



# Steel for packaging: strategies to meet the Sustainability Challenge

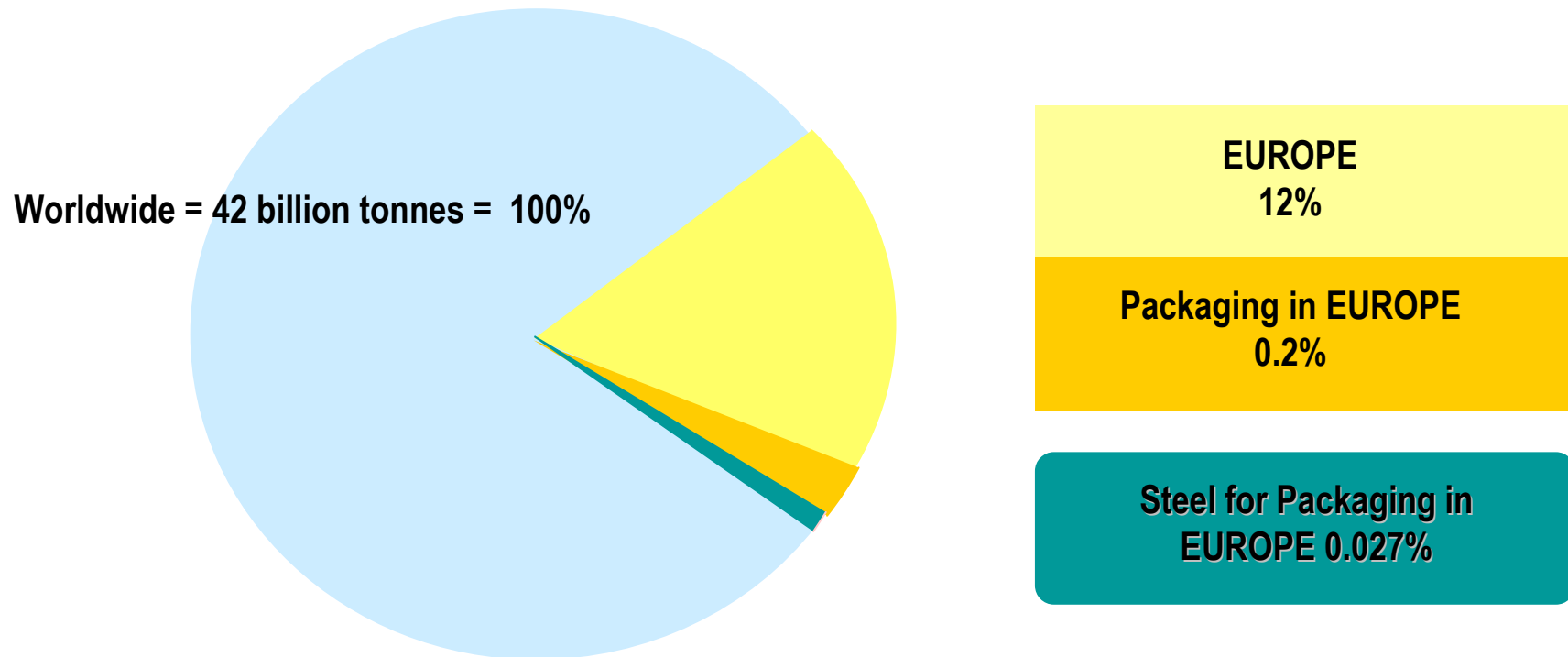
Philippe Wolper  
Managing Director  
APEAL



