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**From:** Don Davern <ddavern@ecocem.ie>  
**Sent:** Friday 11 June 2021 16:35  
**To:** circulareconomy  
**Subject:** Submission to Waste Action plan and circular economy  
**Attachments:** Waste action plan and circular economy.pdf

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Dear Sir/Madam

Please find attached the submission from Ecocem Ireland on our views around the issues and plans within the framework document.

Regards  
Don

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11<sup>th</sup> June 2021

Dear Minister Ryan,

We welcome the opportunity to engage in the public consultation on the Waste Action Plan and the Circular Economy.

Ecocem Ireland Limited has operated in the Irish cement sector for almost two decades and wholly supports the ambition of the Department of Environment, Climate and Communications (the 'Department') and particularly around Green Public Procurement as stated in the Waste Action for a Circular Economy:

**“The overarching objectives of this action plan are to:**

- **shift the focus away from waste disposal and treatment to ensure that materials and products remain in productive use for longer thereby preventing waste and supporting reuse through a policy framework that discourages the wasting of resources and rewards circularity;**
- **make producers who manufacture and sell disposable goods for profit environmentally accountable for the products they place on the market;**
- **ensure that measures support sustainable economic models (for example by supporting the use of recycled over virgin materials);**

We therefore draw your attention to Action 148 of the Interim Climate Actions 2021, hereinafter referred to as Action 148, which is of direct relevance to Green Public Procurement supported by public expenditure.

Action 148 seeks to support the implementation of GPP guidelines through the use of low carbon and recycled materials in all public capital projects, local authorities and semi state bodies,

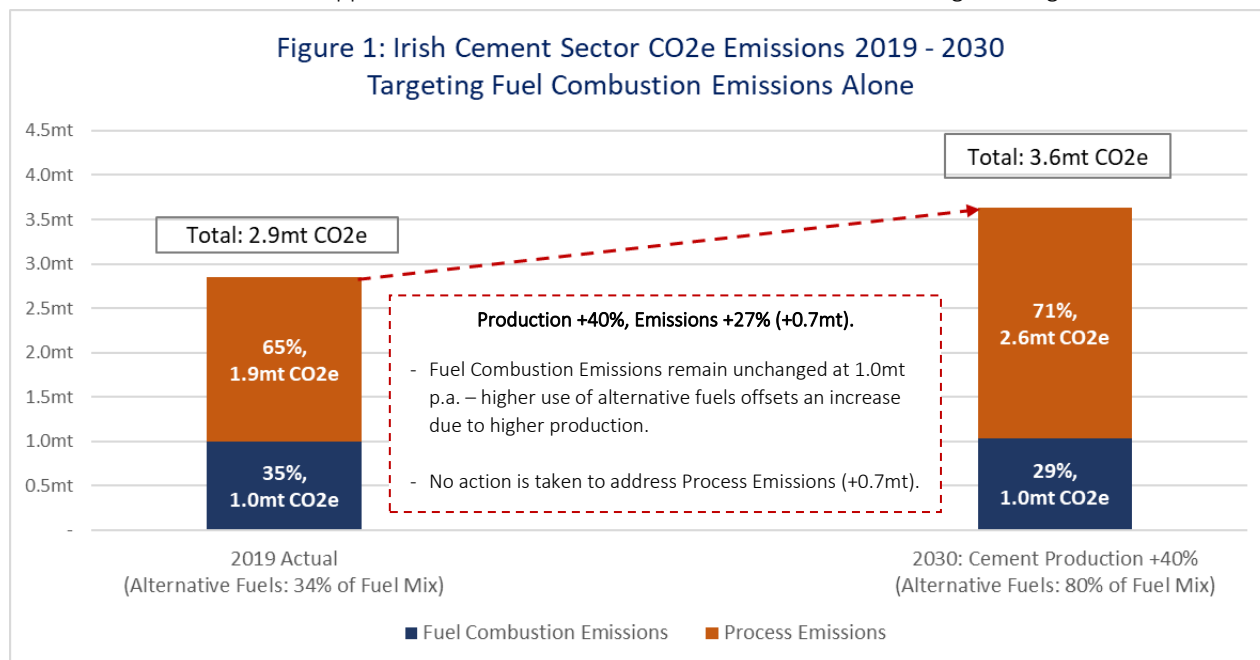
We wish to take this opportunity to demonstrate that a greater range of low carbon construction material options, especially cement and related products are available and should be considered by the Department in delivering GPP while achieving and exceeding the aims and goals of both the Waste Action plan and the Climate Action plan.

