

# Reporting EoL Scenarios in EPD for Building Level Life Cycle Assessment

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# Reporting Modules

A consistent approach to assessing modules reported is required. We suggested:

**“Declared”**: Scenario evaluated with an impact

**“Zero”**: Scenario evaluated with zero impact (e.g. no activity in module)

**“Module Not Declared”**: Optional module, no scenario evaluated and module not declared

**“Module Not Relevant”**: Optional Module, not considered relevant to performance (but module cannot be assumed to be zero).

ENVIRONMENTAL IMPACTS														
Product stage	Construction stage		Use stage							End of life stage				D Reuse, recovery, recycling
A1 / A2 / A3	A4 Transport	A5 Installation	B1 Use	B2 Maintenance	B3 Repair	B4 Replacement	B5 Refurbishment	B6 Operational energy use	B7 Operational water use	C1 Deconstruction / demolition	C2 Transport	C3 Waste processing	C4 Disposal	
1,65E+01	8,59E-01	1,35E+00	0	0	0	0	0	0	0	Irrelevant	3,88E-01	0	3,85E-01	MND <sup>5</sup>

# Reporting End of Life (EoL) Modules in EN 15804:2012+A1:2013 EPD

This study assessed 2464 EN 15804 EPD (over half of the EPD from Eco Platform Member Programmes).

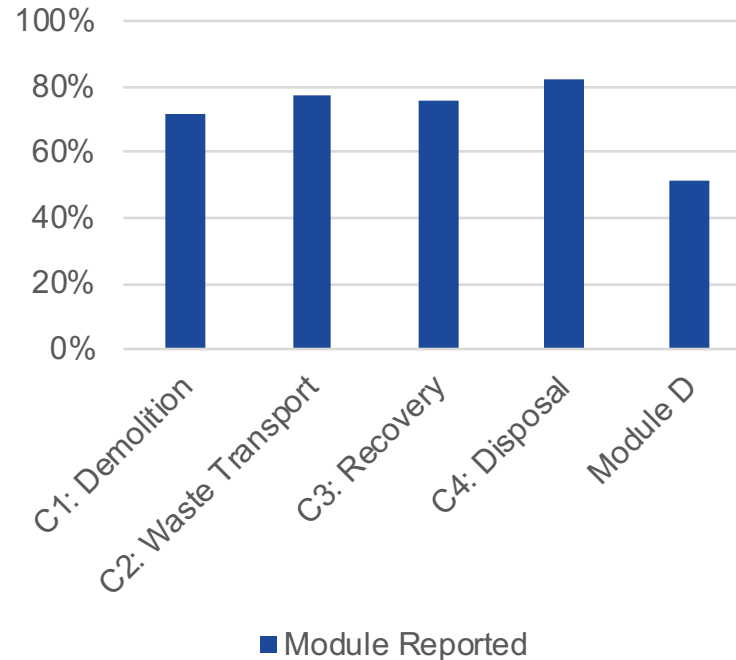
Cradle to Gate data (Modules A1:A3) are mandatory.

Gate to Grave data (Modules A4-A5, B1-B7, C1-C4 and Module D) are optional.

IBU and EPD Norge EPD were not assessed due to time limitations.

However, almost no Building LCA tools use this data.

