

# c-PCR for Bituminous Mixtures



# Introduction to Environmental Declarations

# What are LCA, PCR, c-PCR, EPD

## LCA

Life Cycle Assessment – compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle.

[EN ISO 14040:2006+A1:2020, EN ISO 14044:2006+A2:2020]

## EPD

Environmental Product Declaration – Type III environmental declaration. Claim which indicates the environmental aspects of a product or service and providing quantified environmental data using predetermined parameters and, where relevant, additional environmental information.

[EN ISO 14025:2010]

## c-PCR

complementary Product Category Rules – product group specific or horizontal PCR, which provide additional compliant and non-contradictory requirements to EN 15804.

[CEN/TR 16970:2016]

Note: c-PCR are meant to be used together with EN 15804

## PCR

Product Category Rules – set of specific rules, requirements and guidelines for developing Type III environmental declarations for one or more product categories.

[EN ISO 14025:2010]

## EPD – Environmental Product Declaration

“An EPD communicates verifiable, accurate, non-misleading environmental information for products and their applications, thereby supporting scientifically based, fair choices and stimulating the potential for market-driven continuous environmental improvement.”



# Context

# TII's Purpose | Vision | Value

## Purpose, Vision and Values



TII exists to fulfil an important purpose of national strategic significance, touching the lives of citizens and visitors alike on a daily basis. Our purpose is to provide sustainable transport infrastructure and services, delivering a better quality of life, supporting economic growth and respecting the environment.



**In fulfilling our purpose we strive towards three over-arching aims which, taken together, represent our vision:**

- To ensure that Ireland's national road and light rail infrastructure is safe and resilient, delivering better accessibility and sustainable mobility for people and goods;
- To be leaders in the delivery and operation of sustainable transport infrastructure and services; and
- To be recognised as an organisation that values its people, customers, partners and the environment.



**Our way of working reflects five core values shared and promoted among all TII team members:**

- **Sustainability:** We prioritise sustainability in our decision making, playing our part in addressing the climate and biodiversity crises;
- **Collaboration:** We fulfil our purpose through effective teamwork, communication and partnership.
- **Innovation:** We seek to create value relevant to our purpose through the application of new and better solutions.
- **Integrity:** We inspire trust through honesty, fairness and accountability.
- **Spirit of Public Service:** We are dedicated to providing quality service and value for citizens and visitors to Ireland.



# TII Asset Management Objectives

TII set 8 strategic objectives founded on its asset management policy



<https://www.tii.ie/assetmanagement/index.xml>

# Delivery of PARR\* schemes

## “1.4 Background

[...] The overall strategic objective of the PARR procedures is to maintain the overall asset value for the minimum life cycle costs by ensuring optimal management of the National Road Network Pavements. Optimal management of the pavement assets requires the combination of local knowledge, intervention and network-wide monitoring, knowledge sharing and co-ordination, especially as new technologies present opportunities to reduce both the economic and environmental costs. [...]”



\*PARR: Pavement Asset Repair and Renewal



# Delivery of PARR\* schemes

## “1.11 Optioneering and Life Cycle Cost Analysis

The selection of the optimal solution for the pavement repair and renewal exercise requires an optioneering selection exercise to be carried out. This process will select the design option which best achieves the overall objectives of the Scheme whilst satisfying any constraints. The Designer should adopt the Value Engineering principles as set out in the NRA Cost Management Manual.

The minimisation of Whole Life Costs over the design life of the scheme requires an examination of a range of options and their associated capital investment costs, maintenance costs, user costs and sustainability issues. [...]”

\*PARR: Pavement Asset Repair and Renewal



# TII's Sustainability Implementation Plan

PARR schemes to support...

## Our sustainability principles



### Deliver end-to-end improvements

*Deliver enhanced whole-life-cycle value through impact and influence on stakeholders, partners and suppliers.*

...and more specifically...

