

From: Jack O'Sullivan ZWAI <jack@zerowasteireland.com>
Sent: Friday 11 June 2021 17:22
To: circulareconomy
Subject: Submission on the Circular Economy, from Zero Waste Alliance Ireland.
Attachments: ZWAI-WGCES-04 Complete submission on circular economy by ZWAI to DECC, 11-June-2021.pdf

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Circular Economy Strategy Consultation,
Circular Economy Division,
Department of the Environment, Climate and Communications,
Newtown Road,
Wexford,
Y35 AP90.

Dear Sir / Madam,

**Observations on the Proposed First Whole-of-Government Circular Economy Strategy
Submission by Zero Waste Alliance Ireland to the Department of Environment, Climate and Communications**

On behalf of Zero Waste Alliance Ireland (ZWAI), we are attaching our observations in response to the Public Consultation issued by the Department of Environment, Climate and Communications (DECC) on the proposed first Whole-of-Government Circular Economy Strategy.

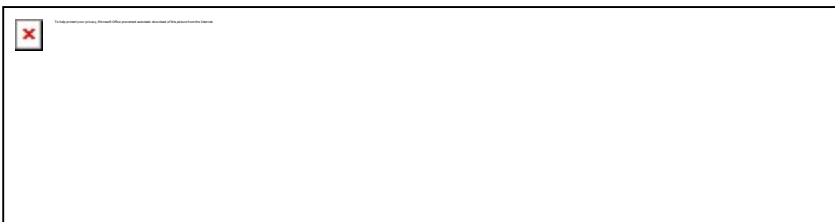
Members of Zero Waste Alliance Ireland are very pleased to have the opportunity to engage with the DECC by making a submission, especially as the Circular Economy is a model which ZWAI has advocated over a long period of time; and we hope that our submission will assist Ireland's current transition to a more resource efficient "Circular Economy", and to achieving the target of "Zero Waste", within the over-arching aim of becoming fully "climate neutral" and "carbon neutral".

Looking forward to your acknowledgement that the submission has been safely received.

Yours sincerely,

Jack O'Sullivan

On behalf of Zero Waste Alliance Ireland



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ZERO WASTE ALLIANCE IRELAND

Towards Sustainable Resource Management



Submission to the Department of Environment, Climate and Communications on the Proposed Whole-of-Government Circular Economy Strategy

11 June 2021

Zero Waste Alliance Ireland is a member of



and



**An Tinteán Nua, Ballymanus, Castlepollard, County Westmeath, Ireland
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ZERO WASTE ALLIANCE IRELAND

Towards Sustainable Resource Management

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11 June 2021

Circular Economy Strategy Consultation,
Circular Economy Division,
Department of the Environment, Climate and Communications,
Newtown Road,
Wexford,
Y35 AP90.

BY EMAIL TO:
circulareconomy@decc.gov.ie

Dear Sir / Madam,

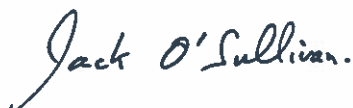
Observations on the Proposed First Whole-of-Government Circular Economy Strategy

Submission by Zero Waste Alliance Ireland to the Department of Environment, Climate and Communications

On behalf of Zero Waste Alliance Ireland (ZWA), we are attaching our observations in response to the Public Consultation issued by the Department of Environment, Climate and Communications (DECC) on the proposed first Whole-of-Government Circular Economy Strategy. As stated in the Consultation document dated 16 April 2021, this public consultation is intended to obtain views of stakeholders and members of the public on the direction, content and implementation of the proposed strategy.

Members of Zero Waste Alliance Ireland are very pleased to have the opportunity to engage with the DECC by making a submission, especially as the Circular Economy is a model which ZWA has advocated over a long period of time; and we hope that our submission will assist Ireland's current transition to a more resource efficient "Circular Economy", and to achieving the target of "Zero Waste", within the over-arching aim of becoming fully "climate neutral" and "carbon neutral".

Yours sincerely,



Jack O'Sullivan

On behalf of Zero Waste Alliance Ireland

ZERO WASTE ALLIANCE IRELAND

Towards Sustainable Resource Management

**Submission to the Department of Environment, Climate and
Communications on the Proposed Whole-of-Government Circular
Economy Strategy**

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ZERO WASTE ALLIANCE IRELAND

Towards Sustainable Resource Management

Submission to the Department of Environment, Climate and Communications on the Proposed Whole-of-Government Circular Economy Strategy

1. INTRODUCTION

On 16 April 2021, the Department of Environment, Climate and Communications issued an invitation to a public consultation on a proposed Whole-of-Government Circular Economy Strategy which the Department hopes will help this country to make the necessary transition from the current linear ('take-make-waste') model of production and consumption to a circular economy in which resources are kept in use for as long as possible. For a relatively small open economy such as we have in Ireland, achieving the circular model of resource use is both a significant challenge and a necessity.

Our high proportion of imports and exports of materials and goods makes creating added value from what we use and discard more difficult, though modern technologies are making small-scale manufacturing, repairing, re-using and recycling more achievable and more economically viable. But while such technologies create opportunities, there are very significant cultural, systemic and political barriers to their adoption and utilisation at a scale which would make a major impact on the "business-as-usual" economy.

In order to overcome these barriers, a "kick-start" by Government is necessary, together with a sustained programme of support, awareness-raising and leading by example. Individuals, communities, small businesses and civic society generally cannot by themselves achieve the transition to a circular form of economy. Zero Waste Alliance Ireland pointed out this systemic problem in one of our early policy documents, and therefore we are particularly pleased that the Department has issued this public consultation.

The Department's pre-consultation strategy document asks respondents to consider the issues and questions raised; and, in response, we have outlined our ideas and visions, together with our concerns; and we have made a number of recommendations where appropriate.

2. ZERO WASTE ALLIANCE IRELAND (ZWAI)

At this point we consider that it is appropriate to mention the background to our submission, especially the policy and strategy of ZWAI.

2.1 Origin and Early Activities of ZWAI

Zero Waste Alliance Ireland (ZWAI), established in May 1999, and registered as a company limited by guarantee in 2004, is a Non-Government Environmental Organisation (eNGO) and a registered charity. During the two decades ZWAI has prepared and submitted to the Irish Government and to State Agencies many policy documents on waste management, and continues to lobby Government on the issue of using resources more sustainably, and on the implementation of the Circular Economy.

Our principal objectives are:

- i) sharing information, ideas and contacts,
- ii) finding and recommending environmentally sustainable and practical solutions for domestic, municipal, industrial and agricultural waste management in Ireland;
- iii) lobbying Government and local authorities to implement environmentally sustainable waste management practices, including clean production, elimination of toxic substances from products, re-use, recycling, segregation of discarded materials at source, and other beneficial practices;
- iv) lobbying Government to follow the best international practice and EU recommendations by introducing fiscal and economic measures designed to penalise the manufacturers of products which cannot be re-used, recycled or composted at the end of their useful lives, and to financially support companies making products which can be re-used, recycled or are made from recycled materials;
- v) raising public awareness about the long-term damaging human and animal health and economic consequences of landfilling and of the destruction of potentially recyclable or re-usable materials by incineration; and,
- vi) maintaining contact and exchanging information with similar national networks in other countries, and with international zero waste organisations.

2.2 Our Basic Principles

Human communities must behave like natural ones, living comfortably within the natural flow of energy from the sun and plants, producing no wastes which cannot be recycled back into the earth's systems, and guided by new economic values which are in harmony with personal and ecological values.

In nature, the waste products of every living organism serve as raw materials to be transformed by other living creatures, or benefit the planet in other ways. Instead of organising systems that efficiently dispose of or recycle our waste, we need to design systems of production that have little or no waste to begin with.

There are no technical barriers to achieving a “zero waste society”, only our habits, our greed as a society, and the current economic structures and policies which have led to the present environmental, social and economic difficulties.

“Zero Waste” is a realistic whole-system approach to addressing the problem of society’s unsustainable resource flows – it encompasses waste elimination at source through product design and producer responsibility, together with waste reduction strategies further down the supply chain, such as cleaner production, product repairing, dismantling, recycling, re-use and composting.

ZWAI strongly believes that Ireland should have a policy of not sending to other countries our discarded materials for further treatment or recycling, particularly to developing countries where local populations are being exposed to dioxins and other very toxic POPs. Relying on other countries’ infrastructure to achieve our “recycling” targets is not acceptable from a global ecological and societal perspective.

2.3 What We are Doing

Zero Waste Alliance Ireland has prepared many policy documents on waste management and related issues, we continue to lobby the Government on the issue of sustainable resource management, and to express our concern at the failure to address Ireland’s waste and resource management problems at a fundamental level.

In recent decades, as many older landfills were closed or became better managed (primarily as a consequence of the implementation of European Directives, Irish legislation transposing these Directives, the development of a waste licensing regime by the Environmental Protection Agency, and the establishment of the Office of Environmental Enforcement in 2003), concern about the public health effects of landfills decreased considerably.

ZWAI therefore concentrated more on the objectives of ensuring that Ireland’s government agencies, local authorities and other organisations will develop and implement environmentally sustainable resources and waste management policies, especially resource efficiency, waste reduction and elimination, the promotion of re-use, repair and recycling, and the development and implementation of the Circular Economy.

As an environmental NGO, and a not-for-profit company with charitable status since 2005, ZWAI also campaigns for the implementation of the UN Sustainable Development Goals, including (but not limited to) Goal 12, Responsible

Consumption and Production, and Goal 6, Clean Water and Sanitation (having particular regard to the need to avoid wasting water).