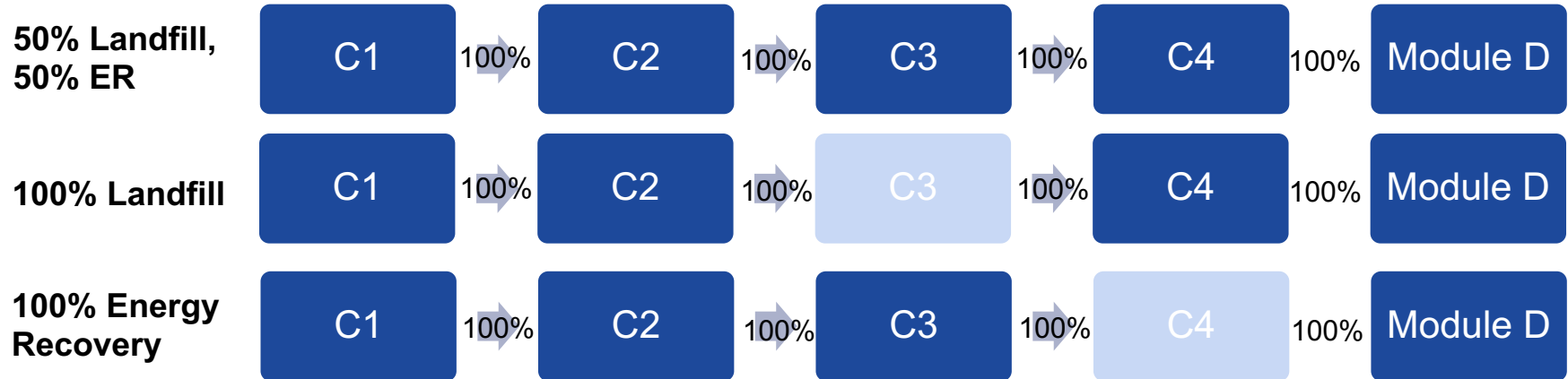
## EoL Modules Reported



# Types of Scenarios

A consistent approach to assessing the types of scenarios declared is required. We suggested:

“100% Scenario”      “Multiple 100% Scenario”      “Mixed Scenario”      “Mixed+100% Scenario”



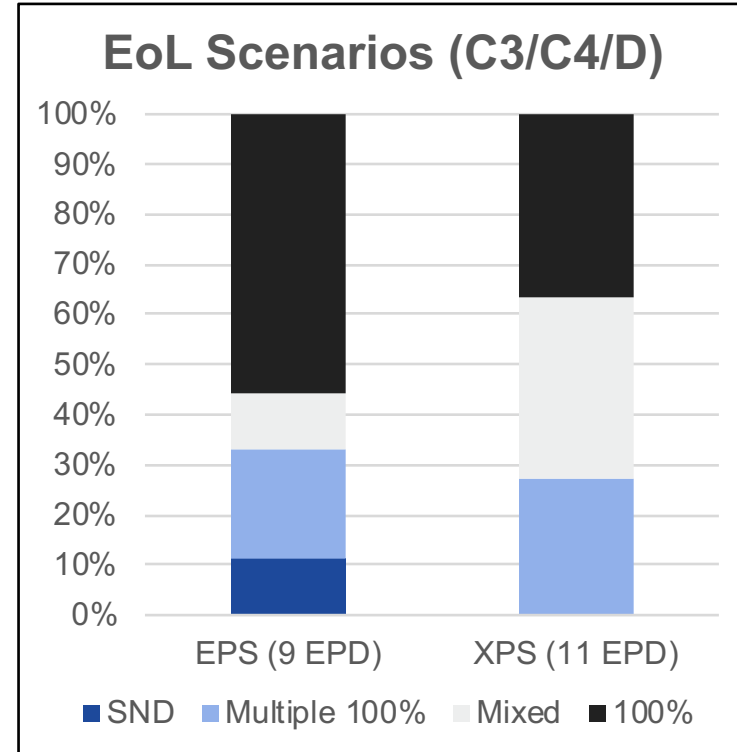
## 20 EPD for Polystyrene Insulation from 9 EPD Programmes

C1: Only four EPD declared C1, with 3 declaring the impact to be zero.

C2: 16 declared C2 with quite varied scenarios. Distances used were 10 km, 50 km, 200 km, and one EPD used 1000 km by road to a recycling plant.

C2 Volume Capacity: Few EPD mention it: Two used a 5% capacity including empty returns, one 18% capacity and one 21%.

