

# ZERO WASTE ALLIANCE IRELAND

*Towards Sustainable Resource Management*

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## Feedback to the European Commission on the Revision of the Waste Framework Directive

16 August 2022

Zero Waste Alliance Ireland is a member of



and



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## Feedback to the European Commission on the Revision of the Waste Framework Directive

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## **Feedback to the European Commission on the Revision of the Waste Framework Directive**

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### **1. INTRODUCTION**

The Waste Framework Directive (**2008/98/EC**) is one of the most important directives guiding the environmental protection and resource management activities of the European Union, as it provides the over-arching policy which addresses (or should address) all relevant waste management issues. It was updated in 2018, some 4 years ago; but so much has happened since that time, including much stronger emphasis and policies on combating and mitigating climate change, and the increased difficulties of obtaining certain critical raw materials, primarily as a consequence of Russia's war on Ukraine.

All of these changes should result in much stronger policies and objectives in the areas of reuse, repair, recycling and other activities, and which should have the effect of bringing about a very significant reduction in the quantity of discarded materials and objects which have generally been incinerated or deposited in landfills. An amended Waste Framework Directive must address all of these combined issues.

EU environmental policy rests on the principles of precaution, prevention and rectifying pollution at source, and on the 'polluter pays' principle. Integrating environmental concerns into other EU policy areas has become an important concept in European politics since it first arose from an initiative of the European Council in 1998. In more recent years, environmental policy integration has made major progress, for example, by integrating environmental and energy policies, as reflected in the parallel development of the EU's climate

and energy package or in the Roadmap for moving to a competitive low-carbon economy by 2050.<sup>1</sup>

In December 2019, the Commission launched the European Green Deal,<sup>2</sup> a package of policy initiatives, which aims to set the EU on the path to a green transition, with the ultimate goal of reaching climate neutrality by 2050. In the interim period, this package of policies should help to focus the EU on making Europe the first climate-neutral continent in the world. This is an ambitious proposal, in which the efficient management of material resources, together with eliminating or severely reducing the discarding of unused or unwanted materials and resources as “waste” must play an increasingly important part. We would therefore see the European Green Deal as moving the EU towards a **zero waste society**.

## **2. OUR UNDERSTANDING OF THE BACKGROUND TO THIS PUBLIC CONSULTATION BY THE EUROPEAN COMMISSION**

On **24 May 2022**, the European Commission issued a public consultation on the revision of the EU waste framework.<sup>3</sup> The public consultation had been preceded by a call for evidence, open during the period 25 January 2022 to 22 February 2022.; unfortunately, Zero Waste Alliance Ireland (ZWAI) was unable to provide observations to the Commission at this earlier stage; and we have therefore undertaken some research to provide the Commission with reasonably detailed comments at this stage of the on-going revision of the EU waste framework.

According to the public consultation request, the European Commission is carrying out an impact assessment in preparation for a major revision of the EU Waste Framework Directive; and the principal objectives of this consultation are to obtain stakeholders' views on:

- i) How to decrease waste generation,
- ii) How to improve separate waste collection to yield optimal recycling results, including by avoiding contamination of recyclable waste, and,
- iii) How to increase the amounts of waste oils collected and treated in line with the waste hierarchy.

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<sup>1</sup> Communication from the Commission – A Roadmap for moving to a competitive low carbon economy in 2050. COM (2011) 112 final, 08 March 2011.

<sup>2</sup> <https://www.consilium.europa.eu/en/policies/green-deal/>

<sup>3</sup> Call for evidence on revision of the EU waste management framework, 25 January 2022, Ares (2022) 577247.

The objectives of the revision of the Waste Framework Directive are to limit waste generation, to improve segregation of discarded materials at source, to increase the amounts of preparation for re-use and for recycling to a high standard (not “downcycling”), and to increase re-use and recycling. The revisions also apply to, and include, waste oils and textiles. The Commission has also stated that the proposed revision will explore opportunities for simplification of the legislation, to make the legislation clearer, and to reduce any unnecessary burden on citizens and businesses.

The European Green Deal (mentioned briefly in section 1 above) includes a commitment to “*simplify waste management for citizens and ensure cleaner secondary raw materials for businesses*”. Revision of the Waste Framework Directive must take into account the commitment in the EU Circular Economy Action Plan to significantly reduce total waste generation, to halve the amount of residual (non-recycled) municipal waste by 2030, to promote safer and cleaner waste streams, and to ensure high-quality recycling.

The aim of this public consultation is to provide the European Commission with additional evidence on the existing performance of the Waste Framework Directive; as the consultation will seek opinions and insights about the problems, the feasibility and possible impacts (economic, social and environmental) of alternative actions (including what are the possible or likely actions); and to gather examples of best practices and views on the subsidiarity of possible actions.

Despite these initiatives, together with the effects of the existing legislation on waste, it is unfortunate to see that the total quantity of waste (particularly municipal waste) generated in the EU has been increasing during the last decade. The published reviews on waste prevention produced by the European Environment Agency show that the EU is not on course to meet its policy goals of significantly reducing waste generation and increasing recycling.<sup>4</sup>

For example, only 38% of total waste (in 2018), and 48% of municipal waste (in 2019 and 2020<sup>5</sup>), was recycled in the EU; with the data varying considerably among Member States, ranging from 10% to over 60%. The initial conclusions of the EEA assessment are that over half of the Member States are at risk of not reaching the 2025 preparation for re-use and recycling targets for municipal waste. Problems identified include sub-optimal waste collection, sorting and treatment, leading to resources being lost and to greater environmental and human health impacts.

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<sup>4</sup> Waste prevention in Europe — policies, status and trends in reuse in 2017. EEA Report No 4/2018. European Environment Agency, 2018.

<sup>5</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Municipal\\_waste\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Municipal_waste_statistics)

Other areas of concern include the sub-optimal collection and re-use or recycling of, for example:

- ◆ Bulky waste items, such as furniture;
- ◆ End of-life vehicles and tyres;
- ◆ Electrical and electronic equipment;
- ◆ Textiles, including clothing and footwear; and,
- ◆ Construction and demolition waste (building materials and components).

The EEA assessments have reported that low recycling rates, as well as lower quality of recyclates, are in part due to inefficient waste-collection systems; and these systems vary widely across the EU, being dependent on local conditions and overall waste-management choices in the Member States. In many Member States, waste management policies and activities are not based on the principles and practices proven to deliver optimal results for achieving EU targets for the preparation of waste for re-use and recycling.