### Action 4.5

*“TII to identify 20-30 materials or products, and to continue encourage industry to develop EPDs or PCRs for these materials and products, to facilitate incorporation of lifecycle carbon and environmental value criteria into the procurement process.”*

# Environmental Performances

## c-PCR (LCA Rules) – DN-PAV-03077

- For the product category: Bituminous Mixtures
- Specific to Ireland
- To allow producers to declare product specific environmental performances
- To facilitate comparison of products from different producers

**The EPD of one product cannot be compared to the EPD of another product unless both products have the same technical performances**



# System Boundaries

Material Producer's LCA

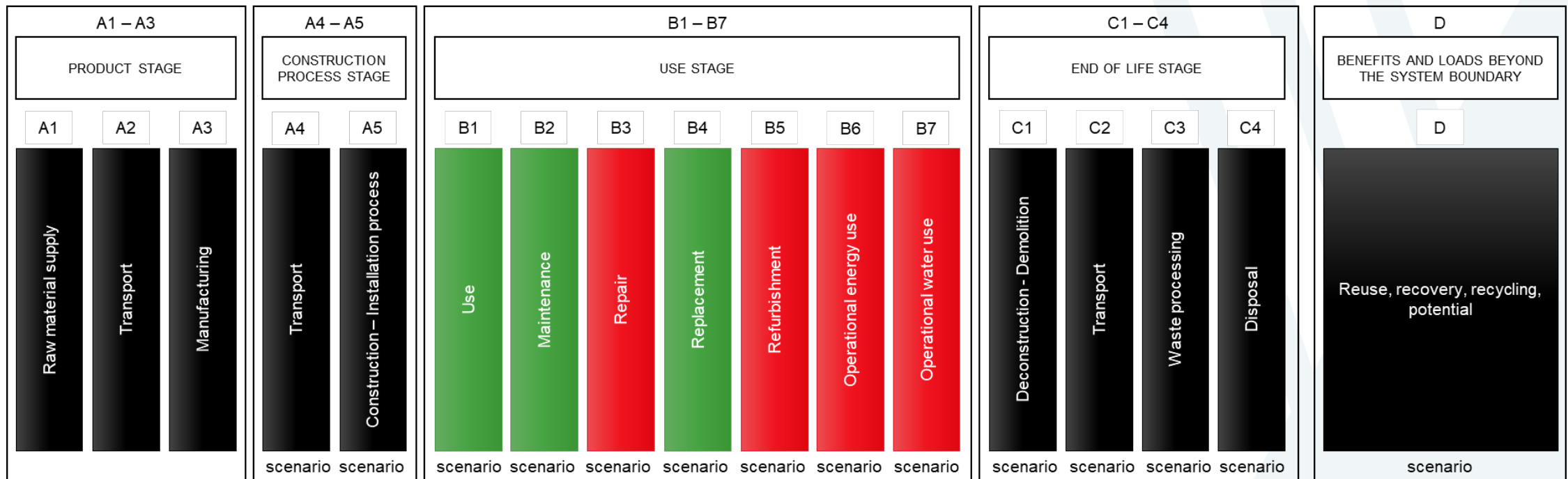
Designer's LCA

Not Applicable

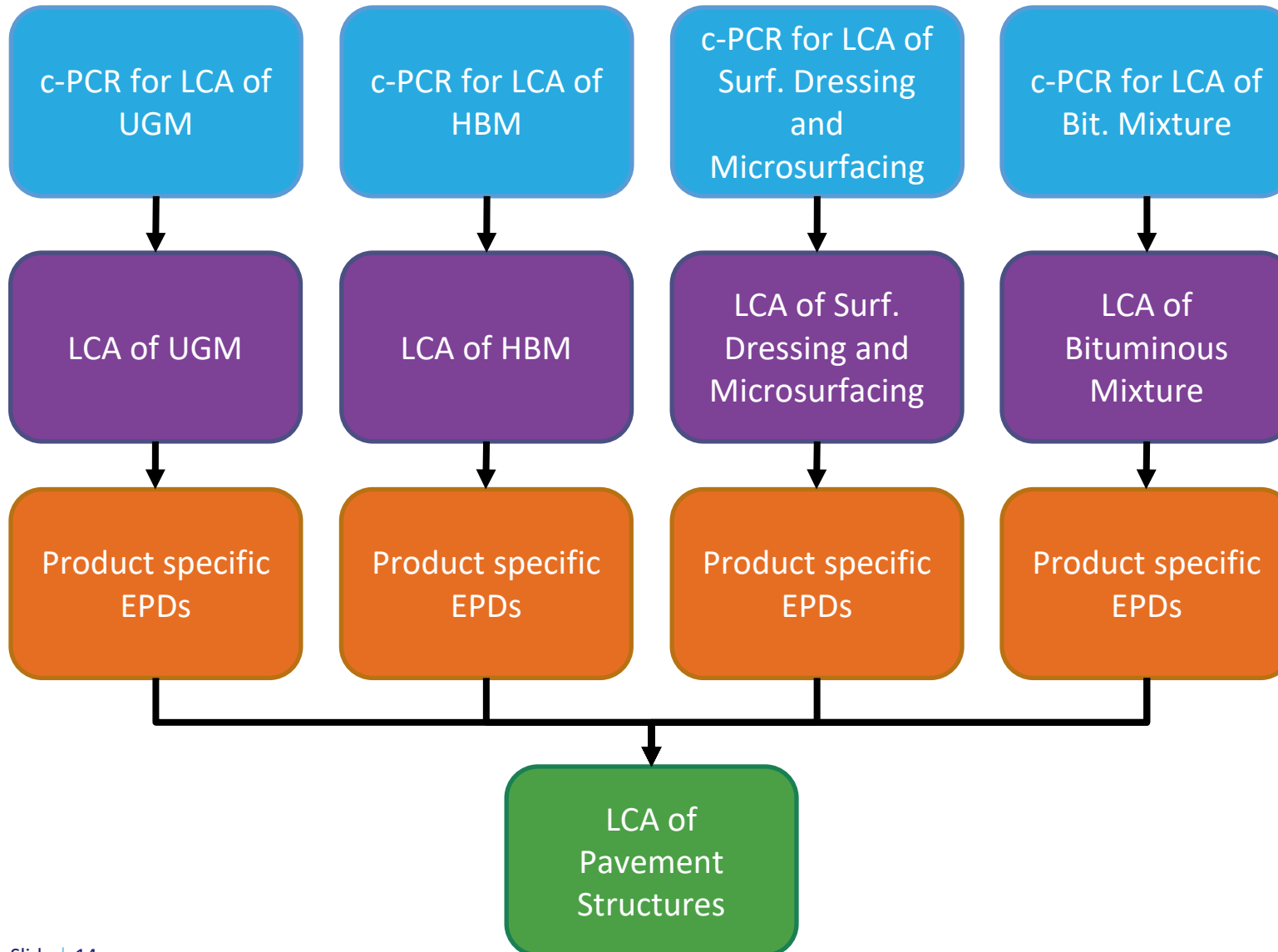
## BITUMINOUS MIXTURE ASSESSMENT INFORMATION

