealed through the Climate Change Act 2008 (changed to every five years) as later evidence demonstrated that longer periods could be more indicative of progress.

5.3.2 UK Climate Change Act 2008

In preparation for the 2009 Conference of Parties to the United Nations Framework Convention on Climate Change in Copenhagen, many countries implemented carbon targets within their legal frameworks. The <u>UK Climate Change Act 2008</u> is arguably the most significant piece of climate legislation in the UK and was one of the leading documents legislating a climate reduction target by 2050. Only the final climate target, i.e., net zero greenhouse gas emissions (i.e., 100% reduction of emissions compared to 1990 baseline) by 2050, is legislated, whilst interim targets are to be determined through consultation with the Climate Change Committee (CCC). Initially, the target demanded an 80% reduction from 1990 baseline figures, but it was increased from 80% to 100% in <u>The Climate Change Act 2008 (2050 Target Amendment) Order 2019</u>. This legislation takes a "four pillar" approach, consisting of a Goal (Net Zero by 2050), a Pathway (five-year interim targets), a Toolkit (requirement for policies), and a Monitoring Framework (developed by the CCC).

According to the CCC, the first and second carbon targets have been met, and the third one (2018-2023) is on track. However, the subsequent three are off track. The CCC is also required to submit annual reports to UK and devolved governments on progress and recommendations for carbon budgets, and to provide additional advice where necessary.

5.3.3 Energy Act 2013

The Energy Act 2013, like the Climate Change Act 2008, focuses on decarbonisation. However, this Act focuses specifically on carbon emissions within the energy sector. It only sets the need for an initial target, but no final or interim targets or specifications. It mandates that the first decarbonisation target should be set for 2030, although no amendments have been made to this document since its implementation.

To date, there is still no specified statutory decarbonisation target, as knowledge of relevant sectors and potential future technology is constantly developing. Instead, decarbonisation is framed within the wider net zero targets, and to date, strategies lay out non-statutory targets. For instance, in 2022 the British Energy Security Strategy set non-statutory targets for over 40% reduction in gas consumption by 2030, up to 8 new nuclear reactors by 2030 and up to 70GW of solar power by 2035. These targets are referred to as "ambitions" within the strategy instead of targets.

5.3.4 Environment (Wales) Act 2016

The Welsh Government, through the <u>Environment (Wales) Act 2016</u> introduced emissions reduction legislation in 2016. Acting upon advice given by the CCC, it initially only settled for a 95% reduction in GHG emissions by 2050.

Only the final target is specified within the Act. In 2019, the 2050 target increased from a 95% reduction to a 100% reduction from the 1990 baseline following discussions with the CCC. Interim targets are to be determined through consultation with the CCC. The Act sets out the requirement for targets for 2020, 2030 and 2040, although these are not specified within the Act. The legislation also sets out the need for guidelines for the following areas to contribute to emissions reduction:

- Carrier bag charges.
- Collection and disposal of waste.
- Fisheries for shellfish.
- Marine licensing.
- Flood and coastal erosion.
- Land drainage.
- Local Government Byelaws.

The current legislation states that the person or advisory body responsible for progress reports, advice and assistance to Welsh ministers is yet to be determined. However, the CCC has advised the Welsh Government on overall emissions reduction strategies. Natural Resources Wales has been providing advice on issues related to the broader environment and natural resources.¹⁵

Non-statutory targets set out an annual 3% reduction in greenhouse gas emissions and more specific measures such as a tree-planting target of 2000 hectares per year (reduced from 5000 due to lack of functioning land management approach).

5.3.5 Climate Change (Emissions Reduction Targets) (Scotland) Act 2019

Based on Scotland's strong renewable energy industry, it was advised by the CCC that an earlier net target would be possible. Therefore, it has legislated a net zero target by 2045 (i.e., 100% reduction of emissions compared to 1990), five years earlier than that set by the UK Government through the <u>Climate Change (Emissions Reduction Targets)</u> (Scotland) Act 2019.

In contrast to the UK Government, Scottish legislation also mandates interim targets:

- Reduce emissions by 56% by 2020.
- Reduce emissions by 75% by 2030.
- Reduce emissions by 90% by 2040.