In addition to responding to many public consultations, members of ZWAI have given presentations on how the European Union has addressed the problem of plastic waste (March 2019), on single-use plastic packaging by the food industry (November 2019), and other relevant topics.

It will be clear that ZWAI is primarily concerned with the very serious issue of discarded substances, materials and goods, whether from domestic, commercial or industrial sources, how these become “waste”, and how such “waste” may be prevented by re-design along ecological principles. These same ecological principles can be applied to the many ways in which we abstract and use water as a resource, and to the equivalent volumes of wastewater produced as a consequence of these uses.

ZWAI is represented on the Irish Government’s **Waste Forum** and on the Government’s **Water Forum (An Fóram Uisce)** by one of the ZWAI management board members (Ollan Herr), and ZWAI is a member of the **Irish Environmental Network (IEN)**, and the **Environmental Pillar**. Another board member (Jack O’Sullivan) is a founder member of the **Climate Change Committee of An Taisce**, and is a member of the **Climate Research Co-ordination Group**, established under the Environmental Protection Agency’s (EPA) 2014–2020 Research Strategy. Jack O’Sullivan also lectured on sustainable development at the former Dublin Institute of Technology (DIT, now Dublin Technical University) for many years.

In 2019 ZWAI became a full member of the **European Environment Bureau (EEB)**; and we participate in the development of European Union policy on waste and the Circular Economy.

ZWAI continues to maintain working relationships with the Grass Roots Recycling Network in the United States, with the Global Anti-Incinerator Alliance (Global Alliance for Incinerator Alternatives -- GAIA), and other similar international environmental organisations.

Other ZWAI activities include an active web page (<http://zerowasteireland.com/>), a Twitter account (<https://twitter.com/zerowaster>), a much-visited Facebook page (<https://www.facebook.com/ZeroWasteAllianceIreland/>), and a Linked-In page (<https://www.linkedin.com/company/zero-waste-alliance-ireland/>) for the purpose of raising public awareness of the Zero Waste approach, providing Zero Waste news and activities, and reaching out to supporters and members of the public.

3. KEY OBJECTIVES OF THE PROPOSED CIRCULAR ECONOMY STRATEGY

The pre-consultation strategy document issued by the Department of the Environment, Climate and Communications suggests some five key objectives for the proposed circular economy strategy, and we will begin our submission by commenting on these objectives.

3.1 A National Policy Framework and Public Sector Leadership

The first objective is described as providing “*a national policy framework for Ireland’s transition to a circular economy and to promote public sector leadership in adopting circular policies and practices.*”

This is an essential objective, if only for the reason that existing policy conflicts or mis-matching objectives between Departments and Agencies are creating systemic barriers to the more widespread adoption of a coherent policy to formulate and implement the necessary supporting framework for a circular economy.

To give a few examples of such policy mis-matches or lack of coherence:

1. The Environmental Protection Agency, through its work of promoting recycling and supporting research projects in areas important for the Circular Economy is assisting the transition; while the same Agency, by issuing Industrial Emissions Licences to permit the very large-scale burning (as a fuel in cement kilns) of potentially recyclable materials such as paper, card, plastic and end-of-life vehicle tyres, is creating a barrier to the Circular Economy.

An Bord Pleanála, by granting planning permission for “waste to energy” facilities which burn large quantities of potentially recyclable materials such as paper, card and plastic, is also acting in conflict with the objective that such materials should be recycled.

The Department will be aware that incineration of discarded materials which are potentially recyclable is not conducive to the circular economy as it removes from further use certain materials that could otherwise be recycled and reused elsewhere in the economy. In 2020, the EU Regulation on the establishment of a framework to facilitate sustainable investment (Regulation 2020/852) called for the minimisation of waste incineration, and classed activities leading to a significant increase in incineration of waste as harmful to the circular economy. On the basis of this Regulation, the draft delegated act on climate change mitigation Taxonomy excluded Waste-to-Energy incineration from a list of economic activities considered ‘contributing to the climate change mitigation’ as it

harms the circular economy. Thus it is increasingly clear that the EU is moving away from advocating large-scale burning of potentially recyclable materials for recovery of some of their embodied energy, and is instead recommending that “waste-to-energy” plants should be phased out, and new facilities should not be constructed.

2. Our second example of policy mismatch should be especially well-known to the Department – the promotion of a particular type of intensive agriculture, based on beef and milk production, by the Department of Agriculture, Teagasc and other agencies, while the scientific evidence is that this type of animal farming is a major contributor to Ireland’s elevated emissions of carbon dioxide, methane and ammonia; resulting in a direct conflict with climate mitigations policies and international obligations to reduce emissions.
3. Our second example is perhaps less well known – the continued use of large areas of bog or peatlands for the extraction of peat for horticultural use (in some cases without either planning permission or the necessary consent from the Environmental Protection Agency), or the promotion of peatlands as suitable locations for wind farms, while the scientific evidence informs us that the re-wetting, restoration and re-vegetation of these peatlands would be a major contributor to the mitigation of climate change as a consequence of the ability of living *Sphagnum* to sequester and store carbon.

An Bord Pleanála has continued in recent years to grant consent for wind farms in such locations, while knowing that wind turbine maintenance requires access to these bogland sites, and such access can be achieved only by keeping the bogs drained, with the result that such large areas of peatland continue to function as carbon emitters instead of carbon sequestration and storage. Decisions to allow continuing extraction of peat or to allow bogs to remain drained are in direct conflict with the need to maximise the use of restored peatlands for mitigation of climate change. And from an economic perspective, failing to restore peatlands is resulting in the loss of potentially available EU funding for peatland re-wetting.

In order to prevent or avoid these and other policy mis-matches or lack of coherence, it is our submission that a rapid policy analysis should be undertaken to list, identify and address these problems; and we would suggest that such an analysis should be a sub-objective of the first key objective listed above. In order to have a coherent national policy, these discords simply have to be addressed; otherwise any “national policy” would exist in name only, and would have no effect.

If they are not addressed, they will continue to send out misleading or confusing messages to members of the public, while making the task of awareness raising

more difficult. The first example is particularly relevant, as the recent public disquiet in Limerick has shown, in response to the granting of planning permission (by An Bord Pleanála) and the granting of an Industrial Emissions Licence (by the EPA) to a cement production plant in order to allow the operator to use as a fuel very large amounts (90,000 tonnes per annum) of materials which members of the public believe can be recycled, and should be recycled.

The second part of the first key objective, *“to promote public sector leadership in adopting circular policies and practices”*, would be assisted by the achievement of the first part of the objective – if Departments and Agencies were to work more coherently, with few or no conflicts, this would result in better leadership, and with the added benefit that members of the public would be likely to have increased confidence in the ability of Government to work together as a whole, especially in addressing climate change issues.

3.2 Measures to Reduce Ireland’s “Circularity Gap”

The second objective is described as supporting and implementing measures which will have the effect of *“significantly reducing 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”*.

Enacted globally, a circular economy can close the “Emissions Gap”. By combining the twin agendas of the circular economy and climate mitigation (see section 3.7 below), Ireland can more easily become a leader on the path to a well below 2-degree world by 2032. In developing and adopting a roadmap with detailed and comprehensive “whole-of-Government” circular economy strategies, we can lead the way for the systemic transformations needed to course-correct the global economy — going far beyond the limitations of current policy and national climate pledges. The current pledges bring us over 15% of the way; the circular economy can deliver the other 85%. If the coming decade is the decisive one for humanity’s future on earth, then 2021 is the year to ramp up our efforts in Ireland to bring our goals into realistic reach and to prevent the worst effects of climate breakdown.

The current global economy is only 8.6% circular, leaving a massive Circularity Gap. But if we can close the Gap by a further 8.4% — or roughly double the current global figure of 8.6% — the target becomes achievable.

However, the major problem is that circularity in our world is trending downwards, not upwards. Whilst the Circularity Gap Report 2020 revealed that the global economy was only 8.6% circular, just two years earlier it was 9.1%. So, although we only need to almost double circularity to close the Emissions Gap by 2032, the globe remains shackled by outdated ‘take-make-waste’ practices. Humanity has now also breached two major milestones: the world is consuming 100 billion tonnes (Gt) of materials and it has become at least 1°C warmer. All indicators point to the reality that the world remains engulfed by the linear economy and its unsustainable practices, processes and behaviours. However, when the covid-

19 pandemic swept the world in 2020, we saw in Ireland nearly empty skies and roads, as our entire population was placed under national lockdown. Temporary as the resulting drop in annual global emissions may be, it has shown us what is possible: from governments to citizens, we are now armed with the knowledge that transformational change is doable.

Reducing Ireland's "Circularity Gap" can be achieved by implementing a circular economy which can satisfy societal needs and wants by doing more with less. We need materials to fuel our lifestyles; this produces emissions. However, the circular economy will help to ensure that aim with less material input and fewer emissions, so that we can still deliver the same, or better, output. Through smart strategies and reduced material consumption, we find that the circular economy has the power to shrink global GHG emissions by 39% and cut virgin resource use by 28%. Within this, the societal need of housing delivers half of the impact, while mobility and nutrition account for much of the rest. To get to our end goal of a socially just and ecologically safe space, we need intelligent resource management to reduce and halt over-consumption and to cut GHG emissions.

