





Design for recycling & recyclability assessment protocol standardization within the PPWR framework

ANTITRUST

For a competition safe environment

MEETINGS MANAGEMENT

- PETCORE EUROPE staff and Chairperson of the meetings will issue in advance an agenda that must not cover subjects likely to infringe the competition laws;
- Agenda and registration forms shall carry the following words: "PETCORE EUROPE is committed to complying with EU Competition Law. The participants to this meeting agree to adhere to the PETCORE EUROPE manual on competition law compliance";
- A lawyer expert in EU competition matters or a PETCORE EUROPE executive from the staff, should be present in the meetings. Discussions which occur during the meeting will be recorded in the minutes;
- If any prohibited subject is raised, Chairperson and/or PETCORE EUROPE staff should request to stop the conversation. If the discussion is continued the meeting will be closed and the foregoing recorded in the minutes;
- If necessary, PETCORE EUROPE will provide its staff and members with training and up-to-date to ensure that no activity deemed to be anti-competitive is undertaken.

MEMBERSHIP CONDITIONS

Membership rules should be transparent and non-discriminatory. In particular, they should not place any member at a competitive disadvantage.

TECHNICAL STANDARDS

Voluntary technical industry standards set up by PETCORE EUROPE members should be objective and accessible to everyone.

PROHIBITED DISCUSSION TOPICS

Never discuss with undertakings in fact or appearance in formal or social meetings about:

PRICES

Agreements or coordinated practice on individual prices, costs, discounts, allowances, price changes. Exchange information on price decisions, profit margins, terms of sales.

PRODUCTION

Information on production capacity, suppliers or distribution. Fixing of production quotas.

MARKET SHARES

Agreements on market shares, boycott suppliers, divide up the market, allocation of sales territories, distribution or marketing.

CUSTOMERS

Blacklist customers, agree to classify or select potential customers.

INVESTMENTS AND TRENDS:

Do not share credit terms, future plans concerning technology. Do not apply dissimilar conditions to equivalent transactions with other trading parties.

Please refer to the full PETCORE EUROPE competition law policy as distributed and available from the secretariat





You can send your questions through SLIDO using the QR code below or join at slido.com with #4286604







3:00 – 3:05 PM CET Welcome & Introduction by Raphael Jaumotte (PETCORE EUROPE)

3:05 – 3:25 PM CET General status on the developments of standard & connections with PPWR by Vincent Colard (CITEO)

3:25 – 3:35 PM CET Focus on PET bottles, specific part of the standard by Raphael Jaumotte (PETCORE EUROPE)

3:35-3:45 PM CET PET Thermoforms, specific part of the standard by Sergio Collado (Sulayr)

3:45 – 3:55 PM CET Q&A via SLIDO moderated by Raphael Jaumotte (PETCORE EUROPE)

3:55 - 4:00 PM CET Wrapping-up & Conclusion



OBJECTIVE



Webinar's objective: to present to the **PETCORE EUROPE** Members the latest status on the ongoing work on **standardization for Design for recycling and recyclability assessment protocols for PET bottles and thermoforms**.

PETCORE EUROPE and its members are deeply involved in the standardization work that will lead to **recyclability grading part of PPWR.** This webinar brings the opportunity to understand better what impacts are to be expected.





3:00 - 3:05 PM CET Welcome & Introduction by Raphael Jaumotte (PETCORE EUROPE)



Raphaël Jaumotte

Petcore Europe

He has been for more than 20 years in the business of PET recycling. Held various positions related to quality, environment, operations, purchasing and projects. His last position prior to joining Petcore Europe, was Director of Projects and Quality for the Plastipak Beaune (FR) operation producing more than 45.000T/y of food grade rPET for Plastipak's preform injection operations with the main focus on continuously improving quality and output. He was formerly a board member and a treasurer of Petcore Europe and a board member of the French Elipso association. Raphael is based near Nuits-Saint-Georges in France.





3:05 - 3:25 PM CET General status on the developments of standard & connections with PPWR by Vincent Colard (CITEO)



Vincent Colard

Citeo

After two master's degrees on law and economics, with a focus on environmental projects & political decisions, Vincent Colard started his professional life with a first experience at Veolia, on industrial waste treatment plants. Then he joined Elipso as environment manager. He started his journey with Citeo in 2016, now he conducts R&D projects to deploy with his team the ecodesign Citeo strategy for household packaging. He is part of Cotrep board, in charge of plastic packaging recyclability assessment and he is involved into standardization to harmonize recyclability guidelines in Europe.