#### **Background and Overview of Cement Sector:**

- The Irish cement sector, consisting of just four production facilities, is the largest industrial emitter of CO<sub>2</sub> in the country<sup>11</sup>:
  - Producing 2.9m tonnes of CO<sub>2e</sub><sup>1</sup> annually – this is an 86% increase in emissions since 2011,
  - Representing 20% of Ireland’s emissions under the European Emissions Trading Scheme<sup>1</sup> (the ‘ETS’); and
  - 5% of Ireland’s total emissions (i.e., including ETS and non-ETS emissions)<sup>1&2</sup>.
- The sector’s emissions will continue to rise due to a projected 40% increase in cement production by 2030<sup>4</sup>.
- The source of the sector’s emissions is the production of clinker, the main component of traditional cements.
- To produce clinker, raw materials, primarily limestone, are heated in a kiln to 1450°C, resulting in two sources of emissions:
  1. **Fuel Combustion Emissions (35% of Emissions)<sup>3</sup>**: The energy consumed to heat the kiln to 1,450°C; and
  2. **Process Emissions (65% of Emissions)<sup>3</sup>**: The release of CO<sub>2</sub> from limestone as it is heated and breaks down in the kiln.

### Action 148, GPP and its Implications for the GPP:

- Action 148 aims to increase the support the use of alternative low carbon materials including non-virgin materials s



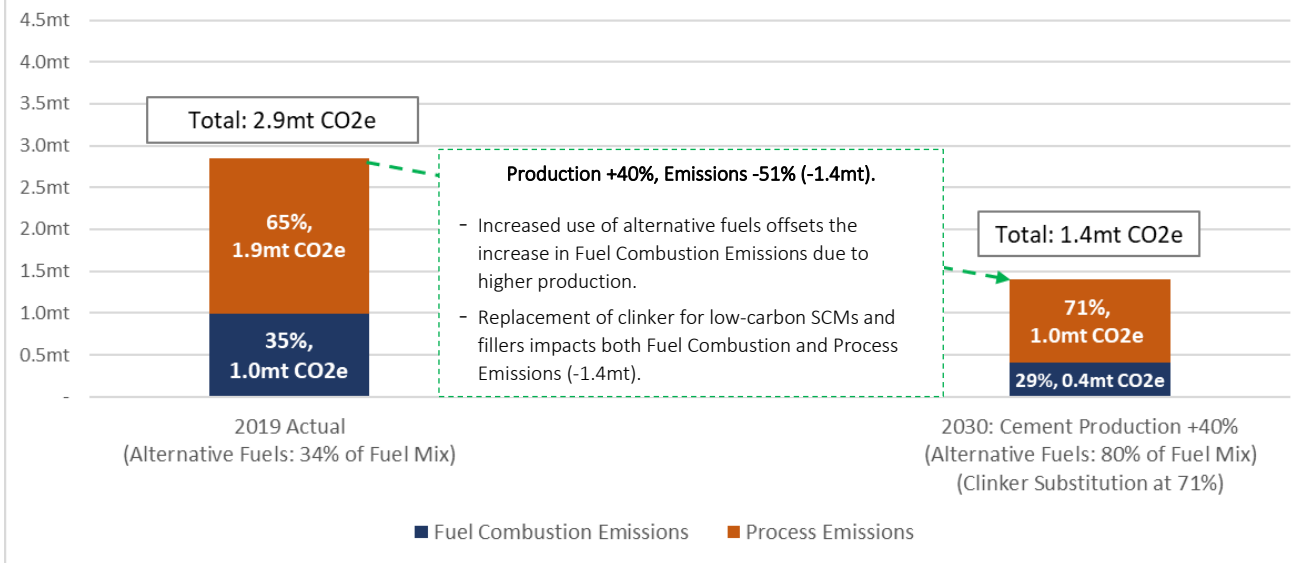
*Assumptions: Sector fuel mix reaches the target of 80% alternative fuels by 2030. Alternative fuels emit 177kg of CO<sub>2</sub>e per tonne of clinker based on the European market leader's 2019 alternative fuel mix<sup>12, 13 & 14</sup>. Biomass assigned zero carbon in-line with EU ETS.*