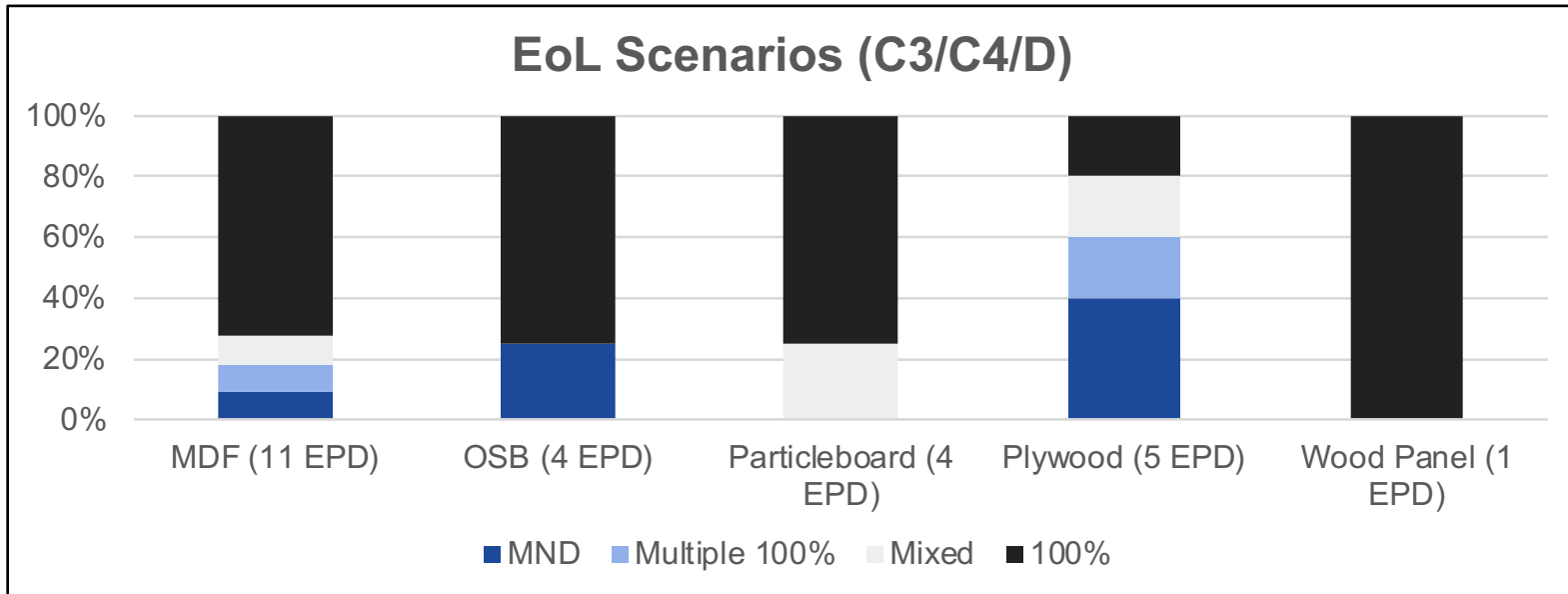
C2: Fuel consumption for the trucks was reported variously as 0.2 l/km, 0.38 l/km, 25 l/km, 0.173 l/tkm, 0.4 l/tkm, and 0.026 l/tkm for the large capacity trucks travelling 1000km.



