



Rialtas na hÉireann  
Government of Ireland

# Whole of Government Circular Economy Strategy 2022 - 2023

Living More, Using Less



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# Foreword by An Taoiseach



# Foreword by An Taoiseach



Climate change is a threat to all of us and to our way of life.

Along with other world leaders at COP 26, I committed to do all in my power to ensure that we will succeed in limiting greenhouse gas emissions; to ensure that the transition we deliver is jobs-rich and economically sustainable; to ensure that there is real climate justice and nobody, in any part of the world, is left behind.

The role of Government is to provide a clear vision for the future and the pathway to get there. Our policies and plans set the pace and tone for all other actors in society and the economy.

In the Programme for Government and the Climate Act, 2021, Ireland committed to halving our emissions by 2030 and reaching net zero by 2050 at the latest, placing climate action at the heart of all Government plans and policies over the next decade and beyond. The Programme for Government also recognises that the transition to a circular economy is a crucial part of the solution to tackle climate change.

Through our Climate Action Plans, the Government details the myriad of actions we will take to make life in Ireland sustainable. One of the areas of opportunity identified in the Climate Action Plan 2021 is supporting a transition to a circular economy. The circular economy keeps resources in use for as long as possible until they are regenerated into new products at the end of their life cycle. A more sustainable and responsible approach to consumption; use and re-use of materials; and end of use recycling and disposals, will have positive impacts on our environment, animal and marine life. This sustainable consumption of resources and production of goods is already integral to our commitment to Goal 12 of the United Nations Sustainable Development Goals.

The move to sustainable consumption and production requires a fundamental shift in how we live our lives, run our businesses and conduct Government. Such a transformation requires

unambiguous policy direction and support from across Government. This first Whole of Government Circular Economy Strategy will meet that requirement.

The circular economy is as much a social and economic agenda as it is an environmental one, and will enable us to turn our climate and environmental challenges into opportunities for all.

Scaling the circular economy will create the opportunity for significant job creation and quality work at all skills levels for the citizens of the country, leading to reduced social inequity. It also presents an opportunity for financial savings and empowerment for consumers and will give a focus to inclusive, balanced and sustainable development, particularly in terms of regional and rural development.

It is estimated that annual savings of €2.3 billion are achievable by boosting Ireland's circularity. In other words, by eliminating wasteful practices and making better use of the resources we already have, we can significantly reduce the cost of doing business.

Ireland has thrived in the global marketplace. As competition for, and costs of, natural resources rise, we need to manage the resources we hold in a smarter way. Reimagining production and consumption as set out in this Strategy, we can insulate ourselves better from the vagaries of world prices and supply chains. More strength in our economic depth can benefit communities across the country providing training and jobs in design, repair, refurbishment and recycling.

Ireland is well placed to thrive in a transition to circularity, especially by virtue of its membership of the EU Single Market. It is the largest global trading block and is committed to reaping the benefits of a circular economy. Many measures, such as changes to product standards, are more

feasible at EU level than Ireland acting alone.  
Ireland is committed to looking for the most  
ambitious EU approach to the circular economy.

This Strategy will go further, identifying those  
national measures which can complement EU  
policy but also accelerate our progress.

**Mícheál Martin, TD**  
*An Taoiseach*

# Foreword by Minister Ossian Smyth TD



# Foreword by Minister Ossian Smyth, TD



This Strategy aims to set out what the Circular Economy is and what it means for Ireland. Almost as importantly, it illustrates what the Circular Economy is not.

The Circular Economy is not just about better waste management or less plastic pollution or better recycling rates.

The Circular Economy is about looking at our 'throwaway' economy and recognising that there is a better way, that it is possible to break the cycle of wasteful resource extraction, unsustainable consumption, and unnecessary disposal. Environmental degradation must not be the inevitable consequence of economic growth.

That is why Government wants Ireland to become a European, and indeed global, leader in relation to the Circular Economy, reaping the benefits of increased competitiveness, strengthened national resilience and an improved environment, which is why I am delighted that Dublin has recently been selected as host city for the prestigious European Circular Economy Hotspot in 2023.

Achieving a circular economy in Ireland will require many things that are new; new ways of designing products, new manufacturing methods, new materials and new business models. Circularity also requires returning to an approach, which predates the rise of built-in obsolescence and single-use disposable items, focused around making goods that are higher quality, more durable and can be easily repaired rather than being replaced. All these approaches, old and new, have applications right across the economy and significant potential for innovation, growth and sustainable employment.

In producing this Strategy, Government is addressing two of the major obstacles holding back the development of the Circular Economy in Ireland. The first is a lack of a joined-up national policy framework, outlining how the Circular Economy relates to different policy areas across Government and how those sectoral policies can in turn support circularity. This Strategy provides that framework and establishes new structures to ensure that the

development of Ireland's Circular Economy remains a whole-of-Government priority. This approach will be further strengthened by legislation which my Department will be bringing forward shortly, which will place future versions of this Strategy on a statutory footing. This means that there will be a legal obligation on future governments to have a national Circular Economy Strategy in place and to regularly update it.

The second major obstacle is a low level of awareness and understanding of circularity among households, businesses and policy makers. Too often we do not realise that there are alternatives to our 'take-make-waste' patterns of production and consumption, and even if we do, then finding information on more sustainable, circular options can be challenging. This Strategy begins to tackle that problem by explaining how the Circular Economy relates to our everyday lives in plain terms and it commits Government to taking a range of actions in relation to awareness-raising and communications. The goal here is to foster an inclusive 'whole-of society' approach to the circular transition.

These are far from the only challenges to improving Ireland's circularity, others relate to increased investment requirements, the need for more skills and training and removing regulatory barriers. Government looks forward to working with the community, voluntary, research and private sectors to address these challenges and this Strategy provides the mechanism for doing so.

Achieving a circular economy in Ireland will be a huge challenge and we have a long way to go. But the potential rewards are even greater, economically, socially and environmentally, not least because developing sustainable patterns of consumption and production will be key to meeting our climate ambitions. I firmly believe Ireland is equal to this challenge and look forward to doing my part in Government to make the Circular Economy a reality.

December 2021

# Key Objectives



## Key Objectives:

1. To provide a national policy framework for Ireland's transition to a circular economy and to promote public sector leadership in adopting circular policies and practices.
2. To support and implement measures that significantly reduce Ireland's circularity gap, in both absolute terms and in comparison, with other EU Member States, so that Ireland's rate is above the EU average by 2030; such measures to address facets of sustainable production and consumption most impactful in an Irish context.
3. To raise awareness amongst households, business and individuals about the circular economy and how it can improve their lives.
4. To support and promote increased investment in the circular economy in Ireland, with a view to delivering sustainable, regionally balanced economic growth and employment; and
5. To identify and address the economic, regulatory and social barriers to Ireland's transition to a more circular economy.

# What is the Circular Economy?



# 1. What is the Circular Economy?

Today's global economy is overwhelmingly based on a linear ('take-make-waste') model of production and consumption. The environmental impacts of this linear model, in which we extract great quantities of natural resources to make things that we may use only once before throwing them away, are not sustainable. Allowing resources and goods to go to waste also represents a significant loss of value and increases our dependence on complex global supply chains.

The circular economy offers an alternative to this linear model, one in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of life.

In part, circular economy activities are already commonplace: using a reusable cup for a coffee on the go, donating to a charity shop, or having a pair of shoes repaired instead of throwing them away are all simple examples of extending a product's lifespan through re-use and/or repair.

A more specialised example of the circular economy is remanufacturing, which is an industrial process where products are taken apart, cleaned, repaired, and then reassembled to a 'like-new' standard so they can be used again. Remanufacturing is well-established practice in several industries, including the automotive and aviation sectors.

Remanufacturing is not necessarily driven by environmental concerns, but by the high value of the remanufactured components and because maintenance cycles featuring scheduled remanufacturing are preferable to having components fail before they are replaced.

So, circular economy principles and practices are not wholly new.

However, a more ambitious, transformative approach to production and consumption

is needed to achieve a **systemically** circular economy, one in which waste and resource use are minimised by default, in which good design preserves product value for as long as possible, via durability and repair and where, when a product has reached the end of its life, its parts can be readily used again and again to create further useful products.

# Why should we want a Circular Economy?



## 2. Why should we want a Circular Economy?

Delivering a circular economy will have positive environmental, economic and social impacts, and a well-designed circular policy framework can maximise these impacts and identify co-benefits so that environmental 'wins' also provide economic and social opportunities and vice versa. This is why the [Programme for Government, Our Shared Future](#), committed to a range of actions to support the transition to a circular economy. These included the establishment of a cross-Government Circular Economy Unit in the Department of the Environment, Climate and Communications (DECC) and the adoption of a Circular Economy Strategy. The adoption of this Strategy also represents an action under the [Climate Action Plan 2019](#). More recently, the [Climate Action Plan 2021](#) has embedded circular economy principles as a horizontal measure across all sectors as well as adopting a number of standalone objectives for advancing circularity as a strategic government objective.

In the best-case scenario, a well-established circular economy would provide more access to better designed products, which can be shared, reused, repaired and remade. This in turn would provide opportunities for local manufacture and remanufacture, supporting local jobs and services with the lightest impact possible on the quality of our water, air, soil and health. In recent times, as a result of the COVID pandemic, Brexit and rising energy prices, we have seen the value of shorter and more localised supply chains in providing for our needs, as the fragility of long global supply chains has been exposed.

