C&D Waste Prevention
Setting the scene

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Challenge...

• For the past 250 years, economies in the developed world have been based on a continuous growth model that relies on a steady supply of inexpensive natural resources. However this approach is coming under increased pressure as a result of social and environmental concerns. (DCCAE)

With a population of 8.3 billion people by 2030, we’ll need...

- 50% more energy
- 40% more water
- 35% more food
Material Flows in the EU economy
Response...
Waste Prevention

A central concept of the circular economy, challenges us to review our existing design, production, distribution and consumption of products.

- Focus is on avoiding the unnecessary use of materials in the first place.
- This reduces costs, protects the raw material supply chain and offers opportunities such as new business models.
National Waste Prevention Programme
National Waste Prevention Programme

• Reframed in 2018 to align with Circular Economy
• Six priority themes:

  - Food Waste
  - Construction & Demolition
  - Plastics
  - Agriculture
  - Resources & Raw Materials
  - Local Waste Prevention

• Three working modes:

  - Innovating & Demonstrating
  - Delivering through Partnerships
  - Advocacy & Communications

• Local Authority Prevention Network
• Green Enterprise innovation funding (2019 call closed)
C&D and the Circular Economy

• Across the EU:
  • C&D waste is 1/3 of all waste with only 50% recycled
  • Environmental impacts:
    • *Extraction, Processing, Use, Disposal*
  • Main priority: Improve recycling and reuse of CDW
  • Lack of confidence in quality of CDW recycled products is a barrier
  • C&D is a priority stream
C&D and the Circular Economy

• Building sustainability performance - Level(s)
  • indicators to assess environmental performance throughout the lifecycle of a building

• EU Construction and Demolition Waste Protocol
  • increasing confidence in the waste management process and in the quality of recycled materials in the sector.
National Waste Prevention Programme & C&D

• Working together to build capacity in the sector through knowledge exchange

  • Funding innovation and demonstration
    • Case studies
    • Best practice
Design Out Waste

- Inform design teams of the waste reduction opportunities during design phase
- Factsheets addressing cost, legislation & policy issues;
- Case studies (Irish & EU)
  - Procurement and Tendering
  - Reuse & Recycling Opportunities
  - Deconstruction and Flexibility
  - Off-site & Modern Methods of Construction
Resource Efficiency Case Studies

• Nine case studies from Irish construction projects.
• Measurement and reporting of resource use and savings.
• Publication in near future.

The Resource Efficiency (RE) Savings

- Cost Savings: €9,275
- Energy CO₂ Saved: 4.36 tonnes
- Energy Saved: 9,469 kWhrs
- Waste Prevented: 33.5 tonnes
- Diverted from Landfill: 23.4 tonnes
- Implementation Costs: €223.31

‘Best Practice’ Waste/100m² floor area
‘Exemplary’ Waste diversion from landfill

Resource Use

- Diesel: 382,283 kWhrs, 104.746 tonnes CO₂
- Electricity: 127,886 kWhrs, 81.493 tonnes CO₂
- Waste: 183 Waste Skips, 409.83 tonnes (1,683m³)
- Water: 1,028m³, 0.388 tonnes CO₂
- CO₂: 307,464 tonnes
EPA-NWPP Green Enterprise & Irish Green Buildings Council

• **Home Performance Index**
  - Certification for residential development
  - Five categories: Environment, Economic, Health & Wellbeing, Quality Assurance and Sustainable Location.

• **Environmental Product Declaration**
  - Providing data on environmental impacts of a product through its lifestyle
  - Allows designers to compare environmental performance; and allows manufacturers to identify room for improvement.
New Local Authority initiative

• EPA-NWPP has provided funding to a group project titled “Designing Out Waste and Efficient Procurement in the Construction Sector”.

• Partnership involving Limerick City & County Council; Clare County Council; Mayo County Council and Dublin City Council.

• Project will provide procurement & waste prevention training for Architects, Engineers, Quantity Surveyors and others.
NWPP and C&D

• Working together to build capacity in the sector through

  • Collaborative Partnerships
    • Strategic partnership with Rediscovery Centre, National Centre for the Circular Economy
    • DCCAE Construction Waste Resource Group
      • Shane Colgan (EPA) chairs the Waste Prevention, Best practice & Circular Economy sub-group
Waste Prevention & Circular Economy sub-group membership

- EPA
- DCCAE
- WERLA
- Construction Industry Federation
- Transport Infrastructure Ireland
- VOICE
- Galway Mayo Institute of Technology
- Irish Water (new)
Key tasks

• Examine existing guidance and use as starting point for developing recommendations for Irish best practice on waste prevention and circular economy practices.

Building recommendations

- Sub-group members requested to examine best practice and identify recommendations and rate them for their impact - under the following headings:
  - Design & Planning
  - New & Recycled Materials
  - Waste Management
  - Site Practices
  - Procurement & Market Forces
  - Other areas / themes
Current status

• EPA is currently consolidating recommendations into a set of key actions.

• Then stakeholder engagement to solicit views and gauge support
By-product Notification (Article 27)
  • Soil and Stone by-product guidance has been published (http://www.epa.ie/pubs/advice/waste/product/soilandstoneby-products.html)

End of Waste Decision (Article 28)
  • One draft decision on C&D has recently issued and a number of other applications are at an advanced stage of assessment
## Framework

| Strategy                          | • Circular Economy (incl. national waste strategy)  
|                                  | • All of Government Climate Plan  
|                                  | • Sustainable Development Goals  
| Drivers                          | • Private Client Pressure  
|                                  | • Green Public Procurement  
|                                  | • Building and Planning Regulations  
| Tools                            | • Best Practice Note on Waste Prevention  
|                                  | • Training for resource efficiency / waste prevention  
|                                  | • Innovations for Materials & Reuse  
| Practices                        | • Waste Management Plan  
|                                  | • Good Site Practices  
|                                  | • Application of Article 27 & Article 28  
| Reporting                        | • Waste prevented (tonnes)  
|                                  | • Carbon calculations  
|                                  | • € savings |
Take away

• C&D is a national / EU priority area
• The Circular Economy is an irreversible trend
  • Built environment being considered for an EU systematic approach
• EPA NWPP want to work with you to develop solutions.
  Innovating & demonstrating: Green Enterprise annual funding call
  Delivering through partnerships: Network and partner with others on strategic, visible, national programmes on C&D waste prevention
• Plan your business for the circular economy

Thank you