Evidence from some Member States reveals that, in addition to accidental escapes or spillages of oil, some quantities of waste oil may still be illegally discharged to surface water, ground water or let soak into the land, thereby causing significant and possibly long term pollution. About 61% of the waste oil collected is regenerated, while the remainder is mostly used as fuel. When burned, these waste-oil-derived fuels generate higher GHG emissions than if the oil were to be regenerated or re-used (without burning), and this utilisation of waste oil contributes more to climate change and resource depletion. Recycling rates for collected waste oils vary greatly, indicating significant possibilities for improvement in some Member States.

As part of this impact assessment, the Commission is also carrying out a separate public consultation (with the same deadline of 16 August 2022) to examine policy options related to the setting of EU-level targets for **food waste reduction**, especially as the EU Farm to Fork Strategy calls for the establishment of such targets. Zero Waste Alliance Ireland will be responding separately to this public consultation.

The overall purposes of this important public consultation are:

- i) to gather information on current waste management practices in Member States, with the aim of reducing the quantities of waste generated;
- ii) to identify the potential barriers to effective source segregation;
- iii) to identify ways by which waste collection can be improved, to avoid contamination of recyclable waste and to yield optimal recycling results;

- iv) to assist the European Commission to bring about an increase in the amount of waste oils collected and treated in line with the waste hierarchy.<sup>6</sup>

In our response to this public consultation, Zero Waste Alliance Ireland will focus on four areas:

- ✓ Municipal waste
- ✓ Construction and demolition waste;
- ✓ Waste electrical and electronic equipment (WEEE); and,
- ✓ Waste oils.

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<sup>6</sup> Call for evidence on revision of the EU waste management framework, 25 January 2022, Ares (2022) 577247; section B, Objectives and Policy Options.



### **3. 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.

#### **3.1 Origin and Activities of ZWAI**

Zero Waste Alliance Ireland, 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 past two decades ZWAI has submitted to the Government and to State Agencies many policy documents on waste management, on using resources sustainably, on promoting re-use, repair and recycling, and on development and implementation of the Circular Economy. During more recent years (2021 and 2022), ZWAI has responded to the European Commission's call for submissions on a variety of topics on wastewater and solid wastes.

One of our basic guiding principles is that human societies must behave like natural ecosystems, living within the sustainable flow of energy from the sun and plants, producing no materials or objects which cannot be recycled back into the earth's systems, or reused or recycled into our technical systems, and should be guided by economic systems and practices which are in harmony with personal and ecological values.

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, and for more efficient and ecologically appropriate uses of natural resources such as water and soil;
- 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;
- vi) investigating, raising public awareness and lobbying Irish Government departments and agencies about our country's failure to take adequate care of vulnerable and essential natural resources, including clean water and air, biodiversity, and soil;
- vii) advocating changes in domestic and EU legislation to provide for more ecologically appropriate, environmentally sustainable and efficient uses of natural resources; and,
- viii) maintaining contact and exchanging information with similar national networks in other countries, and with international zero waste organisations.

### **3.2 Our Basic Principles**

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 and other Member States, and the EU as a whole, 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.

ZWAI also strongly believes that soil and its associated biodiversity (surface and sub-surface living organisms) are vitally important components of the Earth's global ecosystem, and that the destruction or unnecessary wasting of these natural resources must not be allowed to continue.

### 3.3 What We are Doing

One of our principal objectives is to encourage the European Union (including Commission and Parliament), Irish government agencies, Irish local authorities and other organisations to 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; Goal 6, Clean Water and Sanitation (having particular regard to the need to avoid wasting water); and Goal 15, to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, to halt and reverse land degradation and halt biodiversity loss.

In responding to many Irish and European public consultations, ZWAI in its role as an environmental NGO has given presentations and made submissions on:

1. How the European Union has addressed the problem of plastic waste (March 2019);
2. On Single-Use Plastic Packaging by the food industry (November 2019);
3. Feedback to the European Commission in response to a public consultation on the proposed revision of the EU Regulation on Shipments of Waste (January 2022);
4. Feedback to the European Commission in response to a public consultation on protecting, sustainably managing and restoring EU soils, including comments on the proposed updating of the 2006 EU Thematic Strategy on Soil (February 2022);
5. Feedback to the European Commission in response to a public consultation on revision of the EU plant and forest reproductive material legislation (March 2022);
6. Providing feedback to the European Commission on the waste-related environmental performance of Ireland and certain other EU Member States, and the probability of their achieving the 2025 recycling targets and the 2035 landfill target, with observations on the Early Warning Report System (August 2022);
7. On transforming the construction industry so that it could become climate neutral (instead of its present position as a major emitter of greenhouse gases and toxicants); and,

8. Several submissions on the separation, recovery and reuse of the phosphorus and nitrogen content of wastewater (2019 to 2022).

ZWAI is primarily concerned with the very serious issue of the misuse of key and critical natural resources, and the problems 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 also to the equivalent volumes of wastewater produced as a consequence of these uses.

We believe that at a time of increasing scarcity of certain resources, including, for example contaminant-free phosphate rock as a raw material for fertiliser production, and the shortage of other resources, for example natural gas for the production of synthetic nitrogenous fertilisers, it is more essential than ever to ensure that raw materials are not wasted, but are used wisely and efficiently

**ZWAI** is represented on the Irish Government’s Waste Forum and Water Forum (An Fóram Uisce) by one of our Directors, ZWAI is also a member of the Irish Environmental Network and the Environmental Pillar, and is funded by the Department of Communications, Climate Action and the Environment through the **Irish Environmental Network**.

In 2019 ZWAI became a full member of the **European Environment Bureau** (EEB); and we participate in the **Waste Working Group** of the EEB. Through the EEB, we contribute to the development of European Union policy on waste and the Circular Economy. In November 2021, the EEB established a **Task Force on the Built Environment**; and ZWAI was accepted as a member of this new group.

**Zero Waste Alliance Ireland (ZWAI)** is very pleased to have the opportunity to provide feedback to the European Commission on this important matter, and we have undertaken some research to provide the Commission with reasonably detailed and evidence-based comments. We trust that the observations in this submission will be considered as a relevant and a positive contribution to EU strategies and measures which would aim to achieve a “zero waste society”.