In environmental terms, the central reason for a circular economy is simply that business as usual ('take-make-waste') is not sustainable, with global resource consumption outstripping the planet's natural resource capacity. Increasing extraction of natural resources and disposal of waste is a major contributor to habitat and biodiversity loss and contributes to global warming. Half of total greenhouse gas (GHG) emissions and more than 90% of biodiversity

loss and water stress come from resource extraction and processing. Therefore, achieving a circular economy will play an important part in reducing global carbon impact and protecting natural resources, environment and health.

Since 2018, the not-for-profit organisation [Circle Economy](#) has reported on the global 'circularity gap', which measures total amounts of (re)cycled materials as a proportion of the total material inputs into the global economy each year. Essentially this metric tracks the development of the global circular economy. According to the [Circularity Gap Report 2021](#), material consumption has trebled from 26.7 billion tonnes in 1970 to 92 billion tonnes in 2017. It also estimates that the global circular economy needs to roughly double in size, from the current level of 8.4% of the total economy, if climate and wider environmental breakdowns is to be avoided. The Report's DISRUPT model, which outlines key elements of the circular economy is included in Annex 5, for information.

In economic terms it is estimated that a 5% improvement in Ireland's circularity rate (that is, the rate at which materials are recovered and fed back into the economy) would result in savings of €2.3 billion annually. Below this headline figure, the circular economy can support a diverse range of sustainable enterprises and jobs across multiple business models – sharing schemes for consumer goods, bikes and cars; leasing arrangements for white goods, furniture, even clothing; re-use and remanufacture businesses. New circular economy focused enterprises based on these business models are beginning to proliferate, and many longer-established companies are beginning to incorporate circular practices as well. Achieving a systemically circular economy will also require the development of new methods of product design, manufacture and distribution, all of which represent significant innovation opportunities. Those countries and enterprises which embrace these opportunities will achieve comparative advantage in the global

economy as competition for raw materials and resources increases over the coming years and decades.

The circular economy also requires workers skilled in, for example, repair and maintenance across all product types. This represents a (re) training and upskilling opportunity for both young and older workers across all regions of the country. The circular economy is therefore also well aligned with the national Just Transition effort, as well as national skills and training initiatives being led by [Skillnet Ireland](#), whose Statement of Strategy 2020 to 2025 includes the aim to “Support the talent demands for building a low-carbon and sustainable economy through our enterprise-driven climate action upskilling initiative.”

A 2018 EU Commission report on the [impacts of circular economy policies on the labour market](#) estimated that a circular transition could deliver an additional 700,000 EU jobs across all skill levels by 2030. It also noted that other studies have estimated a European circular jobs dividend of between 1.2 to 3 million, on the

basis of increased consumer spending power as a result of cheaper recycled materials becoming more widely available.

Inevitably, any economic transition of the scale involved in achieving a circular economy will involve adapting to new business models and consumption patterns. However, we have recently seen from the response to the COVID-19 outbreak how quickly businesses can adapt to deliver services in innovative ways or develop new products to meet changing consumer demands.

The social benefits of transitioning to a circular economy have also been clarified by our experience of the COVID pandemic and its potential long-term impacts on the way we live and work. The rise of remote working and the expansion of digital services provide an opportunity for Ireland to focus on inclusive, balanced and sustainable development, particularly in terms of regional and rural development. Well-designed circular economy policies can support these processes. For example, local repair and reuse hubs, as well

## CASE STUDY 1:

### Community Reuse Network Ireland members:



**An Mheitheal Rothar** offers a full set of bicycle repair and service options, undertaken by experienced mechanics. Their award winning ReCycle Your Cycle initiative takes bikes sent for scrap to Galway City Council Civic Amenities Site and repairs them, while teaching valuable cycle mechanic skills to their trainees. This saves carbon emissions and reduces pollution from transporting, smelting and recasting scrap metal. At the same time, it provides skilled jobs, training opportunities and an affordable, fossil-fuel free means of transport. Visit [bikeworkshops.ie](#).

**IRD Duhallow Furniture Revamp** Newmarket, Co Cork provides a furniture refurbishment service. More than 95% of the refurbishment materials are reused and recycled materials, including fabric, paints and varnishes.

Visit [Facebook.com/DuhallowFurnitureRevamp](#).

as an expanding network of 'zero-waste' retail outlets, have the potential to support the economic and social renewal of town and village centres, in line with the ambition of 'Our Rural Future', Rural Development Policy 2021-2025.

Social enterprises have also long been associated with reuse and refurbishment businesses. Many have tapped the value of unwanted materials to build social capital in communities through training, retail and capacity building. Organisations such as [Community Reuse Network Ireland](#) (CRNI) are demonstrating how communities can live more sustainably and will continue to be important leaders in the transition to a circular economy. As such, the development of circular economy can complement and support the aims of Ireland's National Social Enterprise Policy for Ireland 2019-2022.

Reuse and repair are particularly important concepts in the circular economy as such interventions are widely applicable at individual, small and large scale. Their adoption can lead to broader sustainability actions and culture change. Reuse and repair initiatives provide social and economic benefits, including jobs, growth and investment, particularly in the area of social enterprises;

They support communities by localising supply chains;

They have obvious and important environmental and climate benefits - saving resources, reducing emissions and preventing waste by making things last longer.

# The Circular Economy in Ireland Today – National and International context



### 3. The Circular Economy in Ireland Today – National and International context

One of the aims in producing this strategy is to demystify the circular economy and to break down the gap between the circular economy as a policy concept and the circular economy as a myriad of actions that people are already taking on a daily basis. As set out at in Section 1 above, at a basic level circular economy principles and practices are not new to Ireland, and in many cases are already commonplace. Rental and repair businesses can be found in most cities and towns, and many charities operate networks of shops re-selling a wide range of pre-owned goods. The use of digital platforms facilitating the sharing economy (e.g. [DublinBikes](#), [GoCar](#)) is also well established, in addition to the many informal, self-organising, local and community-based networks which facilitate re-use of household goods (e.g. local 'Swap Groups' for baby clothes and toys).

This is alongside a mature and growing ecosystem of public (or publicly-supported) bodies and initiatives which support and promote the circular economy, for example:

- The **National Waste Prevention Programme (NWPP)** is a Government of Ireland initiative, led by the **Environmental Protection Agency (EPA)**, which has supported national-level programmes to prevent waste and drive the circular economy in Ireland since 2004. The NWPP provides funding programmes to develop novel solutions for the circular economy in priority areas such as food waste, construction & demolition, plastics, agriculture, resources & raw materials and local waste prevention. In line with the ambition of the National Waste Action Plan 2020, the NWPP has been reconfigured to become Ireland's national Circular Economy Programme. This new programme represents an evolution of the NWPP to be a driving force for Ireland's move to a circular economy by business, citizens & the public sector, characterised by behaviours and business models that design-out waste; ensure resource recycling; and deliver sustainable economic growth.
- **Local authorities** are another key partner in the realisation of circular economy ambitions for Ireland. With responsibilities in climate action and mitigation, local enterprise support, rural and urban community development as well as waste management planning, local authorities can realise a holistic vision of what the circular economy can mean for citizens in their communities. For the purposes of waste management planning, Ireland is divided into three regions, Southern, Eastern-Midlands and Connacht-Ulster Waste Regions. Each is involved in
  - supporting households and communities in actions to 'reduce, reuse and recycle'; in particular through **MyWaste.ie**, Ireland's official guide to managing waste. This portal is managed by the Regional Offices on behalf of DECC.
  - working with local authorities to meet targets for waste prevention;
  - working with business to rethink their approach to waste management, by viewing waste as a valuable material resource.
  - Collaborating with the 4 Climate Action Regional Offices to provide an integrated response to the challenge of climate change and to ensure that the potential of the circular economy is realised at local government level to the benefit of communities, local economies and the environment. See the Climate Action and Economic Opportunities project of the County and City Management Association (CCMA) which outlines how the circular economy and GPP can contribute to local enterprise opportunities. <https://www.caro.ie/projects-research/collaborations/economic-and->

[enterprise-opportunities-from-climate](#)

Section 6 outlines how future waste management planning will address targets for reuse, repair, resource consumption and reducing contamination in segregated waste collections.

- CIRCULÉIRE is a €4.5m public-private partnership co-created by Irish Manufacturing Research and three Strategic Partners: DECC, the EPA, and EIT Climate-KIC. It has 37 members. CIRCULÉIRE's overarching objective between 2020 and 2022 is to source, test, finance and scale circular manufacturing systems, supply chains and circular business models to deliver significant reductions in both CO2 emissions and waste across CIRCULÉIRE's membership over the project's lifespan.

Ireland also benefits from the efforts of a vibrant network of **voluntary, community and NGO groups**, such as the [Irish Environmental Network](#) (IEN), CRNI and [Voice Ireland](#) working in the resource efficiency and circular economy space.

- The **Rediscovery Centre** is a national centre for the circular economy in Ireland. The centre brings together the skills and expertise of artists, scientists, designers and craftspeople united in a common purpose of sustainability. Located in the repurposed Boiler House in Ballymun, now a bespoke demonstration eco-facility, the Centre supports four reuse social enterprises: Rediscover Furniture, Rediscover Fashion, Rediscover Paint and Rediscover Cycling. These businesses use unwanted materials for new product development and design demonstrating effective resource efficiency, reuse and low carbon living. The Centre has been funded by the EPA, DECC and DCC, and supported by a range of public and non-public bodies.

**Knowledge institutions and universities** carry out research and provide education and training on the circular economy across a host of disciplines and in particular in engineering and science, agriculture and increasingly in business schools.

