

TII WEBINAR 4 SUSTAINABILITY

When is Excess Material not a Waste?

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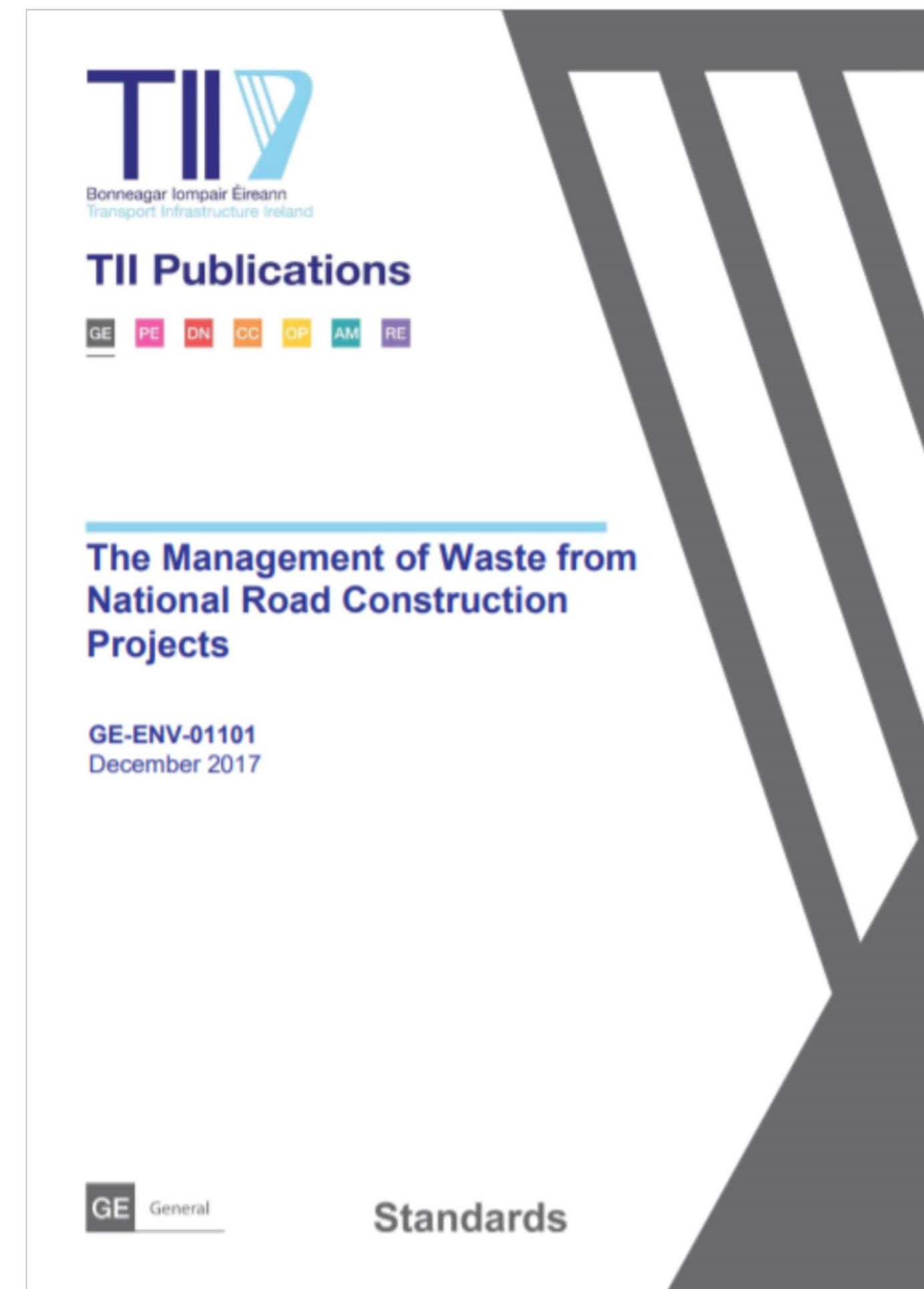
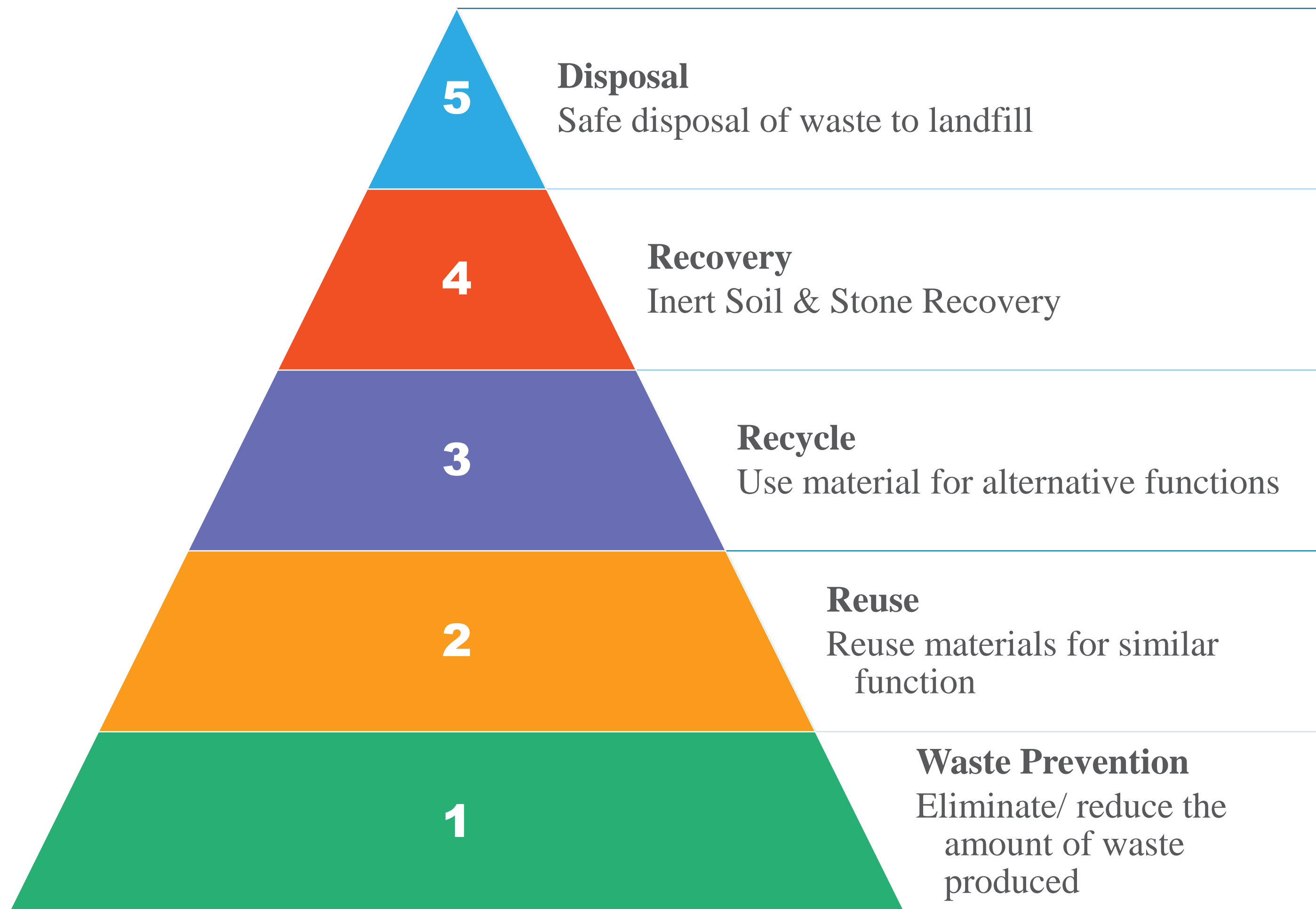
Friday 11th December 2020