# The challenge



# Steel for Packaging: 0.027% of global CO<sub>2</sub> equivalent emissions = 11.4 million tonnes



CO<sub>2</sub> EQUIVALENT EMISSIONS  
On a yearly basis



Source: Ref. 2000/2003 – World Resources Institute, EEA, EU Commission

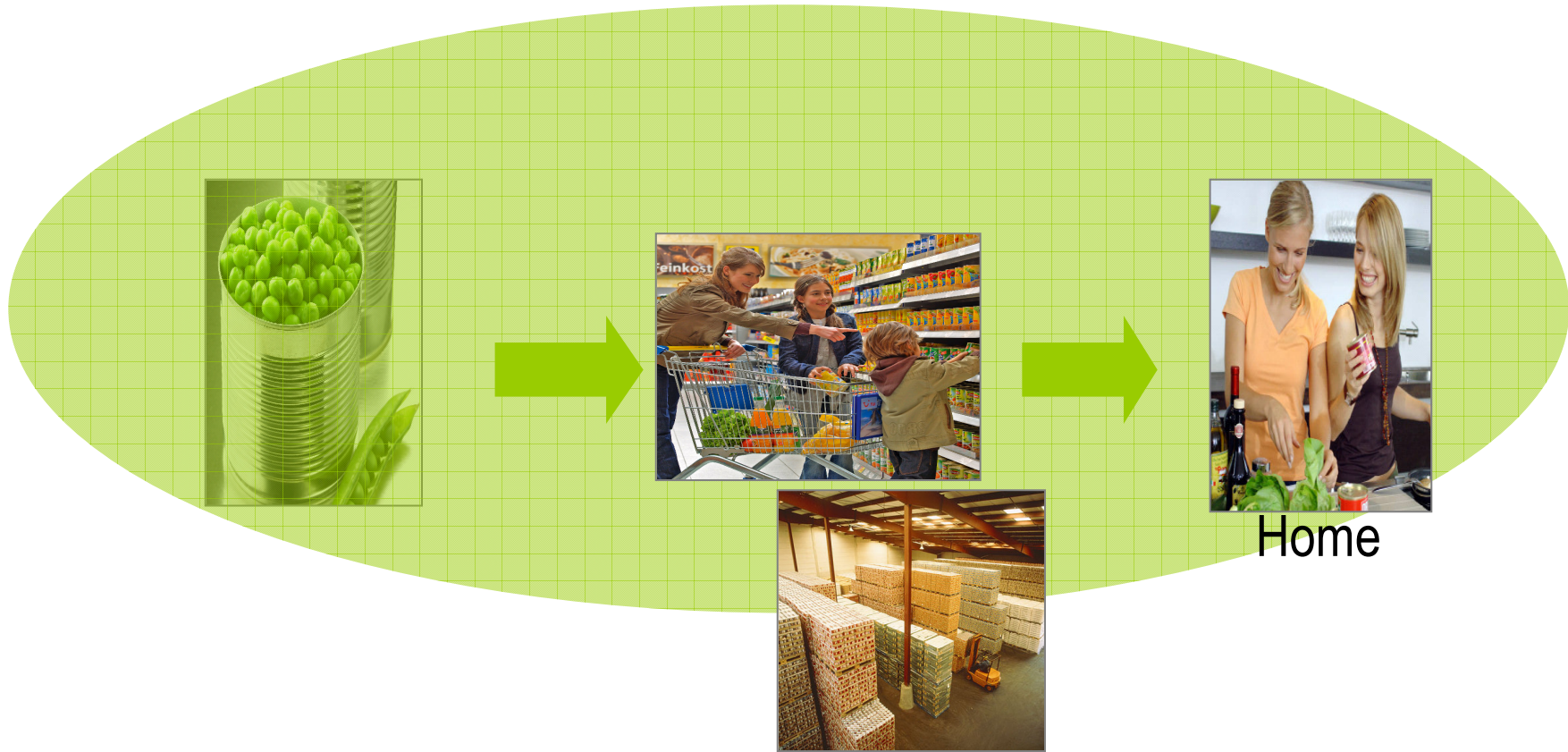
# Co-operation throughout the chain



STUDIES:



