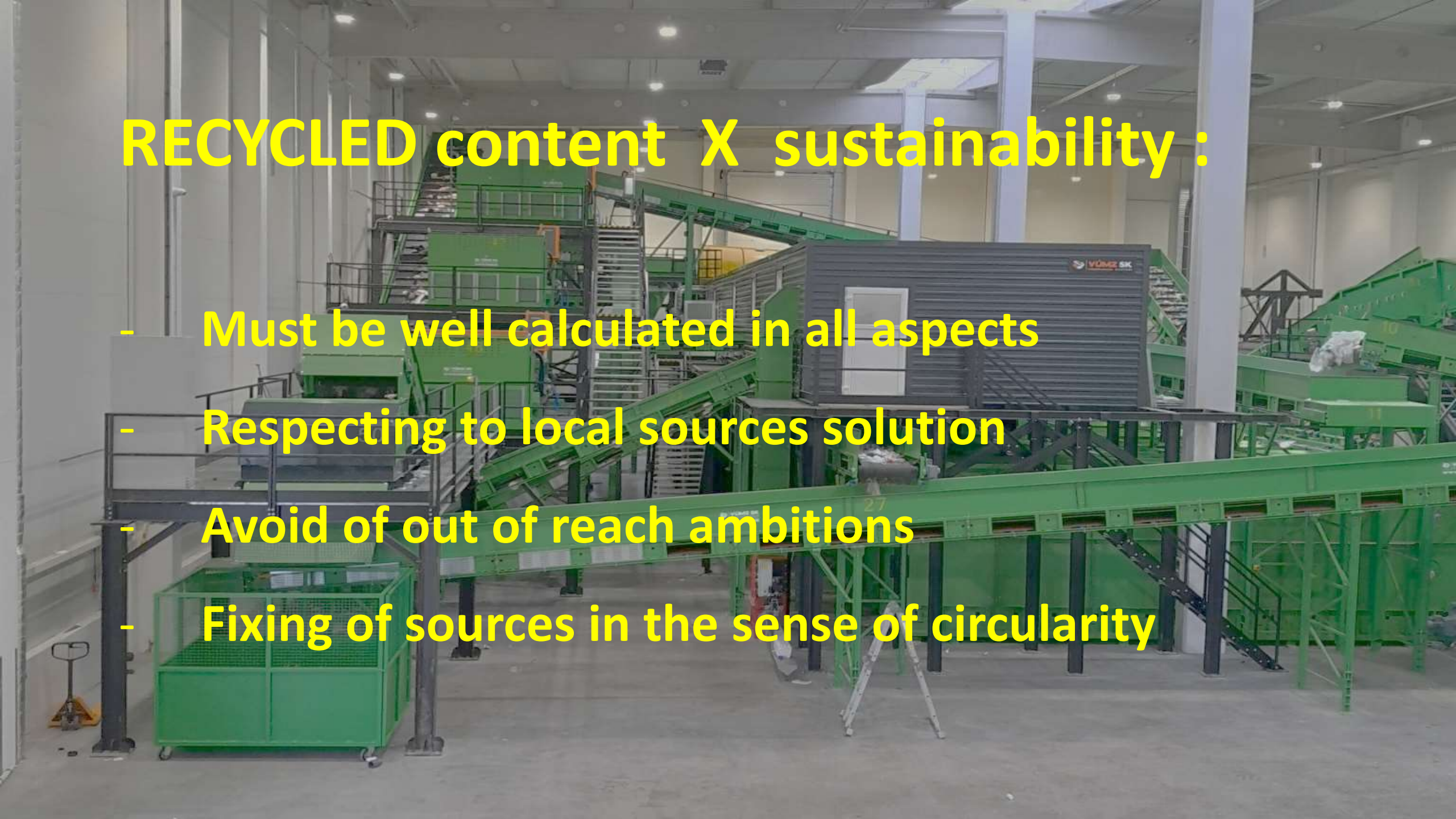
ICCT
INTERNATIONAL CONFERENCE ON CHEMICAL TECHNOLOGY

Využití odpadních plastů („RECY věci“)

ČESKÁ TECHNOLOGICKÁ PLATFORMA PLASTY

Plastikářský klastr



RECYCLED content X sustainability :

