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Advancing the Prevention, Re-use & Recovery of Materials Generated by the Construction Industry in Ireland (Condensed Report)



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Report Sign Off Page

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Please note this is a condensed version of the full report. Much of the context, explanation and disclaimer are included in the full report only.

1. Introduction & Background

The Irish Plant Contractors Association's (**IPCA**) is a collective of Irish contractors, sub-contractors, quarrying, equipment owners and plant hire companies. The IPCA mission commits to sustainable construction methods to the highest of standards.

In commissioning this report, the IPCA's objective was to understand what role, members of their association could play to contribute to advancing the prevention, re-use, and recovery of materials generated by the Construction Industry in Ireland. Part 1 of the report, a Literature Review, was compiled to understand the current circumstances in Ireland and identify the recurring barriers to transitioning to a more Circular Economy for Construction and Demolition (**C&D**) materials, i.e., to investigate the factors and limitations hindering their members and the wider industry in successfully re-using and recovering C&D materials on-site and off-site. Part 2 of the Report focuses on recommendations and proposed next steps forward.

It must be taken into consideration when reading this report that IPCA members usually create this 'waste' under construction contract agreements in performing contracts for the likes of building demolitions, ground works for new projects, road construction etc. The IPCA founders and members have a long trading history of specifically dealing with equipment manufacturers and providers who sell and organise finance for their equipment to be purchased and operated by Ireland's Construction Industry in everything from the smallest to largest of projects. Hence the IPCA want to engage with all involved parties; EPA, County Councils, Quality Control, Trade Organisations, Developers, Builders and Government to understand the problems and find solutions with the use of the latest and best managed equipment in the world in order to help with the issues outlined within this report.

This report outlines the potential opportunities the IPCA, construction industry generally, government and regulators have in finding solutions to material import, disposal and recycling/reuse, which is a significant part of all construction projects. The primary areas reviewed and analysed included EU and Irish waste legislation and policy, available data, standards and specifications, and economic instruments with an overall objective to benchmark Ireland against comparable EU countries in order to identify recommendations. When comparing the objectives of the IPCA with that of the latest EU and national waste management policies, it is clear there is common ground. What is more difficult is to agree a pathway to achieving these shared objectives. Fortunately, the topic of re-using and recovering C&D materials is well researched and there is a considerable body of evidence to form a basis for next steps.

While waste management policy and guidelines in Ireland have evolved towards "*an increased emphasis on waste prevention, in line with the waste hierarchy, through established principles such as designing out waste and the use of green procurement*" (EPA, 2021), current regulatory, operational and economic processes equally need to evolve to enable and support all stakeholders to achieve higher-order waste management options.

2. Barriers to advancing the prevention, re-use, and recovery of materials generated by the Construction Industry

This report identifies the main barriers to advancing the prevention, re-use, and recovery of materials generated by the Construction Industry as follows:

- Recycling costs are higher than landfill/disposal costs, where low/no landfill taxes apply. This is also the case where significant numbers of illegal waste tips exist, illegal burning still takes place and general waste management enforcement is lax.
- The lack of a compelling business case (or grant funding) for the private (or public sector) to establish recycling/recovery facilities or to invest in mobile recycling equipment.
- Proximity and spread of suitable recycling facilities in relation to sites where waste is arising increases the cost of transport.
- No industry wide end of waste criteria established for recycling of C&D waste.
- Lack of emphasis (from all stakeholders) on C&D waste management, compared to other waste streams such as household waste.
- Inadequate at-source segregation and material traceability.
- Contradictions and confusion between national, regional, and local legislation, especially in the context of managing C&D waste in a legally compliant way and demonstrating fitness for purpose in recycled material application.

Other barriers include

- The definition of backfilling and perceived level of actual beneficial use may be creating more accessible and established options for material disposal than the recycling option.
- Lack of experience, competence, and infrastructure (mainly in countries which have only recently started to recycle C&D waste).
- Lack of awareness and understanding by the industry on what they could be doing to improve C&D waste management and recycling.
- Possible contamination with hazardous substances (or requirement to prove this has not occurred).
- Lack of data to inform policy makers and industry e.g., where and what facilities need to be established.
- Lack of waste management site planning.
- Logistics, space, cost, and legislation issues in relation to small quantities of recyclable waste.
- Recycling targets by weight promotes the recycling of heavy materials and reduces the emphasis on lighter weight material.