# HOLISTIC APPROACH NEEDED



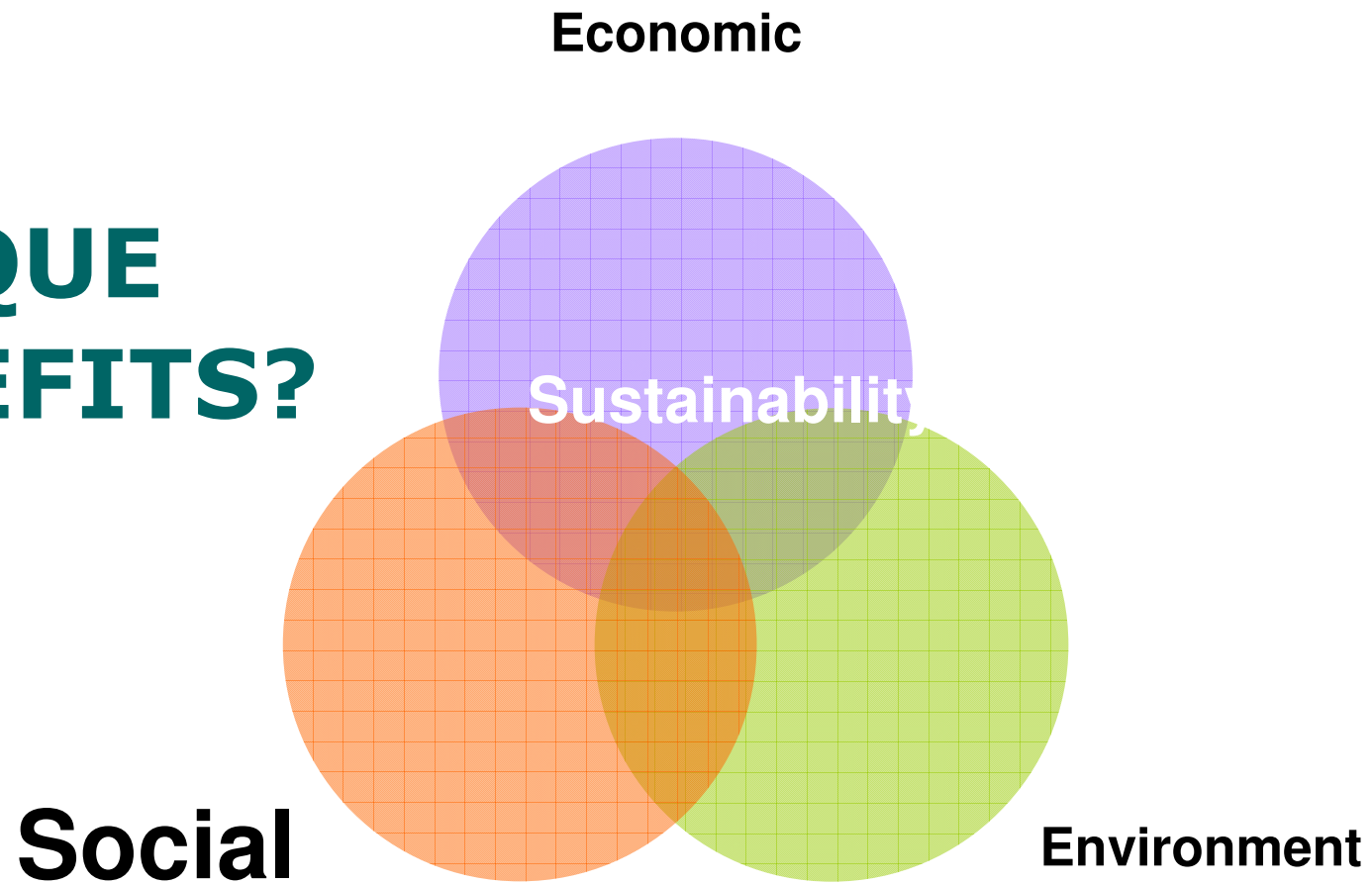
Retail

Home



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# UNIQUE BENEFITS?








# Steel cans **prevent product waste** ...



## Oxygen intake

measured in  $\text{cm}^3/\text{m}^2/\text{day}/1$  bar atmosphere, for 100 microns thickness of packaging

1		<b>Steel can</b>	<b>0</b> + total LIGHT barrier
1		<b>Glass</b>	<b>0</b>
2		<b>Pouch</b>	<b>0</b> (with aluminium foil of at-least 6 microns) <b>17.4</b> (with EVOH)
3		<b>Carton</b>	<b>&lt;0.1</b>
3		<b>Rigid Plastics</b>	<b>1,000</b>