Too many recyclability guidelines!









quidelines



















CYCLOS-HTP

RecyClass







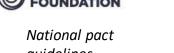


CEFLEX









National regulations start to impact

JOURNAL OFFICIEL DE LA RÉPUBLIQUE FRANÇAISE

Décrets, arrêtés, circulaires

TEXTES GÉNÉRAUX

MINISTÈRE DE LA TRANSITION ÉCOLOGIQUE

Décret nº 2022-748 du 29 avril 2022 relatif à l'information du consommateur sur les qualités et caractéristiques environnementales des produits générateurs de déchets NOR: TRED2202154D

Publics concernés: producteurs, importateurs, distributeurs ou autres netteurs sur le marché de produits générateurs de déchets destinés aux consommateurs, y compris crux utilisant un site internet, une plateforme ou toute autre voie de distribution en ligne dans le cadre de leur activité commerciale en France, et les consommateurs de cap produits.

Objet : mise en œuvre de l'obligation prévue par l'article L. 541-9-1 du code de l'environnement relative à information du consommateur sur les qualités et caractéristiques environnementales des produits générateurs de

atechets.

Entrée en vigueur : l'article R, 541-223 entre en vigueur au lendemain de la publication du présent décret, Les
produits ou emballages ausquels il s'applique bénéficient d'un délai d'écoulement des stocks jusqu'au
j'apmirer 2023, des lors qu'ils ont été fabriqués ou importes avant la date de publication du présent décret,
Les articles B, 841-220 à R, 541-222 entrem en vigueur à compter du l''janvier 2023, de façon progressive, par

pollite el estreprise.

Notice: le decre definil les modalités d'application de l'article 1. 541-9-1 du code de l'environnement, qui prevoit às house sejtornation des consomateurs, par les productions et importateurs, sur les qualités et prévoit à house sejtornation des consomateurs, par les productions et importateurs, sur les qualités d'application d'information ainsi prévue les productions et importateurs qui déclarrat act deligré d'affaire ansuel supérieur à l'ontilitées d'eurs paus les produits visés à l'article 8. 41-221 qui tin netteut unit autre de autre de autre de si sont en repossables sont de sant de la principe de la particle de l'article 8. 41-221 qui tin netteut unit entré autre de si sont en repossables sont entré autre de la sont el 1000 misés de ces compréhensible, au moment de l'act de voluit Ces qualités et conscribétaignes environnementales sont neutres, afont les cutégories de produit concernées, l'accoponation de maltire recycle, l'employ de resussere, afont les cutégories de produit concernées, l'accoponation de maltire recycle, l'employ de de resussere, l'acquille et la présence de submissioner dissapresses, de némias précèsces no de terres arros, la régulité et la présence de submissioner dissapresses, de némias précèsces ne de terres arros, la régulité et la présence de prissone de substances dangerauses, de métaux précieux ou de lerres rares, la tragabilité et la prisence des mérophres plastiques. Le format de mise à disposition des dondes relatives à ces quittées et caractéristiques emirennementales auprès des consommateurs doit être aixément réutilisable et exploitable par un système de traitement automatiés sous une forme agrégée.

Références : le décret ainsi que le code de l'environnement qu'il modifie peuvent être consultés sur le site Légirance (https://www.legi/ance.gour.fr).

Sur le rapport de la ministre de la transition écologique et du ministre de l'économie, des finances et de la

resance.
Va le règlement (CE) n° 1907/2006 du Parlement européen et du Cosseil du 18 décembre 2006 concernant
l'eurogistrement, l'evaluation et l'autorisation des substances chimiques, ainsi que les restrictions applicables à GES
substances (BEACH) instituatiur une gaece européenne des possibus chimiques, molitant la directive 1998/86 et al drogenal le règlement (CE) n° 79/879 du Cosseil et le règlement (CE) n° 188974 de la Commission ainsi que le Commission (CE) de des commission (CE) de des commissions (CE) de commissions (CE) de des commissions (CE) de commissions