## 4. REVISION OF THE WASTE FRAMEWORK DIRECTIVE

Zero Waste Alliance Ireland (ZWA) welcomes the Commission's intention to seek stakeholders' views on revision of the Waste Framework Directive (WFD). It is our submission that such a revision is very much needed, and will be an "in depth" exercise, despite the fact that in 2018, four important amending directives were added to the EU legislation on waste:

- i) Directive (EU) **2018/849** of 30 May 2018 amending Directive 2000/53/EC on end-of-life vehicles, Directive 2006/66/EC on batteries, accumulators and waste batteries and accumulators, and Directive 2012/19/EU on waste electrical and electronic equipment;
- ii) Directive (EU) **2018/850** of 30 May 2018 amending Directive 1999/31/EC on the landfill of waste;
- iii) Directive (EU) **2018/851** of 30 May 2018 amending the original Waste Framework Directive **2008/98/EC**; and,
- iv) Directive (EU) **2018/852** of 30 May 2018 amending Directive 94/62/EC on packaging and packaging waste.

These Directives amended and updated the original Directive on waste; they set more ambitious policies and recycling targets for the period up to 2035, and these policy targets must be taken into consideration when revising the current WFD as amended.

Directives which should also be considered during the revision process include Directive (EU) **2019/904** of 5 June 2019 on the reduction of the impact of certain plastic products on the environment (the single-use plastics directive), and other directives addressing issues in the areas of wastewater, sewage sludge (**86/278/EEC**), agricultural by-products and organic fertilisers derived from agriculture.

In our submission to the European Commission made earlier this month, we stressed that *"waste must be considered within the complex web of direct and indirect interactions with other resources, and that decisions on waste policy and legislation must be made within the nexus of energy, climate, water (including oceans and fisheries), land use, soil health, biodiversity, ecosystems, food, human health, sustainability and planetary health"*.<sup>7</sup>

It is our submission that the above comment is equally important in the current revision of the Waste Framework Directive; this is a directive which should not

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<sup>7</sup> Feedback by Zero Waste Alliance Ireland to the European Commission on the waste-related environmental performance of Ireland and certain other EU Member States, and the probability of their achieving the 2025 recycling targets and the 2035 landfill target, with observations on the Early Warning Report System; 01 August 2022.

be isolated from other important and critical policy areas, and its effectiveness depends on it being part of a “nexus” or complex of many areas of policy and activity within the competence of the Commission and the European Union.<sup>8</sup>

## **5. MUNICIPAL WASTE**

### **5.1 Statement of the Problem**

Under the European Union’s Waste Framework Directive (WFD) (2008/98/EC) municipal waste is characterised as waste from households or any similar waste that goes into bins outside the house. The term municipal Waste also includes litter collected from streets and roads, waste collected from the emptying of on-street litter bins, street sweepings, and quite frequently the waste produced by shops and offices (if these are not separately collected as commercial waste).

In Ireland, waste infrastructure deficits and reliance on export for a majority of key waste streams, including packaging waste and hazardous waste continues to exist. Although the introduction of brown bins in the country led to a significant reduction in the amount of food and garden waste in residual waste bins, only 64% of Irish households had a brown bin in 2020 (this percentage includes bin sharing). A certain lack of awareness also results in about half of all household organic waste continuing to be placed in the incorrect bin.

Furthermore, as of 2021 in Ireland, there were three active landfills available for the disposal of municipal waste (down from 18 in 2012) along with two municipal waste incinerators. And while Ireland apparently achieved high recycling rates with glass, paper and cardboard, the country’s packaging waste recycling rates have shown a worrying decline from 70% in 2013 to 64% in 2018.

Against this background, revision of the WFD must include educating citizens about good recycling practices, mechanisms for the sharing of knowledge, creation of improved awareness, making good the existing waste infrastructure deficits, and implementing supportive policies which can help not only Ireland but all EU Member States to achieve their waste targets becomes essential.

### **5.2 What can be done?**

Breaking the link between economic growth and waste generation needs to be achieved in order to prevent waste generation and to reduce the quantities of municipal waste currently being generated. The circular economy concept is

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<sup>8</sup> [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13511-Waste-management-early-warning-report/F3332134\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13511-Waste-management-early-warning-report/F3332134_en)



based on producing less waste, together with increasing reuse and recycling of materials and objects that otherwise would be thrown away.

Waste prevention may be considered as the most important action to prevent products, substances or materials from becoming waste; and it can be achieved, for example, by:

- ✓ reducing the quantity of materials used in products (e.g. through eco-design);
- ✓ increasing the efficiency with which products are used (e.g. by sharing products instead of purchasing);
- ✓ extending the lifespans of products.

While these actions, if implemented, will have the effect of reducing the quantities of municipal waste produced, it should not be forgotten that other methods play an important part in reducing and dealing with municipal waste.

In Xiamen City, China, a survey based method was used to assess the effectiveness of public participation in household waste management, in order to illustrate the importance of stringent waste management and its impact on the sustainability of a city. The key factors influencing the citizens' environmental willingness to participate in waste management was citizen knowledge, followed by social motivation, while institutional factors had the smallest positive effect.<sup>9</sup> The study showed that the provision of the necessary infrastructure for the collection and management of Municipal Solid Waste, and the improvement of citizens' awareness about municipal waste source separation and recycling, were the most promise actions for the development of effective public campaigns and behaviour-changing interventions that can help to reduce MSW generation and maximise recycling practices.

While it may be considered that this case study bears little relevance to the situation in Europe, it is our submission that the findings are relevant.

## **5.3 Policy interventions**

### **5.3.1 Promoting a Circular Economy Approach Through Public-Private Integration**

The revision of the WFD to incorporate greater emphasis on the economic potential of the circular economy business model will be essential. The idea behind the circular economy approach is to prevent waste from reaching the

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<sup>9</sup> Lishan Xiao, Guoqin Zhang, Yan Zhu, Tao Lin, 2017. Promoting public participation in household waste management: A survey based method and case study in Xiamen city, China. *Journal of Cleaner Production*, Volume 144, 2017, Pages 313-322.  
<https://doi.org/10.1016/j.jclepro.2017.01.022>.  
(<https://www.sciencedirect.com/science/article/pii/S095965261730029X>)

landfill while focusing more on extracting further value throughout a product's life cycle. However, this circular approach requires the seamless integration of public and private stakeholders including industry leaders and policy makers.