When is Excess Material not a Waste?

1. Sustainability Objectives
2. Current Context
3. Article 27 By-Products
4. Article 28 End-of-Waste
5. Further Guidance



Sustainability Objectives – *Waste Hierarchy*

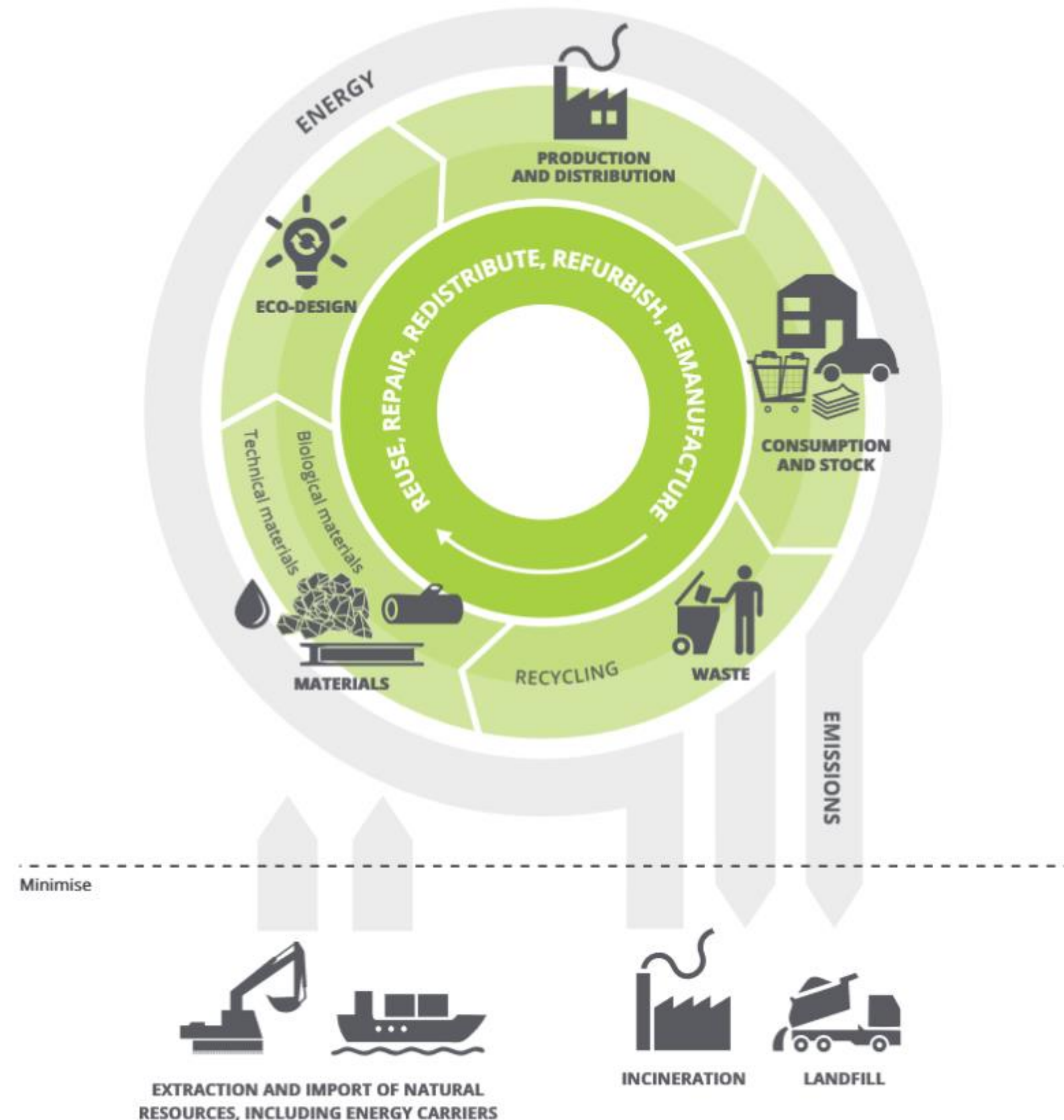


Sustainability Objectives – *Circular Economy*

2020 Draft TII Sustainability Implementation Plan:

Principle 6 – Resource Efficiency

‘Reduce the carbon impact of construction, operation and use of the transport network through responsible use of resources, reuse and repurposing’



Current Context – *Material Standards*

TII Standards

NATURAL SOIL & STONE: SERIES 600