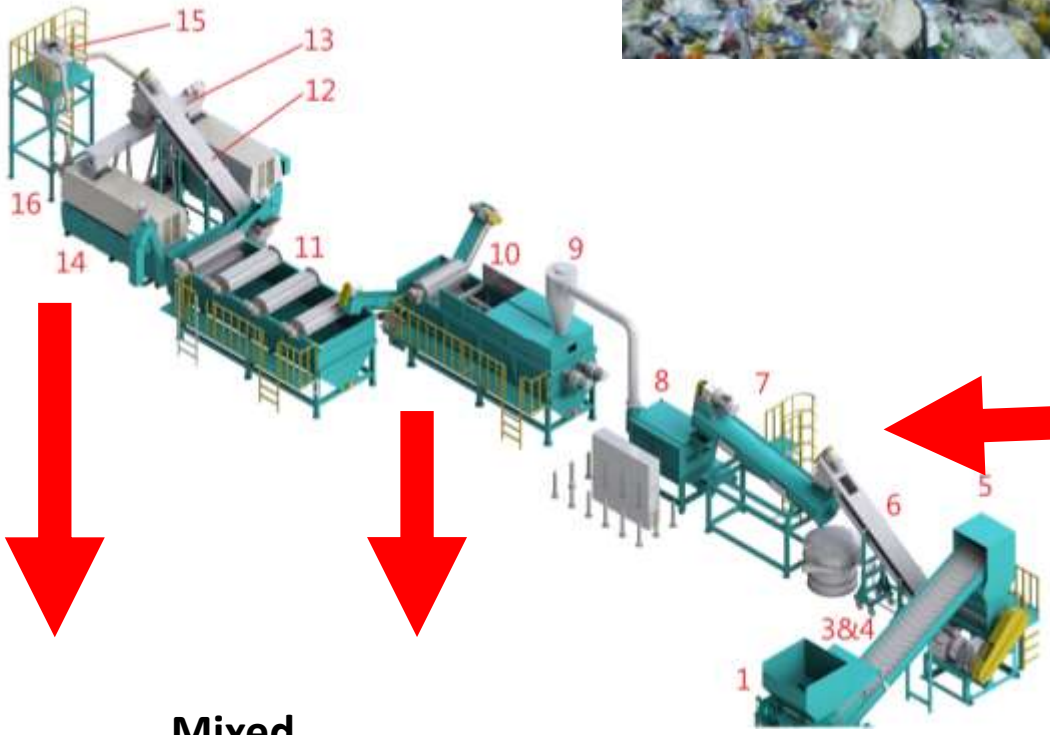
- Must be well calculated in all aspects
- Respecting to local sources solution
- Avoid of out of reach ambitions
- Fixing of sources in the sense of circularity

SOURCES :
(same all over)

50%

50%

Mixed
Excretes 1



Mixed
Excretes 2 & 3

EUROPEAN
COMMISSION

Brussels, 30.11.2022
COM(2022) 677 final

2022/0396 (COD)

Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on packaging and packaging waste, amending Regulation (EU) 2019/1020 and Directive (EU) 2019/904, and repealing Directive 94/62/EC

(Text with EEA relevance)

{SEC(2022) 425 final} - {SWD(2022) 384 final} - {SWD(2022) 385 final}

Option 1: Better standardisation & clearer Essential Requirements	Option 2: Mandatory targets and stricter requirements	Option 3: Far-reaching targets and requirements
M5: Minimization of empty space in packaging in selected sectors, including e-commerce **M1: Update of Essential Requirements to minimize over-packaging** **M10a: Revision of CEN standard for defining reusable packaging** **M19: providing clarity on the definition of reuse activity versus a "preparing for reuse" activity**	**M8b: Mandatory reuse targets for selected packaging groups for 2030/2040 in selected sectors** +M19+M10a+M10b: Definitions and mandatory requirements for reusable packaging formats set in EU legislation and standards for some formats+M10c: Definition and mandatory standards for reuse systems **M7: Phase out avoidable / unnecessary packaging** **M2b: Mandatory target of 19% reduction of packaging waste per capita in 2030 compared to the baseline** +M1+M5	M8c: **Mandatory high level targets to increase the reuse of packaging by 2030/2040 in selected sectors** +M10a+M10b+M10c+M19 **M2c: Mandatory target of 23% reduction of packaging waste per capita in 2030 compared to the baseline** +M1+M5+M7+M3: Banning by 2030 of heaviest packaging for selected items based on existing lighter alternatives
M21a: All packaging shall be reusable or recyclable by 2030- clarification of Essential Requirements and recyclability definition +M21b: All reusable packaging must be recyclable as of 2030 **M22a: Qualitative definition of recyclable packaging** **M28: Clarification of biodegradability and compostability and updates of respective Essential Requirements & standard EN 13432** **M29a: Allowing**	**M22b: Definition of recyclable packaging based on design for recycling (DfR) criteria complemented by the recyclability assessment procedure and a negative list of non-recyclable packaging characteristics** +M21a+M21b+M22a+M23: Harmonisation of EPR Fee Modulation Criteria **M29d:** Mandatory compostability for certain out of the selected plastics packaging types and for the remaining ones compostable or conventional plastics possible +M28	**M22c: Quantitative definition of recyclable packaging** +M21a+**M21b+M22a+M23** **M29b:** Mandatory compostability for all selected plastics packaging types +M28