3.3 Awareness Raising Measures

The third objective is described as *"raising awareness amongst households, business and individuals about the circular economy and how it can improve their lives"*.

Raising awareness is a crucial and complex step towards achieving a circular economy as it does not only involve providing information and the associated outlets, it also requires the delivery of behavioural change.

3.3.1 Behavioural change

As our society is built upon a linear model that maximises consumer convenience, a huge behavioural and cultural change will be required to integrate circular practices that may not be as convenient as their linear counterparts. A nationwide shift in the way we as a society perceive discarded items will be an essential step. It should be viewed as a resource rather than a waste that requires disposal.

This behavioural shift could be one of the biggest challenges in transitioning to a circular economy but will be the most critical step. A study in 2018 conducted public interviews in Southern Poland, with the intention of gaining an understanding of the public awareness of the CE.¹ The study revealed many interesting statistics, the most universal ones being that younger generations were more familiar with the concept of CE than older generations and a positive

¹ Smol, M., Avdiushchenko, A., Kulczycka, J. and Nowaczek, A., 2018. Public awareness of circular economy in southern Poland: Case of the Malopolska region. *Journal of Cleaner Production*, 197, pp.1035-1045.

correlation was found between educational level and knowledge on the CE. Therefore, it is highly recommended that similar research is conducted in an Irish context, to gain a better understanding of which areas within the CE are the most misunderstood and the associated barriers.

Another study on consumer behaviour analysing attitudes towards food waste in Ireland, is worth considering.² This analysis was based on survey data from 2115 Irish participants. Global warming potential of the food waste generated weekly was then assessed. A total of 2,115 participants from all over the Republic of Ireland contributed to the survey. Using factor and cluster analysis, two clusters of consumers were formed based on their attitudes towards food waste, and it was found that 62.56% of the sample were 'uncaring' consumers and 37.44% were 'caring' consumers. The uncaring consumers consisted of more young males and were relatively unphased by food waste and who take minimal precautions to reduce food waste at all stages of consumption. In contrast, caring consumers consisted of older and female consumers and were deeply disturbed by food waste, taking all precautions to reduce food waste at every stage of consumption.

Regarding food waste quantities, uncaring consumers produced on average, 0.74 kg of food waste weekly, accounting for 2.74 kg of CO₂ equivalent in global warming potential, whereas caring consumers produced only half this amount. In order to reach the uncaring demographic a number of awareness measures need to be adapted. Such as effective innovative hair-raising campaigns through various marketing communications techniques such as social media using influencers, traditional media and events to encourage more sustainable measures.

3.3.2 Public Acceptability

As well as inducing behavioural change it is important to consider public perception when introducing new regulations or policies. Individuals may perceive the same information differently based on their worldview and beliefs. A 2016 Study identified the public acceptability concerns for policies on EU resource efficiency. They identified that in order to improve public acceptability, the public need to feel that the policy is fair, effective, trustworthy and the monetary and non-monetary costs are reasonable. The study recommends full transparency, particularly when developing levies and taxes, improves public trust. Intelligent policy design that carefully considers population subgroups and the methods of applying the policy such as "carrot vs stick" are suggested to improve the perceived fairness and cost concerns associated with new policy development. Finally, to address the effectiveness concern, the study

² Flanagan, A., Priyadarshini, A.. 2021. A study of consumer behaviour towards food-waste in Ireland: Attitudes, quantities and global warming potentials. *Journal of environmental management* 15th April 2021.

recommends involving and engaging with key actors such as industry to support and encourage their transition to more circular practices.³

It is also worth mentioning that exogenous events such as natural disasters that coincide with new policy development can influence public opinion and acceptability. We cannot ignore the effects the Covid-19 pandemic has had on reusable solutions. For example, cafes and restaurants that originally supported reusable containers, have switched back to disposable single use containers. The pandemic has not only significantly increased the use of single use products, it has also created hygiene concerns around reusable items. We are worried less people may want to use reusable options post pandemic to pre pandemic due to the misconception that they are not hygienic. This issue must be addressed as reusable items are at the core of the circular economy. At the same time the Covid-19 pandemic provides a unique opportunity, as our idea of 'normal' has already been disrupted, providing the perfect timing to initiate change.

3.3.3 Measures for Raising Awareness

Strong media campaigns are needed around sustainable living and the circular economy. Our other suggestion is that effective and innovative "hair-raising campaigns" should be promoted through various marketing communications techniques such as social media using influencers, traditional media, events to encourage more sustainable measures.

Business education in the sector needs to be encouraged and green certification required by business. Within the business sector there is an opportunity to implement corporate social responsibility (CSR) initiatives to encourage further circular economy activity in workforces which will seep into employees' homes. Digital applications in the workplace and at home can support this activity.

Communities can drive circularity in the economy through local attractive funding initiatives, but these communities also need help and encouragement. Funding should be delivered at local level, and should avoid the extensive paper based red tape systems currently in place. Innovation and new thinking needs encouragement through the development of close working relationships between public and private enterprise.

The strategic development and roll-out of easy to use digital applications to support the public, communities and industry can create excellent awareness. Consultation needs to take place with private industry on how best to deliver these solutions in a cost effective and easy-to-use way.

In order to develop and roll out a successful awareness strategy it is necessary to research the consumer behaviour patterns of the population in relation to sustainability and the circular economy. Two of the most effective strategies in

³ Bicket, M. and Vanner, R., 2016. Designing Policy Mixes for Resource Efficiency: The Role of Public Acceptability. *Sustainability*, 8(4), p.366.

terms of policy implementation in recent years are the plastic bag levy and non-smoking legislation for pubs and restaurants. In this case levies and strict penalties were imposed.

3.3.4 Further Awareness Raising and Waste-related Issues

Ireland has a serious waste management issue contributing significantly to our excessive carbon footprint. Household waste, food waste and packaging waste rates are all too high. Awareness campaigns are going to need a carrot and stick approach and some serious consequences unless guidelines are followed. Household waste in Ireland continues to be closely linked with spending (EPA Waste Statistics 2020). The current waste collection process enables consumers to dispose of household material without understanding how changes in behaviour could lead to reduced costs, healthier lifestyles and overall wellbeing.

ZWAI is therefore proposing the following strategies and tactics:

1. Carrot and Stick approaches to reducing consumption, and improved waste management. Consumers need to be able to experience benefits from sustainable lifestyles. Real financial incentives are essential. Currently the waste system does not encourage a huge move towards circularity. An alternative household waste management process needs to be implemented where consumers understand how the products, they use effect the environment. Ireland needs to copy waste management segregation from parts of Europe and trial these systems. They must be considerably less expensive than the current systems, providing consumers choice, even providing grants to householders to change current habits of just using private bin collectors. A lucrative waste management alternative needs to be investigated and developed to facilitate successful segregation evident in parts of Europe.
2. Raising awareness for the circular economy needs to be attainable for the public and Industry. Changing the household car or heating system in the house can be considered large investments; however everyone can have an impact on waste management with small effort and often improve financial and health impacts. A core element of the circular economy is waste prevention. Essential to this is a strong waste management policy and strategy. This needs to be localised. Waste is the responsibility of the consumer, the community, government, and industry. To achieve waste targets and circular economy goals, levies are very necessary for noncompliance but circular economy initiatives need to be rewarded in an unbureaucratic fashion.
3. European cities have successfully implemented Zero Waste Tourism and zero waste food strategies. These achievements need to be copied by Ireland in relevant destinations, examples include, the island of Sardinia, Italy, Bruges, Belgium. Strategies in these regions are implemented at local level providing impactful benefits for the environment and local

communities. Pontevedra, Spain have successfully introduced Biowaste community systems where individual, community and local composting is implemented. There is little point in reinventing, calls for proposals need to be based around what works. Efficient organisations showing they can produce results need to be contracted to deliver goals. All bureaucracy reduced. Currently, applications for grants through many of the agencies are time consuming and inefficient. Companies engaged in sustainable practices need to be supported.

4. More than one third of all food is wasted. That is 1.3 billion tonnes every year according to The UN Food and Agriculture Organisation (FAO). If food waste were a country, it would be the 3rd largest emitter of greenhouse gases after the US and China causing 3.3 billion tonnes of CO2 emissions a year.
5. It's not just the food itself that goes to waste, it's all the resources that went into making it, from water to land and labour. Food waste is a massive problem affecting people, the planet and profit: almost 870 million people in the world go hungry every day, food waste contributes 8% of the world Greenhouse Gas Emissions and the estimated global cost is €1.2 trillion of profit is lost every year. According to the Stop Food Waste website we generate at least 1 million tonnes of food waste each year here in Ireland (Bord Bia). A focus on food and household waste will engage all sectors of society, with many benefits.
6. Major mistakes have been made by the Department of the Environment over the last number of years with respect to waste, the main one being privatising waste collection in Ireland. Originally there were smaller providers and operators with a more localised approach to waste collection, processing, and disposal. The local authorities, therefore, had more control of these local operators which brought greater compliance controls, etc. Nowadays, they do not have this level of control, in fact, they are being heavily influenced by large national and international operators which quite obviously, by the nature of their size, have a lot more influence than they should which should not be the case (the tail should not wag the dog). The Irish government, EPA, and the Department of the Environment must be able to control and direct these national operators – at present such control is almost completely lacking, and unless it is restored, a circular economy will be unattainable.

In summary, the current waste collection systems are bureaucratic. Waste is a collective issue and as such the strategy, as in some European cities needs to be localised.