- Class 1 & 2 General Fills
- Class 4 Landscape Fill
- Class 5 Topsoil
- Class 6 Select Aggregates
- Class U1 and U2

ASPHALT: SERIES 900

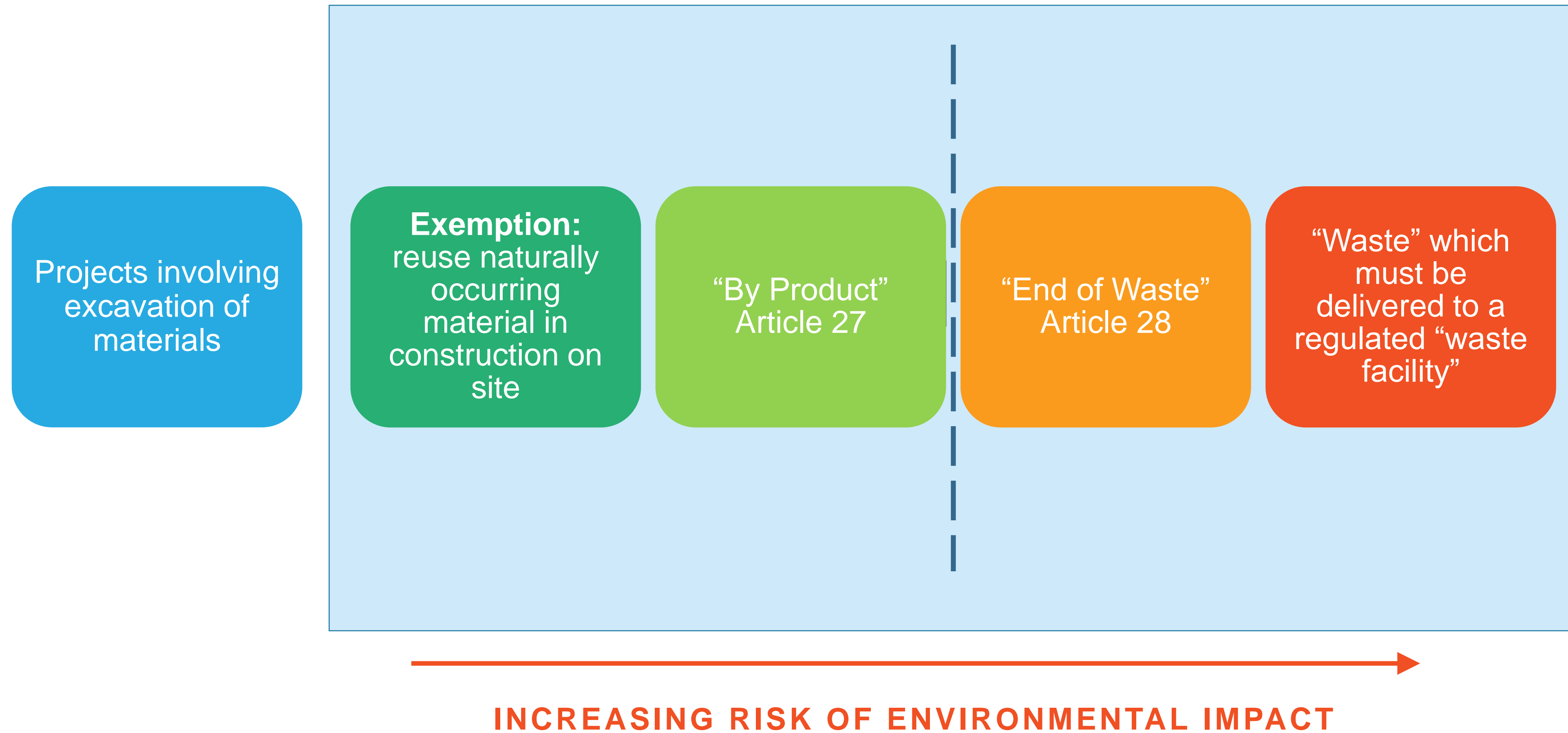
- Low Energy Bound Materials
- Road Planings/Excavated asphalt
- Class 6F1/2

CONCRETE: SERIES 700/1000/1100

- Class 6A/B/C
- Reuse of crushed concrete



Current Context – *Irish (EU) Legislation*



Article 27 By-Product Determination

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- 1 What is it?
- 2 How does it work?
- 3 Where and when can it be applied?
- 4 What is the process?
- 5 What are the benefits?
- 6 What are the constraints?



