



Design for Circularity of Industrial Packaging Film

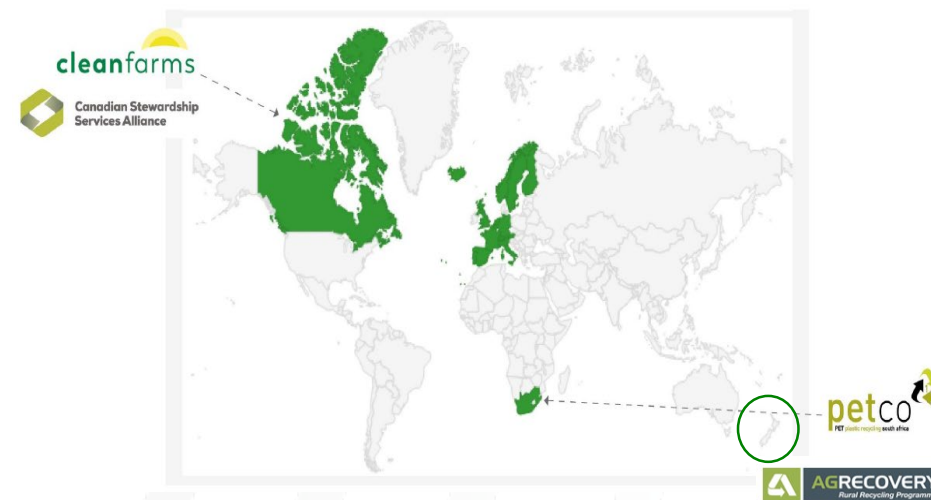
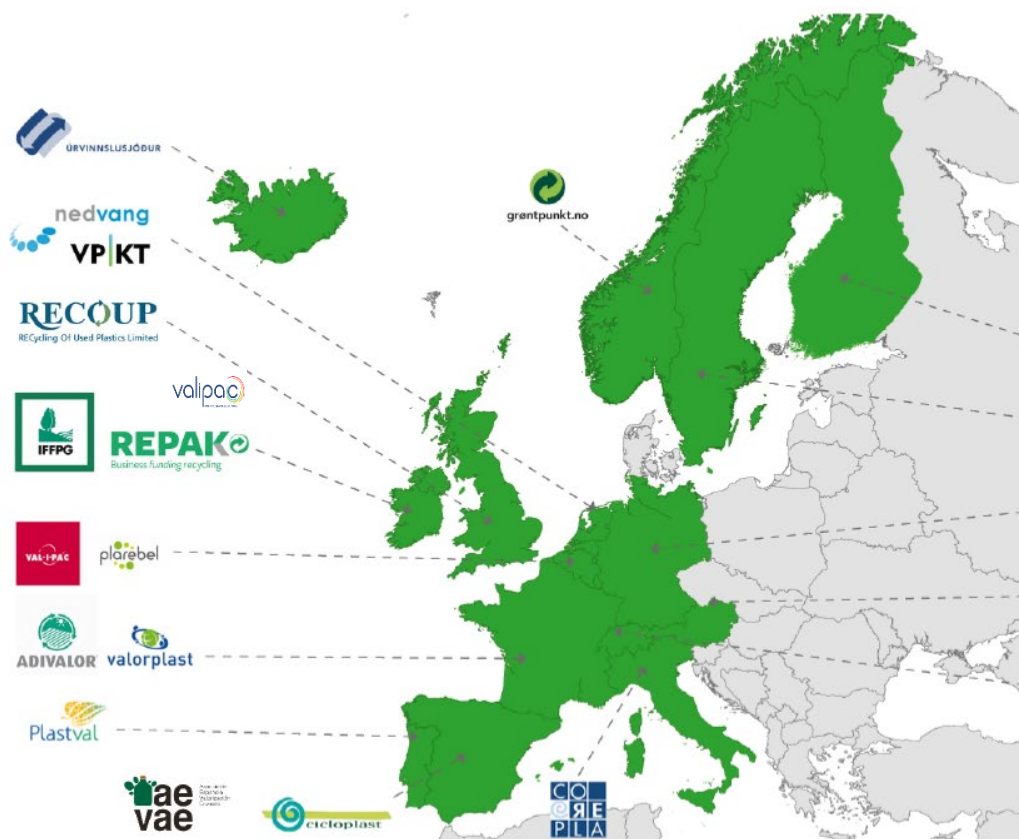
Francis Huysman
CEO Valipac
Co-Chairman EPRO
Wiesbaden, nov. 2019