The Act sets out powers for strategies in the following sectors to contribute to the overall emissions targets:

- Energy supply.
- Transport (including international aviation and shipping).
- Business and industrial process.
- Residential and public (in relation to buildings in those sectors).
- Waste management.
- Land use, land use change and forestry.
- Agriculture.

Examples of these include the earlier mentioned non-statutory waste targets and the aim to achieve 50% of electricity generation from renewable sources by 2030.

In 2020, emissions were down 58.7% from the baseline period. The 2020 figures are likely skewed due to lockdown measures, which resulted in reduced domestic transport (-26.6% from 2019) and aviation (-61.5% from 2019) (Scottish Government, 2020). Amendments have been made to designate CCC as the "relevant body", i.e., the body responsible for monitoring and reporting.

The adaptation sub-committee of CCC and ClimateXchange (Scotland's climate change research and analysis body) developed the monitoring framework. This included developing indicators (linked to specialist organisations, e.g., SEPA), reporting on progress, and improving the framework where necessary.

5.3.6 UK Environment Act 2021

The <u>UK Environment Act 2021</u> is the closest thing to a CE Bill in the UK Government. However, it only sets out the specification for targets; it does not set specific targets. Instead it lay enabling powers to set targets for:

- Air quality.
- Water.
- Biodiversity.
- Resource efficiency.
- Waste reduction.
- Fine particulate matter (PM 2.5).

The Act also sets out guidelines of the necessity to introduce guidelines for the following areas:

- Waste management.
- Motor vehicle production/retail.
- Water management.
- Conservation.
- Forestry.
- UK REACH legislation (H&S regulation for chemical substances).

The Office for Environmental Protection was created through this legislation as a new public body to hold Government and other public authorities to account on environmental law and Environmental Improvement Plans.

5.3.7 Climate Change Act (Northern Ireland) 2022

In 2022, Northern Ireland implemented its own devolved emissions reduction targets in the Climate Change Act (Northern Ireland) 2022. The emissions target is similar to those

^{16 &}lt;a href="https://www.gov.scot/binaries/content/documents/govscot/publications/statistics/2022/06/scottish-greenhouse-gas-statistics-2020/documents/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/govscot%3Adocument/greenhouse-gas-tables-charts.xlsx">https://www.gov.scot/binaries/content/documents/govscot/publications/statistics/2022/06/scottish-greenhouse-gas-statistics-2020/documents/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-charts/greenhouse-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tables-gas-tab

already introduced by the UK Government and the other devolved nations. It sets a final net zero target for 2050 and sets powers for 2030 and 2040 targets to be set "in line with the target for 2050". Significantly, it also sets out further statutory targets:

- 80% of electricity consumption to come from renewable sources by 2030.
- 70% of waste to be recycled by 2030.
- Minimum spend of 10% of transport budget on facilitating active travel.

It also sets out powers for the development of sector-specific plans to contribute to the overall emissions targets for fisheries, industry, infrastructure (planning and construction), agriculture, transport, and waste management. It further sets out that the CCC will write reports to lay before the Assembly which will analyse:

- Whether Northern Ireland is on track to meet its targets.
- Any further measures it must take to reach its targets.
- Whether the target can be altered to facilitate increased progress.

6 Target-setting legislation for poverty reduction

The UK, in some cases, sets overarching legislation such as the Child Poverty Act 2010, which devolved nations use as a premise for their primary legislation.

This section will focus specifically on Scottish target-setting legislation due to its relevance to developing the CE Bill. Scotland almost exclusively sets binding targets within legislation rather than solely specifying targets.

6.1 Child Poverty (Scotland) Act 2017

This Act follows on from the Child Poverty Act 2010, which sets out a requirement for the devolved nations of the UK to set out child poverty strategies. In response, Scotland released the Child Poverty Strategy for Scotland, outlining measures the Scottish Government took to target child poverty in Scotland.

The Child Poverty (Scotland) Act 2017 sets interim targets for child poverty and a final target by 2030. It sets the following final targets:

- Less than 10% of children in households that are in relative poverty by 2030.
- Less than 5% of children in households that are in absolute poverty by 2030.
- Less than 5% of children in households that are in combined low-income and material deprivation poverty by 2030.
- Less than 5% of children in households that are in persistent poverty by 2030.