## CASE STUDY 2:

### Circuléire Member: Wisetek



Wisetek are leaders in manufacturing, data sanitization, reuse & IT asset disposition services. Founded in Cork in 2007, today, the company employs 450 people worldwide. The primary life cycle of IT equipment, for large companies is between 3 and 5 years depending on the industry sector. Wisetek takes back that equipment and extends its useful lifespan. The company is now processing over 250,000 pieces of IT equipment per annum. Up to 30% can be re-used directly for the same purpose in secondary life-cycle markets. 10% - 15% must be refurbished or repaired before retesting and sale on secondary markets. The remainder are dismantled, and precious metals and rare earth elements extracted. Processing also includes data erasure and chain of custody management on behalf of the original equipment owner. In 2019, Wisetek estimates it helped reduce greenhouse gas emissions by 11,000 tonnes and safely retrieved 238 tonnes of toxic materials. In October 2021, Wisetek launched an e-commerce store.

### CASE STUDY 3:

#### Rediscovery Centre's Circular Economy Academy



The Rediscovery Centre's Circular Economy Academy supports circular economy businesses across Ireland to maximise material reuse and prevent waste production.

The service includes advice for start-up enterprises on circular business planning, funding, diversification, and training as well as supporting the replication of the Rediscovery Centre's own paint, furniture, fashion and bicycle reuse initiatives.

In its first two years, the Academy has worked with twelve enterprises based in a number of sectors, from textiles to retail and with organisations involved in community upskilling.

- Roscommon Women's Network upcycles products from local charity shops to create brand new items for sale.
- Cork's Cycle Sense delivers cycling training to a number of schools in the area and now operate bike and paint reuse initiatives.
- The Mobile Refillery eliminates a need for plastic packaging by selling directly in reusable containers.
- Environmentally Friendly Uniforms (EFU) sells pre-owned school uniforms in Dublin with the sole purpose of reducing waste and providing a second life for clothing.

Ireland's **Research Priority Areas 2018 to 2023** has also broadened the national priority areas to ensure their relevance to topics such as climate change and the circular economy. The priority area '*Sustainable Living*' includes research, markets and technologies associated with the broader transition to more sustainable living, in cities, rural areas and communities, namely through opportunities in enterprise sectors including the circular economy, new emerging markets in waste, water and infrastructure management and the non-food elements of the Bioeconomy (e.g. biorefining). Research in the area of '*Manufacturing and Novel Materials*' aims to develop new materials for the manufacture of products. Research in this area will address

the global challenge of the depletion of minerals and resources and will also contribute to the emergence of the Circular Economy. Government-funded **financing, research and innovation schemes** specifically aimed at supporting the transition to a circular economy have also expanded their offering significantly in recent years. '**EPA Research 2030**' is a ten-year high-level framework for the EPA's research programming, operating from 2021 to 2030, supporting a green and circular economy through research activities. The Agency's '**Green Enterprise: Innovation for a Circular Economy**' annual funding programme supports the demonstration of sustainable circular economy solutions, designing out waste and pollution and keeping products and materials in use

## CASE STUDY 4:

### 3D Assist TU Dublin Tallaght



The **3D Assist Tallaght** is an informal group of students, past students and staff at TU Dublin - Tallaght Campus. The project was set up in January 2015 with a view to 3D printing prosthetic hands and arms for people who need them. To date, over 30 prosthetic arms and hands for recipients in Ireland and the UK have been manufactured. The range has been expanded to include modified joysticks for wheelchairs and heated joystick covers for wheelchairs.



for longer. The '**Circular Economy Innovation Grant Scheme**' (CEIGS) is a Government of Ireland initiative led by DECC. The purpose of the scheme is to provide support to projects which work in the Circular Economy space. **CIRCULÉIRE** operates a EUR 1.5 million ring-fenced innovation fund for manufacturing industry members. Annex 8 sets out a more comprehensive list of funding mechanisms relevant to the Circular Economy.

In terms of **national policy**, the 2020 [Waste Action Plan for a Circular Economy](#) (WAPCE),

sets the direction for waste planning and management in Ireland up to 2025. The WAPCE reorientates policy from a focus on managing waste to a much greater focus on creating circular patterns of production and consumption. Other policy statements of a number of public bodies already acknowledge the circular economy as a national policy priority, e.g. the **2018 National Policy Statement on the Bioeconomy**, **Project Ireland 2040 - National Planning Framework**, the **National Development Plan 2021-2030**, **Housing for All - A new Housing Plan for Ireland** and the **2021 Climate Action Plan**.

## CASE STUDY 5:

### Circuléire Member Ashleigh Environmental's 'Biowave':



Increasing our renewable gas potential in Ireland is part of Gas Network Ireland's 2050 decarbonisation plan, targeting growth to 20% of current demand in the network by 2030.

Ashleigh Environmental of Dungarvan, Co. Waterford has developed the Biowave™ system as a proprietary process that supercharges the conversion of feedstock materials such as dairy sludges, food waste and municipal biosolids to renewable energy in the form of biogas. It diverts these waste streams from land spreading and disposal resulting in a reduction in transport CO2 emissions and a significant saving on associated costs.

The technology was developed from experimental research in 2012 to its current industrial scale with the help of significant funding from EU FP7, Horizon 2020 'Fast Track to Innovation' and most recently the Disruptive Technologies Innovation Fund.

In Europe today, just 16% of bio-waste is recycled into something useful. The EU has set a target by 2035 of 65% of bio-waste to be reused or recycled. In Ireland, the agri-food and municipal wastewater treatment sectors together produce over 100,000 tonnes of biowaste per year. This waste is largely applied to agricultural land or disposed of as waste, thereby missing the opportunity for recycling into energy.

In 2021, Ashleigh Environmental will be deploying a large-scale unit on a major Irish dairy site.

However, this Strategy recognises the need to further develop and improve **policy coherence** in relation to the circular economy across all sectoral strategies, action plans and policies. The Strategy will facilitate the exchange of information and knowledge across governmental departments and relevant regulatory bodies, to identify circular economy opportunities and to avoid and/or mitigate policy overlaps, gaps and conflicts. Arrangements for facilitating policy coherence are discussed below in Section 3.1. This wide-ranging activity at the national level is part of a larger global effort to achieve the

circular economy. Across the **United Nations (UN)**, the **OECD** and **European Union (EU)**, there is unanimity on the need to transform our linear economy to a circular one as part of a carbon neutral future.

The [UN's Sustainable Development Goals](#) recognise the importance of achieving sustainable consumption and production patterns, and the OECD is leading a major [study on circular economy potential at city-wide and regional levels and its report on Ireland is expected in early 2022](#). This analysis will provide

critical insights into the strategic direction required for the circular economy to flourish in Ireland. Ireland will continue to support and participate in these and other international projects.

Much of the specific context for circular economy activity in Ireland derives from EU policy and legislation. EU strategies to re-align Europe's economy towards a more circular model are central to the 'European Green Deal', culminating in the [Second Circular Economy Action Plan](#) launched in March 2020. The 2020 Circular Economy Action Plan 'For a cleaner and more competitive Europe' from the European Commission recognises the need to accelerate this transition to the entire mainstream economy. Work underway on a Sustainable Product Policy, an EU Textiles Strategy and legislative proposals around GPP, the 'Right to Repair' and empowering consumers will boost significantly the speed of our transition to circularity. See Annex 6 for further details of the 2020 Action Plan.

Framing this national Strategy within the wider EU context makes sense for Ireland. Measures that impact on the design of goods and services, for example, will be most effective if they are agreed and implemented on an EU-wide basis. This provides a level playing field across the EU for producers and consumers and leverages the power of the Single Market to support the circular transition. The 'Right to Repair' is a case in point. Ireland fully supports the principle of enabling consumers to repair or have goods repaired at a reasonable cost and in a timely manner and will support ambitious proposals along these lines from the European Commission. As a small open economy, Ireland's ability to unilaterally establish a 'Right to Repair' for Irish consumers is limited at best and far more can be achieved through collective action at the EU level.

Ireland is also currently either fully achieving, or on track to achieving, a challenging set of EU waste targets but here Ireland's new ambition

is to move beyond simple target compliance. Together with that higher level of ambition comes a broader vision, one measured in terms of circularity rather than defined by waste management targets.

Unfortunately, on this broader measure of circularity, Ireland currently lags behind its EU peers. In 2019, Ireland's circular material use rate (which measures the share of material recovered and fed back into the economy - thus saving extraction of primary raw materials - in overall material use) was the second worst in the EU according to Eurostat figures. Ireland's rate was 1.6%, compared to an EU average of 11.9%. The best performing EU Member State, the Netherlands, achieved a rate of 28.5%. While there are numerous reasons for Ireland's performance, e.g. the structure of the domestic economy and our location as an island on the EU's geographic periphery, it is notable that those countries which have been most successful in moving towards circularity appear to benefit from having overarching national circular economy policies. These policies provide a cohesive framework for government, private sector and civil society activity and clearly set out national ambitions and priorities in relation to the circular economy.

This Strategy, and its successors, will identify those national actions which can, in addition to EU level policies, drive Ireland's transition to becoming a Circular Economy leader.

### 3.1. This Strategy

Ireland's overall policy on the transition to a circular economy has been clearly set out in the Waste Action Plan for a Circular Economy: Ireland is fully committed to transitioning to a circular economy and embracing the opportunities that this transition can bring. Those opportunities will include contributing to the restoration of our national habitats, supporting our achievement of climate neutrality, and delivering sustainable, regionally

balanced economic growth and employment.

- **This strategy's first key objective is to provide the initial framework for the actions to enable the realisation of that policy and to promote public sector leadership in adopting circular policies and practices.**

A cohesive whole-of-Government strategy will identify the relevant public and private actors, define Ireland's overall ambition in relation to the circular economy and indicate those sectors and methodologies which will be important to achieving our ambition.