At present, achieving this integration emerges as an obstacle within the waste industry since some companies, especially in the aftermath of the COVID-19 pandemic, struggle to incorporate a circular approach into their corporate strategy and day-to-day operating models due to a lack of understanding and technical capabilities. Other "waste management" companies operate more effectively in compliance with legislation and policies, while yet others display very little interest in incorporating a really circular approach to the management of the discarded materials which they collect, and instead rely on "greenwashing" to convince the public and other stakeholders that they are complying with the circular economy policy and legislation.

Revision of the WFD in addressing this obstacle would be essential in the integration of public-private efforts to achieve circularity of products.

### **5.3.2 Generating Public Awareness and Promoting Citizen Participation**

Without the implementation of citizen-oriented policies, the goal of waste reduction and recycling rate improvement will continue to be extremely challenging. The WFD in its revised form needs to particularly address the need for the wider implementation of needs-based training programmes and the determination of municipality needs.

Public awareness needs to be officially regarded as the most desirable factor that pushes better waste management and how local residents can no longer be observers in daily waste management and decision making processes. Understanding performance patterns and attitudes of the public is a critical component of efficient policy-making, and a challenge as great as waste management requires constant observation of behavioural changes and public needs in order to enhance public participation by incorporating local community opinions.

### **5.3.3 Preventing Recycling Contamination Through an Efficient Municipal Waste Infrastructure**

The above proposed revisions in the WFD should also be closely aligned with promoting the prevention of contamination of recyclable products. While a circular economy approach promotes circularity of products, citizen participation and awareness of waste disposal is a critical component of this process. Preventing the contamination of recyclable products will have to be achieved via a robust waste infrastructure in which discarded materials and objects are firstly segregated at source, and any "waste" generated is subsequently sorted easily for recycling. For this purpose and as a first step, provision of separate



household bins becomes mandatory since their absence can lead to mixing of waste and the occurrence of contaminants in which case items would be sent to the landfill even if some of them are viable for recycling. The contamination of bins due to improper waste recycling patterns also leads to the exposure of recycling workers to hazardous waste, vector-borne diseases and other physically damaging items. Separation and recycling methods should be shown on the trash bin logo, to provide clearer information to citizens. Hence, to drive a circular economy, citizen information and knowledge would prove to have greater propensity in their participation in waste source separation.

## 6. CONSTRUCTION AND DEMOLITION WASTE

Based on volume alone, Construction and Demolition (C&D) waste is the largest waste stream in the EU; and, in recognition of this fact, the European Commission introduced in September 2018 a proposal for a non-binding protocol for the construction industry,<sup>10</sup> followed by guidelines on how to conduct waste audits before demolition or renovation of buildings.<sup>11</sup>

### 6.1 Current EU Strategy for Management of Construction and Demolition Waste

This Protocol was intended to integrate with the Construction 2020 Strategy<sup>12</sup>, with the Commission's Communication on Resource Efficiency Opportunities in the Building Sector<sup>13</sup>, and with the Circular Economy Package<sup>14</sup>. The overall aim of the protocol was to increase confidence in the construction and demolition waste management process and the trust in the quality of construction and Demolition recycled materials. This aim would be achieved by:

- ✓ Improved waste identification, source separation and collection;
- ✓ Improved waste logistics;
- ✓ Improved waste processing;
- ✓ Quality management; and,
- ✓ Appropriate policy and framework conditions.

The Construction & Demolition waste management Protocol was developed for application in all EU Member States, and was intended to reach the following target groups of stakeholders:

- ◆ Industry practitioners – construction sector (including renovation companies and demolition contractors), construction product

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<sup>10</sup> EU Construction & Demolition waste management Protocol, September 2016.

<sup>11</sup> Guidelines for waste audits before demolition and renovation works of buildings; European Commission, Directorate-General for Internal market, Industry, Entrepreneurship and SMEs, May 2018.

<sup>12</sup> Communication from the Commission on a strategy for the sustainable competitiveness of the construction sector, COM (2012) 433, final 31-July-2012.

<sup>13</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – On Resource Efficiency Opportunities in the Building Sector COM (2014) 445 final, <http://ec.europa.eu/environment/eussd/pdf/SustainableBuildingsCommunication.pdf>

<sup>14</sup> See, for example: Communication from the Commission on a new Circular Economy Action Plan for a cleaner and more competitive Europe, COM(2020) 98 final; Brussels, 11 March 2020.

manufacturers, waste treatment, transport and logistics as well as recycling companies;

- ◆ Public authorities at local, regional, national and EU levels;
- ◆ Quality certification bodies for buildings and infrastructure; and,
- ◆ Clients of C&D recycled materials

During the preparation of the protocol, the European commission had identified that one of the common hurdles to recycling and re-using construction and demolition waste in the EU is a lack of confidence in the quality of C&D recycled materials. There was also uncertainty about the potential health risk for workers using recycled C&D materials. This lack of confidence had the effect of reducing and restricting the demand for C&D recycled materials, which inhibited the development of C&D waste management and recycling infrastructures in the EU.

In addition, while harmonised European standards existed for almost all construction products,<sup>15</sup> no acceptable standards had been developed for materials obtained from deconstructed buildings or from segregated C&D waste. This lack of official harmonised standards is a significant barrier to reusing construction products or materials recovered from C&D waste or from buildings about to be deconstructed.

Despite the existence of the very detailed and comprehensive protocol mentioned above, accompanied by detailed guidelines for auditing buildings before deconstruction or demolition, the generation of large quantities of C&D waste continued, along with the failure to recycle no more than a minor proportion of this material.

## **6.2 Impact of the Construction Industry's Failure to Reuse or Recycle Discarded materials or Products**

During recent years, the construction industry has been focusing on making the necessary transition to renewable energy. However, this will address only 55% of global emissions, while the remaining 45% come from the fact that we are enmeshed in a linear economy, and we are constantly extracting materials from the Earth to make goods. Construction is an activity that requires multiple extraction activities, very significant amounts of transportation and numerous specialised products to create the buildings that surround and facilitate our lives and work every day.