No amendments have been made to the document regarding targets, but functions of the Poverty and Inequality Commission (i.e., provision of advice, gathering evidence, publishing of reports) were specified in a later amendment. The Commission has been designated to monitor progress and consult with ministers. Additionally, Scottish Ministers must produce a report before each reporting year to describe measures taken to achieve targets and the current state of child poverty.

6.2 Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019

Scotland is the first country in the UK to implement legislation and statutory targets on fuel poverty through the 2019 Act. The final targets set out that no more than 5% of Scottish households should be in fuel poverty, no more than 1% in extreme fuel poverty, and the median fuel poverty gap of households in fuel poverty is no more than £250 in 2015 prices before adding inflation by 2040.

It also sets out the following interim targets:

- No more than 15% of Scottish households in fuel poverty and no more than 5% in extreme fuel poverty by 2030.
- No more than 10% of Scottish households in fuel poverty and no more than 3% in extreme fuel poverty by 2035.

Scottish Fuel Poverty Advisory Panel is mandated to measure:

- (a) progress toward meeting the fuel poverty targets,
- (b) the likelihood of meeting the fuel poverty targets, and
- (c) the extent to which the four drivers of fuel poverty are being addressed.

The Panel is prescribed to make a report to the Scottish Ministers on its consideration of the matters and suggest changes to the fuel strategy or other measures it considers appropriate to tackle fuel poverty. Some of the non-statutory targets introduced through strategies include that all social housing should meet EPC Band B by December 2032, and no social housing should be let below EPC Band D from December 2025.

7 Commonalities in target-setting across the UK

The following sections will discuss commonalities in how legislation is introduced, amended, monitored, and enforced.

7.1 Introduction of legislation

The research for this paper has shown that across the UK, targets have been set in both primary and secondary legislation.

While overarching targets can be set in primary legislation, for example the net zero target for 2050 (2045 in Scotland), they were based upon thoroughly researched indicator frameworks. Additionally, some targets which were set in primary legislation have since had to be amended as new evidence became available.*

Governments across the UK generally set out powers for the introduction of sector-specific targets or guidelines in primary legislation. For instance, the Environment Act 2021 will likely result in either statutory targets within secondary legislation or non-statutory targets until the indicator frameworks are fully established. All devolved and the UK-wide Climate Change Acts also introduce powers to set out guidelines for industries which are crucial to achieving the overarching target.

^{*}See Section 10 for our recommendations

7.2 Amendments

There have been few amendments to target-setting legislation, although some targets (e.g., fuel poverty levels, and future carbon budgets) are not on track. One of the most significant amendments are the revisions to the carbon budget, which has been adjusted within all pieces of legislation following advice from the CCC. The CCC has given specialised advice to each of the devolved nations following research on the potential emission reductions of each country. Scotland was deemed to have a heightened potential to meet net-zero based on its strong renewable energy sector, which is why it has an earlier date of 2045 to meet net zero. Wales was previously expected to have difficulties reaching net zero by 2050 due to high emissions from industries such as steel production.

However, in 2020, the CCC created an advice report stating that a move to net zero by 2050 could be possible with action in specific industries. Amendments to date have almost exclusively been upon the advice from advisory bodies, apart from exceptional cases, such as the removal of powers for local authorities to introduce Energy Efficiency standards in Building Regulations through the Deregulation Act 2008.

7.3 Monitoring

Based on the analyses of the legislation within this report, an external body or an advisory committee is generally responsible for monitoring the progress of targets. Advisory committees typically consist of members of Parliament and relevant external experts, whilst external bodies are affiliated with non-governmental organisations. Monitoring Frameworks, as such, are not always fully legislated within the UK. Instead, they are generally established within the legislated body responsible for monitoring progress and advising the Government. Legislation typically only prescribes the need for reports presented to Parliament at regular intervals (e.g., annually, every five years), which summarise the following points:

- Progress made towards statutory targets and the likelihood of reaching them.
- Evaluation of measures implemented by the Government to achieve these targets.
- Suggestions or amendments to be made to improve performance.

In most cases, only statutory targets provide legislative indicators to include in the monitoring process, whilst broader measures to evaluate progress are determined through the advisory bodies. For instance, the CCC is only legally responsible for advising on progress towards statutory GHG emissions targets, however, its established Monitoring Framework monitors a more comprehensive range of indicators contributing to the target progress.

