



## EVIDENCE TO THE ECONOMY, ENERGY AND FAIR WORK COMMITTEE ON THE CONSTRUCTION SECTOR

Submitted by Scottish Environment LINK's Economics Group *Circular Economy for a Fairer Footprint* project

Scottish Environment LINK is the forum for Scotland's voluntary environment community, with over 35 member bodies representing a broad spectrum of environmental interests with the common goal of contributing to a more environmentally sustainable society. LINK provides a forum for these organisations, enabling informed debate, assisting co-operation within the voluntary sector, and acting as a strong voice for the environment. LINK facilitates groups of members working together on topics of mutual interest, exploring issues and developing advocacy to promote sustainable development respecting environmental limits. The *Circular Economy for a Fairer Footprint* is a LINK Economics Group project.

The imperative of moving to a more circular economy, where products and materials stay in use for as long as possible<sup>1</sup>, is becoming clearer. Notably, an OECD report<sup>2</sup> published last year finds that the world's consumption of raw materials is set to double by 2060 and we know that in Scotland we consume more than our fair share. The extraction and processing of raw materials leads to pollution, carbon emissions, habitat degradation, and biodiversity loss; and needs to be kept to sustainable levels.

The construction sector is the largest users of resources in Scotland and generates the most waste. In 2016 it generated approximately 5m tonnes of waste, about half of all waste generated. Although Scotland is a producer of aggregates and timber, both are also imported in significant quantities<sup>3</sup>. At the UK level, the trade deficit in construction materials and components has continued to widen in recent years (2016)<sup>4</sup>. Future risks to the industry include the potential increasing price of imports. Adopting more circular practices reduce these risks, making the sector more efficient and resilient as well as reducing its environmental impact.

The circular economy strategy for Scotland, *Making Things Last*<sup>5</sup>, includes the construction sector as an area of focus. *Identification of Circular Economy Opportunities in the Scottish Construction Sector (2017)*<sup>6</sup> highlights many areas of potential. There has been some progress in recent years. For example, twelve Scottish construction companies<sup>7</sup> build offsite modular buildings, offering excellent examples of what can be done; and work is underway to develop a design template for factory units<sup>8</sup>.

<sup>1</sup> A circular economy is one that is restorative and regenerative by design, whereby consumption of finite resources is reduced and waste is designed out of the system. It is based on three principles: designing out waste and pollution, keeping materials in use, and regenerating natural systems.

<sup>2</sup> <http://www.oecd.org/newsroom/raw-materials-use-to-double-by-2060-with-severe-environmental-consequences.htm>

<sup>3</sup> <http://www.recyclingwasteworld.co.uk/in-depth-article/construction-sector-must-aim-higher-in-scotland/152280/>

<sup>4</sup> <https://www.ons.gov.uk/businessindustryandtrade/constructionindustry/articles/constructionstatistics/number182017edition>

<sup>5</sup> <https://www.gov.scot/publications/making-things-last-circular-economy-strategy-scotland/>

<sup>6</sup> <https://www.zerowastescotland.org.uk/sites/default/files/Circular%20Economy%20Opportunities%20in%20Construction%20-%20Nov2017.pdf>

<sup>7</sup> For example Carbon Dynamics <http://www.carbondynamic.com/>, Makar <http://makar.co.uk/>, Offsite Solutions <https://offsitesolutionsscotland.co.uk/>, CCG <http://c-c-g.co.uk/>

<sup>8</sup> Zero Waste Scotland is working on this with public and private sector partners

However, in order to bring about the systemic change needed, Scottish Environment LINK would like to see the Scottish Government bring forward a circular economy bill<sup>9</sup> to send a strong message to industry and provide the clear policy horizon needed by investors<sup>10</sup>. Such a bill should include targets to reduce our overall consumption of raw materials.

In addition, we would like to highlight the below to drive change in the construction sector so that waste is designed out and longevity of components and materials is designed in to all projects:

- Scottish Government should introduce a waste reduction target for the sector. The current target for waste recovery is not driving reduction in total waste produced or higher value re-use of materials.
- The use of material passports, for example using Building Information Modelling (BIM)<sup>11</sup>, to improve productivity and reduce waste. BIM is a collaborative way of working underpinned by digital technology. Passports detail the materials used and how materials and components can be recovered and this information is passed on to subsequent owners / managers of buildings. Currently BIM is required of large projects, but not widely used across the industry.
- Whole life costing should be routine to enable decisions on design and contracts to be based on the whole life cost rather than the initial build cost. Buildings should be built to the current best standard possible<sup>12</sup> and with a view to the lifetime impact. Zero carbon buildings and those designed to be zero waste constructed now will help us reach climate change targets into the future.
- Construction should be layered to enable aspects with the shortest lifespan (for example electrics) to be accessible with least disruption or damage to other components of the building during adaptation, retrofit, maintenance or repair.
- Standards to include modular design and re-useable components. Buildings need to be designed in such a way that, at the end of their life or in the event of refurbishment, they can be disassembled and components and materials can be re-used.
- Separate collection of materials. In demolition and refurbishments all building materials should be collected separately to maximise re-use potential.
- Public procurement contracts to the construction sector are significant<sup>13</sup> and circular design and practice, including the points listed here, should be a condition of any contract. *'Sustainable procurement clauses, especially in the public sector, are the most powerful tool available to drive consistent measurement, increased prevention and good practice in waste management on projects. However, the lack of these types of requirements in contracts highlights that this is not being uniformly applied'*<sup>14</sup>
- Scottish Government Infrastructure Commission. It is important that this Commission supports the need to move construction to a circular model with reduced resource consumption.

This evidence is submitted by the project *A Circular Economy for a Fairer Footprint*, Scottish Environment LINK Economics Group. If you have any questions in connection to the above evidence, please contact:

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<sup>9</sup> There was a commitment to this in the SNP 2016 manifesto for this parliamentary term

<sup>10</sup> The Ellen MacArthur report Achieving Growth Within

<https://www.ellenmacarthurfoundation.org/assets/downloads/publications/Achieving-Growth-Within-20-01-17.pdf> identifies this one of the key reasons hampering investment in the CE

<sup>11</sup> <https://bim-level2.org/en/>

<sup>12</sup> Rather than those applicable at the time of planning permission which is currently allowed

<sup>13</sup> <https://www.gov.scot/publications/infrastructure-investment-plan-2015-project-pipeline-update-september-2018/>

<sup>14</sup> <https://resource.co/article/construction-waste-out-site-out-mind-12677>