Article 27 By-Product

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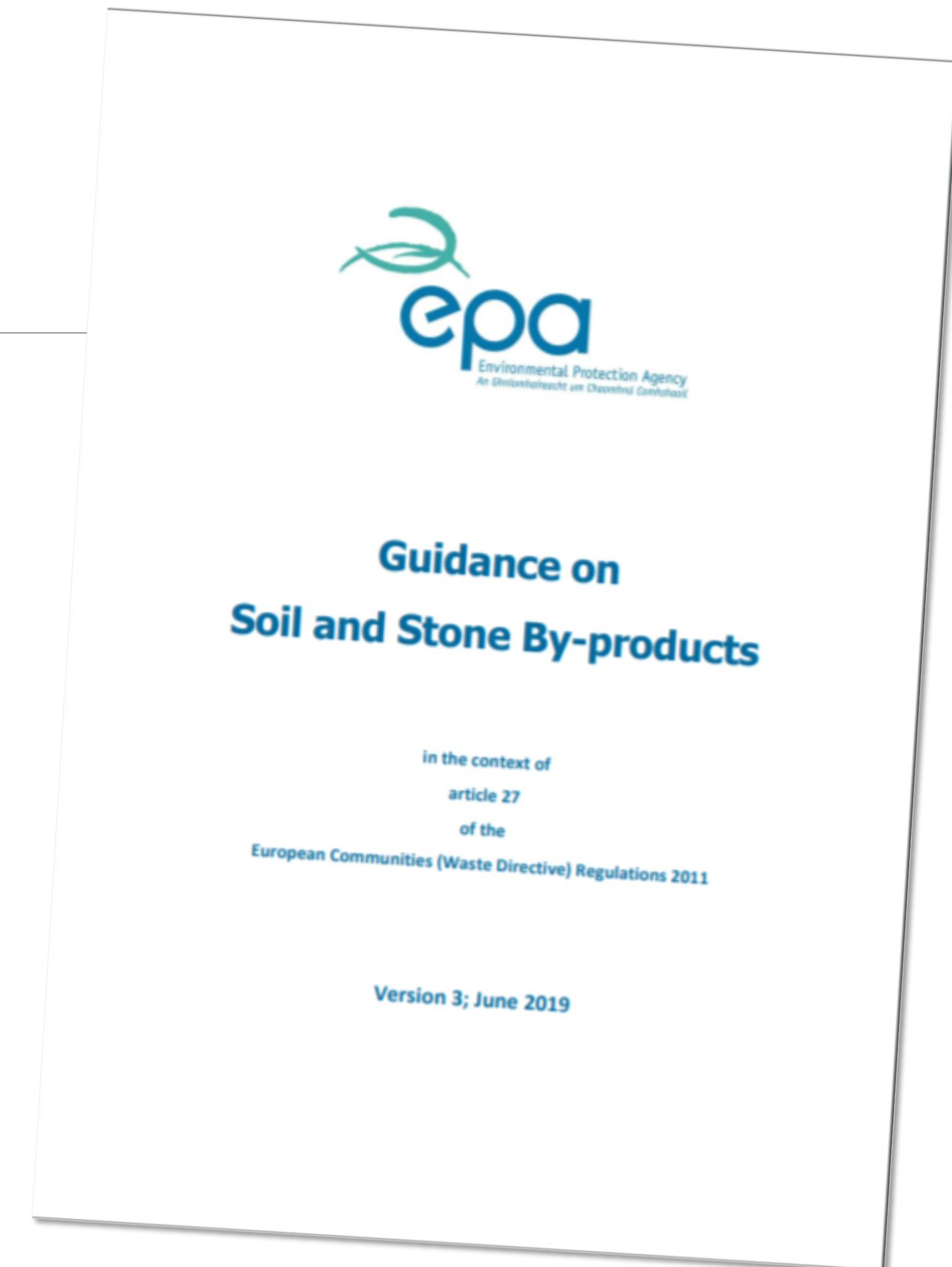
What is it?

‘3 clicks of the mouse!’

- epa.ie
 - Licensing & Permitting
 - Article 27

www.epa.ie

- How to Prepare and Submit a By-product Notification
 - Declarations (3 signed proforma letters)
- Guidance on Soil & Stone By-products June 2019
 - Examples (Dingle road, Fingal quarry)
- Draft By-product – Guidance Note May 2020
- Article 27 By-product Register





How does it work?