In some cases, monitoring is set out directly within the legislation. In cases where the monitoring of targets may be reliant on a more complex set of indicators, such as child poverty or emissions targets, monitoring of progress is kept relatively open within the legislation, e.g., stipulating the requirement to annually review and report on the progress made towards targets and an update on the delivery plan. However, legislation that has been implemented one or two decades ago, and has thus had the opportunity to develop a robust monitoring framework, may lay out more specific statutory methods of monitoring and evaluating progress.

For instance, the legislation on EPR prescribes detailed calculations to calculate recycling rates for different materials, updated through regular amendments.

7.4 Enforcement

Enforcement of targets is generally based upon reporting through an appointed body or a public authority. If failings are demonstrated, discussions are held with a panel, usually including a designated official at Parliament, to consider further steps. Even when penalties are mandated, reports state that these are rarely enforced as public authorities can generally provide evidence that appropriate action was taken towards meeting these targets unless extenuating circumstances apply. This highlights that statutory targets can be effective in driving appropriate action by public authorities.

7.5 Measures of success

Progress towards the targets is generally measured through a body appointed through the legislation, such as the Climate Change Committee or SEPA. These bodies are responsible for establishing monitoring frameworks, measuring impact, and reporting on progress. This section will focus solely on the success of the UK legislation summarised within this study, as it is too early to evaluate the success of any CE legislation within Europe (examples of which are discussed in more detail below).

7.6 Reaching targets

Progress towards or achievement of targets may be driven by external factors, e.g., the achievement of the emission targets in 2020. During this time, both domestic and commercial transport was significantly reduced by the impact of COVID lockdowns. In contrast, the cost-of-living crisis is currently driving many people into fuel poverty, negatively impacting any potential progress towards fuel targets and child poverty reduction. Whilst long-term targets may provide incentives for progress towards a particular goal, i.e., a low-carbon or a circular economy, short-term sector-specific targets may be helpful for steering change.

Wales' ongoing statutory waste reduction reached all targets, following almost a decade of trialling alternative targets. The high levels of Welsh recycling rates indicate that statutory targets accompanied by incentivisation are effective in facilitating the successful achievement of goals. UK emissions targets have also been reached to date, facilitated by an array of sector-specific strategies which support decarbonisation. However, the UK is off track for future targets and the CCC has been vocal about the lack of the Government's action in areas such as domestic insulation and renewable energy, which it considers significant sectors in the move to net zero.¹⁷

While Scotland did not meet the 2019 GHG emissions target, is did reach the 2020 target due to the sharp decrease in aviation and household transport, as discussed above. The CCC outlined its views on progress during its December 2022 review of Scotland's progress on emissions reduction, highlighting that more concrete policy and action plans are necessary to ensure that the 2030 target is met.

8 Circular Economy target-setting legislation in the EU

Most EU countries have similar target-setting legislation to the UK, mandating emission and waste reduction and increasing renewable energy. France and Andorra are the only countries with legislated CE targets. They have a range of consumption reduction, waste reduction and material flow regulation targets.

Legislation identified:

- Circular Economy Act (Andorra).
- Relating to the fight against waste and the circular economy (France).
- Circular Economy and Miscellaneous Provisions Act 2022 (Ireland).

8.1 Circular Economy Act (Andorra)

Andorra has implemented CE legislation which lays out a regular review by the Government. It primarily sets out waste reduction targets but has also implemented socio-economic and water reduction targets. The targets are as follows:

- Increase in the reuse and recycling of waste (corresponding with EU directives 55% by 2025, 60% by 2030, and 65% by 2035).
- Reduction in the generation of municipal waste (by 15% in 2030 and by 20% by 2035 compared to 2010 baseline and in proportion to population).
- Reduction in water consumption (to below 150l per person per day by 2035 in proportion to population).
- Increase in sorting of waste at the source (i.e., selective collection) in line with EU targets.
- Reduction of food waste (reduction of 50% by 2030 in line with SDG 12.3).
- Increase in number of companies with circular economy business models (by 25% by 2035).