- Pursuing an action plan focused without the ability to accept and specify new and proven products or technologies may have grave consequences for the cement sector, the economy, and the environment and would be contrary to the aims and goals of both GPP and the broader Climate Action plan.
  - Sector emissions will rise from 5% to 12% of Ireland's total emissions by 2030**, assuming all other sectors achieve the planned 51% reduction in emissions.
  - An additional €0.4 billion of carbon costs will be incurred annually by the sector by 2030**, assuming the expected elimination of free allocation of carbon credits and a carbon price of €100/t of CO<sub>2</sub>e by 2030<sup>6</sup>.
  - Real cement price increases of over 60% will be required** to recover the additional carbon costs, inflating construction costs and, leaving the Irish market vulnerable to low-carbon cement imports.
  - The c. 40% of Irish cement production that is currently exported<sup>7</sup> will be at risk** as export markets address both Fuel Combustion and Process Emissions<sup>19</sup>, making Irish high-carbon cement exports unable to compete.

### Reducing Process Emissions by 2030 in Cement Production:

- On average cement contains c. 75% clinker<sup>15</sup>. The remaining 25% contains other supplementary cementitious materials ('SCMs') and fillers.
- Several studies<sup>16,17&18</sup>, including a study undertaken by the leading international authorities on cement technology and published in 2018 by the UN Environment Programme<sup>17</sup>, have concluded that the quickest and most cost-efficient manner for the cement industry to deliver substantial carbon reductions is to:
  - Increase the use of low-carbon SCMs and fillers as partial replacements for clinker in cement.**
- Best available technology can replace up to 80% of clinker in cement without any impact on performance, i.e., clinker content in cement can reduce from 75% to 20%.
- A 71% reduction in clinker is all that is required to achieve the ambition of the Bill for a 51% reduction in emissions by 2030, whilst allowing for the projected 40% increase in cement production.
- SCMs and fillers are available locally to achieve this objective at an abatement cost of close to zero.

Figure 2: Irish Cement Sector CO2e Emissions 2019 - 2030  
Including Impact of Clinker Substitution



- Targeting increased clinker substitution under the Waste Plan and GPP will:
  - Contribute substantially to Ireland’s climate targets with a possible 51% reduction in the cement sector’s emissions by 2030.
  - Eliminate the economic cost of carbon (€0.4 billion p.a.) from the cement industry.
  - Deliver the State’s future infrastructure in an ecological and cost-efficient manner.
  - Protect the 2,000<sup>7</sup> jobs generated directly by the sector and maintain profitability – replacing clinker with SCMs and fillers will not impact the volume of cement sales, only the quantity of clinker in cement.
  - Maintain exports and protect against lower-cost imports as Ireland will be both carbon and price competitive.

**Conclusion:**

- Action 148 should be expanded to allow for the inclusion of additional measures for new low carbon construction materials in all GPP specifications i.e., clinker substitution in future public projects.
- We therefore submit that the Department amend the current GPP to include clinker substitution in construction materials as a future abatement pathway and initiate actions to prepare for the deployment of cements with lower clinker content within the GPP, including changes to existing cement and concrete regulations for all state supported projects.

We thank you for your consideration of our submission and would welcome the opportunity to engage further with the Department as this matter is considered further.

Yours Sincerely,

Susan McGarry

Managing Director

Ecocem Ireland

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