# EPD for 25 Wood Panel Products from 7 EPD Programmes

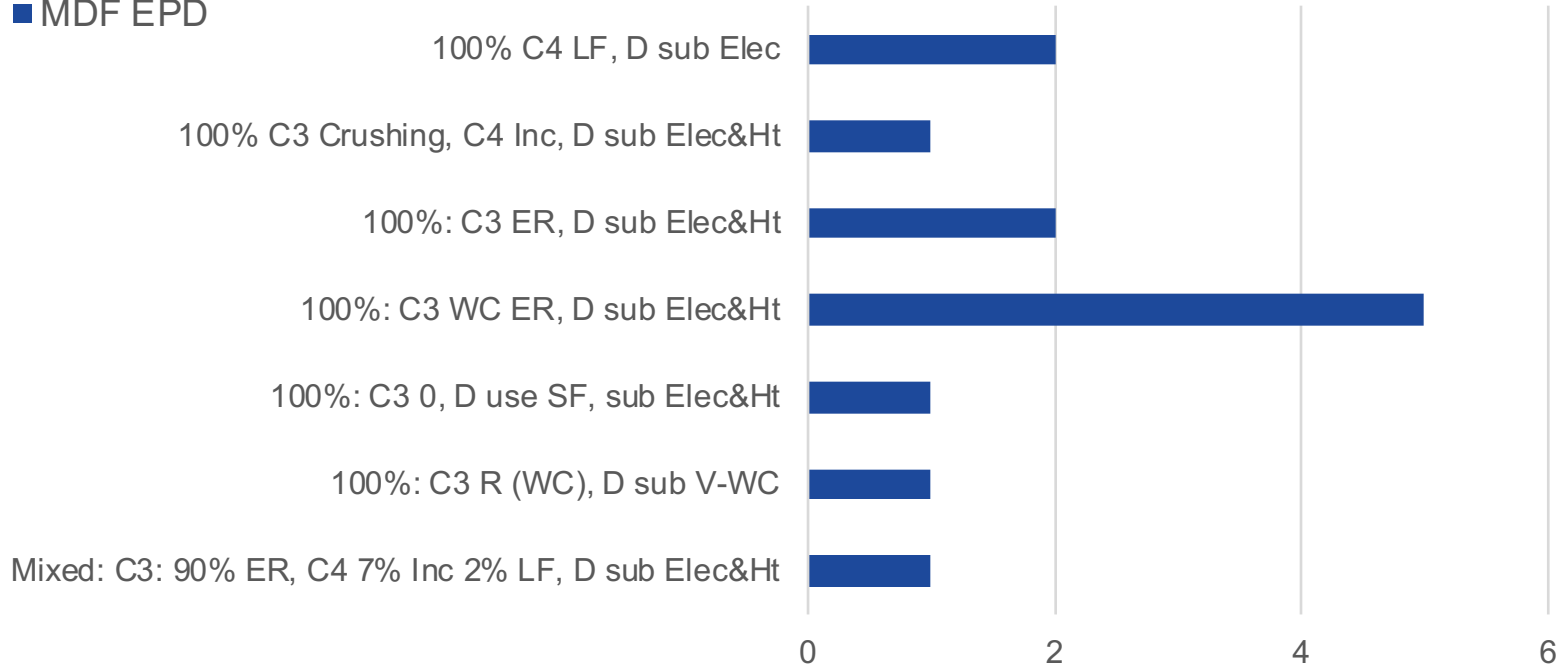
C1: Only 5 EPD reported C1.

C2: Distances varied between 20 and 100 km.