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<sup>15</sup> See, for example, the list of construction materials, products and equipment standards in Summary of references of harmonised standards published in the Official Journal – Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC

The built environment is responsible for almost 50 per cent of raw materials consumption in Europe. The construction industry is the largest source of waste generated annually in Europe, producing 33% (821 million tonnes annually):

- This waste contains a variety of materials such as concrete, bricks, wood, glass, metals and plastic;
- C&D waste has a high resource value and could be easily reprocessed into new products or materials;
- When it is not separated at source, CDW can also contain small amounts of hazardous materials such as solvents and asbestos;
- These can pose particular risks to the environment and impede recycling; and,
- Despite its potential, the level of recycling and material recovery of construction and demolition waste varies greatly across the EU, ranging from less than 10% to over 90%.

On average, the construction industry discards approximately 20% of all material arriving on a building site. This means that for every five dwellings built, one dwelling's worth of stuff goes to landfill or even incineration. In Ireland alone, the construction industry produces nearly half of all waste in Ireland (8.8 million tonnes of construction and demolition waste was generated and collected in Ireland in 2019 according to the EPA); and:

- Only 7% of this quantity was recycled;
- Soil and stones (and similar material) made up the vast majority (85%) of C&D waste collected in 2019;
- The next largest C&D waste types generated in 2019 were concrete, brick, tiles and gypsum waste (7%) and mixed C&D waste (4%); and,
- Only 2.5% of C&D waste was collected separately as single material streams (wood, glass, plastic or metal).

Most significantly, 14% of our greenhouse gas emissions come from the embodied carbon in the materials used in construction. By reusing existing construction materials, we can vastly reduce these emissions and transition to a nature-positive economy (the circular economy).

In Ireland, as in many other European Union Member States, buildings are destroyed or demolished at the end of their useful lives. This is a most wasteful activity, generating huge amounts of waste, most of which is not recycled. It is our submission that the word demolition should be removed from our vocabulary and replaced by “repurposing” and “deconstruction”; meaning that, when a building reaches the end of its useful life, it should be repurposed as far as possible, reused if possible; and if neither of these can be achieved, the

building should be carefully deconstructed so that its components (stone, concrete, wood, steel, glass, plastic and other materials, including internal fittings and furnishings) can be reused, and recycled to the maximum efficient extent.

The fact is that if the construction industry does not transform to a circular economy, then we cannot limit warming to 1.5 degrees. A world of 1.5 degrees warming will affect humanity in several ways; increased coastal erosion, flooding, damage to property and infrastructure, heat waves, and eventually mass extinction. It is vital to bridge this disconnect from where materials originate on the Earth to what materials are specified in buildings. This awareness will bring to surface and expose more clearly the logical mechanism of reusing construction materials that already exist.

### **6.3 Designing out Construction Materials with High Embodied Carbon as a Route to Sustainability**

One of the ways in which we can reduce construction and demolition waste, especially those ways which are difficult to reuse or recycle, is by opting for more sustainable materials for building such as timber, clay, plant-based material, etc.

For example, wood or timber is a lightweight, strong building material with excellent insulating properties; and its ability to sequester carbon for a long period of time results in wood being an extremely sustainable construction material. As the European Commission will be aware, Scandinavian and Central European Member States have a long tradition of building in timber, and current research and pilot-scale projects are now demonstrating that high rise buildings can be built using timber as the principal material. At the end of the building's useful life, the material can be utilised for a range of other purposes.

Clay, mixed with a binding material such as straw or hemp fibre, is another excellent building material with good insulating properties and with a potentially long life if constructed and maintained with a very reasonable degree of skill. At the end of the building's useful life, the material can be returned to the environment with no adverse effects.

Hemp fibre, mixed with lime (hempcrete) is another environmentally benign and sustainable construction material, even though handling the lime (which is a hazardous material) requires special precautions. At the end of its useful life, this material may also be returned to the environment with no adverse effects.

It is our submission that the construction industry should be persuaded to reduce or eliminate its dependence on cement and concrete as the only acceptable building materials. While the production of cement does not by itself produce large quantities of difficult waste, the huge amount of heat required to

bring a cement kiln to the required high temperature demands large quantities of fuel, with resulting generation of large quantities of greenhouse gases. Furthermore, the chemical reaction between limestone and shale in the high temperature of the cement kiln results in the production of yet more large quantities of carbon dioxide.

Constructing buildings with locally available natural materials has the added advantage of providing local employment where it is most needed; whereas using cement and concrete has the disadvantage of creating pollution locally, where it is not needed.

Making the construction industry more environmentally sustainable, by the replacement of difficult-to-recycle materials by more natural materials which can be either easily recycled or returned to the environment is one way of reducing construction and demolition waste.

#### **6.4 A Unique Barrier in Ireland to Reusing or Recycling Discarded Construction Materials or C&D Waste**

One of our major concerns is the existence of a barrier to reusing construction materials which is unique to Ireland – the process of obtaining an Article 27 or Article 28 notification from the EPA for reusing construction material. This is in place due to how Ireland has transposed the EU Waste Framework into its own national waste legislation and waste policy. This Article 27 or Article 28 notification process moves at a slow pace, which is not conducive to promoting the reuse of construction materials.

From our experience of running research workshops, we can confirm that many businesses operating in the construction industry do not even bother trying to start the process of obtaining an Article 27 or Article 28 notification to reuse their existing materials, as the in scale needed to obtain permission is too long, and the information to be provided in the application to the EPA is too specific and arduous. We are in a climate crisis and this slow pace of obtaining approval does not serve us as in our attempts to mitigate or slow down climate change.

#### **6.5 Concluding Observations on C&D Waste in the Revised EU Waste Framework Directive**

The revised directive should include a mandatory requirement that the construction industry MUST fully adopt the principle of extended producer responsibility – all products must be easily repaired, re-used and (at end-of-life) be taken apart and the components re-used, repaired or recycled.

The revised Directive should be accompanied by EU-wide financial incentives for restoring, re-using and recycling of construction materials.

Other recommended changes in the Directive should require Member States and construction industry to ensure:

- ✓ better segregation at source;
- ✓ development and adoption of harmonised European standards for materials discarded during construction or deconstruction of a building, to make them more easily acceptable and reusable;
- ✓ stricter measures to include the construction industry in the circular economy should to be implemented at policy level; and,
- ✓ the use of more sustainable building materials should be mandated at policy level.