3. Identified Opportunities

Identified opportunities for minimising barriers and driving change include:

- Lessening the risks perceived by stakeholders to project timelines and cost when applying for regulatory approvals.
- Developing further guidance on commonly sought regulatory approvals to empower the Construction Industry, e.g., this could include the streamlining of all county guidelines on C&D waste into a countrywide approach.
- Progressing mandatory targets for the Construction Industry to drive system change.
- Harnessing C&D waste data to improve transparency and develop the Construction Industry's environmental accountability.
- Creating investment in strategically located recycling infrastructure hubs to increase the availability of suitable facilities to recycle waste within a reasonable proximity of the site it is produced at and therefore reducing transport costs.
- Collaborating on a long-term, over-arching strategy focusing on the entire lifecycle of C&D materials to make it the easiest and the cheapest waste management option for all stakeholders and also the most environmentally sustainable, e.g., a significant cost for construction is the disposal of excavated clay offsite and subsequent importation of soil onto site.

4. Summary of Recommended Actions

The following three key critical actions have been taken from the full list of recommendations provided in Part 2 as they have been determined as key to delivering the most notable impact.

1. **Article 27**; Improve process and timelines for regulatory approval of Article 27s to reuse/recycle by-products
2. Investment in **strategically placed recycling hubs** to reduce transport and carbon emissions costs caused by lack of available recycling facilities on a provisional and county level inhibiting the ability to recycle C&D waste.
3. Review and update the **specifications** that determine the classification of C&D waste.

Additional key recommendations are focused on.

4. Increase fines and enforcement for illegal waste disposal (fly tipping). Ringfence landfill taxes to support the policing and enforcement of illegal waste disposers.
5. A tax on clay and virgin material going to landfill could serve to deter this practice in place of more sustainable options.
6. Guidance for products such as recycled aggregate & concrete are needed to change the mindset of disposing what is otherwise a viable product as a waste to landfill.
7. Potential introduction of a mandatory % content of recycled resources in new products
8. IPCA members to be included in the working group on Circular economy in the construction industry
9. Introduction of grants for circular economy research into reducing and reusing C&D waste.

Appendix A: Part 2 - All Recommendations

No.	Critical Actions	Discussion
1	<p>Article 27; Improve process and timelines for regulatory approval of Article 27s to reuse/recycle by-products.</p>	<p>The EPA & Local Authorities often require further evidence that material is suitable for Article 27 classification. This is an ongoing issue and the EPA should pull together evidence from previous determinations and publish feedback on the most common pitfalls on invalid or rejected determinations to inform future applications and streamline the process,</p> <p>The preparation of an industry guideline on applying especially for reuse of <u>recycled concrete</u> under Article 27 to avoid repeating mistakes and aid learnings from previous pitfalls.</p> <p>The commissioning of an independent review of implementation of Article 27 & 28 Regulations by a third party to recommend improvements. The current lack of strategy/objectives in place to encourage current and long-term plans means the industries involved are unsure of which future plan to pursue / which investment to make.</p>
2	<p>Investment in strategically placed recycling hubs to reduce transport and carbon emissions costs caused by lack of available recycling facilities on a provisional and county level that is currently inhibiting the ability to recycle C&D waste</p>	<p>A long-term re-use and recycling government strategy for C&D waste is required to give certainty to the industry and to encourage investment in facilities such as designated recycling hubs.</p> <p>Currently there is no compelling business case (or grant funding) for the private or public sector to establish recycling/recovery facilities or invest in mobile recycling equipment. Hence the proximity and spread of suitable recycling facilities in relation to sites where waste is arising needs attention to make recycling a more viable option.</p>
3	<p>Review and update the specifications that determine the classification of C&D waste.</p>	<p>The lack of incentives and guidelines to allow the onsite reuse and recycling of soil and stone are currently working against reuse of materials thus inhibiting the reuse of onsite screened soils.</p>