Source: Industry Expert



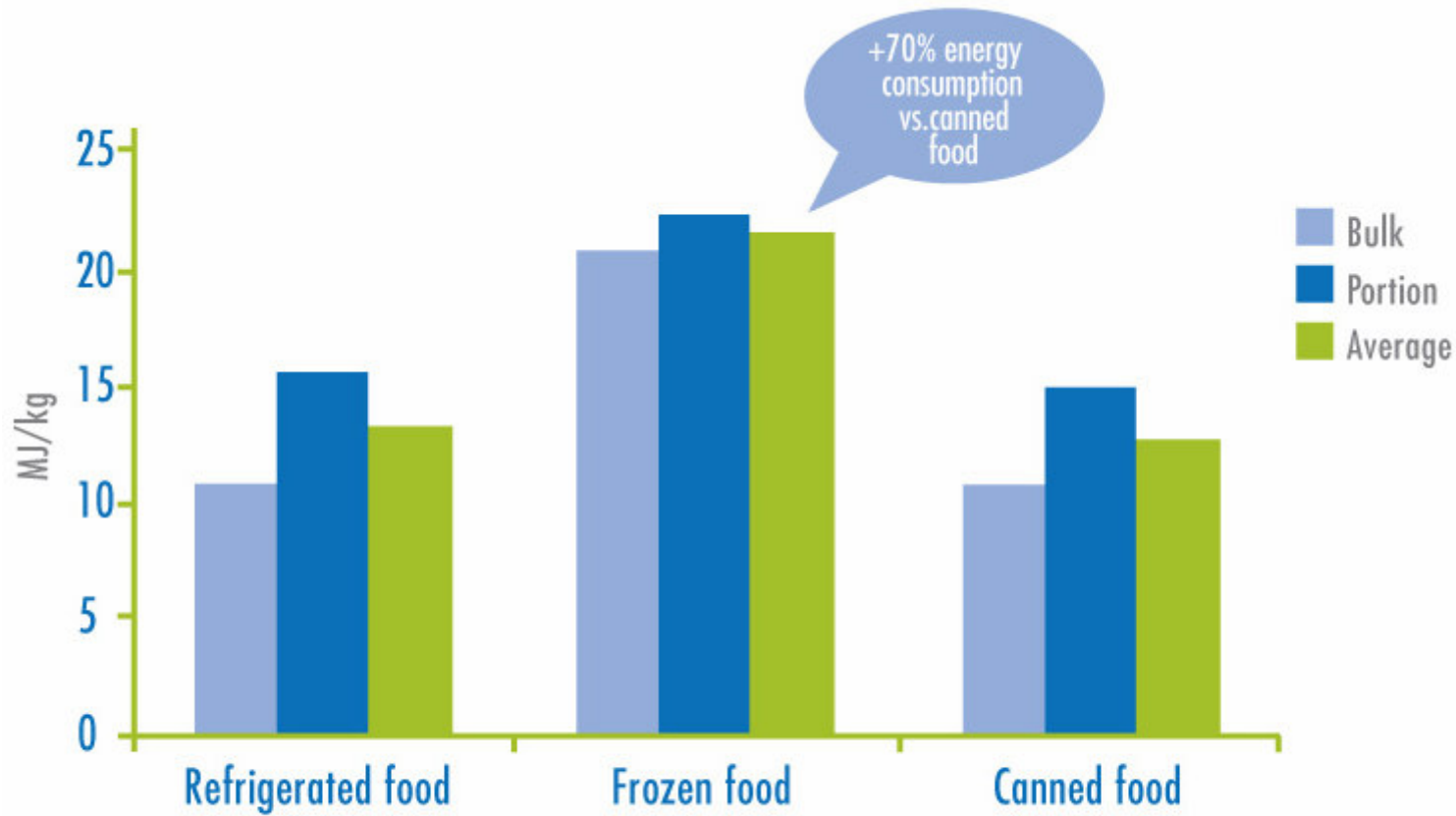


... deliver **highest protection** ...





...and allow for **energy free preservation** throughout the supply chain.