Waste Framework Directive

The Waste Framework Directive sets the basic concepts and definitions related to waste management, including definitions of waste, recycling and recovery.

The Waste Framework Directive lays down some basic waste management principles. It requires that waste be managed

- without endangering human health and harming the environment
- without risk to water, air, soil, plants or animals
- without causing a nuisance through noise or odours
- and without adversely affecting the countryside or places of special interest

It explains when waste ceases to be waste and becomes a secondary raw material, and how to distinguish between waste and by-products. The

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RecoTrace™

- GO TO: www.recotrace.com
- User-friendly and in Czech language
- Manual on the use of RecoTrace available
- Step by step support from Recovinyl when requested
- Register your data monthly

recovinyl plus

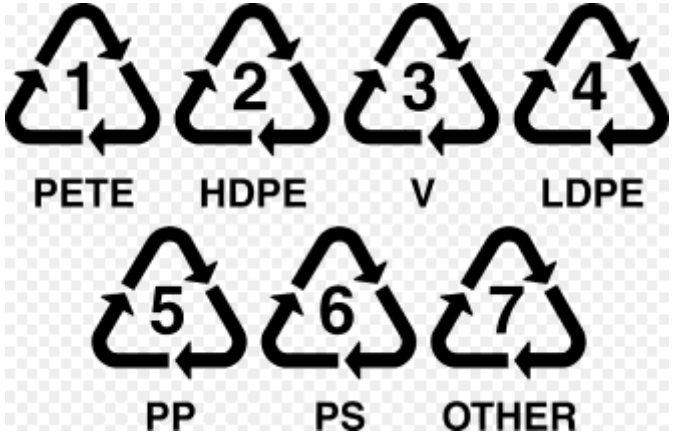
FUNDAMENTAL -PE virgin film X 100% post-recycled film :

(Q : is the quality acceptable ?!)

(A : it can be even cool if well promoted – all in hands of the Seller)

Ex.no.4 : post-consumer sorted – QUALITY 1

(sorting provides relatively pure and specific polymers – but still remains contaminated - IT WILL NEVER CHANGE)



„Bottle-to-Bottle“ ?!