It also establishes the need for the creation of a "calculation method" which will be used to identify progress towards these targets and become an ongoing evaluation tool. These targets are set to be evaluated and reconsidered every five years. The bill also states that the monitoring and evaluation framework will be laid out within the CE strategy. It states that all actors within the CE, including businesses, are obliged to share their data with public authorities in order to be able to evaluate progress made towards set targets.

8.2 Relating to the fight against waste and the circular economy (France)

France has the most established CE legislation to date. The current legislation consists almost exclusively of amendments to previous legislation and focuses primarily on waste reduction. The original target of 10% reduction in household waste by 2020 established in Environmental Code was removed through this legislation.

The document sets out the following targets:

- Reduce household waste by 15% by 2030 (compared to the 2010 baseline).
- Develop reuse strategies to reach the equivalent of 5% of the tonnage of household appliances by 2030.
- 100% recycling rate of plastic by 1 January 2025.
- Reduce the amount of household waste incinerated or landfilled to 10% of total waste by 2035.
- End single-use plastic packaging by 2040.
- By 2025, reduce food waste by 50% in food distribution and catering (compared to the 2015 baseline).
- By 2030, reduce food waste by 50% in consumption, production, processing, and commercial catering (compared to the 2015 baseline).

The Act also refers to other pioneering legislative requirements, such as the ban of the destruction of durable goods and producer responsibility to ensure that products are created sustainably and with CE principles in mind at the design stage (e.g., repairability, recyclability). The French Government is required to report on targets to the Parliament annually.

8.3 Circular Economy and Miscellaneous Provisions Act 2022 (Ireland)

Ireland has also implemented CE legislation but has not yet legislated targets. It has set enabling powers for upcoming targets in the following areas:

- Reductions in material consumption and use of non-recyclable materials.
- Increase in reusable products.
- Increase levels of repair and reuse of products and materials.
- Optimise use of goods and materials.

Priority areas identified within the document are the following:

- Construction.
- Agriculture.
- Retail.
- Packaging.
- Textiles.
- Electronic equipment.

There is no specified monitoring framework set out within the document. However, it does specify that the Minister for the Environment, Climate and Communications will be responsible for creating reports on progress, and to liaise with the Environmental Protection Agency as necessary. It also suggests that the Minister should encourage action from key actors across the various sectors.

8.4 Further EU legislation referencing the Circular Economy

Portugal (Framework climate law no 98/2021) and Spain (Law 7/2021 on climate change and energy transition) briefly reference the need for a move towards a circular economy within two recent legislative documents. However, targets within these documents refer exclusively to reduction in GHG emissions and increase in renewable energy.

9 Non-statutory CE targets in Europe

Whilst legislation generally provides targets to provide an overarching approach to reducing emissions and tackling poverty, industry specific targets are generally established on a non-statutory basis. Targets are sometimes interpreted by the public as being statutory, and whilst they may be central to policy, they are not always legally binding.

Many other countries, including the Netherlands and Sweden, have strategies for setting out CE targets, but these are not legislated. The Netherlands, for example, sets out a non-statutory recycling target in its circular economy strategy (85% recycling by 2023), but this is currently off track.

Sweden is currently trialling consumption-based emissions targets. However, these targets focus on emissions and discusses measures such as reducing imports with a high-carbon footprint, rather than reducing consumption itself.

9.1 EU Circular Economy Action Plan

The EU Circular Economy Action Plan 2020 is the second instalment of EU CE guidance, the first having been introduced in 2015. The 2020 Action Plan sets out measures to be taken by member states to reduce the impact of their economies on the environment and introduce core CE principles. Most notably, it highlights the need for decoupling of economic growth from resource use. It is not a legally binding document. Therefore, there are no statutory targets set out within the document. However, it does prescribe the need for targets in the following areas:

- Waste reduction (specific focus on packaging, plastic, and food waste).
- Material recovery (e.g., in the construction industry).
- Carbon reduction targets for specific sectors.

It also frames the importance of Green Public Procurement, as public bodies could act as drivers for CE practices by supporting businesses operating within a CE framework. The Action Plan also highlights that the following waste streams are priority areas, due to high environmental impact and high potential for circularity:

- Electronics and ICT.
- Batteries and vehicles.
- Packaging.
- Plastics.
- Textiles.