Four by-product conditions must be met:

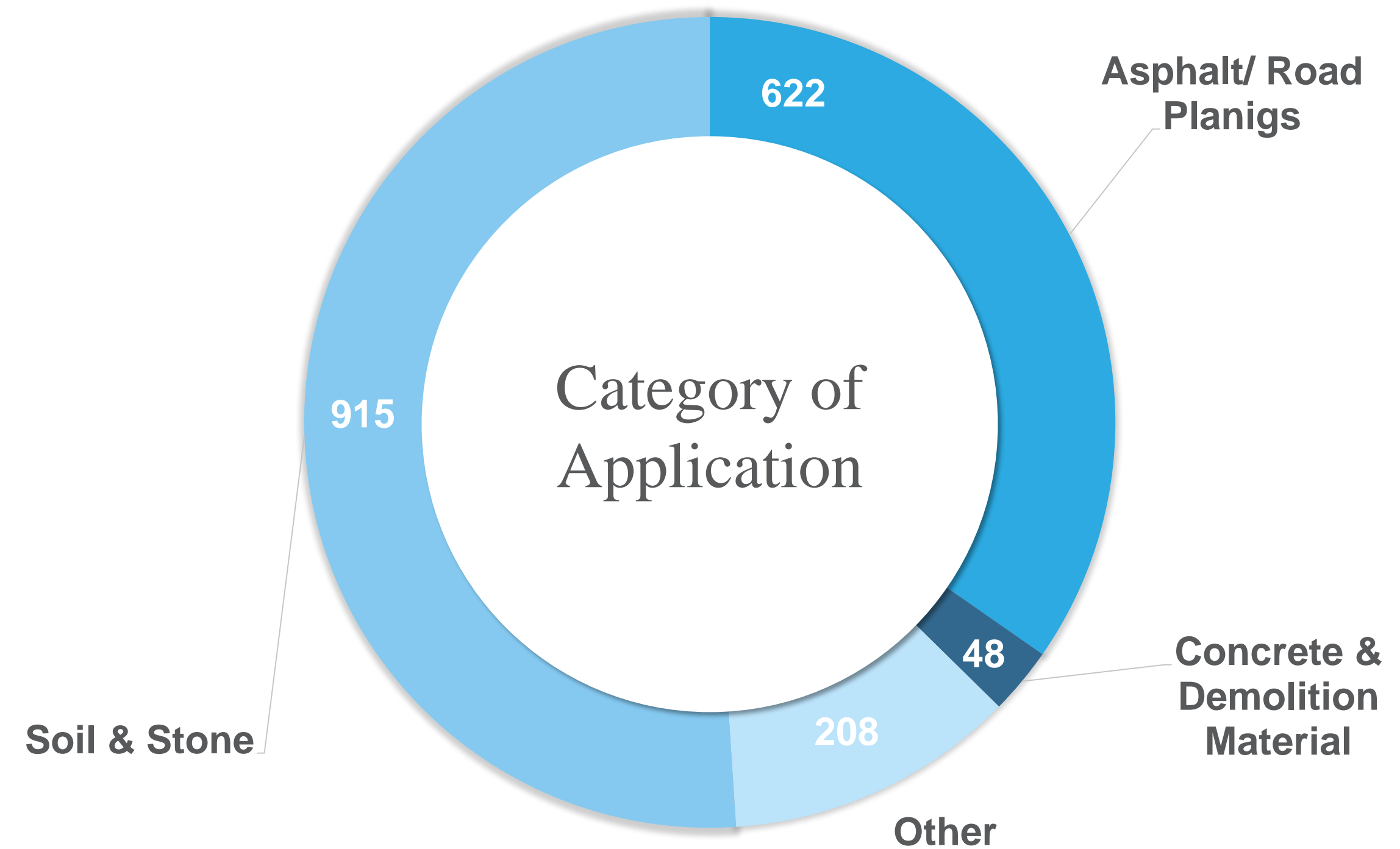
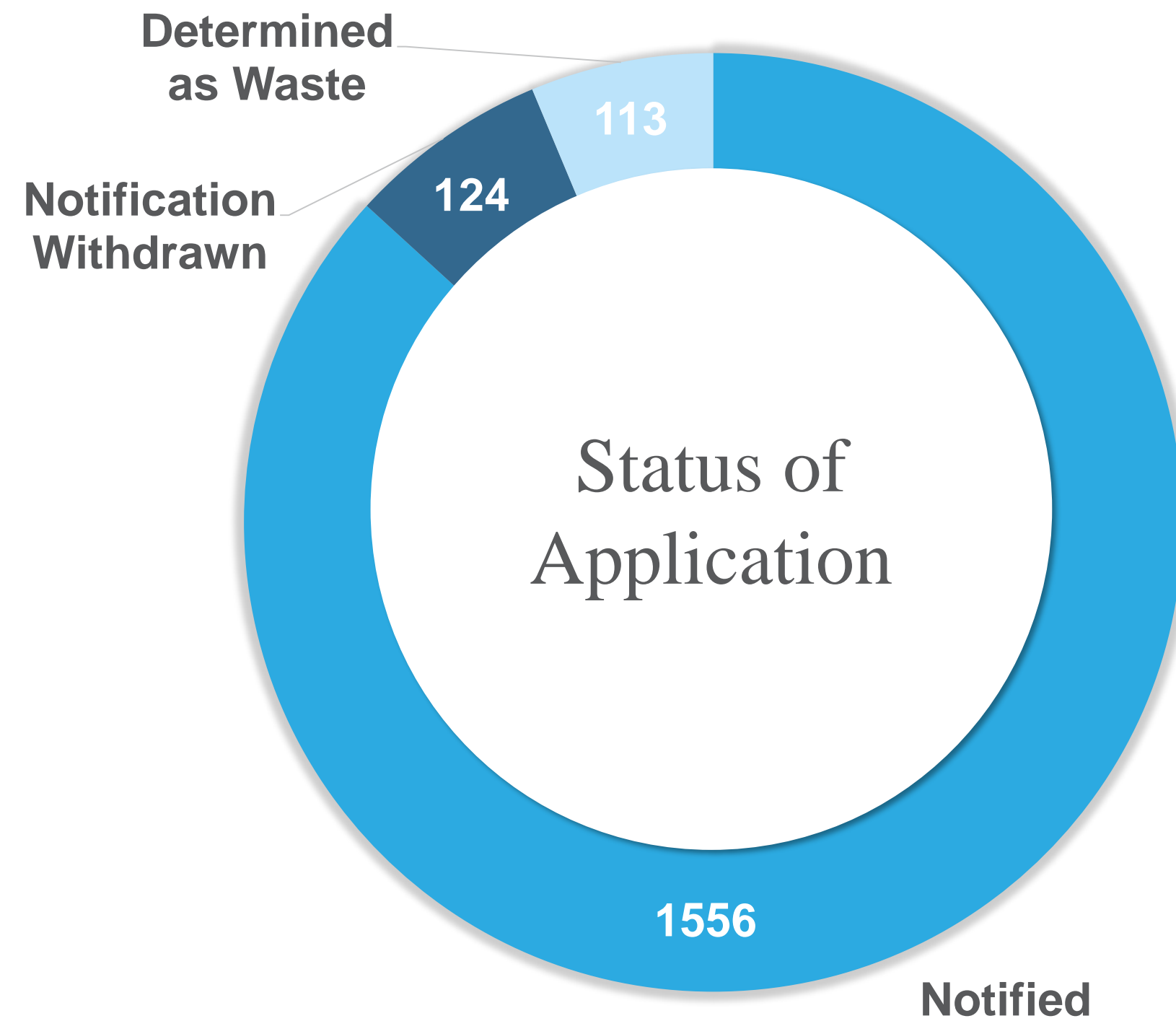
1. further use is certain; *a destination site with planning permission and a current demand for the material*
2. It can be used directly without any further processing other than normal industrial practice; *excavation, breaking and crushing on-site can be considered normal earthworks practice*
3. It is produced as an integral part of a production process; *material has to be excavated to enable construction/upgrade/maintenance of road infrastructure and*
4. further use is lawful in that it fulfils all relevant requirements for the specific use and will not lead to overall adverse environmental or human health impacts. *Demonstrate that the material meets appropriate material specifications (note civil/environmental declarations) for approved destination*