3.4 Promotion of Increased Investment in Activities which Contribute to the Circular Economy

The fourth objective is described as supporting and promoting *“increased investment in the circular economy in Ireland, with a view to delivering sustainable, regionally balanced economic growth and employment.”*

The problem as we perceive it is that there are currently gaps in Ireland's ability to recycle certain materials. In order to address these gaps, recycling industries may have to be set up and run by the State in order to assure the maximum capability for recycling as many waste materials as possible. Alternatively, the Government could provide appropriate financial incentives to industry; but it is essential that control must be maintained over the activities of the “waste industry”.

Norway has built one of the most efficient recycling plants in the world and we should seek to emulate this; given the small population of Ireland it may not be viable for private companies to set up such a plant so the state should step in and build and run one. They are also building a plant to recycle lithium ion batteries which will be essential in supporting electric or hybrid vehicles in the future.

ZWAI agrees with this objective; however the circular economy encompasses many different sectors, therefore, the circular economy strategy should clarify and describe in more detail the sectors in which increased investment is most desirable and productive. As a beginning, we suggest small investments should be made to local communities and to address the market failure in the repair sector.

As mentioned in section 3.5, the repair sector represents a huge market failure as it is more expensive to repair an item than to replace it. The Community Resource Network estimated that only 727 people are employed full time in the repair sector in Ireland and that only 2% of goods are repaired. The repair sector is in dire need of investments to flip the current, so that repairing will always be cheaper than replacing.

3.5 Economic, Regulatory and Social Barriers to Ireland's Transition to a More Circular Economy

The fifth objective is described as *“to identify and address the economic, regulatory and social barriers to Ireland's transition to a more circular economy”*.

Barriers include product design, waste segregation or separation at source, and lack of reparability and facilities for repairing.

3.5.1 Product Design

A major barrier in the implementation of the Circular Economy in Ireland is poor product design and planned obsolescence. It is not enough to redesign products using more sustainable materials if planned obsolescence is permitted. The circular economy cannot exist as long as manufactures are strategically designing products to have a limited life, encouraging the consumer to repeatedly repurchase the same product. This is particularly apparent in electrical goods, which are also one of the most difficult products to dispose of correctly. Products need to be designed to last, to be easily repaired, to be reused and to be recycled. Planned obsolescence is a major barrier to the Circular Economy transition and should be addressed promptly.

3.5.2 Waste Segregation at Source

Another significant barrier is the inefficient waste collection system in Ireland, and the handing over of responsibility by the State to private companies. In section 5.1 below, we address some of the issues connected with the way in which we currently manage discarded materials, and consider these materials only as “waste” and not potentially recyclable recovered raw materials (secondary raw materials).

Our current approach and practice do not encourage a move towards circularity as the level of separation is too simplistic, resulting in potentially recyclable material either being burned as fuel for cement production or being exported. Using waste material to recover energy cannot exist in a circular economy as the amount of energy recovered is significantly lower than the amount of energy required to produce the products. In regard to exportation this is also a huge waste of energy in itself and often does not sufficiently consider proper waste treatment. It is also a huge waste of potential resources and employment opportunities. Improved segregation of discarded materials at source would significantly increase the level of recycling and upcycling, allowing these sectors to reach their maximum capabilities. A lucrative waste management alternative needs to be investigated and developed to facilitate successful segregation that is evident in parts of Europe.

3.5.3 Repairability

Two major barriers impeding the repairing rates of products are lack of repair services and the costs associated with repairing and refurbishing. Over the years products such as clothes and electronics have become significantly cheaper. This has had two effects on influencing consumers' decisions to repair a broken product. The first being that in many situations it costs more to repair an item than to buy a replacement, which has led to many repair services closing. This is a significant barrier to reducing our waste.

Consumers need to be encouraged to repair their broken products, therefore we recommend developing appropriate financial and other incentives. Several European countries have introduced reduced VAT rates on repairs of certain products such as bicycles, clothes and shoes. We strongly encourage that Ireland incorporates this or a similar tactic to incentivise repairing of products.

3.6 Achieving Real Sustainability

One of the questions which must be addressed is – should we consider the transition to a Circular Economy an end in itself, a desirable goal for its own sake, or is it a necessary step towards achieving another more important objective? Therefore we suggest that an additional sixth key objective should be to use the Circular Economy as a step towards achieving sustainability.

But before we can do that, we need to ask what sustainability means as a policy and in practice.

The goal of environmentally sustainable development requires, as a basic principle, that human communities must behave like natural ones, living comfortably within the natural flow of energy from the sun and plants, producing no wastes which cannot be recycled back into the earth's systems, and guided by new economic values which are in harmony with personal and ecological values. In nature, the waste products of every living organism serve as raw materials to be transformed by other living creatures, or benefit the planet in other ways. Our policies and our practices need to mirror this ecological reality.

The only long-term sustainable solution is to completely eliminate the production of materials which cannot be re-used, recycled or naturally biodegraded. This will result not only in a saving of scarce resources, but will re-adjust our relationship to the earth's material assets from a linear to a cyclical one, enhancing our ability to live comfortably while reducing environmental damage.

We can go further, as suggested by Paul Hawken in the original edition of *The Ecology of Commerce*, published in 1993⁴, and "*instead of organising systems*

⁴ Paul Hawken, 1993 and 2010. *The Ecology of Commerce – A Declaration of Sustainability*. First published in 1993; revised edition published in 2010. New York, Harper Collins.

that efficiently dispose of or recycle our waste, we need to design systems of production that have little or no waste to begin with". That is entirely within our capacity at the moment; there are no technical barriers to achieving a "zero waste society", only our habits, greed, economic structures, and narrow self-interest of the institutions to which we have given power.

Similar statements were made by Paul Hawken, Amory B. Lovins and L. Hunter Lovins in another important publication dating from way back in the 1990s, "*Natural Capitalism, The Next Industrial Revolution*":⁵ in which the measurement of GDP is shown to be a barrier to the attainment of sustainability: "*By masking impoverishment in society, GDP sends signals to commerce that are as specious as those it conveys to the government and to citizens*" and therefore "*we are destroying the most productive systems ever seen on earth while statistically blinding ourselves to the problem.*" While providing many examples of innovative thinking and action to eliminate the production of waste, "*Natural Capitalism*" points out that these are practical ways forward.

Achieving sustainability is one of the UN sustainable development goals (SDGs) were created to address the global challenges we are facing related to poverty, inequality, climate change, environmental degradation, peace and justice. Although the aims of the UN sustainability goals and the circular economy are inherently linked, the circular economy is not mentioned in the SDGs.

On the other hand, many studies have shown the links between the two, one of which describes the circular economy as a 'toolbox' to achieve many of the SDG goals. For example circular economy practices that involve waste treatment such as nutrient recycling can help achieve SDG 6 (Clean water and sanitation), renewable energy technologies can achieve goal 7 (affordable and clean energy), new CE business models and the creation of new jobs can help achieve SG 8 (Decent work and economic growth).⁶ And of course SDG 12 (Sustainable consumption and production) is at the heart of the circular economy model.

One study found through statistical analysis a direct relationship between initiatives aimed at the effective implementation of a circular economy with compliance with the SDGs 8 (Decent Work and Economic Growth), 9 (Industry Innovation and Infrastructure), 11 (Sustainable Cities and Communities), 12 (Responsible Consumption and Production) ,13 (Climate Action).

It is therefore our submission that a sixth key objective should be to strengthen the links between sustainability and the circular economy, and to make the

⁵ Paul Hawken, Amory B. Lovins and L. Hunter Lovins, 1999 and 2010. *Natural Capitalism, The Next Industrial Revolution*. Chapter 3: Waste Not. First published in 1999; revised edition published in 2010 by Earthscan; ISBN-13: 978-1-844-07170-8.

⁶ <https://www.researchgate.net/publication/344220320>
The Relevance of Circular Economy Practices to the Sustainable Development Goals

achievement of real sustainability a goal and reason for implementing the circular economy.

3.7 The Circular Economy and Climate Change

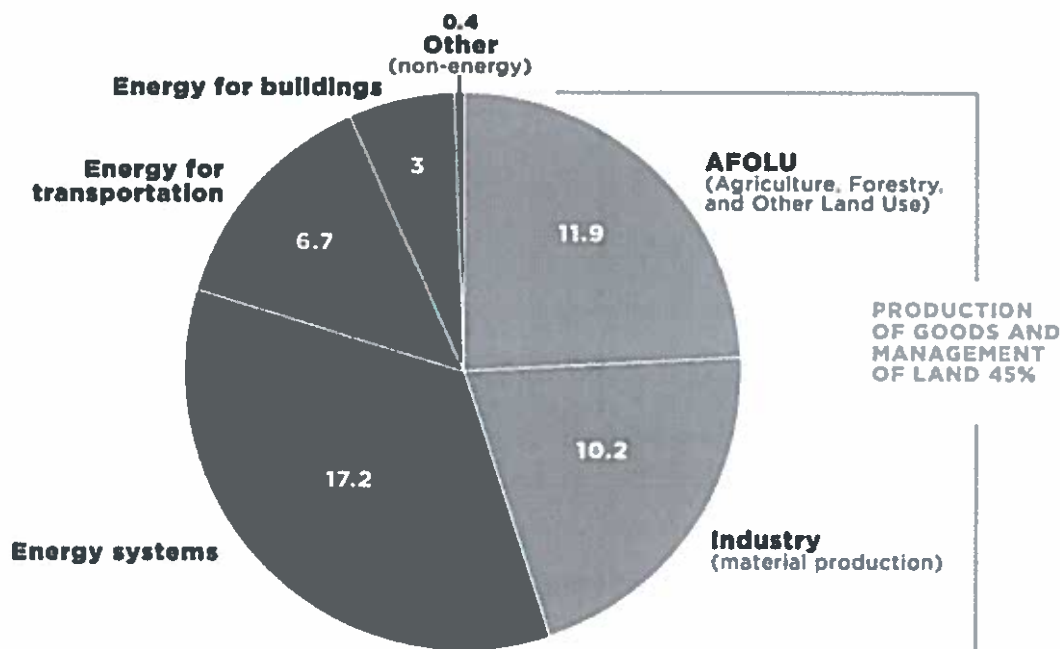
In section 3.6 above, we asked the question – should we consider the transition to a Circular Economy an end in itself, a desirable goal for its own sake, or is it a necessary step towards achieving another more important objective? As a further answer to that question, we suggest that an additional seventh key objective should be to use the Circular Economy as a step towards achieving “climate neutrality” or “carbon neutrality”.