It has developed a CE monitoring framework, highlighting indicators should be developed and amended on an ongoing basis. The current CE monitoring framework focuses on various indicators, including waste reduction, recycling rates, and socioeconomic impacts. Whilst it is too early to determine success of this strategy, integral ongoing development should be beneficial to the plan's success.

9.2 Regional strategies with CE targets

9.2.1 Circular Flanders

In 2020, Flanders (Belgium) developed a comprehensive strategy for implementing a circular economy using a three-pillar approach.¹⁸ The three pillars are as follows:

- **Pillar 1:** Circular purchasing Using public procurement to invest in circular products and businesses.
- **Pillar 2:** The Circular City Using proximity of various geographic elements within the city to drive circular practices.
- Pillar 3: Running circular businesses Stimulating collaboration between organisations and the development of new technologies to allow innovative circular practices to flourish.

It aims to reduce material consumption by 30% (compared to 2010 baseline) by 2030 and runs a comprehensive monitoring framework using more than 100 indicators to measure progress towards this goal.¹⁹ These indicators are categorised as follows:

- Circularity (e.g., material flow accounts).
- Effects (e.g., material footprints and socioeconomic indicators such as green jobs).
- Housing (e.g., material footprint of construction and building stock).
- Food (e.g., water consumption, protein consumption, waste).
- Consumer goods (e.g., reuse and sales of specific goods).
- Mobility (meaning public and private transport).

¹⁸ https://circulareconomy.europa.eu/platform/sites/default/files/kick-off_statement_circular_flanders.pdf

^{19 &}lt;a href="https://cemonitor.be/en/indicator/">https://cemonitor.be/en/indicator/

9.2.2 Zukunft.Bioökonomie.Bayern

Bavaria (Germany) released a strategy in 2020 driving a circular bioeconomy, in which it promotes the need for CE practices such as full lifecycle analyses. The document summarises 50 measures the state will take to drive a circular bioeconomy, however these consist of qualitative objectives, such as the need for the state to support value-added cycles and the drive for circular products. The tasks almost exclusively refer to the need for more research on increasing circular design and production, facilitating higher levels of cross-sectional collaboration, and investing in circular businesses.

9.2.3 Catalonia Impuls A l'economia verda I a l'economia circular

The Catalonian Government has implemented a strategy on the circular economy. The circular economy is framed as part of its wider "green economy" strategy, and does not solely focus on CE principles, but also discusses measures taken to increase areas of land dedicated to organic farming and conservation. The document introduces the following activities to support the move towards a circular economy:

- Decarbonisation.
- Funding public transport.
- Minimising consumption and facilitating reuse and recycling.
- Support "ecodesign".
- Using biomass sustainably.
- Transform urban spaces to support the move towards CE.
- Dematerialisation and digitisation in Government and public services.
- Green procurement, but also support the move towards the use of second-hand products by government and public services.

These principles are set out to inform future policymaking. The following sectors are highlighted as priority areas:

- Food production, catering, and hospitality.
- Waste management.
- Energy.
- Industry.
- Design.
- Transport.
- Healthcare.
- Broader cultural industries (e.g., tourism, graphic arts).

The document discusses the current state of CE principles in Catalonia, such as green jobs and green finance, however it does not introduce any forthcoming targets.

10 Summary of findings

This paper identified and discussed key target-setting legislation in the UK and the devolved administrations, including any legislated monitoring. The following sections will draw out Zero Waste Scotland's recommendations for the integration of targets in the CE Bill.

10.1 Recommendations on the integration of targets

Target-setting legislation has continually developed over the past two decades. Statutory targets can effectively create certainty of long-term commitment and action throughout the

possibility of change in political powers. Long-term, overarching statutory goals with short-term, interim non-statutory goals can successfully facilitate change, yet these targets must be thoroughly researched before implementation. Welsh waste targets, for instance, have been successful in driving high recycling rates. However, this followed almost a decade of research and amendments to previous targets. Non-statutory targets can still drive action without the risk of legal misconduct, yet they do so to a lesser extent, as businesses and local councils only participate on a voluntary basis. They also do not provide the long-term certainty of statutory targets. They can, however, act as trials for statutory targets and assist in identifying flaws or more appropriate indicators.