Source: Scientific Certification System (scs)





**HIGHEST  
STRENGTH**



**TOTAL BARRIER PROPERTIES**

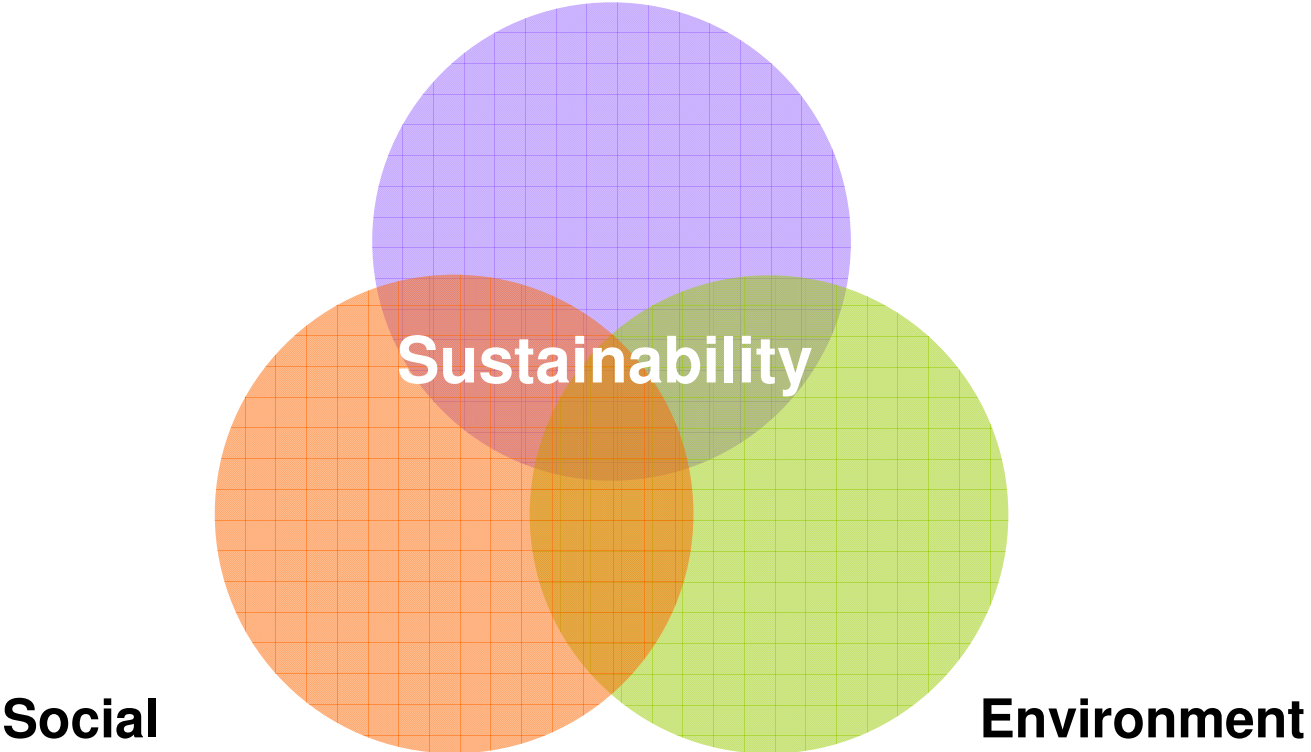
## Protecting products...

*Naturally*

- Trusted safety
- Ultimate protection
- Energy free preservation








# Economic



Steel cans are best in class for **reliability**...

## Failure rate of closing devices

1		Steel can	1/1,000,000
1		Glass	1/1,000,000 (excluding glass breakage)
2		Pouch	1/10,000
2		Carton	1/10,000
2		Rigid Plastics	1/10,000

Source: Industry expert

... and therefore **keep consumers safe** ...










...are **economical through the supply chain...**



## Filling speeds

for 400ml soups from major European brand owners

1		<b>Steel can</b>	<b>500</b> units/minute
2		<b>Rigid Plastics</b>	<b>30-400</b> units/minute (according to filling system)
3		<b>Glass</b>	<b>300</b> units/minute
4		<b>Carton</b>	<b>30-100</b> units/minute (according to filling system)
5		<b>Pouch</b>	<b>30-70</b> units/minute (according to filling system)

