



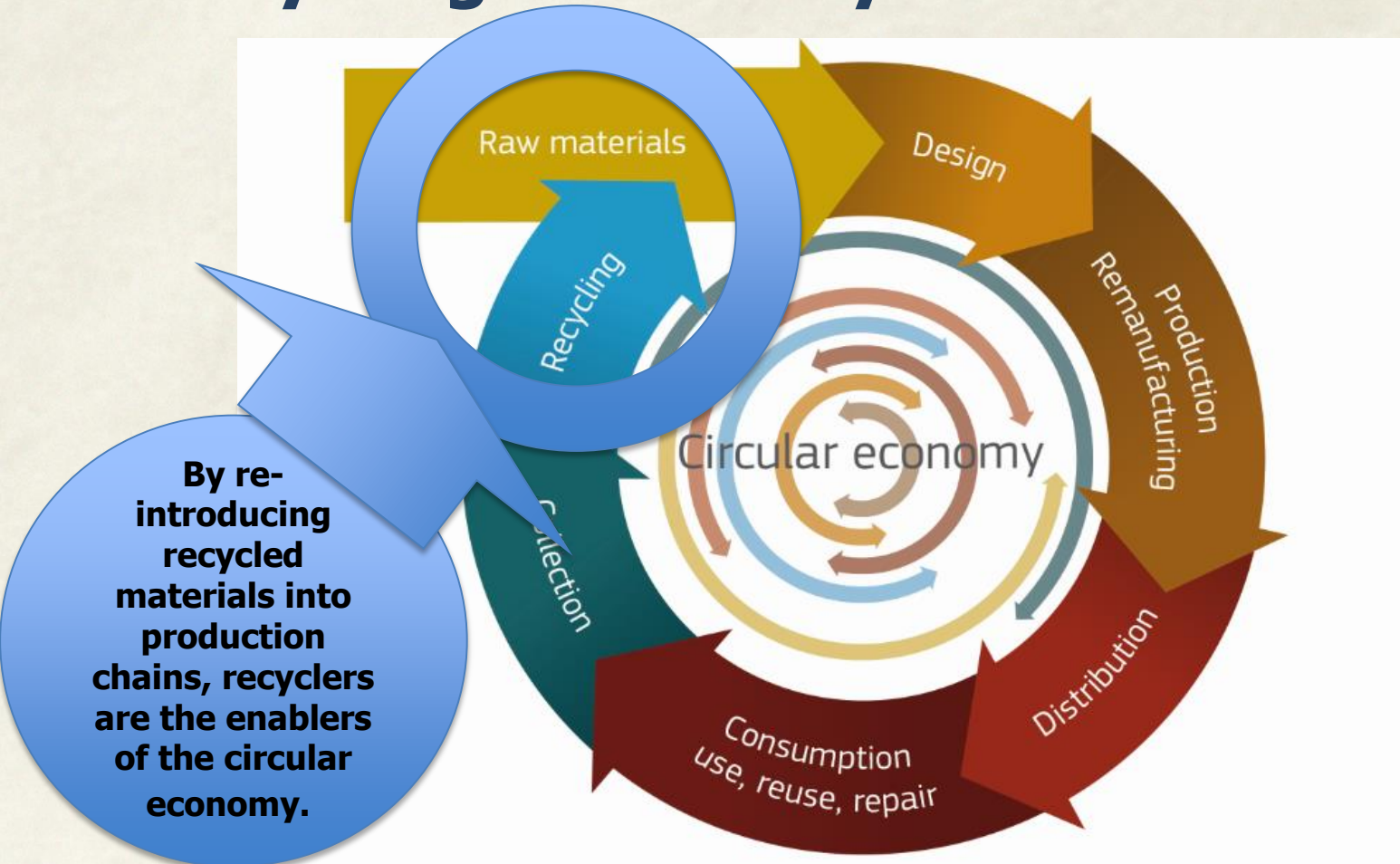
Bridging circular economy with climate policy

Measuring CO₂ savings from recycling

Olivier François, Group Galloo Recycling
Chairman of FEDEREC International Affairs Committee
EuRIC

EuRIC – Realising the circular economy

Recycling is not only resource efficient...