### BITUMINOUS MIXTURE LIFE CYCLE INFORMATION

### SUPPLEMENTARY INFORMATION BEYOND BITUMINOUS MIXTURES LIFE CYCLE

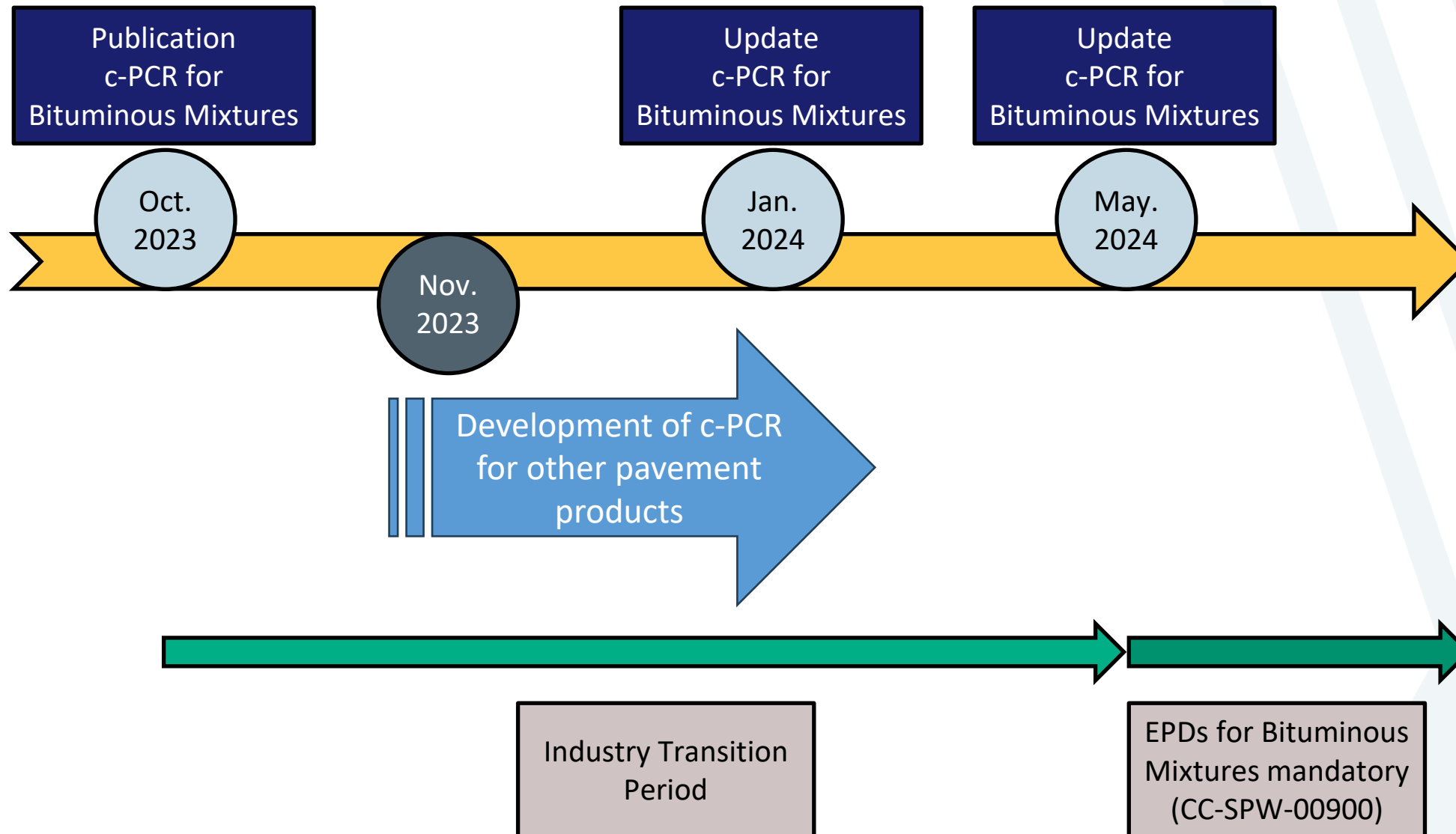


# Framework of c-PCRs for Pavement






# Environmental Assessment journey



## How EPDs benefit you



Access to the environmental performances of the pavement products available in your locality

Essential part of the implementation of Circular Economy

Design of sustainable solutions respecting the environment

Opportunity to collaborate with your local industry to promote lower emission pavement products



**Thank you!**



Bonneagar Iompair Éireann  
Transport Infrastructure Ireland



Bonneagar Iompair Éireann  
Ionad Gnó Gheata na Páirce  
Sráid Gheata na Páirce  
Baile Átha Cliath 8  
Éire, D08 DK10



[www.tii.ie](http://www.tii.ie)



+353 (0)1 646 3600



Transport Infrastructure Ireland  
Parkgate Business Centre  
Parkgate Street  
Dublin 8  
Ireland, D08 DK10



[info@tii.ie](mailto:info@tii.ie)



+353 (0)1 646 3601