Ireland's Circular Economy Strategy will be an evolving document, which will be regularly updated in light of progress achieved and as new opportunities and challenges are identified. This first iteration is not intended to be an action plan but does reflect specific targets already set and actions already being taken. Subsequent versions of the Strategy will incorporate additional targets and may more closely resemble the 'action-plan' format of the WAPCE. Each new version of the Strategy may also be supplemented by thematic analyses of specific sectors and/or activities, e.g. the scope for embedding circular practices within resource intensive sectors or the potential for digital services and novel manufacturing techniques to 'design-out' waste.

It is anticipated that the Strategy will be updated in full every 18 months to 2 years.

# Ireland's Ambition and Approach



## 4. Ireland's Ambition and Approach

In line with the WAPCE, Ireland's ambition is to move beyond target compliance and to become a circular economy leader among our European peers.

- Specifically, by 2030 Ireland's ambition is to significantly improve its circular material use rate (in both absolute terms and in comparison with other EU Member States) so that our national rate is above the EU average by the end of this decade. Achieving this improvement in the circularity gap is the second key objective of this Strategy.

This will be very challenging given Ireland's starting position and the fact that other Member States will also be seeking to improve their performances. However, it is achievable, through increased public awareness of and engagement with the circular economy and through increased investment.

Therefore, the third and fourth key objectives of this Strategy are respectively:

- To raise awareness amongst households, businesses, communities and individuals about the Circular Economy and how it can improve their lives (see Section 5. below for further details); and
- To support and promote increased investment in the Circular Economy in Ireland, with a view to delivering sustainable, regionally balanced economic growth and employment.

To achieve this, it will be necessary to adopt a whole-of-Government approach, with the development of the circular economy led by the Minister for the Environment, Climate and Communications (the Minister), but involving all Ministers and Government Departments, as well as local government and relevant state agencies. Where relevant, all available policy levers, including regulatory, fiscal and procurement decisions, should support Ireland's ambition to achieve a circular economy and its 2030 target, while also considering any negative social or

economic impacts.

- Identifying the economic, regulatory and social barriers to the development of the circular economy in Ireland, and the development of solutions, will be an ongoing priority and is the fifth strategic objective of this Strategy.

Where such barriers derive from EU policy and/or legislation Ireland will consistently advocate for pro-circular economy reform. When advocating for these reforms Ireland will seek to join or lead common efforts with other ambitious EU Member States, pooling our collective influence to maximise EU ambition in relation to the circular economy. The next iteration of this Strategy will identify specific opportunities for such cooperation at the EU (or wider international) level.

National circular economy policy development, by Government and the wider Public Sector, will be carried out in the first instance by a new **Circular Economy Working Group** to be chaired by DECC. This Working Group will be established following the publication of this Strategy and the Minister will be seeking participation from across the Public Sector. Proposed terms of reference and a work programme are outlined in Annex 7.

And while policy responsibility will ultimately rest with Minister for the Environment, Climate and Communications, the EPA, through the new **Circular Economy Programme**, will continue to play a central role in Ireland's circular transition. The new Programme will look beyond waste management, to promote circularity as an economic model and to enhance coherence and alignment among national, regional and local activities. It will provide for a competitive programme of circular economy supports through innovation grants, sponsorships and seed-funding. The Programme will also improve the national knowledge and provide an evidence base to inform circular economy development in Ireland.

Beyond developing a pro-circular policy framework, Government will also continue to support research, education and training in relation to the circular economy, via national research programmes as well as by availing of relevant EU funding.

Green Public Procurement policies will support the establishment and/or expansion of markets for circular products and services, as set out in both the Programme for Government and the WAPCE. The development of mandatory green criteria for all publicly funded procurement, though not exclusively related to the circular economy, will be an important milestone in this process. In line with the international approach discussed above, Ireland will also identify opportunities to participate in and/or lead multinational green procurement initiatives, so as to leverage greater economies of scale through cooperation, than Ireland would be able to achieve as a single small-to-medium sized market.

Government will continue to provide **direct support** to circular economy initiatives, particularly those which are community and/or voluntary led. Consistent with the prudent management of the public finances, Government will seek to steadily increase direct support for such initiatives. The first example of this increased support is the launch in April 2021 of the new **Circular Economy Innovation Grants Scheme**. In its first year, the Scheme has approved funding of ca €500k to 10 projects which will support development of the circular economy at the national or regional level. It is intended to increase the funding provided through the Scheme to €1m per annum within the next 4 years.

Annex 8 describes the current range of **supports to business and enterprise** to become more sustainable.

However, engagement between Government, the private sector and civil society goes beyond

the provision of direct and/or indirect supports. Both the private sector and civil society are themselves significant drivers of the circular transition and Government are committed to a collaborative approach with all stakeholders. Going beyond the whole-of-Government approach discussed above and embracing a wider whole-of-society agenda for the circular economy, will be a hallmark of Ireland's transition. Learning from the highly positive experience of stakeholder engagement with the WAPCE, a new **Circular Economy Advisory Group**, representing all relevant stakeholders and sectors, will be established to support the implementation of this Strategy and to provide input to the development of subsequent iterations. All members of the current Waste Advisory Group will be invited by the Minister to join the new Circular Economy Advisory Group and additional members will also be invited in order to provide balanced representation across all sectors of the Circular Economy.

Extensive and ongoing stakeholder engagement is particularly important in relation to the circular economy as, while the circular transition can and should deliver greater value for money to consumers, poorly designed or implemented policies could result in negative economic and social impacts. At every stage in the further development of Ireland's circular economy policy, Government will actively seek the views of stakeholders with a view to improving policy design and avoiding negative socioeconomic outcomes.

# Communicating the Circular Economy



## 5. Communicating the Circular Economy

One major social barrier to the circular transition is lack of public awareness about what the circular economy is, how it relates to everyday purchasing and consumption decisions and the potential environmental, health and economic benefits associated with increased circularity. This lack of awareness, where it translates into lack of demand, then acts as a drag on investment in the circular economy.

A related but separate barrier is found where consumers and/or businesses are aware of the circular economy as a concept but lack confidence to invest in circular products or services. This could be due to concerns regarding, for example, a perceived lack of

quality in re-used or repaired goods or doubts as to the environmental credentials of nominally 'green' products. This point is already being addressed by the Second EU Circular Economy Action Plan, which recognises that empowering consumers and public buyers is an important element of the transition to circularity and will propose legislation to ensure consumers receive trustworthy product information about durability, reparability and the credibility of green claims.

Improving consumers', households' and businesses' basic understanding of the circular economy's potential should therefore represent a major goal of national policy. The development

### CASE STUDY 6:

#### Circuléire Member - WEEE Ireland Producer Member Surveys



In 2020, Waste Electrical and Electronic Equipment (WEEE) Ireland surveyed 127 of its Producer Members on their understanding, challenges and activities related to the Circular Economy. Lack of information was cited as one of the main barriers to their company transitioning to a circular economy, before costs and lack of resources.

In a follow-up survey in early 2021, WEEE Ireland asked producer members to report on their existing circular practices for the first time. Of 90 WEEE Ireland contacted, 30 replied and of these, 19 stated they had circular practices in place.

Results showed that in 2020, circa 200t of WEEE were reused and an estimated 3,500t of EEE were repaired. Other circular practices, including preparation for reuse, closed loop collection and recycling and direct refurbishment activities were also documented.

This pilot reporting programme gave WEEE Ireland a better understanding of circular practices and internal WEEE flows within its membership: it showed what type of data is available from producers; it provided insights into how WEEE Ireland could support further reporting and training. WEEE Ireland says more comprehensive data may be needed and incentives to producers may support better quality data. Training and supports will also be required particularly to SMEs and distributors to encourage more circular actions related to the supply of EEE goods and services.



## CASE STUDY 6:

### Community Reuse Network Ireland 'Remark' Quality Mark of Excellence

Quality marks are used throughout Europe to provide consumers with confidence to buy from reuse organisations. ReMark is a quality mark already developed and piloted by CRNI with the support of EPA Green Enterprise funding. The Mark was specifically designed to address negative consumer perceptions about the quality and safety of reused or repaired goods by improving the standard of service and customer experience with reuse organisations, demonstrating to the public the commitment to quality, highlighting the social and environmental benefits of the goods and driving demand.

Surveys conducted before and after accreditation found that ReMark had a positive impact on customer attitude. In 2021, CRNI was awarded funding under DECC's Circular Economy Innovation Grant Scheme to update and improve ReMark by applying lessons learned from the pilot research and making it more accessible and efficient in preparation for national and a possible all-island roll-out.

of this Strategy represents only an initial, though nonetheless important, step in that process, by providing a coherent whole of government policy objective, and by providing stakeholders with a single point of reference in relation to the 'direction of travel' in circular economy policy.

However, further action is needed as a priority, and therefore during 2022 the Circular Economy Working Group will develop proposals for a national circular economy online platform, and for an overarching national circular economy 'brand' for Ireland. In doing so, the Working Group will consult regularly with the Circular Economy Advisory Group. These proposals will be finalised and the implementation phase commenced within 12 months of the publication of this Strategy.

The establishment of a national online platform will provide an authoritative source of information about what the circular economy is

and how the circular transition is taking place in Ireland, identifying key actors, ongoing initiatives at the local, regional, and national levels and areas of likely future progress. Bringing all of this information within a single platform will benefit not only households and businesses, but also circular economy practitioners and policymakers by facilitating an overview of the full range of circular economy activity, including areas of possible duplication and/or gaps.

The adoption and widespread use of a national brand will likewise increase public awareness and identify and reward best practice. The initial focus of such branding will be on publicly supported/funded circular economy projects and initiatives, with a view to delivering high levels of public recognition. Branding will also be incorporated into relevant policy documents across Government, as well as into circular economy training and education material.