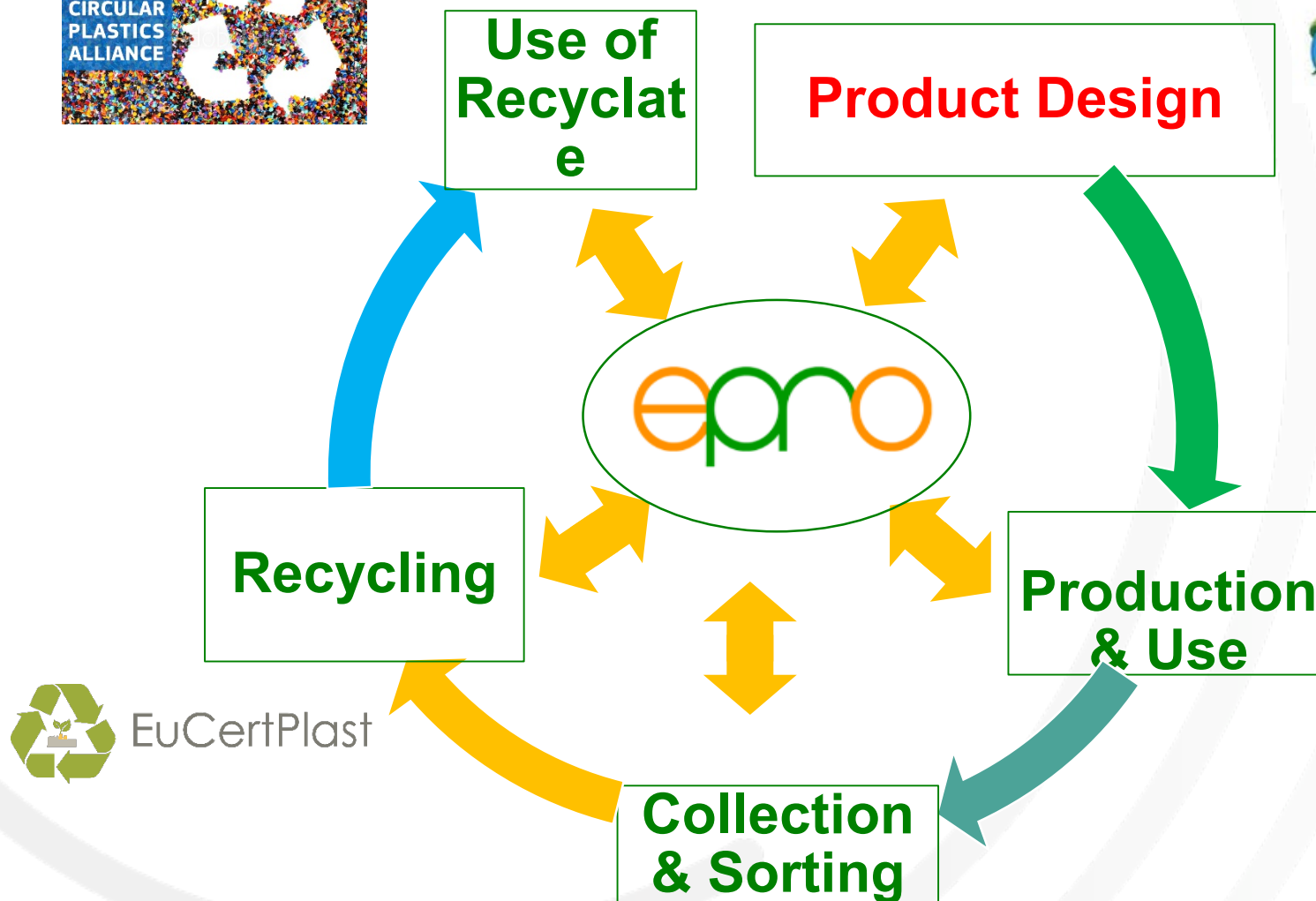
What is EPRO?