Overarching statutory targets can provide an incentive for businesses and local authorities to make necessary amendments which contribute to progress towards these goals. However, without a full evaluation of the implications of targets before legal implementation, targets may have unintended consequences. Therefore, setting powers in primary legislation, then stipulating targets in secondary legislation would be an effective first step in facilitating the legislative move towards a circular economy. It is necessary to comprehensively evaluate indicators and targets to ensure that targets can drive development sustainably and effectively whilst staying relevant. This can be complemented by continuous monitoring and evaluation by an external body, in line with up-to-date evidence research and socioeconomic developments.

Whilst the research in this paper has shown that overarching targets can be set within primary legislation, those examples were based upon internationally recognised and evidenced indicators (e.g., emissions reduction and net zero by 2050), or by thoroughly researched indicator frameworks (e.g., child poverty). As such, we would encourage policy makers to continue to seek robust and internationally recognised evidence to help inform the development of targets, which would then act as an incentive to move Scotland towards a more circular economy.

Taking learnings internationally and from other devolved countries, we recommend that legally binding targets are not set until we have full evidence of the effectiveness of indicators in measuring progress towards a circular economy, as well as any unintended consequences these targets may have.

10.2 Circular economy targets

Whilst the term "Circular Economy" is increasingly entering legislation internationally, there is currently no legislation that fully targets all areas of the circular economy, using the definition adopted in the CE Bill consultation paper statutory CE targets are also exceptionally rare. France and Andorra are the only two EU countries with legislated CE targets, although these primarily focus on waste management, or the "recycling" element of a CE approach. Consumption reduction is discussed in both acts, but the only statutory reduction target introduced is Andorra's water reduction target. France sets the first reuse target, legislating targets which support reaching the equivalent of 5% of tonnage of household appliances by 2030. Andorra sets the unique target of achieving circular business models in 25% of businesses by 2035, which could potentially drive progress across all core CE areas.

Ireland is most similar to Scotland in terms of population size, demographics, and geography; therefore, it could provide the most appropriate frame of reference for Scotland's Circular Economy Bill. Ireland has set the powers for targets in its six priority areas: construction, agriculture, retail, packaging, textiles, and electronic equipment. It recognises that the indicators are not yet established enough to be able to develop an effective monitoring framework. It also sets the powers for consumption reduction targets, although the pathway is currently undefined.

The indicators used within these legally binding documents and the other non-statutory strategies introduced in this paper vary. Although most focus on waste management and increased recycling rates, the few exceptions to this are indicators with already well-established data, such as Andorra's target to reduce water consumption. Flanders is leading on a material consumption reduction strategy and uses a broad range of numerous indicators which could provide inspiration of potential indicators for Scotland. Additionally, the European Circular Economy Action Plan provides guidance on the types of indicators to include in a monitoring framework. However, it will be the responsibility of the body implementing a monitoring framework to ensure that these indicators are not solely replicated, but appropriate for Scotland. Following a significant period of monitoring and evaluation, these could then lead to the implementation of realistic and suitable statutory targets.

11 Final thoughts

If Scotland were to legislate for CE targets across all CE principles (reduce, reuse, recycle), it would be the first European nation to do so and would pioneer target-setting within this area. Analysis by Zero Waste Scotland, the CE strategies discussed within this paper, and the EU guidelines on CE indicators could act as appropriate guidance whilst recognising we can build on others' experiences in this space.

We suggest that the proposed CE Bill sets enabling powers to allow targets to be set in future legislation, albeit bearing in mind that developing appropriate indicators and subsequent targets must be led by rigorous evidence evaluation. The establishment of baselines is the primary step to evaluating progress. Targets may be set with agreed flexible parameters that allow for the assessment of genuine impact, highlight deficiencies, and avoid unintended consequences.

Previous research by Zero Waste Scotland²⁰ highlighted that the following must be considered when developing a CE Monitoring Framework for Scotland:

- Full range of indicators (identified from academic literature and other policies. such as those introduced within this report).
- Policies relating to the circular economy and consumption reduction to ensure that indicators can track the impact of policy.
- Data availability in Scotland.
- Resource implications of indicators.
- Stakeholder views.

Scotland has a significant opportunity to become a leading nation in CE legislation. We believe that following a thorough evaluation of potential indicators, alongside a development in the availability of relevant data, target-setting could drive the move towards a circular economy.