It is well known that our take-make-waste society and alarmingly high consumption rates produce so much greenhouse gases that we are now facing a very serious climate crisis. The global economy continues to grow, and predictions now estimate a global temperature increase of 3°C or even 4°C by 2100. A dramatic shift to renewable energy is needed to reduce our greenhouse gas emissions by at least 55%, and eventually to zero.

The remaining 45% of greenhouse gas emissions are generated through the production of goods and management of land, and therefore, the implementation of the circular economy has the potential to significantly mitigate climate change. A paper produced by the Ellen MacArthur Foundation titled “*Completing the picture: How the circular economy tackles climate change*” reports how applying the circular economy to only four industrial materials (cement, steel, plastic and aluminium) could reduce our greenhouse gas emissions by 40%. These materials account for about 60% of total industrial emissions and have such high CO₂ footprints due to the emissions created by high temperature, production and end-of-life processes.⁷

⁷ (Ellen MacArthur Foundation, *Completing the Picture: How the Circular Economy Tackles Climate Change* (2019) www.ellenmacarthurfoundation.org/publications)

Global GHG emissions
Billion tonnes of CO₂e per year, 2010



The European Commission 2030 climate target plan aims to cut our greenhouse gas emissions by at least 55% by 2030 and to become climate neutral by 2050.⁸

The circular economy has the ability to significantly reduce our greenhouse gas emissions through product design, reusing products and materials and through the regeneration of natural systems. It also provides an opportunity for us to achieve net zero emissions and meet the Paris agreement's climate target to limit global warming to below 1.5°C.

These are ambitious targets, that will not be achieved by switching to renewable energy alone, however paired with a circular economy, we have the opportunity to achieve net zero emissions through product design, reusing products and materials and through the regeneration of natural systems.

It is therefore our submission that a seventh key objective should be to strengthen the links between climate change mitigations and the circular economy, and to make the achievement of both carbon neutrality and climate neutrality as further goals and reasons for implementing the circular economy.

⁸ European Commission, 2020. Stepping up Europe's 2030 climate ambition - Investing in a climate-neutral future for the benefit of our people.

3.8 Integration with the EC Circular Economy Action plan

It is undoubtedly well known that many of Ireland's environmental policies are derived from the European Union through our membership of the EU; and therefore the European Commission's Circular Economy Action Plan⁹ should be an important context for Ireland's circular economy action plan.

The pre-consultation strategy document issued by the Department of the Environment, Climate and Communications briefly mentions the European Commission's Circular Economy Action Plan, however, it fails to state how it will integrate the recommendations within the action plan. The EC action plan mentions the Eco-design Directive and the EU Ecolabel, which are extremely important in addressing the sustainability aspect of products. However, there is no comprehensive set of requirements to enforce the objectives of the Eco-design directive. We believe this is a very important directive in the implementation of the circular economy in Ireland and should be a key objective of the whole-of-government strategy; and we recommend that regulations should be developed to further enforce this directive and to address the design of products.

It is therefore our submission that an eighth key objective should be to integrate the proposed whole-of-government circular economy strategy with the constantly developing EU strategy in this area.

4. ORIGIN AND PRINCIPLES OF THE CIRCULAR ECONOMY

The concept of the circular economy is based on the study of feedback-rich (non-linear) systems, particularly living systems. A major outcome of this is the notion of optimising systems rather than components, or the notion of 'design for fit'. As a generic notion it draws from a number of more specific approaches including "cradle to cradle", biomimicry, industrial ecology, and the 'blue economy'. Most frequently described as a framework for thinking, its supporters claim it is a coherent model that has value as part of a response to the end of the era of cheap oil and materials.

One of the early promoters of the concept was Walter R. Stahel, an architect, economist, and a founding father of industrial sustainability. Credited with having coined the expression "Cradle to Cradle" (in contrast with the now out-dated "Cradle to Grave" approach, which exemplifies the "Resource to Waste" way of functioning), in the late 1970s, Stahel worked on developing a "closed loop"

⁹ European Commission, 2020. A new Circular Economy Action Plan for a cleaner and more competitive Europe.

approach to production processes, co-founding the Product-Life Institute in Geneva more than 26 years ago. In Britain, Steve Parker researched waste as a resource in the agricultural sector as early as 1982, developing novel closed loop production systems mimicking, and integrated with, the symbiotic biological ecosystems they exploited.

In their 1976 Hannah Reekman research report to the European Commission, "The Potential for Substituting Manpower for Energy", Walter Stahel and Genevieve Reday sketched the vision of an economy in loops (or circular economy) and its impact on job creation, economic competitiveness, resource savings, and waste prevention. The report was published in 1982 as the book *Jobs for Tomorrow: The Potential for Substituting Manpower for Energy*.

Considered as one of the first pragmatic and credible sustainability think tanks, the main goals of Stahel's institute are product-life extension, long-life goods, reconditioning activities, and waste prevention. It also insists on the importance of selling services rather than products, an idea referred to as the "functional service economy" and sometimes put under the wider notion of "performance economy" which also advocates "more localisation of economic activity".

In broader terms, the circular approach is a framework that takes insights from living systems. It considers that our systems should work like organisms, processing nutrients that can be fed back into the cycle—whether biological or technical—hence the "closed loop" or "regenerative" terms usually associated with it.

The generic Circular Economy label can be applied to, and claimed by, several different schools of thought, that all gravitate around the same basic principles which they have refined in different ways. The idea itself, which is centred on taking insights from living systems, is hardly a new one and hence cannot be traced back to one precise date or author, yet its practical applications to modern economic systems and industrial processes have gained momentum since the late 1970s, giving birth to four prominent movements, detailed below.

The idea of circular material flows as a model for the economy was presented in 1966 by Kenneth E. Boulding in his seminal paper, "*The Economics of the Coming Spaceship Earth*". Promoting a circular economy was identified as national policy in China's 11th five-year plan starting in 2006. The Ellen MacArthur Foundation, an independent charity established in 2010, has more recently outlined the economic opportunity of a circular economy. As part of its educational mission, the Foundation has worked to bring together complementary schools of thought and create a coherent framework, thus giving the concept a wide exposure and appeal.

In January 2012, a report was released entitled *Towards the Circular Economy: Economic and business rationale for an accelerated transition*. The report, commissioned by the Ellen MacArthur Foundation and developed by McKinsey & Company, was the first of its kind to consider the economic and business

opportunity for the transition to a restorative, circular model. Using product case studies and economy-wide analysis, the report details the potential for significant benefits across the EU. It argues that a subset of the EU manufacturing sector could realise net materials cost savings worth up to \$630 billion p.a. towards 2025 — stimulating economic activity in the areas of product development, remanufacturing and refurbishment. *Towards the Circular Economy* also identified the key building blocks in making the transition to a circular economy, namely in skills in circular design and production, new business models, skills in building cascades and reverse cycles, and cross-cycle/cross-sector collaboration.

In January 2015 a “*Definitive Guide to The Circular Economy*” was published by Coara with the specific aim to raise awareness amongst the general population of the environmental problems already being caused by our “throwaway culture”. Waste Electrical and Electronic Equipment (WEEE,) in particular, is contributing to excessive use of landfill sites across the globe in which society is both discarding valuable metals but also dumping toxic compounds that are polluting the surrounding land and water supplies. Mobile devices and computer hard drives typically contain valuable metals such as silver and copper but also hazardous chemicals such as lead, mercury and cadmium. Consumers are unaware of the environmental significance of upgrading their mobile phones, for instance, on such a frequent basis but could do much to encourage manufacturers to start to move away from the wasteful, polluting linear economy towards a sustainable circular economy.

5. IMPLEMENTING THE CIRCULAR ECONOMY IN IRELAND

The pre-consultation strategy document issued by the Department of the Environment, Climate and Communications asks why should we want a Circular Economy?

The question is answered that, by delivering a circular economy, positive environmental, economic and social impacts will follow; 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.

ZWAI agrees fully with this statement, and we would add that dealing with our discarded materials and end-of-life objects is a key objective.

5.1 The Circular Economy and the Management of “Waste”

One of the principal issues which have been a matter of serious concern for Zero Waste Alliance Ireland over a period of many years is the amount of discarded

materials and objects, which may be regarded as wastes, but which are potentially recyclable, exported from Ireland to other countries for processing or disposal. As a consequence, these materials are lost to Ireland, and the jobs which would be created by reprocessing and remanufacturing are also lost.