In developing the next iteration of this Strategy, consideration will be given to a wider roll-out of the national circular economy branding, to non-public sector organisations (e.g. NGOs) and to private sector circular economy enterprises, products and services. Such an expansion of the brand (which in this context could be seen as analogous to a certification mark) could significantly improve consumer confidence in circular goods and services in the marketplace and could complement and reinforce EU action to improve product information, if implemented appropriately.

Demonstration projects can also play an important role in raising awareness of the circulareconomy in general and novel circular applications in particular. Ireland will encourage the establishment of such projects, assisting project proposers in aligning project design with national policy priorities, in identifying public and private, national and international funding sources, in facilitating direct engagement with policy makers and public authorities. Further support will also be provided in relation to communication strategies for such projects, in order to maximise their impact. The launch of the new **Circular Economy Innovation Grants Scheme** is an example of this approach.

# Work in Progress and Further Policy Development



Dramhaíl Ghinearálta  
General Waste



Athchúrsáil  
Recycling



Múirín  
Compost



## 6. Work in Progress and Further Policy Development

### 6.1 Underpinning the circular economy transition - legislation and funding

The Circular Economy Bill will give effect to a number of actions in the WAPCE. It will, amongst other things, provide for the necessary legislative underpinning for relevant waste management enforcement measures and for the introduction of a range of new economic instruments to effect behavioural change.

Building on the successful introduction of the plastic bag and landfill levies, new levies are proposed in respect of waste recovery, disposable coffee cups and other single use items. While the primary objective of these measures is to bring about improved environmental performance and support circular behaviours, the income generated is expected to support a reconfiguration of the Environment Fund to become Ireland's Environment and Circular Economy Fund, ring-fenced to support environment and circular economy projects and initiatives. In terms of broader circular economy issues, the Bill will also propose a statutory requirement for a Circular Economy Strategy to

be in place and to be periodically revised by Government. Placing subsequent versions of this Strategy on a statutory basis will ensure that the circular economy remains a priority for Government. As of the date of publication of this Strategy, DECC is preparing to publish the Bill with the aim of early enactment.

### 6.2 WAPCE Measures

An efficient waste management system is an essential component of the circular economy. The WAPCE has set out an ambitious suite of measures to continuously improve Ireland's waste management systems, minimise waste and improve resource efficiency. These will all contribute to the circular transition, but the Plan also includes a number of actions specifically related to the circular economy. The creation of a cross-Government Circular Economy Unit, the publication of this Strategy and forthcoming establishment of the Circular Economy Working Group represent examples of important actions which have already been delivered. A full list of the WAPCE circular economy actions is included in Annex 1 and future versions of this Strategy will include updates on further progress.

#### CASE STUDY 8:

##### Ballygowan case study on Circular Economy



Ballygowan, has moved its full range of grocery products to RPet, fully recycled and recyclable bottles. The move to new RPet bottles has been facilitated by a €2m investment in their operations at Newcastle West, the home and source of Ballygowan. The move is part of a drive for 100% sustainability across the business, under Britvic Ireland's Healthier People, Healthier Planet strategy.

The shift to recycled bottles will remove 51 million virgin plastic bottles from circulation annually. The shift to recycled bottles will reduce Ballygowan's virgin plastic consumption by 1,288 tonnes. Shifting to lighter bottles will reduce plastic use by a further 245 tonnes. Overall, there will be a reduction of 1,533 tonnes of virgin plastic used each year.

In addition, the Regional Waste Management Planning Offices, and the City and County Management Association (CCMA) are carrying out preparatory work to replace the existing Regional Waste Management Plans with a new National Waste Management Plan (NWMP) for a Circular Economy which will contain targets for: re-use; repair; resource consumption; and reducing contamination levels. A pre-draft public consultation in relation to the new NWMP was launched on 11 March 2021 and will be followed by a post-draft consultation. Additionally, investment to increase national recycling capacity will allow Ireland to establish closed loops in respect of certain materials, which would otherwise be sent for recovery or exported for recycling and retain their value in the Irish economy.

### 6.3 Deposit Return Scheme

The Programme for Government and the WAPCE set out Government's commitment to introduce a Deposit and Return Scheme (DRS) for plastic bottles (up to three litres in volume) and aluminium cans. The DRS being introduced will focus on plastic bottles and aluminium cans

because too few of these are being captured for recycling by our current system and too many are being discarded as litter. During October- November 2020, DECC conducted a public consultation on DRS design options. On 19 November 2021, the Minister signed the regulations for a Deposit Return Scheme (DRS) in Ireland for plastic bottles and aluminium cans, which will become operational in 2022.

### 6.4 Green Public Procurement

As noted in Section 4 above, public procurement policies can be an important contributor to the circular transition and demonstrate Government's commitment to supporting green purchasing and improved availability and affordability of sustainable goods and services. DECC works closely with the Office of Government Procurement (OGP) and the EPA to promote **Green Public Procurement (GPP)** in line with the objectives of the WAPCE, and the Programme for Government commitment to updating all procurement frameworks, in line with GPP over the next three years.

In 2019, [DPER Circular 20/2019](#): Promoting the



use of Environmental and Social Considerations in Public Procurement was published. The purpose of the circular was to promote the wider use of environmental and social considerations in public procurement with specific regard to the Climate Action Plan 2019. In addition to new policy guidance around green and sustainable procurement, the circular introduced new reporting requirements for GPP in the Annual Report of each government department from 2021. In addition, Government Departments are also required to include future opportunities for GPP in their annual Corporate Procurement Plans.

Supporting the work of Government departments in GPP, the EPA has developed a number of measures:

- Delivery of new online GPP training s for procurement officials in Government Departments, State Agencies, Local Authorities and the Education Sector.
- A full updating of Green Procurement Guidance for the Public Sector. Following a targeted consultation with key stakeholders, the comprehensive guidance was published in Q1 2021 <https://www.epa.ie/publications/circular-economy/resources/green-public-procurement.php>
- Green Government: This NWPP/Circular Economy Programme initiative on public sector leadership for sustainability is being developed further, in line with commitments made in the Climate Action Plan 2019. GPP is being promoted alongside waste prevention measures in energy, water and materials through a series of workshops and supports being rolled out by the EPA.

In addition to these specific initiatives, the OGP chairs an interdepartmental Strategic Procurement Advisory Group which seeks to promote the incorporation of social, innovative and environmental considerations in public procurement. OGP and DECC are currently finalising arrangements to accelerate the work of

that Group in relation to GPP.

## 6.5 Bioeconomy:

The Bioeconomy, a key facet of the Circular Economy in Ireland, encompasses a range of activities across many sectors, including agriculture, the marine, forestry, water and waste management, energy, as well as biopharmaceuticals. It is the part of our economy which uses renewable resources such as crops, forestry, and fisheries to produce food, products, as well as energy, while also reducing waste. Increasing the scope of the bioeconomy will mean diminishing our reliance on fossil-based fuels and carbon intensive resources and will boost our use of renewable biological resources.

The Government's vision for the bioeconomy, as set out in the National Policy Statement on the Bioeconomy, is to grow Ireland's ambition to be a global leader for the bioeconomy through a co-ordinated approach that harnesses Ireland's natural resources and competitive advantage and that fully exploits the opportunities available while monitoring and avoiding unintended consequences.

Since the publication of the National Policy Statement, a High-Level Bioeconomy Implementation Group consisting of Government Departments and Agencies has been established by the Department of the Environment, Climate and Communications and the Department of Agriculture, Food and the Marine. The Group has taken forward a number of major actions including the setting up of a National Bioeconomy Forum of industry representatives and experts which was launched in July 2021. It is anticipated that both the National Bioeconomy Forum and the High-Level Bioeconomy Implementation Group will drive policy direction and will come to policy recommendations which will be reflected through detailed actions in later iterations of the Climate Action Plan and other relevant

strategies.

An important objective of the bioeconomy is to aid Ireland's transition to a carbon neutral and circular economy. For this vision to be realised it is essential that we harbour a coherent, horizontal approach to policymaking across sectors.

## 6.6 Areas for Further Policy Development

As discussed in Section 3.1 above, subsequent iterations of this Strategy will include more detailed actions and targets, including sector specific targets. Without presupposing the specific content of the next such iteration, it is already possible to identify a number of sectors within the Irish economy that have the potential to make significant contributions to the circular transition.

Within the **Construction and Demolition** sector, greater resource efficiency and resource re-use could avoid the need for millions of tonnes of virgin raw materials per annum, as well as reducing the carbon intensity of our

built environment. The development of the next iteration of this Strategy should support and enhance existing circular initiatives on the part of the sector, for example through the work of the EPA's reorganised Circular Economy Programme. Reducing the volume, and associated costs, of Construction and Demolition waste could also contribute to greater affordability, particularly in relation to the high-density residential sector.

Increased circularity within the **Agricultural** sector can support lower farm costs and reduced climate and environmental footprints, through reduced use of external inputs, closing nutrient loops and minimising harmful environmental discharges. Agricultural wastes can also represent a valuable feedstock for the Bioeconomy as described previously. Further development of this Strategy should build on existing sectoral initiatives, such as the EPA/ IFA's Smart Farming programme and ensure consistency between national policy in relation to the circular economy, the bioeconomy and climate action.

**Circular Design** is fundamental to achieving a



circular transition, minimising waste at design stage, prolonging product lifespan through enhanced durability and repairability, and ultimately facilitating resource recovery and re-use. Establishing Ireland as a circular design hub can both support the circular transition and enhance national competitiveness. Future policy development should frame the circular economy as a key component of Ireland's research and innovation agenda. Ireland's support of timely changes to the Ecodesign Directive at EU level will be an important instrument for change in this regard.