- European Association of Plastics Recycling and Recovery Organisations
- Members, all based on **Extended Producer Responsibility**, have to give in their country guarantee on recycling of plastic packaging waste, and agri-plastics
- 25 members: Europe, Canada, New Zealand and South Africa

Aim: To exchange experiences and thus optimise national effectiveness through international co-operation

www.e-pro-plasticsrecycling.org





Europe

Extended Producer Responsibility schemes to increase recycling and evolve towards circularity.

Belgium : different EPR schemes for packaging

- **Valipac** : Packaging from trade & industry
- Fost Plus : Household packaging
- AgriRecover : Phytophar packaging farms

Valipac

- Multimaterial industrial packaging scheme
- 7200 members
- Plastics : film, rigid, EPS
- 101 kton plastics put on market
- 54 kton plastics recycled



Introduction Clean Site System 2005→



Bad collection on
Construction Sites
→2005



Return of plastic waste
to the wholesale



Recycling China
→2017

What next ?

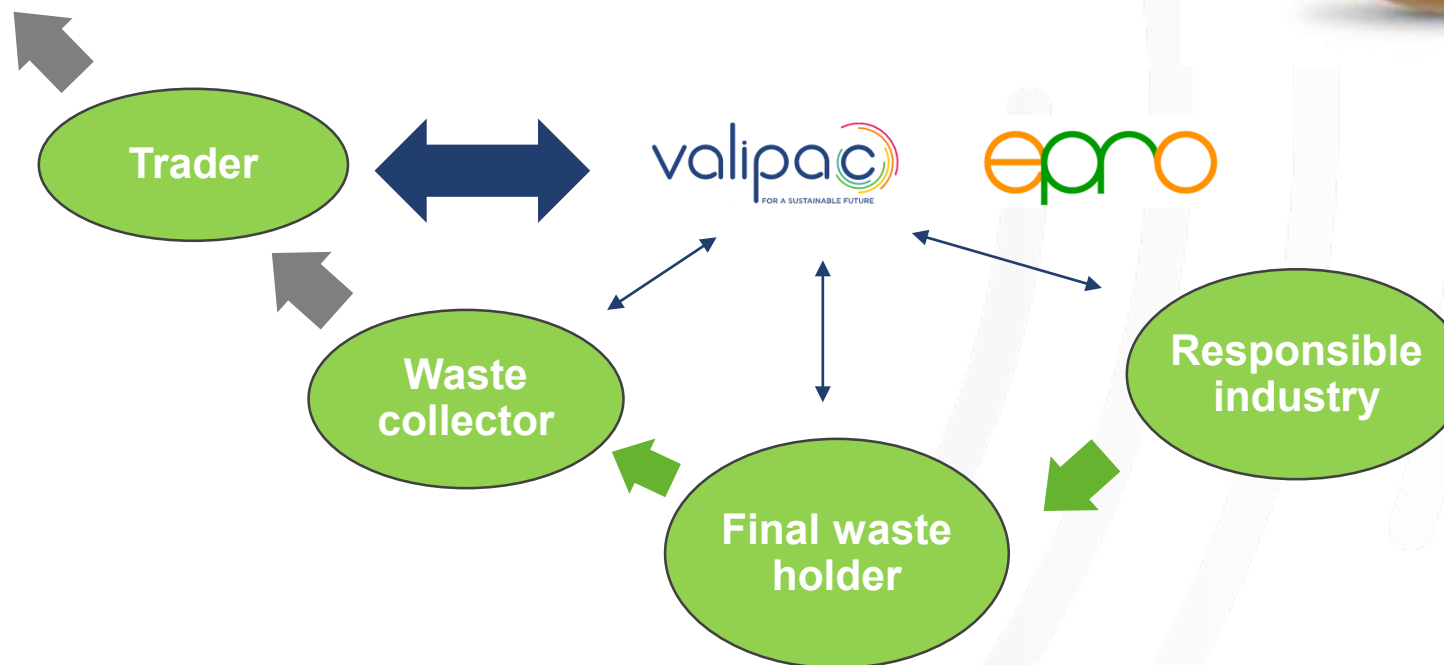






Control of export and prove of recycling by contract with traders

- Accreditation of trader
- Reporting of final recycler



Clean Site Circular: the Eternal Life of Shrink hoods

Introduction Clean Site System
2005→



Bad collection on
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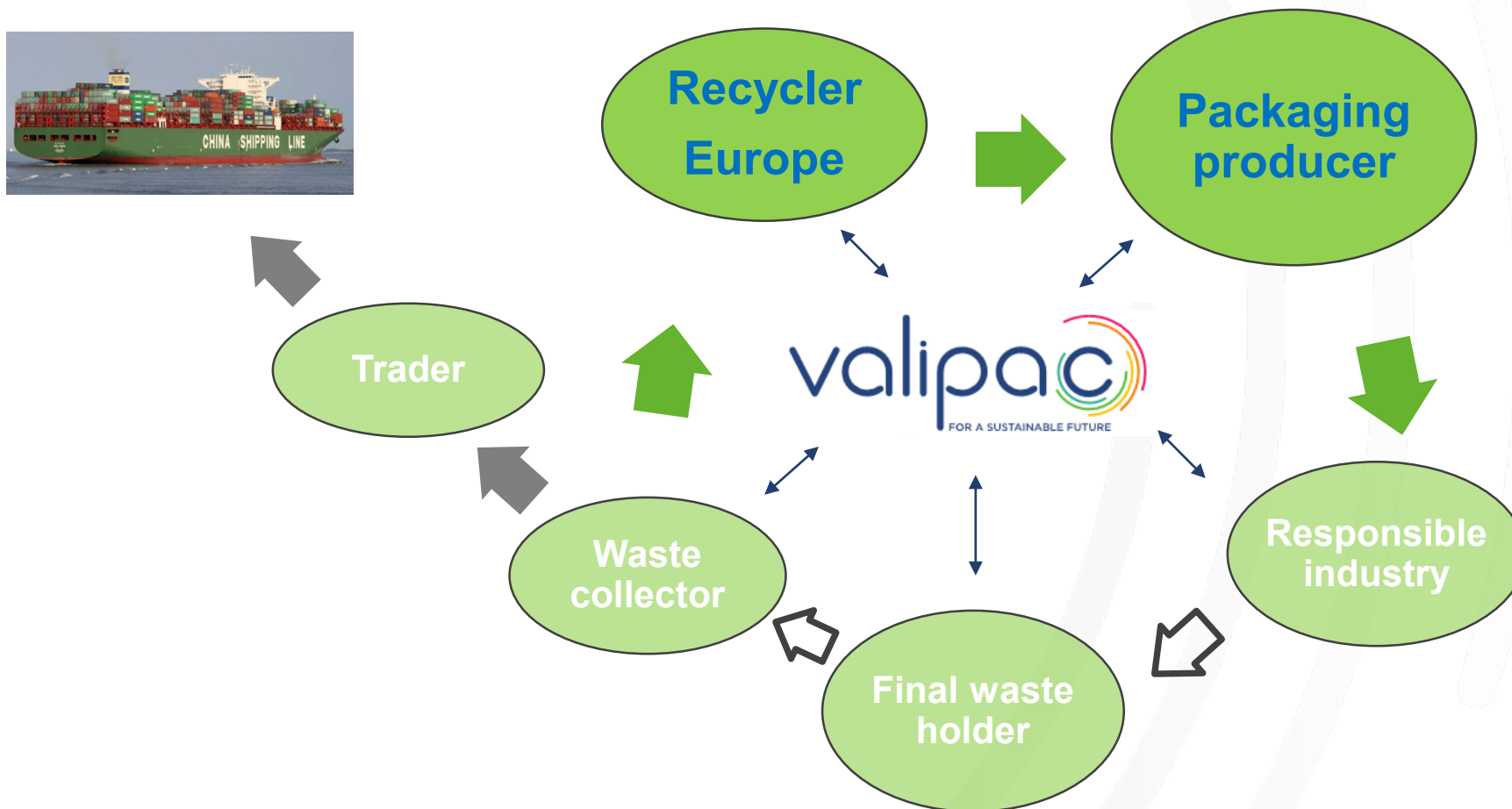
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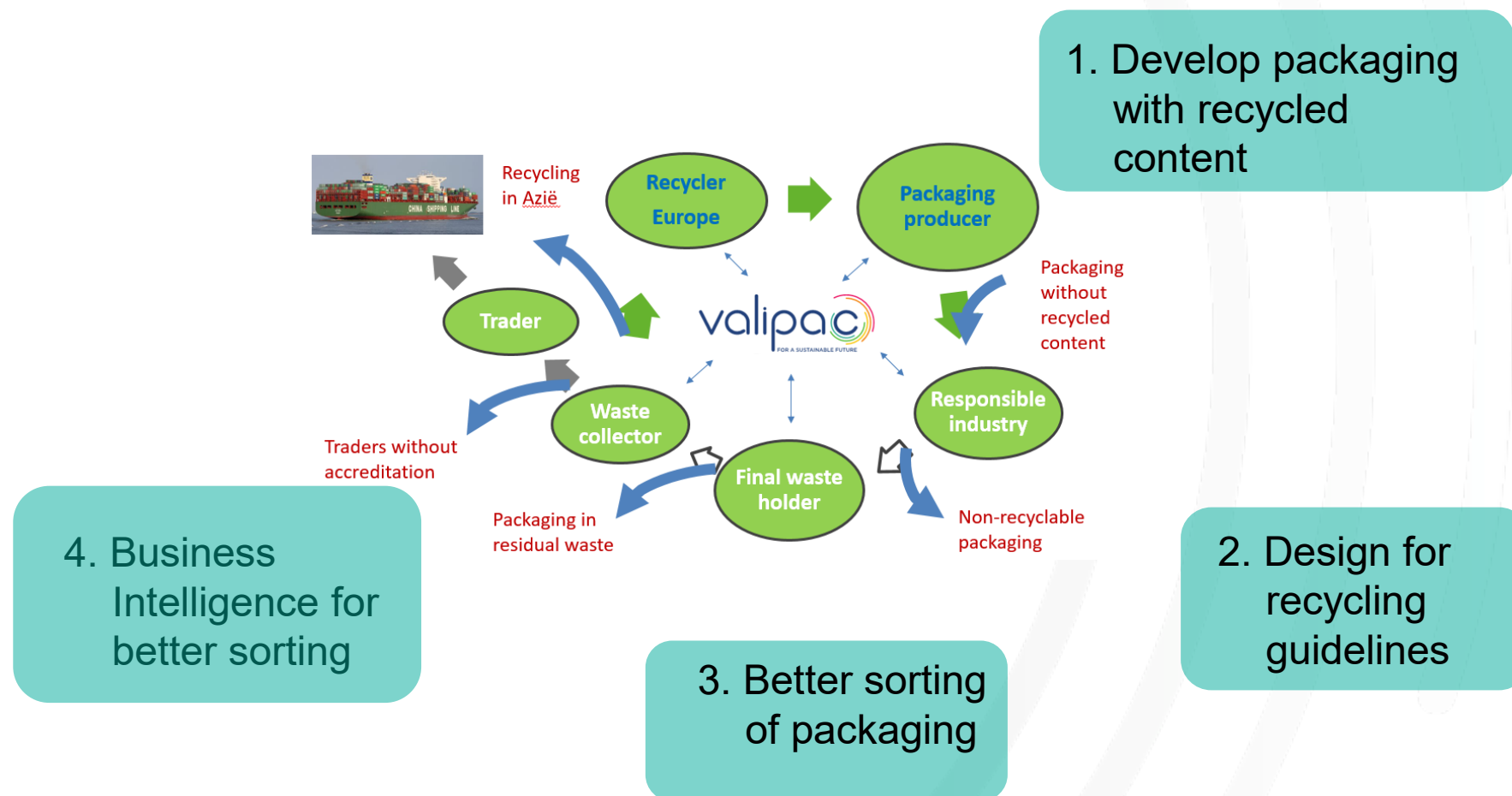