In one of our early policy documents (ZWAI, 2003), we drew attention to the example of the Canadian province of Nova Scotia which in 1989 had decided to embark on a policy of diverting 50% of waste from landfill year-on-year, thereby avoiding the need to construct more landfills. The Canadian policy on waste management emphasised that resource conservation, materials efficiency, waste prevention, and the re-use and recycling of materials are all integral components of a sustainable economy. Target Zero Canada¹⁰ had suggested at that time that making material and energy efficiency a tenet of the Canadian economy was an essential precondition both for achieving zero waste and for ensuring long-term economic and environmental health. Unfortunately, these benefits were not generally recognised in conventional accounting mechanisms and measures of progress, with the result that these mechanisms and measures were sending contrary messages.

In Ireland, the very similar measures of progress which we use have also failed to show the value to society of re-use, repair and recycling. But while other countries have made considerable progress towards "Zero Waste" or the development of what is now known as "The Circular Economy", Ireland has lagged behind, and has achieved apparently high "recycling rates" only by exporting large volumes of potentially recyclable materials to other countries.

Zero Waste Alliance Ireland (ZWAI) has consistently argued for a more ecological approach to the management of discarded materials, beginning with designing industrial systems and commercial so that the materials which we use are not discarded at the end of their useful lives, but flow in closed loop cycles so that waste is minimized, and "waste" products can be recycled and reused. We believe that a Zero Waste policy and practice goes far beyond dealing with waste after it has been created, that this can be done by addressing waste problems at their source, and by re-defining the issue of waste by focusing on design as well as on manufacture and use. This is the cradle-to-cradle model, which we believe to be environmentally and socially sustainable and takes into account the ecology of natural living systems and future generations.

The adoption of an integrated approach to resource, extraction, processing, use and consumption is a basic principle, and this should include questioning whether or not a particular product is needed, or is even desirable. Fragmentation of environmental management is a major bar to a holistic approach. In Ireland, we have devised a system under which location and siting issues are dealt with by

¹⁰ On 21 November 2000, Target Zero Canada, a network of Earth Day Canada, launched the program "Zero Waste Solutions." The program promoted "zero waste" environmental policies and innovative systems based on best-practice models already established by governments, businesses and organizations worldwide.

planning authorities, while permission to discharge substances to air and water, and to manage waste, come under the jurisdiction of the EPA – and we have referred to this fragmented approach in section 3.1 above.

The circular economy and “Zero Waste” are whole-system approaches to addressing the problem of society’s unsustainable resource flows – the encompass waste elimination at source through product design and producer responsibility, together with waste reduction strategies further down the supply chain such as cleaner production, product dismantling, recycling, re-use and composting. Countries and communities that have implemented the circular economy and Zero Waste strategies are aiming to switch from wasteful and damaging waste disposal methods to value-added resource recovery systems that will help build sustainable local economies.

Some practical principles of sustainable waste management, showing how the circular economy can (and should) include the way in which society deals with material flows:

- Waste is made by mixing a variety of discarded materials; therefore segregation at source is an essential pre-requisite to sustainable waste management and the circular economy;
- Dealing with discarded materials and wastes does not require high-technology solutions;
- It is essential that discarded materials and goods are considered as a community resource, and not as a bulk commodity to be removed by disposal to landfill or by incineration;
- Communities should be encouraged to handle their discarded materials responsibly;
- Communities cannot resolve the waste problem alone and should not be forced to clean up after irresponsible industries;
- Communities faced with discarded materials and objects they cannot reuse, recycle or compost have to demand that industry stops producing them; total recycling is not approachable without industry's help;
- Sustainable waste management, the circular economy and “Zero Waste” combine community practices such as reuse, repair, recycling, toxic removal and composting, with industrial practices such as eliminating toxics and re-designing packaging and products for the environmental and ecological demands of the twenty first century;
- Sustainable waste management and the circular economy bring together the need to develop sustainable communities and sustainable industry and business;
- Sustainable waste management and the circular economy combine ethical practice with a solid economic vision, both for local communities and for local and national businesses. On the one hand, they create local jobs and small scale enterprises, which collect and process secondary materials into new products, and on the other hand, these principles and

practices offers major companies a way of increasing their efficiency, thereby reducing their demands on virgin materials as well as their waste disposal costs

- Sustainable waste management and the circular economy also uphold the principles of Clean Production and Environmental Justice (the link with Clean Production comes from the fact that as long as discards are contaminated with toxic substances the tendency will be to try 'to get rid of them' rather than reuse them; while the link with Environmental Justice comes from the fact that as long as the "waste industry" looks for places to dispose of waste they tend to select sites for landfills or incinerators, and unfortunately all too often the sites selected for these undesirable activities are in the poorest and most disenfranchised communities).

5.2 The Overall Level of Ambition in the Draft Strategy

The question is asked in the Department's document – do we agree with the overall level of ambition set out in the draft Strategy; and, if not, is further ambition needed or is the draft Strategy overly ambitious (question 2).

Unfortunately, ZWAI has to be reasonably critical of what has been achieved to date, and about the overall level of ambition in the draft strategy.

It is our submission that the draft strategy does not place enough emphasis on changing the culture of the community around waste and recycling, etc. We need to create an environment so that people have the will to implement a real circular economy. The circular economy should become part of our everyday life and discussion and should be encouraged at every strata of our society be it family, business, sports clubs or any and all groups and societies. There should be a "call to action" for everyone – fundamentally the question should be: "what have you done to help the environment and reduce and reuse?" being a common question asked of all of us.

Furthermore, the approach leaves much to be desired, and we consider that it would be appropriate to create a corporate round table of large, medium and small ethical companies to allow them to help contribute to and promote their own efforts to reduce waste, to protect the environment and to help develop their individual efforts to the highest standards in the area. In this context, ZWAI is very supportive of the work being undertaken by **Circuléire**, mentioned briefly in section 6.5, Areas for Further Policy Development, of the Department's pre-consultation strategy document.

Also, there needs to be a "bottom-up" approach where the school curriculum, starting with primary and working up through post primary, etc., have modules which explain how to reduce waste and how to 'make do and mend' – how to repair items, how to sew, etc – all skills lost but recoverable. Awards are needed to support youth in this regard. Young people deserve recognition for breaking the cycle of waste and becoming waste reduction champions in their community.

Another suggestion which ZWAI wishes to make is that we need to study the past to learn how to shape the future.

For many generations the Irish, especially in small rural towns, were self-sufficient and practiced a circular economy lifestyle out of necessity. Every town had a blacksmith to make and mend, all small communities made their own bread and other staples with all renewable utensils and storage – we could return to this and reduce waste considerably. By studying the traditional approach not only will we protect the environment we will protect our culture and we will give our youth greater pride in where they come from and who they are.

Finally, there isn't enough emphasis on addressing the serious and growing problem of discarded plastics, especially single use plastics. "Plastic" needs to become an unacceptable discard because of its impact on marine life, birds and the simple fact that it doesn't break down. So wherever possible plastic needs to be aggressively replaced - plastic bottles with glass bottles. More reliance on durable bags. Less use of plastic ropes in domestic use (why not encourage making sugáns, promote the skills of making them) and then reduce all plastic rope use?

5.3 Measuring Our Progress in the Implementation of the Circular Economy In Ireland

This issue is raised in question 3 of the Department's list of questions, and it is our response that the Department (and other relevant Government departments) should measure progress in achieving a more circular economy against:

- a) other EU member states; and,
- b) the best international practice world-wide.

Ireland is severely lagging behind most other European member states in implementing circular economy practices such as recycling packaging waste. Data produced by the European Commission reveals the quantity in tonnes of recycled packing waste by European member states (see Fig 5.3.1 below). Although Ireland is not performing the worst in this context it is certainly far behind Germany, Italy, France, Britain, Spain, Poland and the Netherlands. A second figure also produced by the European Commission shows a relatively low amount of Irish enterprises involved in repairing computers and personal goods compared to the European counterparts.

While we acknowledge that each country has a different set of regulations, which may make comparisons complicated, it is our submission that making these comparisons between European countries are extremely beneficial as they demonstrate where we are lagging behind and what can be achieved.

As previously mentioned it will be crucial for Ireland to compare its progress in getting away from the linear model of material extraction, production and consumption. Hence benchmark data should be collected as well as continuous monitoring of trends and patterns. Building an image of the various elements of the circular economy that are under development and how they are being implemented and perceived will be paramount to the success of the circular economy .