It is our submission that the revised EU Waste Framework Directive should state that all EU countries must rewrite their policies in line with making it as simple as possible to reuse construction materials. The revised directive should encourage (or even require as a mandatory policy) secondary material marketplaces to be set up in all European countries. In these marketplaces, materials can be tested, cleaned and prepared for reuse. If there is a good supply of secondary construction materials, then there will be a demand for these materials.



## **7. ELECTRONIC WASTE, PLANNED OBSOLESCENCE AND THE RIGHT TO REPAIR**

### **7.1 Cryptocurrencies and Electronic Waste**

A massive amount of energy is consumed by the audit process and the “mining” of cryptocurrencies. This year Bitcoin alone has consumed more energy than the Philippines. The EU is already in a precarious position around energy security, and so the presence of cryptocurrencies being mined here is an excessive drain on our already strained energy supply.

The process of mining cryptocurrencies is also very intensive in terms of actual hardware. The devices used in this process have an average lifespan of just 1.29 years, causing the generation of an excessive amount of waste computer and server hardware. The total amount of waste from this process in the world is estimated by researchers to be equal to the electronic waste of a country the size of the Netherlands. Some of this material can be recycled, but currently a lot of it goes to waste.

Cryptocurrency itself has no intrinsic value and is effectively an artificial commodity, the only real or apparent value of which is in trading it for profit. Therefore a levy or perhaps even a ban on the mining of cryptocurrencies should be considered in the revised Waste Framework Directive in order to reduce electronic waste and decrease the strain on our energy supply.

If not a ban, then a levy on electronic equipment used for cryptocurrency mining such as graphics cards could be considered. Another and much easier way to achieve this would be to increase the tax on the sale of cryptocurrencies; this would make the mining of cryptocurrencies far less attractive and would reduce the amount of hardware being used for this activity and thus reduce the amount of electronic waste generated by it.

### **7.2 Unnecessary Obsolescence**

Laws to restrict the early obsolescence of electronic equipment (in particular; phones, computers and printers) should be introduced. This aligns with section 3 of the EU Circular Economy Action Plan.

A good example of unnecessary obsolescence is that Apple devices and Android devices often do not allow new versions of their operating systems to be installed on older devices even though they may well have the hardware capable of running them. This means that new apps and tools are blocked from working on older devices that could otherwise run them. This in turn forces people to buy newer devices in order to use these functions, leading to increased costs on consumers and more electronic waste. This is particularly evident with a manufacturer like Apple which maintains tight control over all of



the hardware and software of their products, and so could account for older devices if they wanted. The counterpoint to this are open source systems like Linux which can run on nearly any device proving that such compatibility with older devices is feasible (but not as profitable).

### **7.3 The Right to Repair**

The revised Waste Framework Directive should legislate for a right to repair, and should encourage or require the European Commission and/or Member States to provide a subsidy for the repair of electronic devices.

For example, Austria recently launched a repair scheme, granting a €200 voucher towards the repair of electronic devices with approved repairers listed on their website. A similar scheme should be rolled out across the EU for electronic devices, particularly computers, phones and printers, as this would drastically reduce costs on consumers and greatly reduce the amount of electronic waste.

The revised Waste Framework Directive should enable or encourage Member States to provide support in the form of grants or subsidies for tools and parts used in repair cafés where volunteers and enthusiasts can assist in the repair of electronic devices. This can make it much easier and often cheaper to get devices repaired, and greatly extend their life, thus saving money and reducing the amount of electronic waste.

### **7.4 Refurbishment support**

Similar to the right to repair, the revised Waste Framework Directive should also enable or encourage the European Commission and/or Member States to give financial support for the refurbishment of older electronic devices, in particular phones and computers; with some minor alterations to hardware and software many of these devices can continue be used and even resold to others. Small changes such as replacing some old parts (often the RAM, hard drive or fans) or changing software (such as installing a less demanding or free operating system) can make a huge difference to an older device that may have been struggling to run efficiently due to ageing hardware.

Supporting the refurbishment of older devices would greatly reduce the amount of electronic waste, as such devices can be reused and keep going or even be a profitable resource (old devices to be refurbished and sold on). This is very much in line with the circular economy. There are a number of ways this activity could be supported. The first option is a subsidy for the refurbishing of old devices to encourage more people to do so. Another option is potentially allowing VAT to be reclaimed on refurbished devices that are purchased. This would make them an attractive option to consumers.

## **7.5 Recyclables Levy**

In order to promote more recycling of discarded materials and objects, the revised Waste Framework Directive should require the Commission or Member States to introduce an EU-wide harmonised 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 taking the easy option of disposal of it.

In order to do this effectively; a list of recyclable materials would need to be created and companies creating waste of these materials would be obliged to report the quantity and breakdown of their waste materials, then 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. If there is a particular sector where this is overly difficult then financial support should be considered for a temporary period in order to get companies and voluntary citizens groups engaged with the processes.

## 8. WASTE OILS



In Article 3 of the **Waste Framework Directive**, waste oils (WO) are defined as *“any mineral or synthetic lubrication or industrial oils which have become unfit for the use for which they were originally intended, such as used combustion engine oils and gearbox oils, lubricating oils, oils for turbines and hydraulic oils”*.

Lubricating oils are crude oil fractions used as engine oils, gear oils, greases, metalworking oils and process oils. About 50% are lost completely or consumed during use, through combustion, evaporation, leakage, and residual amounts left in the container. These oils are composed of 90% crude oil fractions and 10% additives. Over time the oils and additives become oxidised and acidified and lose their lubricating properties, while collecting dirt, microscopic heavy metal particles and other chemicals from engine wear.

Regeneration involves refining waste oils (WO) by removing contaminants, oxidation products and additives. The resulting regenerated oil may then be re-used. Increased regeneration of waste oil is an opportunity to promote the circular economy while reducing atmospheric CO<sub>2</sub> generation and environmental contamination. The transition to a circular economy is pivotal for humanity to stay within a safe operating space for continued existence within planetary boundaries.<sup>16</sup> The planetary boundaries for climate change, biodiversity loss and the nitrogen cycle have already been breached.<sup>17</sup> Models

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<sup>16</sup> Geissdoerfer, M., Savaget, P., Bocken, N.M. and Hultink, E.J., 2017. The Circular Economy—A new sustainability paradigm?. *Journal of Cleaner Production*, 143, pp.757-768.