Commission;
Vu le règlement (CE) n° 1272/2008 du Parlement européen et du Conseil du 16 décembre 2008 relatif à la classification. à l'édiquetage et à l'emballage des substances et des métaiges, modifiant et abrogeant les directives 67/548/CEE et 1999/55/CE et modifiant le règlement (CE) n° 1907/2006;
Vu la directive 94/62/CE ade Parlement européen et du Conseil du 20 décembre 1994 relative aux emballages et aux déches d'émballages.

ux decients d'emballages ; Vu la directive (UE) 2015/1535 du Parlement européen et du Conseil du 9 septembre 2015 prévoyant une rocédure d'information dans le domaine des réglementations techniques et des règles relatives aux services de la

French definition by law for communication purpose, link with EPR methodology, Cotrep for plastic packaging







Please note: This English version is a convenience translation - the German

Minimum standard for determining the recyclability of packaging subject to system participation pursuant to section 21 (3) VerpackG

in consultation with the German Environment Agency (Umweltbundesamt)

Osnabrück, 31 August 2021

German approach for design and bonus/malus system, based on single methodology and experts



Recueil des textes légaux et réglementaires de l'Agence suédoise de protection de l'environnement

ISSN 1403-8234

Règlement de l'Agence suédoise de protection de l'environnement sur la détermination des taxes sur les emballages en tenant compte de la recyclabilité; NFS 2022: Publié

adopté le XX janvier 2023.

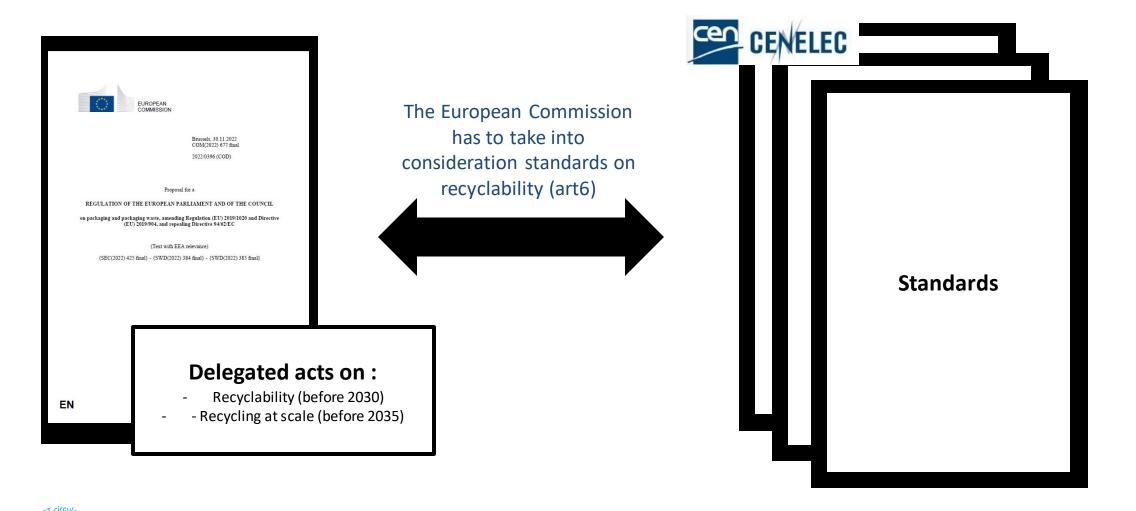
L'Agence suédoise de protection de l'environnement établit1 ci-après, en vertu du chapitre 5, section 30 de l'ordonnance (2022:1274) sur la responsabilité du producteurs pour l'emballage.

Champ d'application

Artikel 1 Ce règlement contient des dispositions sur la façon dont une organisation compétente en matière de responsabilité des producteurs (PRO) doit tenir compte de la recyclabilité d'un emballage lors du calcul de la taxe sur l'emballage qu'un producteur paie à une organisation de responsabilité

> Swedish law for packaging design, which introduce the 5% rule barrier and foreign material

Harmonization is needed



How standards will be used after 2030?



PPWR article 6 uses "recyclability" to allow/ban packaging from the market in 2030 and modulate ERP fees

PPWR article 11 on communication doesn't mention recyclability, so this aspect won't be harmonized at European level through PPWR (some countries have national law on that point).