**Digital Services** are particularly suited to the circular economy, either through direct digital provision (e.g. substitution of physical hardcopies with digital copies) or through indirect digital provision (e.g. online shopping, ehealth provision, etc.). Further integration of digital platforms into the re-use sector has the potential to significantly expand the market for re-used goods.

Ireland has also recognised the potential of **Circular Manufacturing** through its support for CIRCULEIRE. Future iterations of this Strategy will prioritise maximising the potential of both digital services and circular manufacturing within the circular economy, and in particular should identify potential synergies between the two activities.

In addition to new techniques, specific **business models are particularly favourable** for the Circular Economy. Recent OECD research identifies the following as the main circular business models: Circular supply models; resource recovery models; product life extension models; sharing models; and product service system models. National policy will identify the potential for, and promote investment in, these models within the Irish economy.

Annual Irish **Textiles** waste is estimated at over 200,000 tonnes. While the WAPCE will also address the issue of textiles from a waste

management perspective, specific circular economy opportunities exist in relation to the redesign and re-use of textiles into new clothing and other products. Opportunities for promoting the design of higher quality, more durable clothing should also be explored. Additionally, the use of textile waste as a secondary raw material can provide opportunities for new domestic manufacturing.

There is significant potential to increase rates of **Repair and Re-use** within the economy, and as mentioned, the forthcoming National Waste Management Plan will provide for setting targets for both. Future policy will develop specific proposals in relation to the inclusion of re-used and repaired goods in relevant publicly funded initiatives and will consider the potential of local and community-based initiatives such as Repair Hubs and 'Libraries of Things'. The issue of product liability (particularly in relation to consumer electronics and white-goods) as a barrier to the increased use of repaired and re-used goods will also be examined.

Increasing Ireland's circularity rate will also contribute to meeting our national **Climate** objectives. The [Ellen MacArthur Foundation](#) estimates that climate action efforts focusing on a transition away from fossil fuels towards renewables and supplemented by energy efficiency measures can only address 55% of emissions. The remaining 45% comes from making things. Therefore, making those things in ways that are more circular and less resource intensive has a key role to play in climate action. As such, ongoing alignment between policy in relation to climate action and the circular economy should be prioritised.

Elements of the above will be delivered through the development of standalone **Sectoral Circular Economy Roadmaps**, and a very high-level outline of potential actions for a number of resource intensive sectors is set out in Annex 3.

# Conclusion



## 7. Conclusion

Access to resources will increasingly be a strategic consideration for developed and developing nations alike. Natural resources continue to provide crucial raw materials that are used across the global economy. Transitioning to a circular economy which re-uses and retains the value of these resources and materials will support these rising living standards without putting unsustainable pressure on the global environment.

At home, achieving a circular economy will be central to meeting Ireland's Climate ambitions and can deliver economic, social and environmental benefits which align with other Government priorities around employment, social inclusion and balanced regional development. But such a fundamental transition must be, and must be seen to be, fair and based on widespread consultation and engagement across society.

This Whole-of-Government Strategy sets out the framework through which all of these strands may be addressed and, as national circular economy policy develops, ambition matched with fairness and transparency will be the cornerstone of Ireland's approach.

# Annexes



# Annex 1: Circular Economy Actions under the WAPCE

- I. In line with the Programme for Government commitment we will establish a circular economy unit within this Department with a mandate to ensure a whole of government approach to the circular economy. **COMPLETE**
- I. One of its first tasks will be the development of a high-level all of government circular economy strategy. **COMPLETE**
- I. We will reconfigure the existing National Waste Prevention Programme to make it Ireland's Circular Economy Programme. Led by the EPA, it will have a designated coordinating role to support the Department's Circular Economy Unit in overseeing national, regional and local activities to improve coherence and alignment of national and local activities and ensure maximum impact. **COMPLETE**
2. Working with the Regional Waste Management Planning Offices and the City and County Management Association we will replace the existing Regional Waste Management Plans with a National Waste Management Plan for a Circular Economy containing targets for: Reuse; Repair; Resource consumption; Reducing contamination levels. **UNDERWAY AND DUE 2022**
- I. We will establish an interdepartmental Circular Economy Working Group with priority departments. **COMPLETE**
2. We will develop Circular Economy Sectoral Roadmaps that include priority waste prevention targets.
3. We will seek to ensure Ireland can maximise supports that are available from the EU for circular economy projects and for priority sectoral material streams, for example through the LIFE Programme
4. We will support an environmentally ambitious approach at EU level in negotiations on future revisions of waste directives and circular economy initiatives.
5. In line with the Programme for Government commitment we will support the Office of Government Procurement in developing and implementing a sustainable procurement model that seeks to minimise the environmental impact and optimise the public benefit of products and services procured. **UNDERWAY**
6. We will review objectives and practices of Extended Producer Responsibility (EPR) schemes for capitalising on circularity potential.
7. We will raise awareness amongst policy makers and elected representatives as to how circular economy developments can support regional development and jobs.
8. We will provide opportunities for the commercial sector to participate in the transition to circularity for example using sectoral pledges for sustainable products and practices.
9. We will amend legislation in relation to end-of waste and by-products to remove barriers to circular economy developments. **UNDERWAY**
10. We will develop a communications strategy around promoting the meaning and potential of a transition to a circular economy. **UNDERWAY**
11. Working with other stakeholders we will seek to ensure skills for a circular economy such as design, repair and refurbishment are included in national future skills and Just Transition planning. **UNDERWAY**

- I2.** We will advocate for the inclusion of reused and repaired goods in publicly funded initiatives.
- I3.** We will expand reuse, repair and sharing supports through the new CircularEconomy Programme and other public programmes.
- I4.** We will expand public sector and public bodies' roles in reuse via Green PublicProcurement and Circular Public Procurement setting a minimum target for procurement of used goods.
- I5.** We will investigate a national reuse target and press for new EU targets.
- I6.** We will explore the role that Ireland's digital sector can play in accelerating our transition to a circular economy.

## Annex 2: National Policies and Plans relevant to Ireland's transition to a Circular Economy\*:

- Annual Budgetary Process
- The Climate Action Plan 2021
- The National Development Plan 2021-2030
- Project Ireland 2040 – National Planning Framework
- Housing for All - A new Housing Plan for Ireland
- Food Vision 2030
- The 2018 National Policy Statement on the Bioeconomy
- AI - Here for Good: National Artificial Intelligence Strategy for Ireland
- Ireland's Industry 4.0 Strategy 2020-2025
- Enterprise 2020 – 2025 Renewed
- Towards Responsible Business: Ireland's National Plan on Corporate Social Responsibility 2017-2020
- Ireland's National Skills Strategy 2025 – Ireland's Future
- Action Plan for Apprenticeship 2021 to 2025
- Future FET: Transforming Learning: The National Further Education and Training (FET) Strategy
- Innovation 2020
- National Social Enterprise Policy for Ireland 2019-2022
- Our Rural Future', Rural Development Policy 2021-2025
- The National Broadband Plan
- Waste Action Plan for a Circular Economy, 2020;
- The National Waste Management Plan (forthcoming 2022)

*\*This is not presented as an exhaustive list and further work on policy coherence will be carried out as part of the implementation of this Strategy*

## Annex 3: Current Measures supporting the circular economy in Ireland

Theme	Initiative	Detail
Economy and finance	Plastic Bag Levy	Anti-litter measure aimed at reducing the use of disposable bags.
	Landfill levy	Incentivising the reduction of materials sent to landfill.
	CIRCULÉIRE Innovation Fund	Systems-level innovation in the manufacturing sector.
	EPA's Green Enterprise Innovation for a Circular Economy	Demonstrating innovative consumer and business solutions for the circular economy in Ireland.
	EPA Research 2030: A Framework for EPA Research 2021-2030	Address medium to long term policy needs through desk studies, capacity development projects and with funding research fellowships to support capacity building.
Circular Economy Innovation Grant Scheme (CEIGS)	Support circular economy projects with a view to advancing the circular economy in Ireland and raising awareness on the need for a transition from a linear to a circular economy.	
Green Public Procurement (GPP)	Interreg Europe project GPP4Growth	Exchange experience and practices among nine member countries and improve capacity to implement resource efficiency policies promoting eco-innovation and green growth through GPP.
	EPA's <i>Green Procurement Guidance for the Public Sector</i>	Guidance and a toolkit for public procurers to include sustainable and green criteria in key sectors for the circular economy such as construction, transport, energy, food and catering, textiles, cleaning products, paper and ITC equipment. Training course delivered. Further training for suppliers in development. (2021)
	Rediscovery Centre	Courses and events on the use of GPP in the building sector.
	Irish Green Building Council	Working Group on Training Clauses in GPP in construction (2021)
	LA Climate Action Regions Offices	Training local authorities in green public procurement
Capacity building	National Waste Prevention Programme (NWPP)	The EPA-led NWPP seeks to prevent waste and drive the circular economy, focusing on national-level strategic programmes with high visibility, impact and influence. Includes 'Green Government', supporting government departments in adopting sustainable behaviours.
	EPA Tool for Resource Efficiency	Support for companies to analyse their level of resource efficiency.
	EPA's Construction and Demolition Web Resources and Publications	EPA webpage presenting guidance in waste prevention in the construction and demolition sector.
	Local Authority Prevention Network (LAPN)	Co-operation between the EPA and local authorities to build local authority expertise and capacity in waste prevention and circular economy at the local level.
	Rediscovery Centre's Circular Economy Academy	Mentoring support programme to assist social enterprises and community organisations in increasing sustainability in their activities and embracing the circular economy.
	Modos	Circular economy training programme for micro, small and medium size enterprises by the Dublin City Council's Economic Development Office and Regional Waste Management Planning Offices.