No.	Key Recommendations	Discussion
4	<p>Increase fines and enforcement for illegal waste disposal (fly tipping).</p> <p>Ringfence landfill taxes to support the policing and enforcement of illegal waste disposers.</p>	<p>The current regime of fines and enforcement for illegal waste disposal (fly tipping) do not prevent the activities nor do landfill taxes exist to support the policing and resourcing against these activities.</p> <p>Recycling costs are currently higher than landfill disposal costs, where low/no landfill taxes apply in this country unlike in the UK where the introduction of a landfill tax has contributed to increased recycling. This is also the case where significant numbers of illegal waste tips exist, illegal burning still takes place and general waste management enforcement is lax.</p>
5	<p>A tax on clay and virgin material going to landfill could serve to deter this practice in place of more sustainable options.</p>	<p>A detailed market analysis is required to determine the most appropriate economic instrument that should be introduced in Ireland to advance the reuse of C&D wastes. An analysis of the economics of recovering and reusing C&D waste versus the use of virgin aggregates would support this recommendation with the aim of “levelling the playing field” and incentivising circular economy principles for these waste streams.</p> <p>An action already proposed by WAP focuses on introducing incentives to encourage more sustainable options such as the use of recycled materials including examining a possible levy on the use of virgin aggregates in construction projects to incentivise the use of recycled C&D materials or build thresholds into Green Public Procurement.</p> <p>An investigation into similarities with New South Wales, Australia would be beneficial as they have made great advancements in this area to align with Waste Action Plan and develop a C&D waste Circular Economy Strategy.</p> <p>Having no strategy/objectives in place to encourage current and long-term plans means the industries involved are unsure of which future plan to pursue or which investment to make.</p>
6	<p>Guidance for products such as recycled aggregate & concrete are needed to change the mindset of disposing what is otherwise a viable product as a waste to landfill.</p> <p>Investigate options whereby a material that is categorised as a by-product when reused on the same site could also be categorised as a by-product when used for the same purpose (construction) on another site.</p>	<p>The guidance on Soil and Stone by-products in the context of Article 27 of Waste Directive Regulations 2011 is ambiguous in how materials can be classified as waste when onsite and then determined as a useful material when transported offsite, refer back to Table 2-1 in Part 1.</p> <p>Table 2-1 states a material is not regulated as waste (i.e. is considered a by-product) if used on the same site but is regulated as waste if moved to an alternative site. This is an area that needs review.</p> <p>If not forthcoming from the EPA, industry should lead this development similar to how road planning’s were led by the CCMA.</p>

		<p>Methods to achieve this would include:</p> <ul style="list-style-type: none"> • Compile and utilise previous determinations by the EPA as guidance. • Engage with EPA to collaborate on the guidance. • Use road planning's as an example of how a partnership with the EPA and technical experts can reap long term benefits for all. • Article 28 approvals published for recycled concrete would be a good starting point as this may already be underway by another body/industry.
7	<p>Potential introduction of a mandatory % content of recycled resources in new products.</p>	<p>In order to achieve the objectives of the circular economy action plan (CEAP), the target of preparing for reuse, recycling and other material recovery (incl. beneficial backfilling operations using waste as a substitute) of 70% by weight of C&D non-hazardous waste (excluding natural soils & stone) needs to be met and the introduction of a corresponding target for reducing the production of and use of virgin aggregates should also be considered. The latter point would lead to an increase in the % of recycled resources in new products.</p> <p>Under this recommendation, increasing the use of recycled aggregate in asphalt and concrete production as a secondary raw material (Article 28) with these industries should be investigated.</p>
8	<p>IPCA members to be included in the working group on circular economy in the construction industry.</p>	<p>This recommendation would enable IPCA to inform changes to regulation and processes such as;</p> <ul style="list-style-type: none"> • Utilising Resource Management Plan data to increase transparency regarding the C&D industry's circular economy practices, • Establish an industry performance benchmark, and, • Set up applicable, measurable and up-to-date performance targets. <p>For example,</p> <ul style="list-style-type: none"> • 'A Waste Action Plan for A Circular Economy – Ireland's National Waste Policy 2020 – 2025' looks to make national end-of-waste decisions for specific construction and demolition waste streams at the earliest possible stage by establishing a working group to develop the applications. • In 2018, the Department established a Construction Waste Resource Group comprising key stakeholders from the C&D sector as well as waste sector stakeholders. The group also includes policy, regulatory and industry representatives to provide a useful platform to

		<p>discuss and monitor C&D waste issues arising, including the capacity and potential of the sector to prevent, recycle and manage C&D waste.</p> <p>IPCA are in a unique position to contribute and are willing to participate in such working groups.</p>
<p>9</p>	<p>Introduction of grants for circular economy research into reducing and reusing C&D waste.</p>	<p>Seeking funding / grants for further research into the guidelines and best practices needed to achieve the objectives of this report is required.</p> <p>Supports are available from the EU, including under the proposed Recovery and Resilience Fund, for circular economy projects for priority sectoral material streams.</p> <p>It is recommended that development plans for cities and counties include circular economy objectives. This would allow IPCA to further Advocate for a review to clarify role of waste management legislation at Construction & Demolition sites</p>