<sup>17</sup> Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F.S., Lambin, E.F., Lenton, T.M., Scheffer, M., Folke, C., Schellnhuber, H.J. and Nykvist, B., 2009. A safe operating space for humanity. *nature*, 461(7263), pp.472-475.

predict that with continued greenhouse gas emissions, **average global temperature increases of 3°C are likely**<sup>18</sup>, while some models predict extreme increases of 5°C by the year 2100.<sup>19</sup>

According to Eurostat, in 2018, **3.94 million tonnes of used oil** were generated in the EU. For comparison, 2.17 million tonnes of textile waste were generated. This large volume of waste oil is considered **hazardous waste** according to the European List of waste. Unfortunately, waste oils are often overlooked, despite their constituting the largest liquid hazardous waste stream in Europe.<sup>20</sup> The mishandling of waste oils can have severe negative environmental impacts. The environmental impacts of crude oil spills have been extensively studied.<sup>21</sup> More research is needed to understand the impacts of used oil pollution, especially in aquatic ecosystems. Used motor oil contains more aromatic hydrocarbons and heavy metals than fresh oil, this results in higher toxicity for soil organisms.<sup>22</sup>

## 8.1 Collection and Disposal

A lack of access to disposal facilities for WO may be contributing to widespread minor environmental pollution events that are difficult to trace. In these cases, it may be difficult or impossible to enforce the “polluter pays” principle. Disposal of WO into drains or ditches will contaminate water bodies and soils.<sup>23</sup> For example, in Portugal, only 80% of waste oil is collected, the remaining 20% is released into the environment, causing severe negative impacts.

**Separation** of WO at collection is key for proper end-of-life treatment.<sup>24</sup> The quality of WO is dependent on the quality of the original fresh oil. Therefore,

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<sup>18</sup> Solomon, S., Manning, M., Marquis, M. and Qin, D., 2007. Climate change 2007 – the physical science basis: Working group I contribution to the fourth assessment report of the IPCC (Vol. 4). Cambridge University Press.

<sup>19</sup> Zhang, G., Zeng, G., Yang, X. and Jiang, Z., 2021. Future changes in extreme high temperature over China at 1.5 C–5 C global warming based on CMIP6 simulations. *Advances in Atmospheric Sciences*, 38(2), pp.253-267.

<sup>20</sup> GEIR Waste Framework Directive Revision: European Waste Oil Re-refining Industry Position (2016).

<sup>21</sup> Pérez, C., Velando, A., Munilla, I., López-Alonso, M. and Oro, D., 2008. Monitoring polycyclic aromatic hydrocarbon pollution in the marine environment after the *Prestige* oil spill by means of seabird blood analysis. *Environmental science & technology*, 42(3), pp.707-713.

<sup>22</sup> Ramadass, K., Megharaj, M., Venkateswarlu, K. and Naidu, R., 2015. Ecological implications of motor oil pollution: earthworm survival and soil health. *Soil Biology and Biochemistry*, 85, pp.72-81.

<sup>23</sup> Ellis, J.B. and Chatfield, P.R., 2006. Diffuse urban oil pollution in the UK. *Urban Water Journal*, 3(3), pp.165-173.

<sup>24</sup> Pinheiro, C.T., Quina, M.J. and Gando-Ferreira, L.M., 2021. Management of waste lubricant oil in Europe: A circular economy approach. *Critical Reviews in Environmental Science and Technology*, 51(18), pp.2015-2050.

the mixing of WO should be avoided to maintain high quality. Quality of WO is not a consideration for conversion to fuel, only the heating value is considered. Therefore, the separation of different WOs at the collection point is key to facilitate optimal regeneration. The contamination of recyclable or re-usable material with WO prevents proper treatment of the materials, and therefore this practice should stop immediately.

This submission also advocates a framework for analysis of WO flow on a country level, as suggested in the paper by Zimmerman, *et al.*<sup>25</sup> It aims to support the EU legal framework for high quality recycling and disposal of waste oil.

## 8.2 Regeneration

The regeneration of WO is preferable to fuel production from waste oils. This regeneration approach is higher on the Waste Hierarchy Index than incineration (“energy recovery”) or fuel production (“recycling”). Lubricating oils and machine oils are composed of hydrocarbons derived from crude oil. Like any fossil fuel, when combusted, CO<sub>2</sub> is produced and released to atmosphere, contributing to the greenhouse effect and global warming. Therefore, it is prudent to re-use these oils rather than converting them to fuel to minimise CO<sub>2</sub> emissions and other negative environmental impacts. The regeneration and re-use of waste oil should be encouraged in line with the EU Circular Economy Action Plan.<sup>26</sup>

A life-cycle assessment of waste oil management by Pires and Martinho (2013)<sup>27</sup> concluded that regeneration and re-use is the preferable option for WO treatment, because it is associated with few negative environmental impacts and is more in line with the waste hierarchy principle defined in the Waste Framework Directive.

*“About 61% of the waste oil collected is regenerated, while the rest is mostly used as fuel that has higher GHG emissions than regeneration and contributes more to climate change and resource depletion. Again, recycling rates for collected waste oils vary greatly, indicating significant room for improvement in some Member States.”* - Environmental impact of waste management – revision of EU waste framework.<sup>28</sup>

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<sup>25</sup> Zimmermann, T. and Jepsen, D., 2018. A framework for calculating waste oil flows in the EU and beyond– the cases of Germany and Belgium 2015. Resources, Conservation and Recycling, 134, pp.315-328.

<sup>26</sup> Communication from the Commission – A new Circular Economy Action Plan For a cleaner and more competitive Europe, COM (2020) 98 final, 11-March-2020.pdf

<sup>27</sup> Pires, A. and Martinho, G., 2013. Life cycle assessment of a waste lubricant oil management system. The International Journal of Life Cycle Assessment, 18(1), pp.102-112

<sup>28</sup> [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13225-Environmental-impact-of-waste-management-revision-of-EU-waste-framework\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13225-Environmental-impact-of-waste-management-revision-of-EU-waste-framework_en)



Acid/clay oil treatment is the most common procedure for waste oil regeneration. It is also the most inexpensive.<sup>29</sup> The steps are as follows:

1. Acid treatment – to remove greases;
2. Bleaching;
3. Neutralisation – usually with lime;
4. Sedimentation and decantation; and,
5. Filtration

The adoption of measures in the revised Waste Framework Directive to introduce **quantitative targets** for Member States on the regeneration of waste oils would be most welcome.