<b>Awareness raising</b>	<b>NWPP Food Charter</b>	A public commitment that organisations can make to fundamentally change their approach to food waste.
	<b>NWPP Stop Food Waste programme</b>	Provide information about food waste prevention and composting to households, communities and businesses, among others.
	<b>MyWaste.ie</b>	Provide information and engage stakeholders on waste prevention, re-use and upcycling.
	<b>Rediscovery Centre</b>	Raise awareness through specific activities including education programmes and workshops.
<b>Stakeholder engagement</b>	<b>Rediscovery Centre</b>	Support research and education for the circular economy.
	<b>CIRCULÉIRE</b>	Public-private partnership supporting manufacturers and their value chains to increase circularity in their businesses.
	<b>Local authority prevention network (LAPN)</b>	Improve local authorities' capacity to promote waste prevention.
	<b>Smart Farming programme</b>	Partnership between the EPA and the Irish Farmers Association providing tailored advice to farmers on solutions for low cost or no cost interventions to increase resource efficiency.
	<b>Community Resources Network Ireland (CRNI)</b>	Network for community-based reuse, repair and recycling organisations.

# Annex 4: Preliminary Outline of Actions for Inclusion in Sectoral Circular Economy Roadmaps

Sector	Potential Actions
Construction	<ul style="list-style-type: none"> <li>• Increased use of offsite design and manufacture</li> <li>• Modular building design</li> <li>• Refurbishment and retrofitting of existing stock</li> <li>• Tackling dereliction and bringing stock back into occupancy</li> <li>• Increase use of Construction &amp; Demolition Waste as a secondary construction material</li> </ul>
Transport	<ul style="list-style-type: none"> <li>• Increased use of telecommuting, as well as of local and regional hubs</li> <li>• Prioritising resource efficient personal mobility, e.g. walking and cycling</li> <li>• Expanding public transport capacity and promoting shared mobility schemes</li> <li>• Efficient end-of-life vehicle waste management schemes</li> </ul>
Agrifood	<ul style="list-style-type: none"> <li>• Reduction of fossil fuel and chemical external inputs</li> <li>• Divert agricultural and food waste into the Bioeconomy</li> <li>• Interventions to reduce food supply chain losses</li> <li>• Reduce food waste at retail, commercial and household level</li> <li>• Identify opportunities for 'low and no' levels of food packaging, consistent with food safety and hygiene requirements</li> </ul>
Consumer Goods	<ul style="list-style-type: none"> <li>• Repair:               <ul style="list-style-type: none"> <li>» Promote design for improved repairability, durability and increased energy efficiency</li> <li>» Address product liability for repaired and re-used goods</li> <li>» Support education in repair and refurbishment skills</li> <li>» Explore economic incentives for repair</li> </ul> </li> <li>• Increase level of remanufacturing for consumer goods</li> <li>• Extend use of EPRs</li> <li>• Promote leasing and sharing based business models</li> <li>• Incentivise take-back and refurbishment models for large household goods</li> <li>• Address product liability for repaired and re-used goods</li> </ul>
Procurement	<ul style="list-style-type: none"> <li>• Mainstreaming Green Criteria</li> <li>• Identify international opportunities for cooperation on green public procurement</li> <li>• Review National Policy Framework</li> </ul>

## Annex 5: The DISRUPT Model of the Circular Economy

<b>D</b>	<b>Design For the Future:</b> Adopt a systemic perspective during the design process, to employ the right materials for appropriate lifetime and extended future use.
<b>I</b>	<b>Incorporate Digital Technology:</b> Track and optimise resource use and strengthen connections between supply-chain actors through digital, online platforms and technologies.
<b>S</b>	<b>Sustain &amp; Preserve What's Already There:</b> Maintain, repair and upgrade resources in use to maximise their lifetime and give them a second life through take-back strategies, where applicable.
<b>R</b>	<b>Rethink the Business Model:</b> Consider opportunities to create greater value and align incentives through business models that build on the interaction between products and services.
<b>U</b>	<b>Use Waste as a Resource:</b> Utilise waste streams as a source of secondary resources and recover waste for reuse and recycling.
<b>P</b>	<b>Prioritise Regenerative Resources:</b> Ensure renewable, reusable, non-toxic resources are utilised as materials and energy in an efficient way.
<b>T</b>	<b>Team Up to Create Joint Value:</b> Work together throughout the supply chain, internally within organisations and with the public sector to increase transparency and create shared value.

Source: Circle Economy, *The Circularity Gap Report 2021*

# Annex 6: The EU's Second Circular Economy Action Plan

Following on from the EU's first Circular Economy Action Plan in 2015, the European Commission has adopted a new Second Circular Economy Action Plan in 2020, as a central component of the European Green Deal. The Green Deal is Europe's plan to make the EU's economy sustainable by turning climate and environmental challenges into opportunities and making the transition just and inclusive for all. The new 2020 Action Plan announced initiatives along the entire life cycle of products, targeting for example their design, promoting circular economy processes, fostering sustainable consumption, and aiming to ensure that the resources used are kept in the EU economy for as long as possible. It introduces legislative and non-legislative measures specifically targeting areas where action at the EU level brings real added value.

Economy pages here: [https://ec.europa.eu/environment/strategy/circular-economy-action-plan\\_en](https://ec.europa.eu/environment/strategy/circular-economy-action-plan_en)

Source: EU Commission

## Actions

The new Circular Economy Action Plan presents measures to:

- Make sustainable products the norm in the EU;
- Empower consumers and public buyers;
- Focus on the sectors that use most resources and where the potential for circularity is high such as: electronics and ICT; batteries and vehicles; packaging; plastics; textiles; construction and buildings; food; water and nutrients;
- Ensure less waste;
- Make circularity work for people, regions and cities,
- Lead global efforts on circular economy.

## Implementation

The Commission has begun work on implementing the 35 actions under the new Plan. Progress on implementation of the actions can be found on the Commission's Circular

# Annex 7: Proposed Terms of Reference and Work Programme for The Circular Economy Working Group:

## Terms of Reference

The Circular Economy Working Group, supported by the Secretariat from DECC will:

- i. provide the mechanism for a whole-of-government approach circular economy policy development, with an emphasis on improving policy coherence;
- ii. agree Ireland's draft Whole-Of-Government Circular Economy Strategies, including establishing timeframes, priorities and supporting actions;
- iii. contribute towards the ongoing mapping of Ireland's circular economy eco-system (e.g. material flows, relevant actors, available funding);
- iv. contribute towards the development of sectoral circular economy roadmaps;
- v. provide whole-of-government insight in relation to any EU or wider international circular economy reporting requirements;
- vi. agree and coordinate strategic communications and engagement with domestic and international stakeholders regarding Ireland's circular economy policy; and
- vii. agree, where appropriate, the delegation of specific actions relevant to the implementation of the Whole-Of-Government Circular Economy Strategy to State Agencies or other bodies.

The Circular Economy Working Group will be chaired by Department of the Environment, Climate & Communications. Membership of the Group will include departments, agencies and other public bodies identified as having roles in relation to the circular economy.

The Group will meet in plenary format as required. Where appropriate, the Group may establish sub-groups to focus on sectoral or thematic issues (e.g. the built environment, circular manufacturing, the circular and social

economies) and, with the agreement of the Group the, Chair may periodically invite external stakeholders to present to the Group on topics relevant to the circular Economy

## Indicative Work Programme

- I. Awareness
  - Circular Economy Platform - scoping exercise (Q1 2022)
  - Circular Economy Branding - scoping exercise (Q1 2022)
  - Other Circular Economy Awareness measures
2. Mapping / Policy Coherence
  - Material Flow Analysis – scoping exercise (H1 2022)
  - Circular Economy Funding Map
  - Circular Economy Activity Map
  - Circular Economy Policy Coherence Map
3. Policy Development
  - Consideration of OECD Report Recommendations (Q1 2022)
  - Sectoral Roadmaps
  - Consideration of additional policy measures, e.g. additional economic instruments
  - Agreement of additional targets and actions for inclusion on next iteration of Strategy

# Annex 8: Current supports to Business and Enterprise to transition to Circularity and Sustainability:

This Annex sets out the range of supports to business, enterprise and third level knowledge institutions available through the IDA, Enterprise Ireland, Local Enterprise Offices, DECC, EPA and the EU.