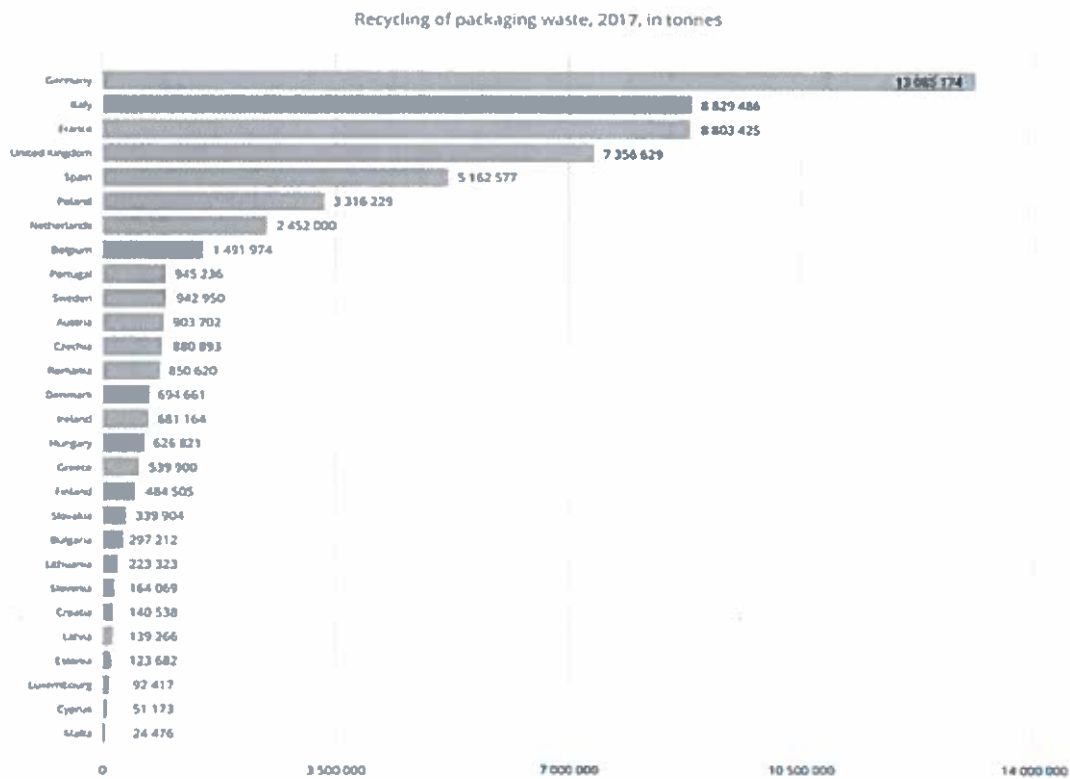


Fig 5.3.1 Recycling of packaging waste (tonnes) in 2017

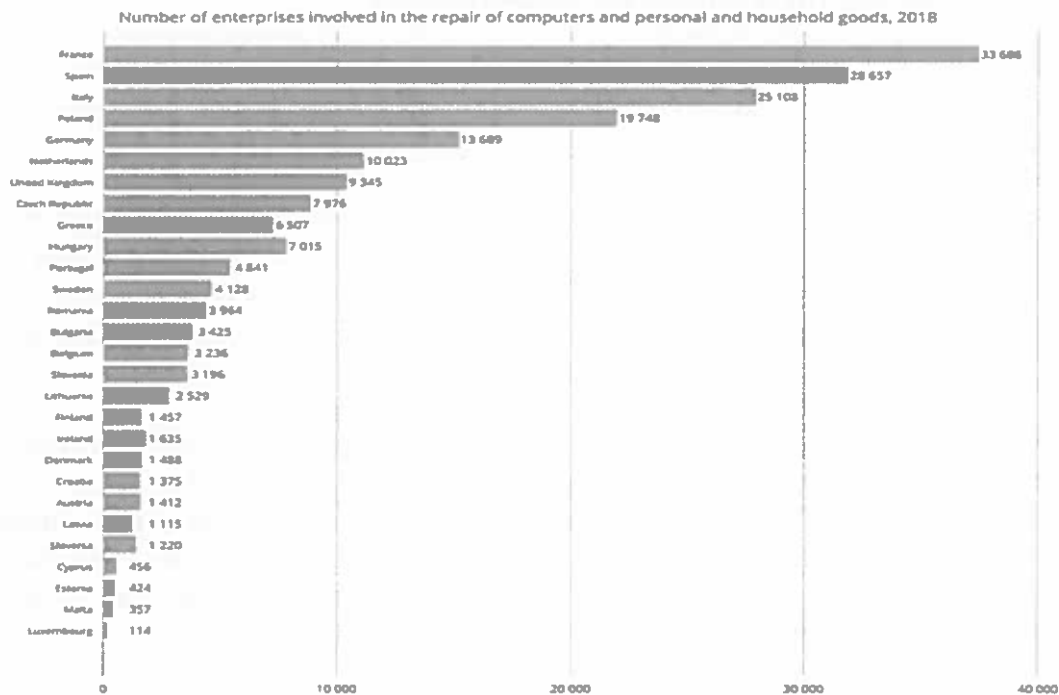


Fig 5.3.2 Number of enterprises involved in repairing computers and personal goods

5.4 Systemic and Regulatory Barriers

The issue of regulatory barriers is one of the most important issues, and is the basis of question 8 in the Department's list of key questions.

The incineration of waste which contains a high proportion of recyclable materials conflicts with the circular economy as it removes waste that could otherwise be recycled and reused elsewhere in the economy. In 2020, the EU Regulation on the establishment of a framework to facilitate sustainable investment (2020/852) called for the minimisation of waste incineration, and classified activities leading to a significant increase in incineration of waste as harmful to the circular economy. On the basis of this Regulation, the draft Act on Climate Change Mitigation Taxonomy deliberately excluded Waste-to-Energy incineration from a list of economic activities considered 'contributing to the climate change mitigation' as it harms the circular economy. Thus it is increasingly clear that the EU is moving away from waste incineration and so the incineration of waste should be phased out and new facilities should not be created.

5.5 Prioritising Actions by Government

One of the questions (question 11) asked by the DECC was what would be the most effective action Government could take to promote/support and incentivise the further development of the circular economy.

Our submission in response to this question is that, in order to promote more recycling of waste materials there should be a levy on potentially recyclable material that is wasted (not recycled). This would greatly encourage businesses to recycle as much of their waste as possible rather than just taking the easy option of handing it over to the “waste industry”.

In order to ensure a higher level of recycling, we suggest that a list of recyclable materials should be created, and companies discarding these materials would be obliged to report the types, classes and quantities of their “waste” materials. Material listed as recyclable but not actually recycled could be levied in order to force companies to seek out recycling options. This money could then be used for more initiatives to support and enhance the circular economy.

Currently a significant portion of Irish homes (particularly in the midlands) rely on solid fuel like turf, coal or briquettes to heat their homes. These are not sustainable resources and their use is contributing to climate change as well as damaging our peatlands which have potential to be used as long term carbon sinks. Also we are reliant on imports to supply coal which is both a waste of energy and a potential risk to our long term energy security (the temporary blocking of the Suez canal is a good example of this as the cost of shipping has risen dramatically and thus affects all imports including fuel). A more sustainable approach would be to greatly expand the current SEAI grant scheme that covers more of the cost of retrofitting houses to more sustainable heating systems.

There are goods being imported with non-recyclable parts; some of these have better alternatives with more sustainable parts or materials. These more sustainable alternatives should be incentivised by means of a levy on the non-sustainable versions of these goods. This would allow more sustainable and recyclable products to be economically viable and eventually replace the unsustainable products. An example of goods to target for this are household appliances such as refrigerators and washing machines or more energy efficient electric cookers or kettles.

5.6 Priority Sectors and Actions for the Achievement of the Circular Economy

One of the questions asked (question 12) was which sectors do we think can make the biggest contribution to making Ireland's economy more circular; and our response to that question is as follows.

Ireland was found to have the highest plastic waste generation at 54 kilos per capita, substantially more than the EU average of 33 kilos per capita. Scientists expect there could be more plastic than fish in the ocean by 2050. Electronic waste is one of the fastest growing waste streams in the world. It is estimated that 53.6 million tonnes of e-waste were generated across the planet in 2019. And while far too many people still go hungry, we waste a third of all the food produced.

While COVID-19 made a notable dent in global consumption, it's not clearly defined. Textile sales plummeted, but home office and exercise equipment purchases went up; spending in the hospitality industry decreased, but groceries increased significantly. The use of single use plastics increased remarkably, while plummeting oil prices reduced the economic incentive for plastic recycling.

The 2008 recession showed us that any fall in consumption is likely to be temporary without a concerted effort to make longer-term changes.

This isn't only about consumers buying too much and recycling too little. Our global economy is built on a "take-make-waste" model where natural resources are extracted, used, and then end up as waste. This inefficient model is pushing our planet to the brink, driving the climate crisis, and depleting the resources we need to support more equitable and thriving communities in the future.

Creating a circular economy for 3 Key Sectors in Ireland –

- Agriculture
- Construction Industry
- Clothing & Fashion Industry

5.6.1 The Agri-food Sector

Continuing population growth and increasing consumption are driving global food demand, with agricultural activity expanding to keep pace. The modern agricultural system is wasteful, with Europe generating some 700 million tonnes of agri-food (agricultural and food) waste each year.

Irish food products are renowned worldwide because of their allegedly and actual high quality, achieved through intelligent and aggressive branding which has resulted in more than 90% of our dairy and meat production being exported to a mixture of European and more distant countries. It is axiomatic that these exports require transport, generating "food-kilometres" and GHG emissions.

According to Teagasc, the Irish Agri-food sector has circa 700 food and drink manufacturers which employ over 160,000 people. According to SEAI, in 2018 agriculture represented circa 32.7% of the greenhouse gas emissions in Ireland. A new report published by the CSO has shown Ireland to be one of the biggest greenhouse gas polluters in Europe, largely driven by agriculture. The latest

figures from the CSO showed that Ireland is the third highest producer of greenhouse gases per capita in Europe as of 2017, behind Estonia and Luxembourg. Not a statistic of which we can be proud.