From a linear to a circular model for plastic recycling





Actions to make plastics circular





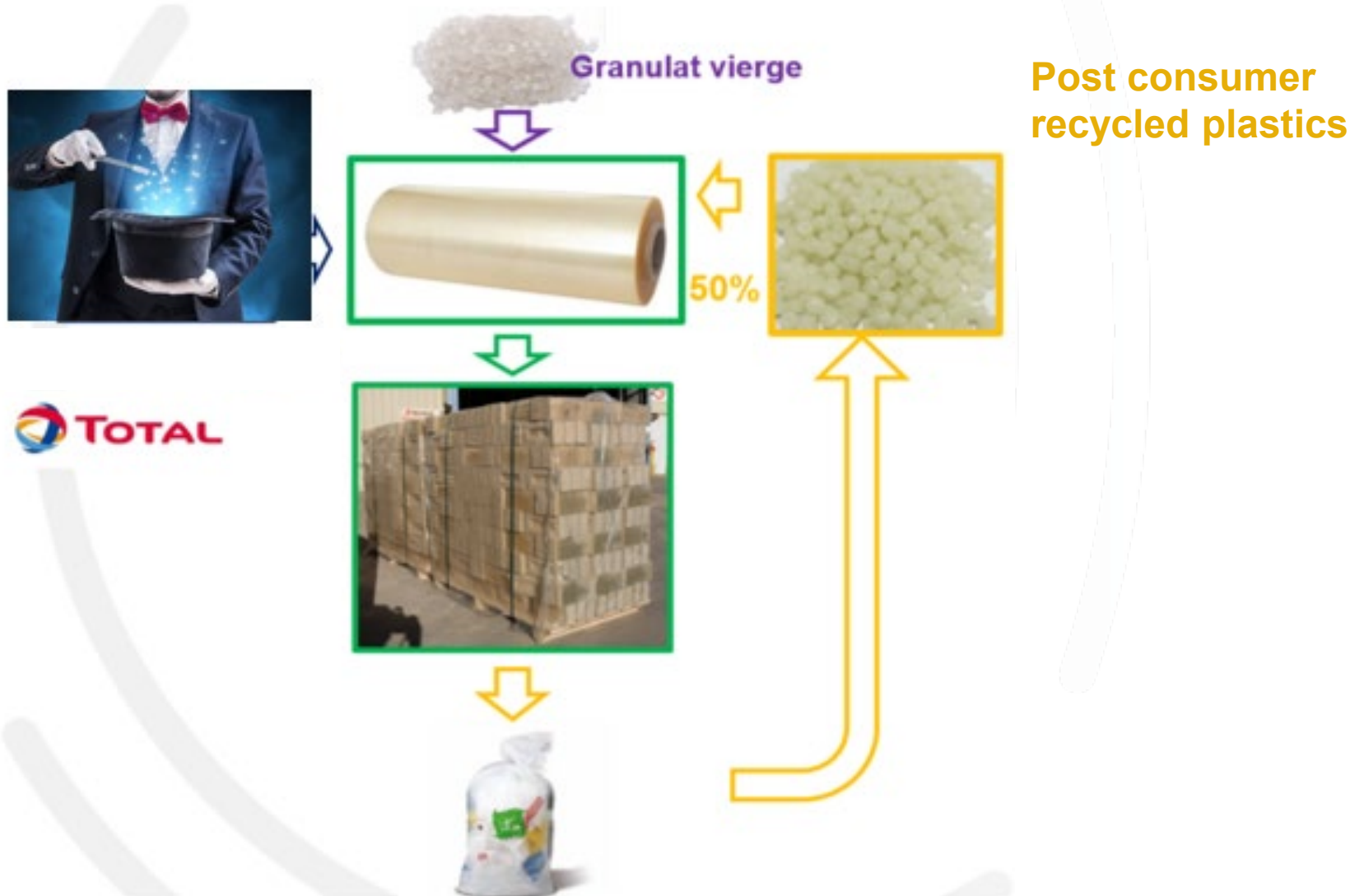
*A demonstration project in
collaboration with*