Eligible activities include:

Circular Economy thinking	Stewardship
Life Cycle Assessment	Resource Efficiency Assessment
Ecodesign	Renewable Energy Potential
Sustainable Packaging	Carbon Footprint
Green Procurement	Sustainable Strategy
Environmental Management	Sustainable Logistics
Energy/carbon Management	Communications

## Green Supports:

### Climate Action Voucher

Project cost: €1,800, grant: 100%

Eligible cost element: service provider technical and advisory costs (2 days @ €900/day)

Assignment period: over 6 weeks

Available to HPSU's, SME's & Large Enterprise Ireland & Údaras na Gaeltachta clients

Enterprise Ireland Directory of Green Service Providers

More info:

<https://www.enterprise-ireland.com/en/Productivity/Build-a-green-sustainable-Business/Climate-Action-Voucher/>

### Green For Micro

Free pilot programme open to all micro-enterprises with up to 10 employees, trading > 6 months, T/O > €30,000/annum in 2019/2020  
2 days mentoring/consulting over 6 - 12 weeks

More info: <https://www.localenterprise.ie/green>

### GreenStart

Project cost: €6,300, grant: 80%

Eligible cost element: service provider training & advisory costs (7 days @ €900/day)

Assignment period: over 3 - 6 months

Available to HPSU's, SME's & Large client companies (EI, LEO, Údarás, IDA)

More info: <https://www.enterprise-ireland.com/en/Productivity/Build-a-green-sustainable-Business/GreenStart/>

### GreenPlus

Project cost: Up to €100,000, grant: up to 50%

Eligible cost element:

- Service provider training & advisory costs (up to €900/day)
- Up to 10 project team members salary costs (up to €200/day)
- Training Course fees for specialised external courses that support project goals

Assignment period: over 6 - 12 months

Available to SME & Large client companies (EI, Údarás, IDA)

More info: <https://www.enterprise-ireland.com/en/Productivity/Build-a-green-sustainable-Business/GreenPlus/>

## Research, Development and & Innovation Supports:

Offer		Available to	Exclusions	Funding Details
<a href="#">Intellectual Property (IP) Strategy</a>	Enterprise Ireland	EI, LEO, Údarás SME Clients (Large companies for IP Plus on a case by case basis)	<ul style="list-style-type: none"> <li>IDA</li> </ul>	<p>IP Start: Max Eligible Expenditure €2,700, Max funded 80% €2,160</p> <p>IP Plus: Max Eligible Expenditure €70,000, Max funded 50% €35,000</p>
<a href="#">Exploring Innovation</a>	Enterprise Ireland	EI Client	<ul style="list-style-type: none"> <li>EI HPSU Clients</li> <li>Non EI Client</li> </ul>	Max Eligible Expenditure €70,000, Max funded 50% €35,000
<a href="#">HPSU Feasibility</a>	Enterprise Ireland	EI HPSU Clients	<ul style="list-style-type: none"> <li>Non EI HPSU Clients</li> </ul>	Max Eligible Expenditure €30,000, Max funded 50% €15,000
<a href="#">Agile Innovation</a>	Enterprise Ireland	EI, LEO, Údarás Clients	<ul style="list-style-type: none"> <li>IDA</li> <li>EI HPSU Clients</li> </ul>	<p>Max Eligible Expenditure €300,000</p> <p><a href="#">Business Innovation</a> Max Funded 50%, Large companies De Minimis Aid, R&amp;D Max Funded 45%</p>
<a href="#">RD&amp;I Fund</a>	Enterprise Ireland	EI Clients	<ul style="list-style-type: none"> <li>Non EI Clients</li> </ul>	<p>No Max Eligible Expenditure</p> <p>Max funding based on company size</p> <p>45% Small, 35% Medium, 25% Large</p>
<a href="#">Feasibility Study</a>	IDA Ireland	IDA Clients	<ul style="list-style-type: none"> <li>Non IDA Clients</li> </ul>	<p>Max funded 50%, up to €250,000</p> <p>Typical project &lt;€500,000</p>
<a href="#">RD&amp;I Grant</a>	IDA Ireland	IDA Clients	<ul style="list-style-type: none"> <li>Non IDA Clients</li> </ul>	<p>No Max Eligible Expenditure</p> <p>Typical Grant Intensity = 8-15%</p>
<a href="#">Green Enterprise: Innovation for a Circular Economy</a>	EPA	SME, Large, Public Benefit Entities (PBEs)		<p>€50,000 - €100,000</p> <p>Grant 25% - 95% depending on company/organisation &amp; category of expenditure.</p> <p>2021 call is closed.</p>
<a href="#">Circular Economy Innovation Grant Scheme (CEIGS) - DECC</a>	DECC	SME, social enterprise, voluntary and community organisations		<p>€10 - €50,000</p> <p><u>100% funding of eligible project costs</u></p> <p>2021 call is closed</p>

<a href="#">Disruptive Technologies Innovation Fund (DTIF)</a> -	<b>DETE</b>	Consortium comprising of at least 3 independent partners including at least one SME and one other enterprise partner. Applicants must be a client of EI, IDA or Údarás or an eligible Research Performing Organisation (RPO).	<p>Minimum funding of at least €1.5 million over 3 years</p> <p>Enterprises can claim up to 50% of their eligible costs; RPOs can claim up to 100% of their eligible costs; RPOs cannot receive more than 50% of the total DTIF grant aid to the project in any collaboration.</p> <p>Non agency clients may be involved in a collaboration, but will not be eligible for funding</p>
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### Enterprise Ireland and Third Level Collaboration:

Offer	Available to	Exclusions	Funding Details
<a href="#">Innovation Voucher</a>	SME; EI and Non EI Clients	Large companies	Standard Voucher €5,000 (100% funded), Max two. Co Funded voucher €10,000 Company contributes 50% Max one
<a href="#">Innovation Partnership Feasibility</a>	EI, IDA, LEO and Údarás Clients	Non agency clients	Max €9,000 (100% funded)
<a href="#">Innovation Partnership Express</a>	SME; EI, LEO and Údarás Clients	Large IDA	Cap of €85,000 spend, funded up to €68,000
<a href="#">Innovation Partnership</a>	EI, IDA, LEO and Údarás Clients	Non agency clients	Funding normally not exceeding €200,000. Funding support for HPSU capped at €100,000 Funding Level between 40 and 80% depending (Industrial vs Experiential)/size

## Lean, Strategic Consultancy, Digitalisation Supports

Offer	Available to	Exclusions	Funding Details
<a href="#">Lean Offer</a>	EI, Údarás, IDA Clients	<ul style="list-style-type: none"> <li>LEO client</li> </ul>	<p><b>LeanStart:</b> Max Eligible Expenditure €6,300, Max funded 80% €1,300</p> <p><b>LeanPlus:</b> Max Eligible Expenditure €100,000, Max funded 50% €50,000</p> <p><b>LeanTransform:</b> &gt;€100,000, Max funding 50 – 70% based on company size</p>
<a href="#">Lean for Micro</a>	LEO Clients	<ul style="list-style-type: none"> <li>Non LEO client</li> </ul>	Contact your LEO
<a href="#">Operational Excellence</a>	EI, Údarás SME & Large Clients	<ul style="list-style-type: none"> <li>Non EI &amp; Údarás Clients</li> </ul>	<p>Capability Development (Training/upskilling): 50 – 70%</p> <p>Business Innovation Project (s): 50% of €300,000 max expenditure</p> <p>Capital Investment: 10 – 30% funding, SME only</p>
<a href="#">Strategic Consultancy</a>	EI SME Clients	<ul style="list-style-type: none"> <li>Non EI SME clients</li> <li>Companies not eligible to receive the support applied for from An Bord Bia or An Bord Iascaigh Mhara.</li> </ul>	Max Eligible Expenditure €70,000, Max Funded 50% €35,000
<a href="#">Digitalisation Voucher</a>	EI SME & Large Clients	<ul style="list-style-type: none"> <li>Non EI Clients</li> </ul>	Max Eligible Expenditure €9000, Max funded 100%

## European Funding

**Horizon Europe** - €95.5bn RDI Funding 2021-2027

The EU's next research and innovation programme Horizon Europe will help speed up the transformation to a circular economy and deliver on the EU's circular economy action plan.

Opportunity Areas example: Cluster 6 Food, Bioeconomy, Natural Resources, Agriculture and Environment, Destination 3: Circular Economy and the Bioeconomy

Enabling a circular economy transition

- Circular cities and regions
- Packaging and plastics

- Circular value chains (Electronics, textiles, construction)

**Innovating sustainable bio-based systems and the bioeconomy**

- Novel biomass feedstocks
- Microbiomes for biobased innovation
- Small scale solutions for rural areas

**Innovating for blue bioeconomy and biotechnology value chains**

- Algae and the blue bioeconomy

**Horizon Europe EIC Accelerator Programme**

Unique offer of funding & support

- Up to €2.5 million grant
- EIC Fund providing equity investments up to €15 million
- Coaching, mentoring, links to corporates, investors, etc.

#### Growing demand from Startups and SMEs

- 14,000 applied in 2020
- 5,700 startups & SMEs supported since 2014 (including previous SME instrument)
- Increase in startups with female founders

Can fund SME's with innovative products, processes and business models get to market (including circular economy related)

#### EU LIFE Programme 2021-2027

Total budget of €5.4 billion.

The LIFE Programme is the EU's funding instrument for the environment and climate action 4 distinct sub-programmes:

- Nature and Biodiversity;
- Circular Economy and Quality of Life;
- Climate change mitigation and adaptation;
- Clean energy transition.

Circular economy and quality of life: LIFE projects under this sub-programme will develop technologies and solutions to enhance the circular economy. Projects include the recovery of resources from waste, and others on water, air, noise, soil and chemical management as well as environmental governance.

#### Other Supports/Resources

- KTI National Directory of RD&I Supports for Enterprise 2021
- Technology Centres e.g. Irish Manufacturing Research is a leading Research and Technology Organisation providing a portfolio of research, training and

consultancy services to Industry across 4 thematic pillars: Digitisation, Sustainable Manufacturing, Design for Manufacturing, Automation and Advanced Control.

- Circuléire – The National Platform for Circular Manufacturing
- Technology Gateway Network e.g. Applied Polymer Technologies Gateway provides polymer technology solutions for companies in the medical, composite, recycling and pharmaceutical sectors
- SFI Research Centres e.g. BiOrbic Bioeconomy SFI Research Centre is Ireland's national bioeconomy research centre, established to promote and develop Ireland's bioeconomy through excellent research and innovation
- MODOS: Circular Economy Innovation Award and Mentoring for SME's
- Chambers: e.g. Dublin Chamber Sustainability Academy, Cork Chamber MODOS programme
- [Climate Ready Skillnet](#)