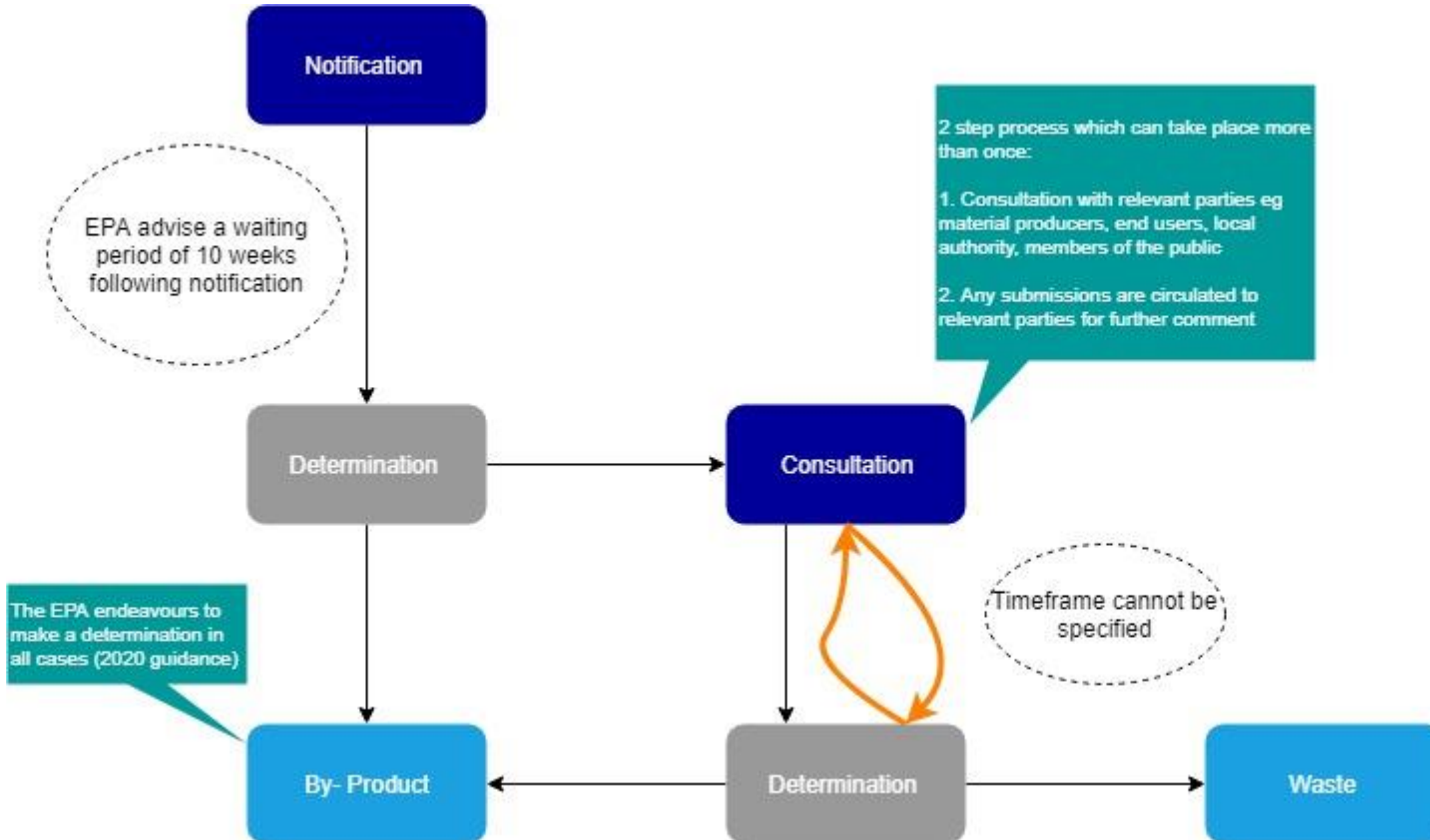
Article 27 By-Product

3

Where and when can it be applied?

Article 27 By-product Register
1793 Applications as of Wednesday





‘Determination as Not Waste’ only provided in 8 cases to date, not shown on Register, however new Oct 2020 Guidance for Planners refers

Article 27 By-Product - *soil and stone*

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Two categories:

1

GREEN FIELD SITES (VIRGIN MATERIAL)

- Straightforward application, (no environmental testing, even if naturally-occurring elevated concentrations of minerals are present)

2

SITES WITH RISK OF ANTHROPOGENIC CONTAMINATION (BROWNFIELD)

- Show 'equivalent to virgin material' (advanced environmental sampling and testing)
- Assessment against the EPA's 'Soil Recovery Facility' (SRF) limits using the background 'Domain' natural levels
- Exceedances and quantitative risk assessment approach

Article 27 By-Product - *asphalt and concrete*

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Asphalt:

1

FOR USE AS RECYCLED ASPHALT PAVEMENT (RAP) FEED INTO NEW ASPHALT (BOUND MATERIAL)

- Road Planings – high degree of control and traceability
- Excavated Asphalt – less certainty of source and reuse
- Testing as per TII Series 900 Tables 13a & b
- Coal tar content – not acceptable

2

FOR USE AS GRANULAR FILL

- Not common
- Lower value reuse

Concrete:

1

FOR USE AS AGGREGATE FEED INTO NEW CONCRETE

- Not common, quality control and lower strength

2

FOR USE AS EARTHWORKS GRANULAR FILL (CLASS 6A/B/C)

- Not common, concerns around leachability

BENEFITS

- Meets Circular Economy objectives by keeping materials out of the Waste stream
- More cost effective than waste options, where destination is close
- Soil & Stone – for ‘green-field’ sites process is straightforward, and avoids issues with natural elevated mineral concentrations
- Certainty of reuse destination and cost for Clients and Contractors (e.g. Metrolink)
- Avoids using Ireland’s inert and non-hazardous waste disposal capacity that is extremely limited, and avoids the likely export of ‘waste’ soils, including natural soils
- New guidance requires that Economic Operator/Material Producer must submit application

CHALLENGES/CONSTRAINTS

- Must have a known and planning approved reuse destination
- Needs to be considered at early stages of project and real options included within planning and EIAR documentation (incoming and outgoing)
- EPA 'Notified' status does not remove risk of later waste determination
- Significant SI and documentation required to support brown-field applications
- Cost and Time – not practical for smaller scale of projects
- Need more enforcement on non-compliance of waste legislation

Article 28 End-of-Waste Determination

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- Licensing and Permitting
- Article 28
- Draft Guideline Documents Part 1 & 2
- List of 7 material determinations to date