Packaging ban

2030 : a packaging will be banned from the market if it reaches a grade E (or D for the Council) = recyclability score < 70%

Our standards define the recyclability score methodology and say a red constituent conducts to a recyclability score of 0%

Ecomodulation

EPR fees are approximately 10% of the price of an empty packaging in 2022

2030: apply a modulation of the fee based on the grade

Grades are partially based on recyclability score developed by WG10





TC261 SC4 WG10 ambition

Deliver consensual standards which could be used by PPWR

A unique opportunity for plastic packaging





From CPA to standards



- CPA started to build a vision of the future standards on plastic packaging recyclability and protocols
- Standardization process will help to find consensus on methodology and criteria.
 New actors, new vision, consensus rule
- EN standards don't refer to existing websites so we have to write our own methodology and criteria in our publications.

Planning

| | 06/23 | 07/23 | 08/23 | 09/23 | 10/23 | 11/23 | 12/23 | 01/24 | 02/24 | 03/24 | 04/24 | 05/24 | 06/24 | 07/24 | 08/24 | 09/24 | 10/24 | 11/24 | 12/24 | 01/25 | 02/25 | | 08/25 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|-------|-------|-------|-------|-------------|-------|
| Draft consultation (WG10 level) | 01/06 | | 31/08 | | | | | | | | | | | | | | 3 86 | | | | 30 85 | | |
| Subgroups deal with comments | | 54 | | 01/09 | 09/10 | | | | | | | | | | | | 10 | | | | | | |
| Draft consultation (SC4 level) | | 38 | | | 10/10 | | 04/12 | | | | | | | | | |) // (| | | | 20 00 | | |
| Subgroups and WG10 deal with comments | | | | | 20 | | 05/12 | | | 03/03 | | | | | | | 10 | | | | | | |
| CEN admin time, WG10 isn't allowed to work on documents | | 56 | | | 366 | | | | | 04/03 | | | 03/06 | | | | 5 860 | | | | 20 | | |
| CEN inquiry (TC261 + TC in liaison) | | | | | | | | | | | | | 03/06 | | 26/08 | | | | | | | | |
| Subgroups and WG10 deal with comments | | | | | | | | | | | | | | | 27/08 | | | | | | 24/02 | | |
| NSB inquiry on wording, WG10 isn't concerned | | | | | | | | Š | | | | | | | | | | | | | 24/02 | | |
| NSB final votes | | | | | | | | | | | | | | | (8) | | | | | | | 05/05 30/06 | |
| Admin and publication | | | | | | | | | | | | | | | 00 | | | | | | 24/02 | | 26/08 |

- PPWR planning: end of 2024, enter into force mid of 2026
- Delegated act on recyclability: 2028





WG10 organization

PET bottles (2 standards)

PET rigid (2 standards)

SULAYR

PE & PP rigid
(2 standards)

PCEP

PE & PP flexible (2 standards)

CEFLEX

PS & XPS rigid (2 standards)

SYNDIFRAIS

EPS standards

(2 standards)

BEWI

Methodology (2 standards)

CITEO

Sorting (1 standard)

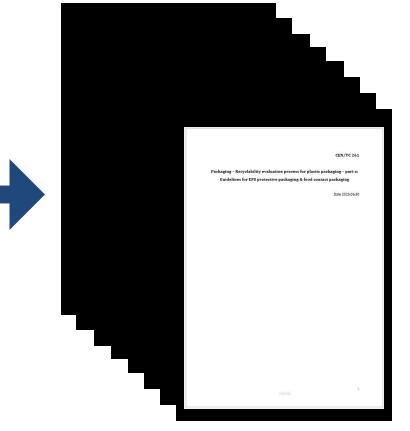
On-going





How 14 standards work together?





Parts 2-15

Vigilant to align all parts with the part 1 on:

- Definitions
- Wording
- A packaging which is recycled day by day without high negative impact should be classified in green and yellow column rule







Concrete use by industry

Is my plastic packaging designed for recycling?

17

I have to check if all packaging components/constituents are classified in green and yellow, nothing in red, in the appropriate standard, based on packaging shape and main resin. Is it ok?

Yes

I don't find all my packaging components/constituents in traffic light tables

Ok so I have my conclusion, no test

If I want to claim "recyclable packaging", I have to check at national level if a recycling stream exists (at minima before 2035 and at scale rule).

A single company or a group of companies will conduct test (sorting, recycling, sorting+recycling) following protocols and methodology developed by WG10. A positive result could be used as a proof of conformity before the next standard update. The results could be shared to WG10 to improve traffic light tables.