Financially supported by

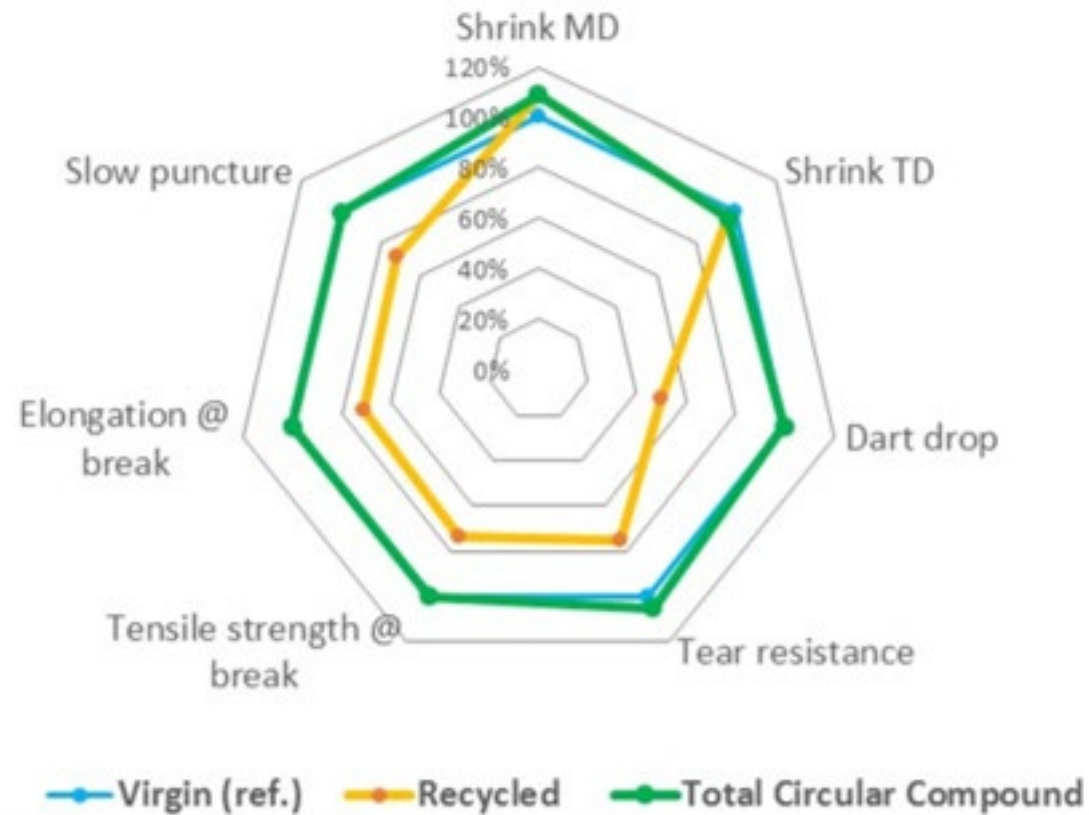


Development of
circular shrink film
with 50 % post
consumer recycle

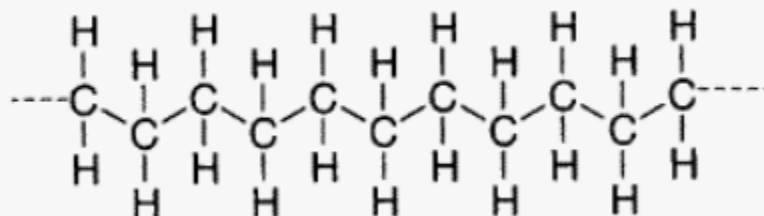


Technical characteristics of circular shrink film

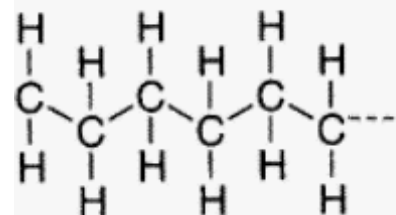
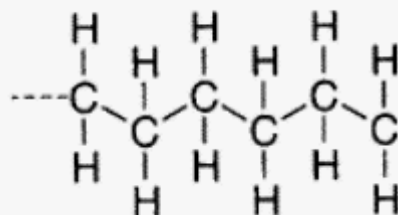
Circular shrink hood, 50% recycled content : *technical equivalency with virgin*