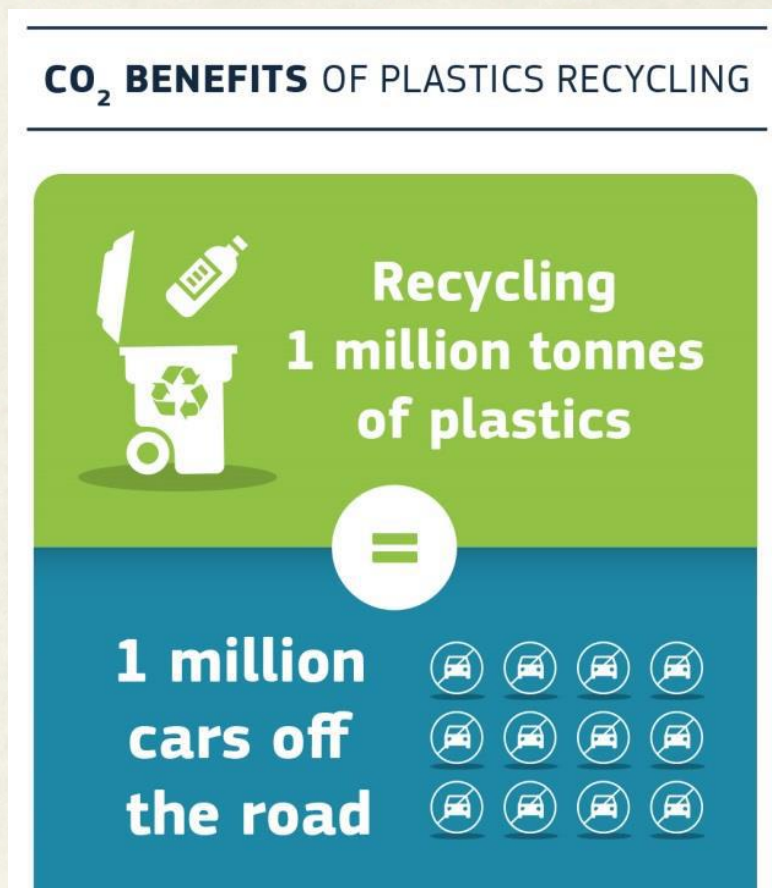


Circular economy Chart - 2014
European Commission Communication ([COM/2014/0398 final](https://ec.europa.eu/commission/presscorner/detail/en/COM/2014/0398))



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...But also climate efficient



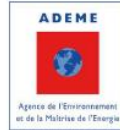
European Commission – A European Strategy for Plastics in a Circular Economy
COM(2018) 28 final

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FEDEREC-ADEME joint study

Quantifying the environmental benefits of recycling



**Évaluation environnementale
du recyclage en France selon
la méthodologie de l'analyse
de cycle de vie**



**First multisector LCA study of this
scale on recycling in Europe.**

10 materials are studied :

Benefits calculated for : Scrap ferrous metals, Non ferrous metals (Aluminium, Copper), Paper, Cardboard, Glass, Plastics (HDPE, PET), Textiles, Aggregates.

The study includes the collection, sorting / processing, transport and intermediate material production (billets, granulate, paper pulp)

2 impacts are measured



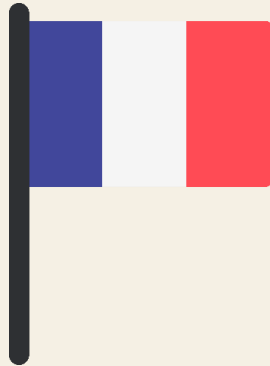
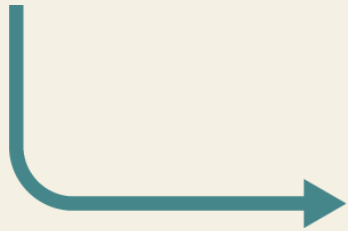
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Global Results

22,5
Mt CO₂

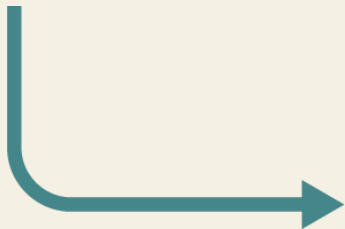


20% of the annual emissions
of French automobile fleet
100% of the annual emissions
of French air transport