No.	Additional Recommendations of Note	Discussion
10	<p>Industry members should be able to submit Article 27 declarations for site-specific reuse of crushed concrete to the EPA for a variety of grades of concrete, crushing activities and reuses to inform the development of a guideline to benefit all.</p>	<p>If guidance on a material stream specific by-product notification for crushed concrete was to be drafted to assist industry it should:</p> <ul style="list-style-type: none"> • Have a defined scope, • Apply only at the site the by-product material is generated at, • Apply only to certain grades of concrete replacing virgin materials and to certain normal industry practice activities e.g., exclude removal of contamination such as rebar etc and engineering reuses, • Ensure examples of 'normal industrial practice' are assessed on a case-by-case basis but may include processes such as filtering, washing or drying, modification of size and shape (such as crushing) and/or carrying out quality control, • Address how to demonstrate if further use is lawful, • Allow for planning permission requirements to be considered, • Consult with the EPA on industry's approach, and, • Consider an industry guideline on applying for approval under Article 27 for reuse of recycled concrete as needed to learn from previous pitfalls. <p>This would create a sustainable outlet for recycled aggregate which is already an established industry in Ireland. Whilst also acting as a Circular Economy initiative that would require collaboration within this industry.</p>
11	<p>The commissioning of an investigation into increasing the use of recycled aggregate in asphalt and concrete production as a secondary raw material (Article 28) with these production industries.</p>	<p>It is an acceptable practice in other jurisdictions hence the feasibility in Ireland requires an assessment in order to determine if increasing the use of recycled aggregate in asphalt and concrete production as a secondary raw material could be seen as creation of a sustainable outlet for recycled aggregate. There is already an established industry in Ireland for recycled aggregate.</p> <p>This could be seen as a Circular Economy initiative that requires collaboration with this industry. It is worth investigation into grants available to support this work.</p>
12	<p>The implementation of Green Public Procurement (GPP) for construction projects needs greater support to achieve the existing commitments to implementing</p>	<p>Supporting this strategy is a long-term target that could take 2+ years as further information is needed to understand how industry can contribute to this action.</p>

	GPP in all tenders using public funds by 2023.	
13	Industry members should be able to submit Article 11 clarifications for site-specific reuse of excavated and crushed stone to the EPA for a variety of sites e.g., greenfield sites, road projects etc in order to confirm this material stream is considered excluded from the Waste Framework Directive (WFD).	<p>The mechanism under Article 11 of the 2007 Regulations is to seek a declaration from the EPA as to the nature of the permit/registration or clarification that none is required.</p> <p>A crusher permit could be tied to waste permit or certificate. This may assist with getting a view on the status of crushed stone.</p>
14	Development of best practices guides or best available techniques for contractors and regulators which promote the retention of soils and the methods for how this can be achieved.	<p>There exists a wealth of knowledge within the industry on how to manage different types of materials and this expertise needs to be utilised.</p> <p>This is aimed at combating the reluctance of the industry and regulators to agree to unusual or innovative techniques, it would be relatively easy to set a target but data capture for tracking the target may be more difficult taking at least 1+ years to set up.</p> <p>This measure may provide justification for a virgin aggregate tax if volumes continue to increase yearly and would demonstrate Circular Economy measures making a difference in practice.</p> <p>The decoupling of economic growth from consumption of natural resources is a key objective of EU environmental policy and would act as another measure to hold the Government & the Industry accountable for progress in achieving policy objectives.</p>
15	Standard planning conditions should be modified to always permit the use of notified material with the condition set as a default to opting in, with justification required to opt out.	This is a suggestion to streamline the process and remove the burden from the industry while nothing currently in practice is lost and all assessments are still undertaken in line with the requirement of EPA assessment.
16	Resources and guidance for those procuring construction projects through GPP are needed to successfully implement GPP objectives due to the complexity of the task and novel techniques involved.	<p>Hence measures to incentivise an increase in the on-site reuse of excavated soil (and stone) on construction sites (and reduce its replacement with virgin materials excavated elsewhere) should be considered as part of the Waste Action Plan, and,</p> <p>Industry led project performance targets should be considered including building partnerships with peak industry bodies to promote practical and achievable targets and methods to achieve them.</p>

		Draft Resource Management Plan guidelines with targets need to be made / flagged as will be mandatory or incentivised.
17	The Construction Industry must integrate policies such as <i>Levels</i> , an EU-wide framework for sustainable buildings, into their day-to-day operations.	This is in order to demonstrate and promote their ability to meet GPP criteria.
18	The retention of soils within construction sites could also be advocated for within frameworks such as the government's Green Procurement Strategy.	Consider making the requirement to prepare a resource management plan mandatory as part of planning & development regulations.
19	In many jurisdictions, there are two separate bodies that work closely together. One to promote and encourage businesses to adopt circular economy practices and the other is the environmental regulator. This type of working arrangement between the EPA and another body would be beneficial.	There is always conflict if one organisation attempts to perform both roles e.g., WRAP and EA in UK; VIC EPA and Sustainability Victoria in Australia.
20	The Office of Government, Public Procurement or the EPA should be responsible for tracking the uptake and implementation of GPP in Ireland to increase transparency and accountability.	This would ensure accountability and implementation in the uptake of GPP.