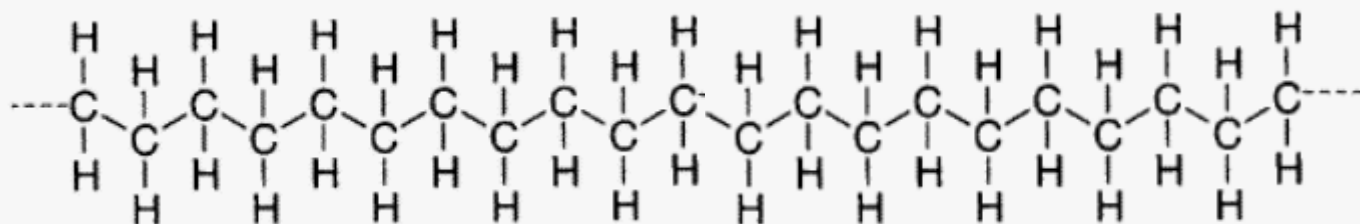
Virgin plastics



Recycled plastics



Booster plastics



Circular shrink film on the packaging line



the proof of the pudding is in the eating





Environment

Use of Circular shrink film strongly reduced the carbon footprint of packaging (recycling of 1 ton plastics saves 3,02 ton of CO₂)



Cost

Cost is equivalent with shrink film made with 100 % virgin plastics.



Load security

Tests on load security have been performed with succes.



Availability

Commercially available



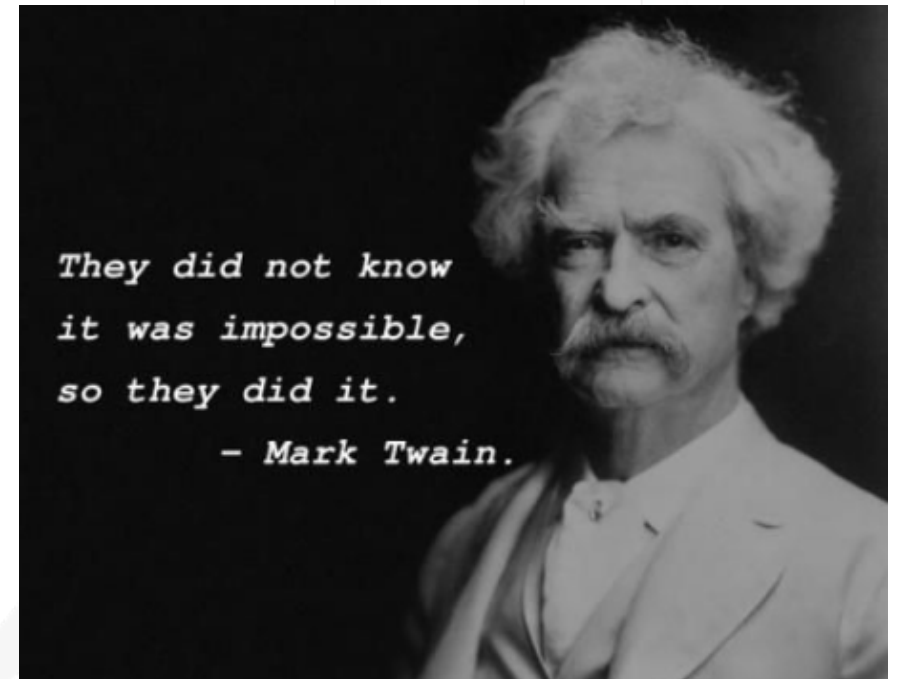
Circular shrink hood potential :

Belgium : 40.000 ton/year

Europe : > 0,5 M ton/year !

More opportunities:

- Polyethylene bags
- Protection film
- Group packaging of building Material
- Packaging insulation panels
- Agricultural film
-



Used shrink hoods can be recycled to new shrink film ... if they are not coloured

- Problem: colorful films (printed or colorized)
- Post-sorting construction film at waste operator:
Only 33% usable for circular purposes
- Transparent waste films are worth 3 times more than colored or printed copies
- Value of the material has to remain high in the material chain to get profitable recycling business in Europe and avoid exportation
- Solution: Problem: colorful films
 - Alternatives to marketing of the product
 - Inkt which can be neutralized during the recycling process





Paper poster
under the shrink sleeve



Plastic banderole
around the pallet



Stretch film tape around the pallet



Let's think together for other alternatives.....

If nevertheless print: Surface area as small as possible!!!!

- First production batch in September (25 micron, 7 layers, 25 % PCR)
- Some technical issues still to be solved
- Product should be available autumn 2020



Partners



- **Replace** your virgin polyethylene-films of industrial packaging by circular unprinted / uncolored ones
(also bags, protection sheets, agricultural film,)
- **Your demand** will create a sustainable recycling industry in Europe
- **We want to help you !**



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WE NEED YOU!





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