SOIL & STONE

- 'Discarded' to classify as Waste
- Physical or chemical treatment required

ASPHALT

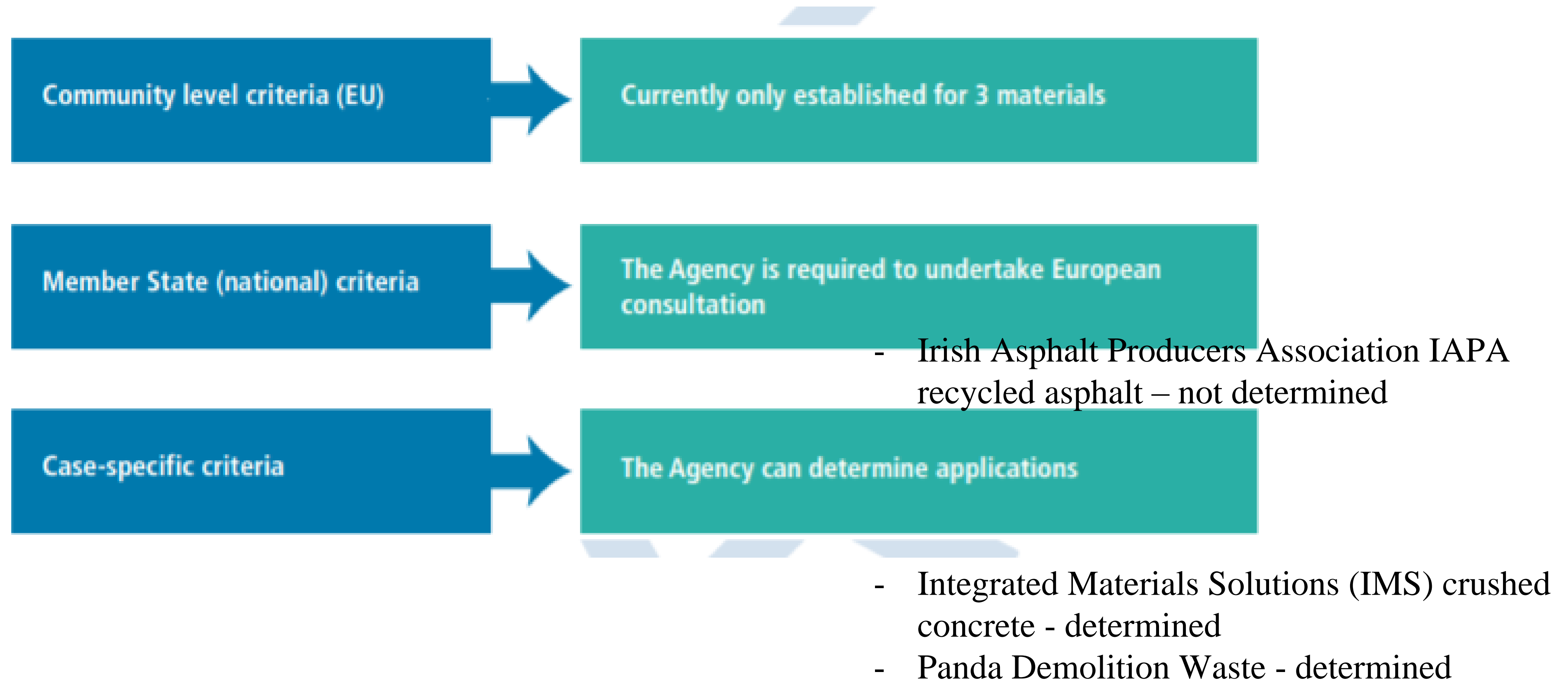
- Is excavated asphalt a Waste?
- Where source unknown or mixed with other materials requires sorting

CONCRETE

- Is excavated concrete a waste?
- Is concrete crushing a 'normal industrial practice'

Article 28 End-of-Waste Determination

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Article 28 End-of-Waste Test

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1

the substance or object is commonly used for specific purposes;

2

a market or demand exists for such a substance or object;

3

the substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products;

4

the use of the substance or object will not lead to overall adverse environmental or human health impacts.

Article 28 End-of-Waste Determination

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SOIL & STONE

- Physical treatment of soils to improve performance not a 'waste'
- Chemical treatment of contaminated soils a licensable waste activity, currently limited but one for future

ASPHALT

- Use of Recycled Asphalt Pavement (RAP) in new asphalt is TII approved and end-product is a 'bound' material, likely meets Article 27 tests, use as granular fill less certain.
- Asphalt mixed with other materials requires sorting and may be deemed a waste under Article 28
- Asphalt containing coal tar not acceptable

CONCRETE

- Existing granular fill determinations for IMS and Panda are restricted, most likely due to concerns over leaching of potential contaminants
- 'Discarded' concrete crushed and used as aggregate into new concrete more likely to be acceptable

Article 28 End of Waste

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BENEFITS

- Meets Circular Economy objectives as taking materials out of the waste stream
- Possibility of EU or National material determinations for whole sector
- Determination is for an end-product and not source-specific, so do not need application for each project

CHALLENGES/CONSTRAINTS

- EPA cautious approach for national determinations (need EU agreement)
- 2 relevant approvals are 'operator-specific', and in 1 case location specific
- Requires source material to be a 'waste' so licensed hauliers, treatment facilities, etc.
- Market constrained by process costs, reuse value and Standards limitations on usage

Further Guidance

DCCAIE: A Waste Action Plan for a Circular Economy – Ireland’s National Waste Policy 2020-2025

‘We will develop detailed guidance on the Article 27 by-product process for a number of specific construction and demolition materials’



TII STANDARDS UPDATES

- Series 600, 800 and 900 updates currently underway

Further Guidance – *Practical Approach*

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Consider materials generation and demand at ALL stages of projects, both construction and maintenance/upgrades:

OPTIONS ASSESSMENT/ROUTE SELECTION:

- minimize cut/fill
- avoid contaminated sites
- do some limited SI

PRELIMINARY DESIGN AND PLANNING/EIAR:

- classify and quantify materials
- state Art27/28 materials usage
- list available known destinations

STAKEHOLDER ENGAGEMENT:

- liaise with your planners
- Landowners
- facility operators

WORKS SPECIFICATIONS & PROCUREMENT:

- specify approved destinations

COMPLIANCE CHECKING AND VERIFICATION

- chain-of-custody documentation

REPORTING ON PERFORMANCE AND VALUE

- feedback to promote usage

TII WEBINAR 4 SUSTAINABILITY

Thank you

Questions?