**Improper handling or disposal of used oils leads to environmental pollution and adverse health effects.**

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<sup>29</sup> Stan, C., Andreescu, C. and Toma, M., 2018. Some aspects of the regeneration of used motor oil. *Procedia Manufacturing*, 22, pp.709-713.

### 8.3 Conversion to Fuel and Energy Recovery

Used engine oil can be used as a fuel, for example in co-combustion with propane or butane gas in boilers and furnaces. Waste oil is used along with municipal solid waste and other materials in the cement and lime industry, as well as power plants. The addition of waste oil increases the heat radiation of the flame produced. Waste oil can also undergo thermal cracking to produce marine fuel oil. Waste oil has been misleadingly referred to as a “renewable fuel”.<sup>30</sup> Of course, used engine oil is not renewable since it is derived from crude oil fractionating.

Past literature has focused on used engine oil as a fuel source in response to the scarcity of fossil fuels, while contemporary literature is showing a shift towards regeneration of used engine oil in response to the climate crisis. “Recycling” of waste oil into fuel and electric energy production from waste oil should no longer be considered as a sustainable management option. Burning WO releases lead, cadmium, chromium, and zinc, which are hazardous pollutants.<sup>31</sup> Additionally, carcinogenic polycyclic aromatic hydrocarbons are released, which are not broken down during combustion.<sup>32</sup>

### 8.4 Dealing with Oily Wastes from Oil Spill Clean-up Operations

The European commission may be aware that while the number and size of significant oil spillages from vessels at sea, in ports or harbours, or in inland waterways has been significantly reduced from earlier years when large-scale incidents such as those caused by the *Torrey Canyon*, *Amoco Cadiz*, *Exxon Valdez* and other large crude carriers resulted in extensive coastal pollution. Nevertheless, smaller spills continue to occur in harbours and ports; and, less frequently, there are incidences of oil spillages at sea affecting beaches and the coastline.

What is less generally understood or appreciated is the very large quantity of oil contaminated material generated during the clean-up of even relatively minor spillages of oil. This “oily waste” nearly always amounts to several times more than the tonnage of oil spilled; it consists of contaminated beach or shoreline material, oil-contaminated beach litter (discarded items of plastic washed up or thrown on beaches become covered by oil because of the hydrophobic and oleophilic nature of the plastic), oil-contaminated seaweed, and oil-

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<sup>30</sup> Al-Omari, S.B., 2008. Used engine lubrication oil as a renewable supplementary fuel for furnaces. *Energy conversion and management*, 49(12), pp.3648-3653.

<sup>31</sup> U.S. Department of Energy. (2006). Used oil re-refining study to address energy policy Act of 2005 Section 1838. [https://fossil.energy.gov/epact/used\\_oil\\_report.pdf1](https://fossil.energy.gov/epact/used_oil_report.pdf1)

<sup>32</sup> ATSDR, U., 2007. Toxicological profile for lead. US Department of Health and Human Services, 1, p.582. <https://www.atsdr.cdc.gov/toxprofiles/tp13.pdf>

contaminated materials (e.g., sorbents, booms) used in the clean-up operation. Following a large-scale incident, this material may amount to several thousand tonnes, and dealing with it effectively and in an environmentally acceptable manner creates a huge logistical problem.<sup>33</sup>

While we are not suggesting that oil spill clean-up problems and the resulting difficulty of dealing with the oily waste generated should be a key element of the revised Waste Framework Directive, it is our submission that this particular problem should be dealt with, not only under maritime legislation, but also under the EU Waste Framework Directive.

## 8.5 Conclusions on Waste Oils

The transition to a circular economy in the EU will help to reduce negative health and environmental impacts, including soils and water contamination and CO<sub>2</sub> emissions. 3.94 million tonnes of used oil were generated in the EU in 2018, while roughly 80% of this is collected, the remainder is released into the environment resulting in severe negative impacts, especially for aquatic ecosystems.

Burning of WO as fuel in furnaces, waste to energy plants, incinerators and vehicles is responsible for CO<sub>2</sub> emissions contributing to climate change, as well as negative health impacts from heavy metal particulate matter and carcinogenic polycyclic aromatic hydrocarbons.

Regeneration of WO is the best solution for this waste type, in line with the Circular Economy Action Plan and the Waste Hierarchy Index. Improved collection and separation of WO is crucial in order to increase the level of WO regeneration in the EU. A monitoring framework for tracking the flow of waste oils in the EU would support the legislative framework, while strict regeneration targets for Member states is recommended to drive the transition.

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<sup>33</sup> O'Sullivan, A.J., 1978. The **Amoco Cadiz** oil spill. Marine Pollution Bulletin, Volume 9, Issue No. 5, May 1978, pages 123-28.



## 9. CONCLUSIONS

When we come to consider the need (and there is a very real need) for an in-depth revision of the EU **Waste Framework Directive**, it is clear that dealing with discarded materials is a problem requiring complex and multiple, but achievable, solutions. The European Commission has carried out an extraordinary amount of work to date in preparing previous and existing directors on the many issues related to waste and resource efficiency, and in steering these through the European Parliament and the Council of Ministers.

What is now needed is the will and the expertise (which the EU and Member States have in abundance) to revise the directive in a way that it is seamlessly integrated into EU climate policy, the European Green Deal, and the EU policy and action programme on the circular economy. In our view, this will require the cooperation of industry in addition to the work of the Council and the individual Member States, not forgetting the future contributions of other stakeholders, particularly Europe's environmental NGOs, many of which have been, or still are, directly experiencing the problems of inefficient use of natural resources, and the results of waste disposal in their local communities.



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### Zero Waste Alliance Ireland

This submission was researched and written by four members of Zero Waste Alliance Ireland: Jack Coffey (member and researcher, who contributed the section on waste oils), Nazia N Husain (member, researcher and proofreader, who contributed the section on municipal waste), Owen Wynne (member and researcher, who contributed the section on WEEE), Rachel Loughrey (Irish Green Building Council representative on ZWAI), who contributed the section on construction and demolition waste, and Jack O'Sullivan (ZWAI founder member and Director), who edited the submission and added further text. Additional research and assistance of Orla Coutin (researcher and membership secretary) is much appreciated; and we had the benefit of much encouragement given to the ZWAI team by Ollan Herr (Director and Chair of the Board of ZWAI).

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