Methodo rules - examples

What's plastic? >50% rule preferred to the SUP/PPWR definition

Traffic light table approach

- Set of criteria classified in green, yellow and red columns, based on sorting and recycling behavior
- Red = 0% recyclability
- Yellow = a negative impact on the final recyclability score

On which perimeter packaging recyclability is evaluated?

Traffic light table:



+



Final graduation:



State of the art definition

- Standards and PPWR based on "state of the art", not TRL9, not best in class
- Experts have to define what's the sorting process, the recycling process and the main outlet state of the art





Link between standards and graduation

PPWR graduation will be defined in a delegated act In 2028 and enters into force in 2030

On-going discussions with industry on how reducing the uncertainty and proposing a graduation system as soon as possible





3:25 - 3:35 PM CET Focus on PET bottles, specific part of the standard by Raphael Jaumotte (PETCORE EUROPE)



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He has been for more than 20 years in the business of PET recycling. Held various positions related to quality, environment, operations, purchasing and projects. His last position prior to joining Petcore Europe, was Director of Projects and Quality for the Plastipak Beaune (FR) operation producing more than 45.000T/y of food grade rPET for Plastipak's preform injection operations with the main focus on continuously improving quality and output. He was formerly a board member and a treasurer of Petcore Europe and a board member of the French Elipso association. Raphael is based near Nuits-Saint-Georges in France.





PET Bottles specific part



Dealing with 2 parts

- Part 4: design for recycling
- Part 10: recyclability evaluation process

participants, from different companies, countries, cultures, 48 knowledge and experience.



All views are represented, consensus needed



Time to understand each other





PET Bottles specific part



A lot of inputs to aggregate (more than 350 comments)

14 meetings organized form June 2023 to February 2024

The DfR's are covering all bottles including reusable bottles are split in 4 color specific tables:

- PET clear and light blue
- PET Transparent colored
- PET Opaque white
- PET Opaque other colors

+1 table that is generic to all colors

Application is bottle to bottle and is not only food contact bottles

Recycling process is mechanical only.





PET Bottles specific part

The backbone for the DfR and the Recyclability evaluation process is EPBP's

- 3 columns
- Testing procedures and protocol to assess innovations

- The main challenge in the DfR for bottles is to agree on the label/sleeve part.
 - The most complex
 - Patch-work like
 - Multiple materials,
 - Multiple approach, (floatable, non-floatable, adhesives/no adhesives)
 - → Support needed from the labels industry to avoid a non-consensual situation where everything will go into innovation assessment. Or to avoid C-classification of most of the bottles on the market.

3:35-3:45 PM CET PET Thermoforms, specific part of the standard by Sergio Collado (Sulayr)





Sergio Collado

Sulayr

A Chemical Engineer from the Superior School of Engineering of Seville.

The beginning of his career was linked to polymers in a SBR production facility, after this he participated in the development of the Single Operation Procedures and One Point Lessons instructions, and TPM for packaging lines at KRONES (2008-2012). Between 2012 and 2015 he was dedicated to the agri-food industry in the development of selective liquid-liquid and solid-liquid extraction processes for the recovery of olive industry residues rich in phenols and terpenes. After a brief stint in the construction sector where he led an EUfunded project for the development of resilient bitumen-polyurea pavements to increase urban safety, he joined the Sulayr GS team in 2016-2017 as head of R&D, and since 2018 as technical director of the Sulayr Group.

He has extensive experience in the development of mechanical and chemical processes for waste recovery and, especially in biphasic or triphasic interactions, such as liquid-liquid extraction or froth-flotation processes.

He has participated in a patent (as an inventor) to produce food spherifications and in the last years has developed a process for postconsumer tray recycling.

DfR for PET Other Rigid Packaging

Current state of play

- Facts:
 - 1. PET trays amount up to 25% of volumen of PET packaging European market
 - 2. Collection rate EU PET bottle 75%, EU PET tray 25%
 - 3. Several UE countries consider PET Trays as non-recyclable
 - 4. Many on-going projects for tray recycling but just 2 succesfull.
 - 5. Installed recycling capacity (for PET Trays): 150.000 tn/y aprox.
 - 6. Circularity in trays currently achieved, but low volumes.





Who is involved?

•Production:

• Manufacturers must adapt tray designs to meet recyclability guidelines.

Investment in new technologies and materials.