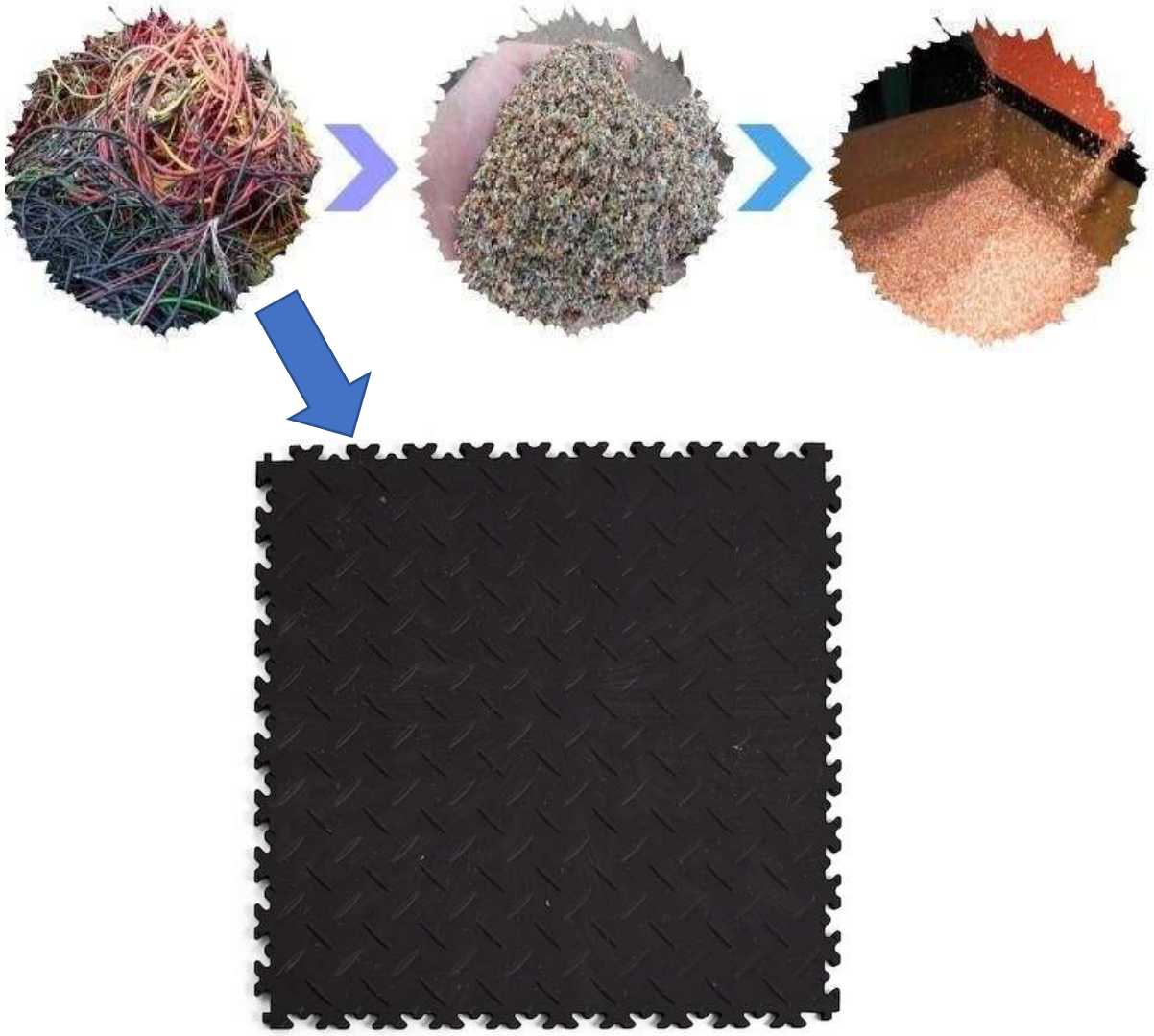
NO way for 60% of plastic post-waste (Excretes)

….than looking for less challenging applications

„Bottle-to-Bottle“
?!
NO way for 60% of plastic post-waste

Ex.no.2 : wire&cable EOL (end-of-life) re-processing

(even 30-40 years old cables + copper as a virgin material ; about 1,2 mil.TO per Year in Europe)