Implementing circularity at scale represents a significant opportunity to reduce this sector's emissions and resource use. Agricultural waste can be turned into bio-products such as fertilisers, energy, materials and compounds. Curbing and converting the agri-food waste into new materials or products that instil the principles of reuse, repair and recycling could help local economies by generating a stream of profit and, in the long term, by reducing environmental damage. These processes will possibly provide resources for the original process, mirroring the feedback-rich living system.

5.6.2 The Construction Industry; and C&D "Waste"

The one area where the construction industry can influence the most significant change in climate resilience is in moving waste management more fully towards the 'circular economy' model which has been a key objective of national and EU waste policies over the past decade. Over previous decades, waste management systems and supply chains operated in the traditional 'linear economy' of 'Reduce, Reuse, Recycle' without actually closing the necessary circle or loop to prevent and minimise waste. In recommencing construction activity this spring 2020 in what is now a period of economic recession, the elimination of 'waste' is imperative as construction is responsible for over 35% of the EU's total waste generation.

Our principal recommendation is that "demolition" should be regarded as a major conflict with the circular economy, and all end-of-life building should be "deconstructed" and their components and materials recovered and reused.

In Ireland alone, according to the latest published EPA figures (2017) construction generated approximately 4.8 million tonnes of construction and demolition (C&D) waste compared to 2.7 million tonnes of household and commercial (offices, shops) in the same year. 80% of C&D waste was soil and stones, 7.8% was mixed C&D waste (from skips), 6.6% concrete, bricks and tiles, 3.8% metals, 0.9% bituminous materials and 0.4% segregated wood, glass and plastic, the tiny remainder being sand/dust.

While the growth of household and commercial waste is generally a function of population and employment levels, the quantity of C&D waste is a function of the scale of construction activity only. The metrics of C&D waste vary widely in Ireland from 10 million tonnes in 2004 before peaking at 18 million tonnes in 2007 and falling to a historical low of 3 million tonnes in 2011 and now rising over past decade. The proportion of C&D "waste" actually recycled is extremely low, with an even smaller proportion being reused in any way.

5.6.3 The Fashion Industry

The concept of a circular fashion industry is a fast-growing movement to reuse and recycle all materials, eliminating waste and pollution and regenerating the environment in a “circular model”. Fast fashion is a modern-day phenomenon. It follows a “take-make-dispose” pattern, and enables companies to mass-market, manufacturers to mass-produce, and consumers to purchase the latest trends for cheap. Textile production has become one of the most polluting industries, producing 1.2 billion tons of CO₂ per year. To keep up with this level of consumerism, natural resources are put on substantial pressure, causing high levels of pollution; including the use of toxic chemicals, dangerous dyes, and synthetic fibres seeping into water supplies and in our ocean. Over 60% of textiles used in the clothing industry are made in China and India, where coal-fuelled power plants increase the carbon footprint of each garment.

A circular fashion industry is defined as a regenerative system in which garments are circulated for as long as their maximum value is retained, and then returned safely to the biosphere when they are no longer of use.

In a circular model, products are designed and developed with the next use in mind. Less than 1% of clothing is recycled into new clothing. The best thing we can do is buy less and reuse more. If everyone bought just one used item instead of new this year, it would have a huge collective and positive impact on the planet.

In simple words, fashion products should be designed with the notion of resource efficiency, non-toxicity, biodegradability, and recyclability in mind. They should also be sourced and produced with priority given to recyclable sources and ethical practices.

When the products are not suitable for recycling, the material should be biodegradable and used as compost for plants and other organisms in the ecosystem.

5.6.4 Benefits of Building a Circular Economy, and Making the Transition to a Circular Economy

We need to shift our way of thinking and build a circular economy — where waste and pollution are designed out in the first place; products and materials stay in use for much longer; and natural systems can regenerate.

Moving toward a circular economy would make a crucial contribution toward preserving the environment and mitigating the climate crisis, and we suggest the following three ways to transition toward a circular economy and to reduce our consumption.

5.6.4.1 Consume Less

The circular economy focuses on better use of natural resources, and the simple fact is that many of us consume far too much. During the 20th century, the world's use of raw materials grew at twice the rate of population growth. In a world where people in the richest countries consume ten times as much as the poorest, there is a need for many of us to consume less and many others to consume more.

For companies, the consumption issue is often the elephant in the room as the fundamental principle of most business models is selling more products to more people. Disrupting that mentality will require business innovation, policy support and reduction in consumer demand.

5.6.4.2 Consume Better

A circular economy is not only about consuming less; it's also about consuming better. For consumers, this can mean choosing versions of products that have been produced in more sustainable ways or that can be recycled. It can also mean changing what we consume — for example by shifting to a plant-based diet, which offers emissions and other natural resource benefits over meat-heavy meals. This change in diet has been strongly recommended by "The Lancet" as a means of reducing illness and obesity; but the recommendation has been strongly opposed by the farming industry in Ireland. A "whole-of-Government" circular economy policy will have to address this issue.

Consumer awareness of sustainability is on the rise globally. Consumer pressure is a crucial part of the picture in encouraging businesses to change their practices and governments to introduce favourable policies.

Consuming "better" can also mean avoiding purchasing altogether and shifting to circular models such as sharing platforms. When you consider that the average car is parked for 95% of the time and that the average power drill is used for less than 15 minutes in its entire lifetime, it's easy to see the potential for sharing platforms to cut down the use of materials.

5.6.4.3 Create Systemic Change

Consumers can only do so much when the entire economy is built on the take-make-waste model. What we need is systemic change, so that sustainability doesn't only depend on consumer choices.

The core principle of a circular economy is that products should be designed to last, with component parts or materials that can be used again.

There is a clear economic case for this model for large machines such as photocopiers, MRI scanners or agricultural equipment. These machines have high upfront costs and are made from very valuable materials, so many companies are using circular models where they take the product back and

refurbish it or repurpose the materials. The key will be scaling this model and extending it to a far broader range of consumer-facing products.

There is much to be done on the policy side to incentivize circularity at the systems level. There must be a major shift to incentivize or require the use of secondary or recycled materials, for example by placing taxes on products that use only virgin materials. The UK has taken a step in this direction by introducing a tax on plastic packaging that has less than 30% recycled content.

As more and more governments introduce policies that encourage recycling and reuse, and as consumer awareness around sustainability continues to grow, companies that adopt circular business models will find themselves at a clear business advantage.

Making the shift to a circular economy won't be easy. But the reward — a world where people, nature and economies can all thrive — will be worth the effort. We all need to come together — governments, policymakers, civil society and communities — to be better consumers.

Governments must adopt policies and measures to encourage demand for circular and green products and services and to stimulate the large-scale adoption of circular business models.

6. CONCLUSIONS

Zero Waste Alliance welcomes the current approach being taken by the Department and by Government to introduce and eventually implement a “*whole-of-Government*” circular economy, and we trust that our comments and suggestions in this response submission will be helpful.

Myrtille Coutin Fitzsimons and Jack O'Sullivan

Zero Waste Alliance Ireland

Valued contributions were also made by Claire Keating, Marie Mitchell, Owen Wynne and Kevin Deasy (members of ZWAI).

Appendix I

Consultation

Public Consultation on the Proposed Publication of the Circular Economy Strategy

From [Department of the Environment, Climate and Communications \(/en/organisation/department-of-the-environment-climate-and-communications/\)](#)

Published on 16 April 2021

Open for submissions from 16 April 2021

Submissions closed 11 June 2021

Last updated on 16 April 2021

Consultation is open

Meeting climate targets requires a transformation in the way we produce and use goods. The transition away from fossil fuels and energy efficiency measures can only address 55% of our emissions. The remaining 45% comes from making things.

Therefore, making less or making with fewer resources - the essence of the circular economy - has a key role to play in climate action. Reducing the quantity of natural resources which we waste would also reduce other environmental pressures on the quality of our air, soils and water.

In a circular economy, waste and resource use are minimised, the value of products and materials is maintained for as long as possible through good design, durability and repair, and when a product has reached the end of *its* life, its parts are used again and again to create further useful products.

The transition to a circular economy means we must look at how materials and resources are used, how we design the products that households and businesses use, how we prevent waste generation and resource consumption and how we extend the productive life of all goods and products in our society and economy.

This transition could provide more access to better designed products, which can be shared, reused, repaired and remade. This in turn would provide new opportunities for employment across all skills levels.

The [Programme for Government - Our Shared Future](https://www.gov.ie/en/publication/7e05d-programme-for-government-our-shared-future/) (<https://www.gov.ie/en/publication/7e05d-programme-for-government-our-shared-future/>) committed to a range of actions that support the transition to a circular economy. In September 2020, we published the [Waste Action Plan for a Circular Economy](https://www.gov.ie/en/publication/4221c-waste-action-plan-for-a-circular-economy/), ([/en/publication/4221c-waste-action-plan-for-a-circular-economy/](https://www.gov.ie/en/publication/4221c-waste-action-plan-for-a-circular-economy/)) further cementing the commitment to Ireland's transition to a circular economy.

One of the first actions to be taken is the development of a high-level, whole of Government Circular Economy Strategy to set a course for Ireland to transition across all sectors and at all levels of Government toward circularity.

We have prepared a draft Circular Economy Strategy and are looking for input from interested parties, in line with Aarhus guidelines in respect of public engagement.

The closing date for submissions is **5.30pm 11 June 2021**

Submissions should be sent by email to circulareconomy@decc.gov.ie (<mailto:circulareconomy@decc.gov.ie>) or by post to:

Public Consultation on the Proposed Publication of the Circular Economy Strategy

Circular Economy Division,

Department of the Environment, Climate and Communications

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