•Supply Chain:

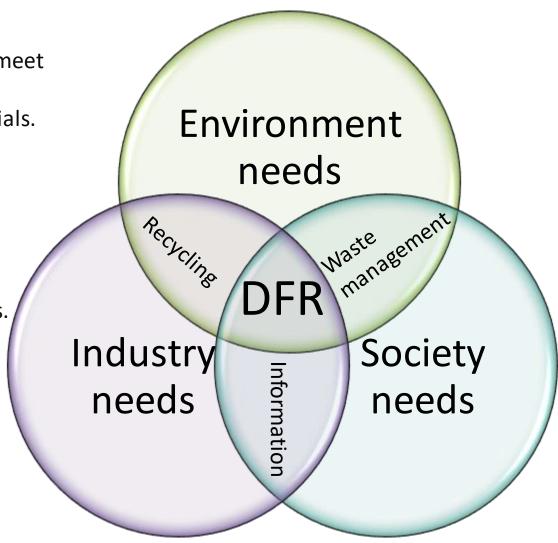
• Increased compliance costs due to design changes or use or recycled materials.

•Retail:

- Adoption of new packaging formats.
- Educating consumers on recycling practices.

•EPR/Consumers:

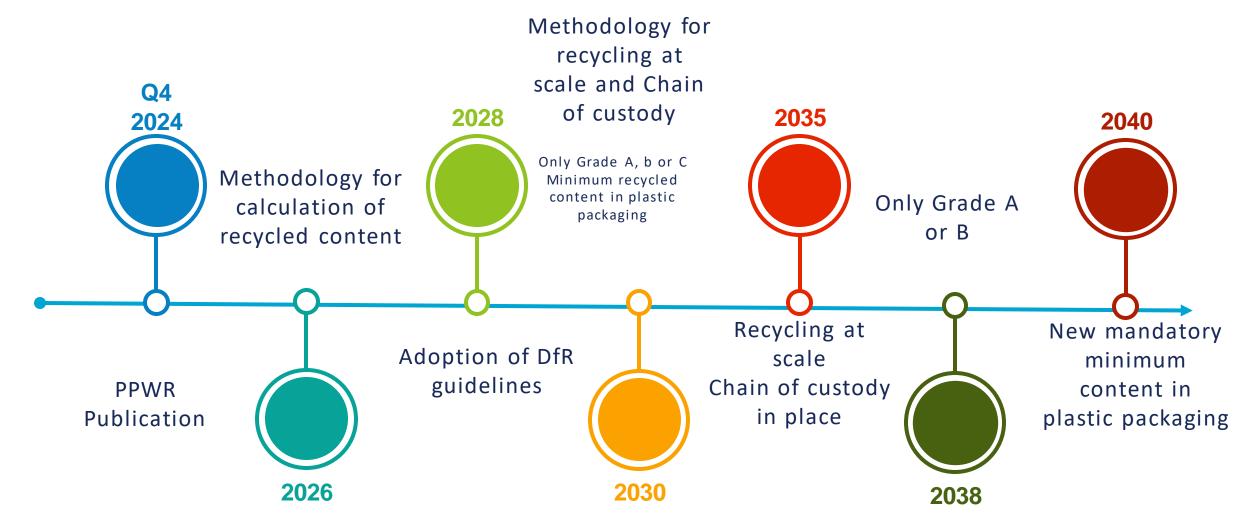
- Enhanced collection&sorting.
- Increased awareness of sustainable packaging.







PPWR TIMELINE







DfR for PET ORP

Main drivers

- Targeted polymer: PET
- Technology: Mechanical
- Application of recyclates: Tray to tray
- Quality:
 - Separation of materials
 - Use of washable adhesives for sealing/labels and liners of multilayer
 - Other components of the packaging made of floatable polymers (PO)
 - Avoid Soaker pads/paper labels/PVC..
- Quantity:
 - Recycling of two streams-> only solution to meet %threshold





DfR for PET ORP

Conclusions

- Clock is ticking: WE NEED TO ACHIEVE RECYCLING AT SCALE!
- Meeting DfR will facilitate:
 - Collection and sorting
 - Recycling (UPCYCLING!!)
- PET Tray recycling is a reality
- Communication and collaboration is needed





3:45 - 3:55 PM CET Q&A via SLIDO moderated by Raphael Jaumotte (PETCORE EUROPE)



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You can also join by using this code: join at slido.com with #4286604





Presentations & recording will be shared on the 7th of June 2024







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