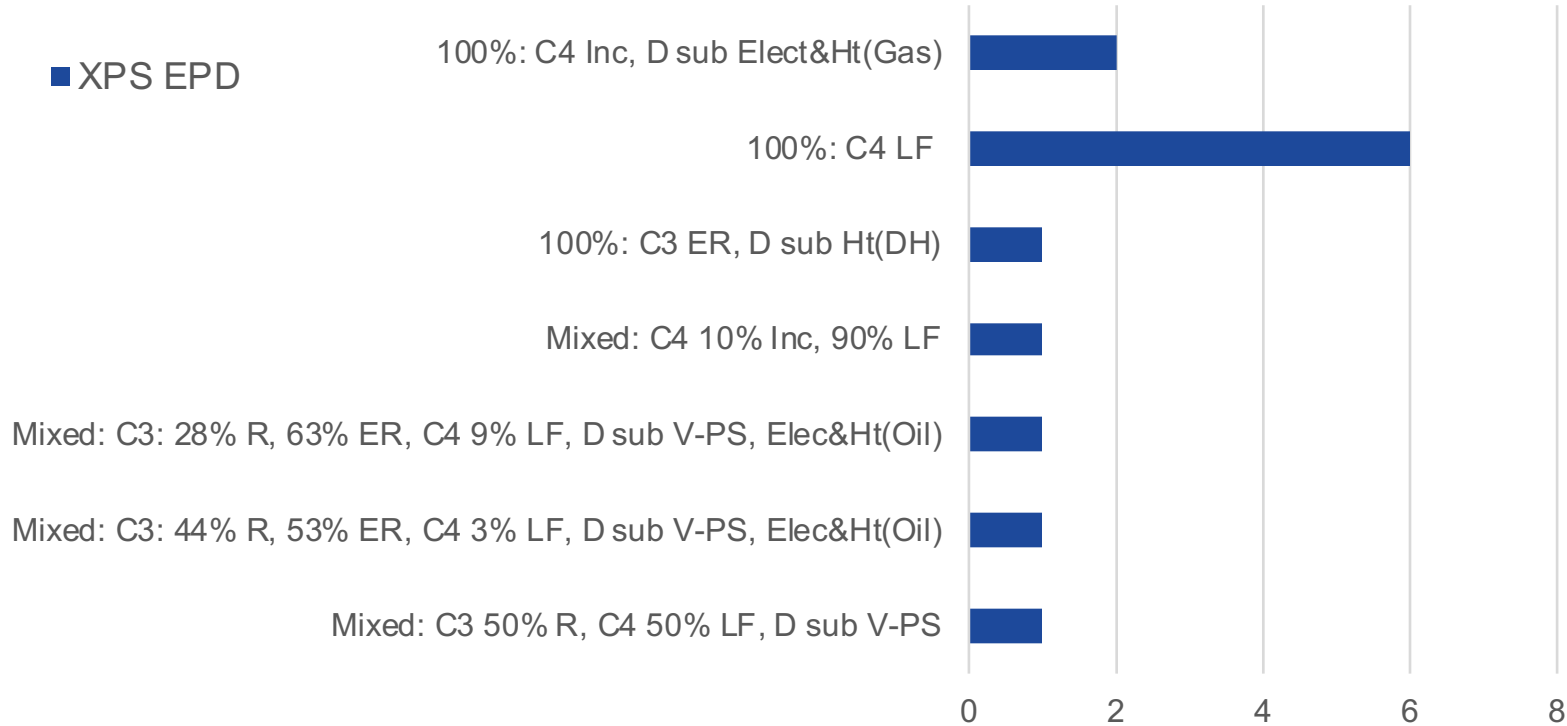


# MDF End of Life Scenario Reporting

■ MDF EPD



# XPS End of Life Scenario Reporting





## Other Issues Identified

- **Insufficient description of scenarios**
- EN 15978 10.2.3 states, *“Any scenarios incorporated in the EPD and/or other information used for the assessment should be checked for consistency with the scenarios for the building. Where differences occur, it is still possible to take consistent information from an EPD (e.g. cradle to gate information from a cradle to grave EPD) and apply other appropriate scenarios at the building level (e.g. gate to grave).”*

## Other Issues Identified

- **Provision of multiple 100% scenarios is rare, particularly where a mixed scenario has been reported.**
- CEN/TR 16970 6.3.8 states, *“when different scenarios are developed for information modules C1-C4 the most relevant scenarios are provided as 100% versions. For example, when 20% of a product is recycled, 50% is incinerated and 30% is deposited, scenarios for 100% of 100% of incineration, 100% of recycling and 100% of deposition are declared. This allows the building assessor to choose and calculate the correct scenario on building level as actual waste management practices vary in different member states.”*
- **No clarity about how to report a module if no activity occurs**, eg C3 for Landfill scenarios. This will be problematic when Module C and D are mandatory. We suggest reporting the module as Zero.

# Role of Product Technical Committees and PCR

CEN/TR 16970 5.1.2 states that in the development of c-PCR, the following are considered,

*“inclusion of default scenarios related to a specific application of the product including guidance on:*

- *The specific content of all information modules of the life cycle and information module D, for default scenarios;*
  - *The definition of the end-of-waste status;*
  - *The technical scenario information for all information modules of the product system and information module D”.*
- 
- Few of the 11 c-PCR developed to align with EN 15804 provide any technical scenario information for the end of life.
  - Only one provides an assumption for the end-of-waste status if product specific information is not available.
  - Only one states that geography will affect the EoL routes used.

A significant proportion of EN 15804 EPD already report Modules C1-C4 and Module D although it is not yet mandatory.

Wide variation in the modelling and reporting of End of Life modules across products and EPD Programmes. More guidance is needed from Programmes and Product TCs.

Ensure that EPD scenario data can be checked for consistency with building level scenarios.

Multiple 100% scenarios allow the impact of different end of life options to be considered and enable circular economy approaches to building design to be evaluated in many locations.

The authors also recommend that building level assessment schemes together with EPD programmes consider developing and publishing default national scenarios to enable consistent assessment for building level benchmarking.

# Thank You

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