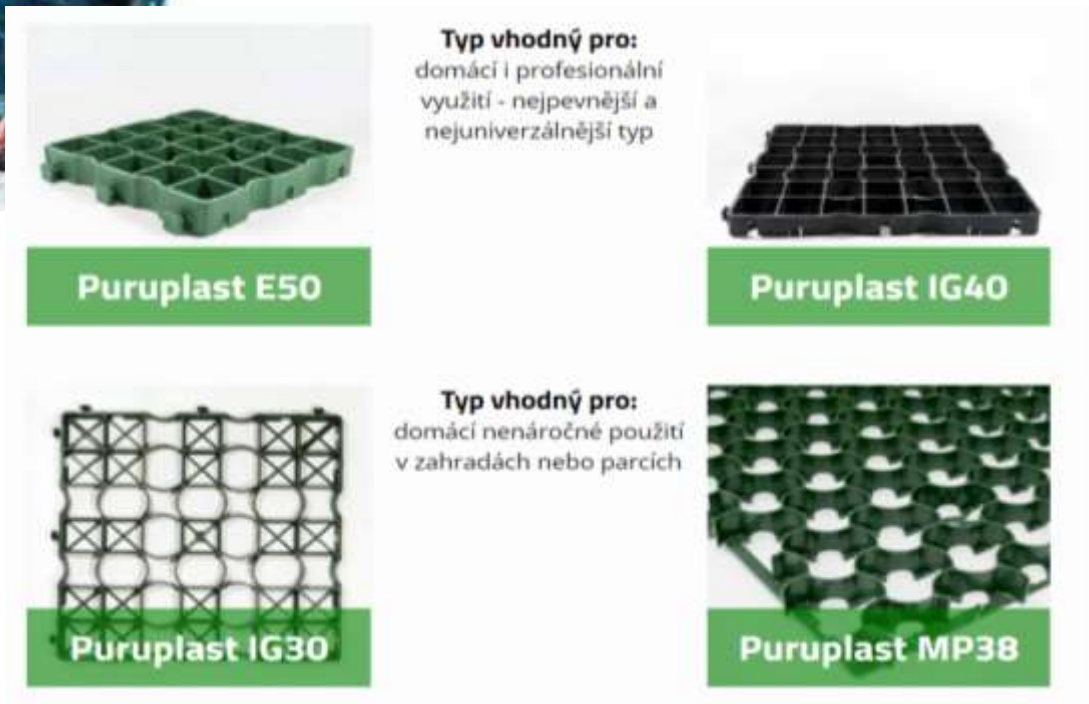


Ex.no.3 : post-consumer mixed

(after sorting still remain 40% of mixed EOL plastics ; sorting level can be negotiated with waste-producer)

Ex.no.5 : post-consumer sorted – QUALITY 2

(sorting and recycling quality is inequal ; lower quality can be used for higher thickness and more massive products)



Ex.no.6 : post-consumer mixed+sorted

(Products with an requirements on durability, weatherability and user safety
It can be well combined with mineral fillers including B&C waste)

Ex.no.7 : post-consumer spec-sorted

(Tetrapak specific composition = specific and unique properties for wall/floor/roof pannels)

Ex.no.8 : post-consumer spec-collected

(individual seller´s activities providing very well defined polymers/materials in excellent quality
ATTN : low volume + not very sustainable)

Ex.no.9 : post-consumer waste-of-waste

(all residuals from previous – variable content and quality whenever – it can be controlled only partially
Estimated about 20-25% from total plastic waste)

Roof covering

Florists

Garden borders

Ex.no.10 : plastic post-consumer „in minority“

(partially sorted plastics only as a binder – combination with >50% of minerals
Quite huge volume and potential for post-mixed-plastic waste)

THE POLYMER-SAND COMPOSITION

(309) Waste Processing Equipment | Automated line - YouTube

10 STEPS TO REACH TRUE-SUSTAINABLE SOLUTION :

1 – UNDERSTANDING AND APPRECIATION OF THE POST-WASTE QUALITY….AMBITIONS RESTRAINING

2 – PRODUCT/ARTICLE IDENTIFICATION (in sense of material replacement – no product range extension)

3 – AVAILABLE WASTE SOURCING WITH LOCAL ASPECT TAKING INTO ACCOUNT

4 – 1st LCA and SLCA STUDY BASED ON MODELLING AND SIMULATIONS (transport costs accented)

5 – PRODUCT DESIGN + FORMULATION RESEARCH + TECHNOLOGY ENGINEERING

6 – SEMI-TESTING PHASE ….prototype moulding, 3D printing etc.

7 – 2nd LCA and SLCA STUDY – MORE PRECISE SIMULATION (already all aspects calculated more accurately)

8 – DECISION MAKING ABOUT THE PROJECT REALISATION

9 – STARTING-UP AND 3rd LCA and SLCA STUDY COMPLETITION

10 – RIGHT, TRUE AND REAL ARGUMENTATION….NO-GREENWASHING COMPLIANCES

VÝZVY :

1. Nové definice kategorií plastových odpadů – důraz na další využití
2. Změna složení „žluté popelnice“ (PET, design a složení obalů, PET místo PP/HD…směsný odpad+)
3. Zaujmout stanovisko k industrial scrap – zejména automotive !
4. PCR vs PIR – objasnit, definovat, instruovat
5. Bilance za ČR, kraje atd - 16 kg/ob./rok↑ …..kde je zbytek?....např PP max 30kTo
6. Koordinace třídících center (vč. logistiky)
7. Podpora na výrobky X technologie (viz LCA/GHG atd.)
8. Certifikace firem
9. Způsoby recyklace-využití (chem/mech/TAP) vs. Dostupnost
10. Naslouchat potřebám zpracovatelů – viz Olovo vs. PVC soft