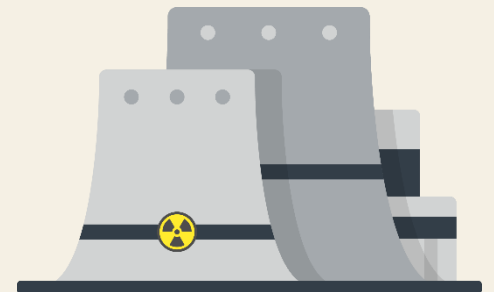


5% of French emissions

124 TWh



Equivalent to 18
French nuclear
reactors' final
production



Bridging recycling with climate policy

First study based on LCA:

- underpinned by robust data
- measuring CO₂ and energy savings for the main resource streams

Operational dimension:

- Scope can be extended to new streams
- Calculation of environmental benefits per ton of waste recycled

EU target by 2050 : Reduction by 4 of the CO₂ emissions

↳ **Cutting 100 Mt each year**



Decisive role of recycling to reach the carbon emissions reduction targets set by the EU and to ensure the transition towards a low-carbon economy



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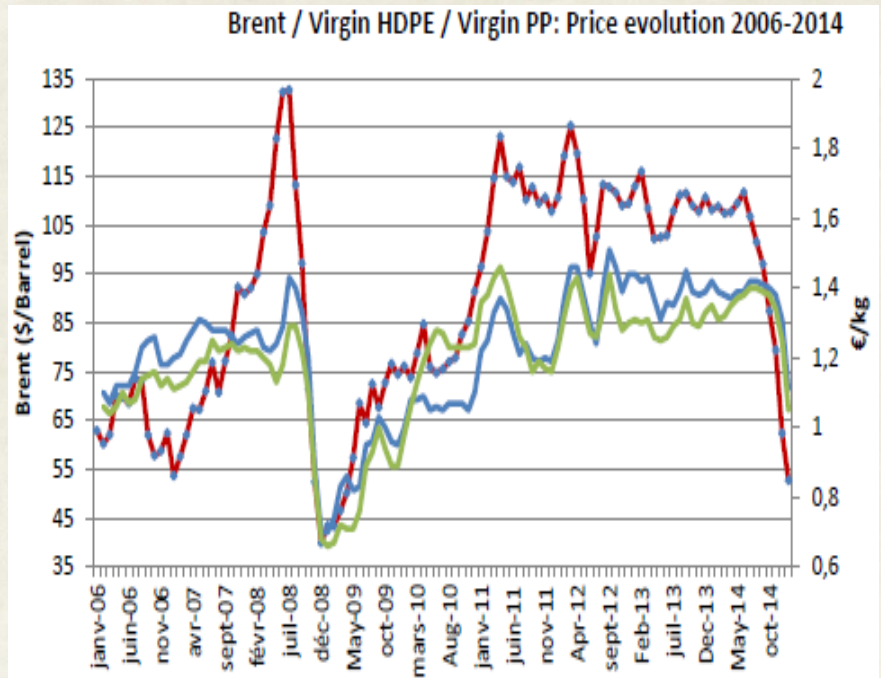
Link to transition to a Low-Carbon economy



Problem

Price of recycled plastics are fully correlated with crude oil prices but...

Market fails to internalise the recycling net environmental benefits in price setting





—●— Europe Brent (\$/Barrel)
—●— Virgin HDPE (Injection molding) (€/kg)
—●— Virgin PP (homo) (€/kg)

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Potential Results : example of plastics

22,5 Mt CO₂  = 200 Mt CO₂  EU 28

Recycling polyolefin :
CO₂ savings = 2,8 tCO₂ eq per ton collected

Part of polyolefin in EU plastics = 50 %

Recycling rate target = 50 %

→ Total CO₂ savings = **29 Mt CO₂**

+ 15 %



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Policy options

Needed link: **Incentives rewarding recycling environmental benefits.**

- Market based instruments (e.g.: Tax/VAT rebates, CO2 credits, etc.).
- Recycled content (especially for plastics)
- Green public procurement valuing recyclability / recycled content

<https://www.euric-aisbl.eu>
euric@euric-aisbl.eu



[@EuRIC Recycling](https://twitter.com/EuRIC_Recycling)