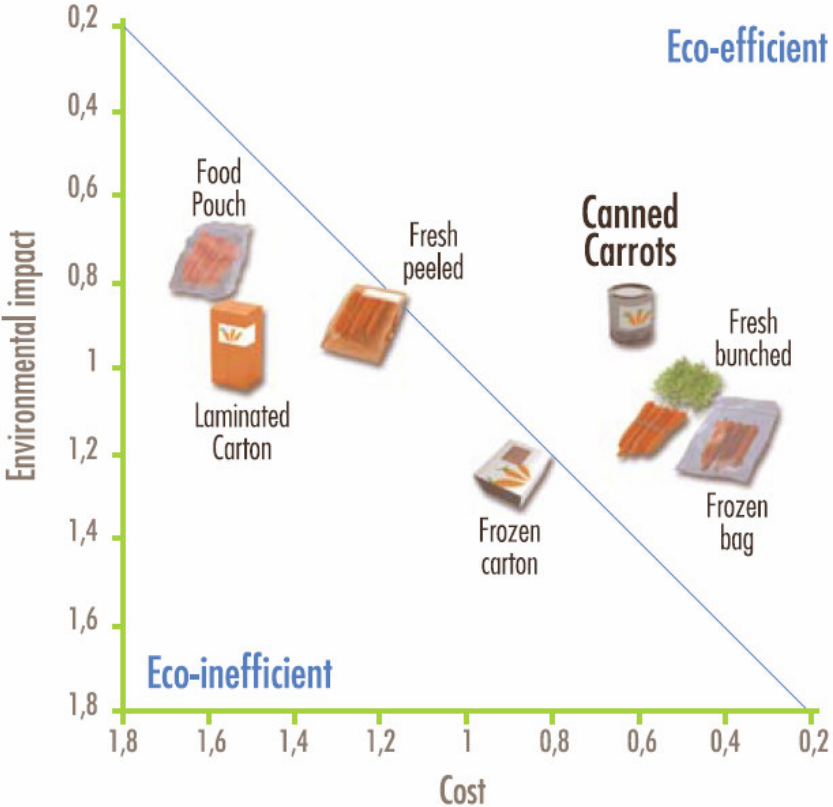
Source: Industry expert



# ...delivering highest **eco-efficiency**.

## Eco-efficiency - Food packaging systems

- Environmental parameters:**
1. Global warming potential
  2. Ozone depletion potential
  3. Human toxicity potential
  4. Fresh water aquatic ecotoxicity potential
  5. Terrestrial ecotoxicity potential
  6. Photochemical ozone creation potential

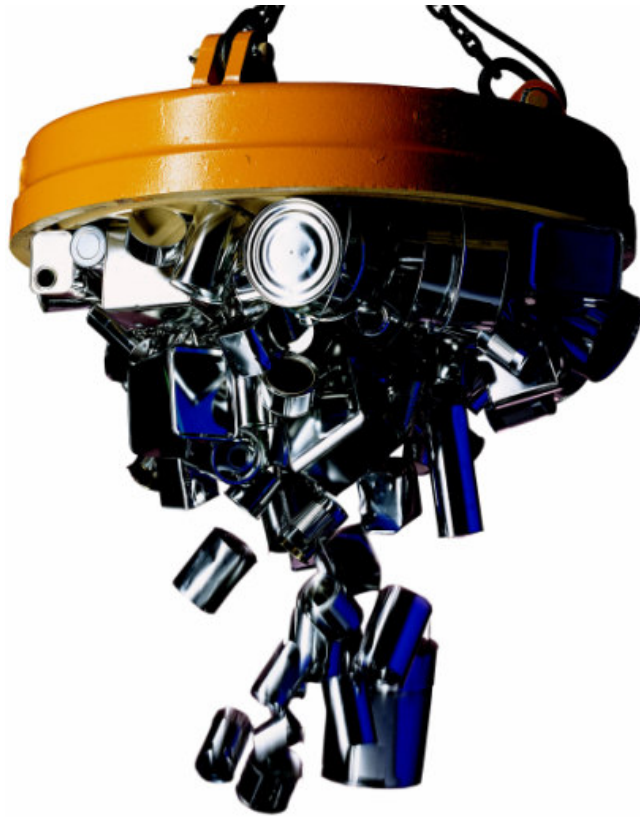


- Cost analysis parameters:**
1. Retail price of product
  2. Cost of transportation
  3. Storage
  4. Preparation
  5. Cooking
  6. Waste disposal

Source: TNO







**MAGNETIC**



**HIGHEST  
STRENGTH**

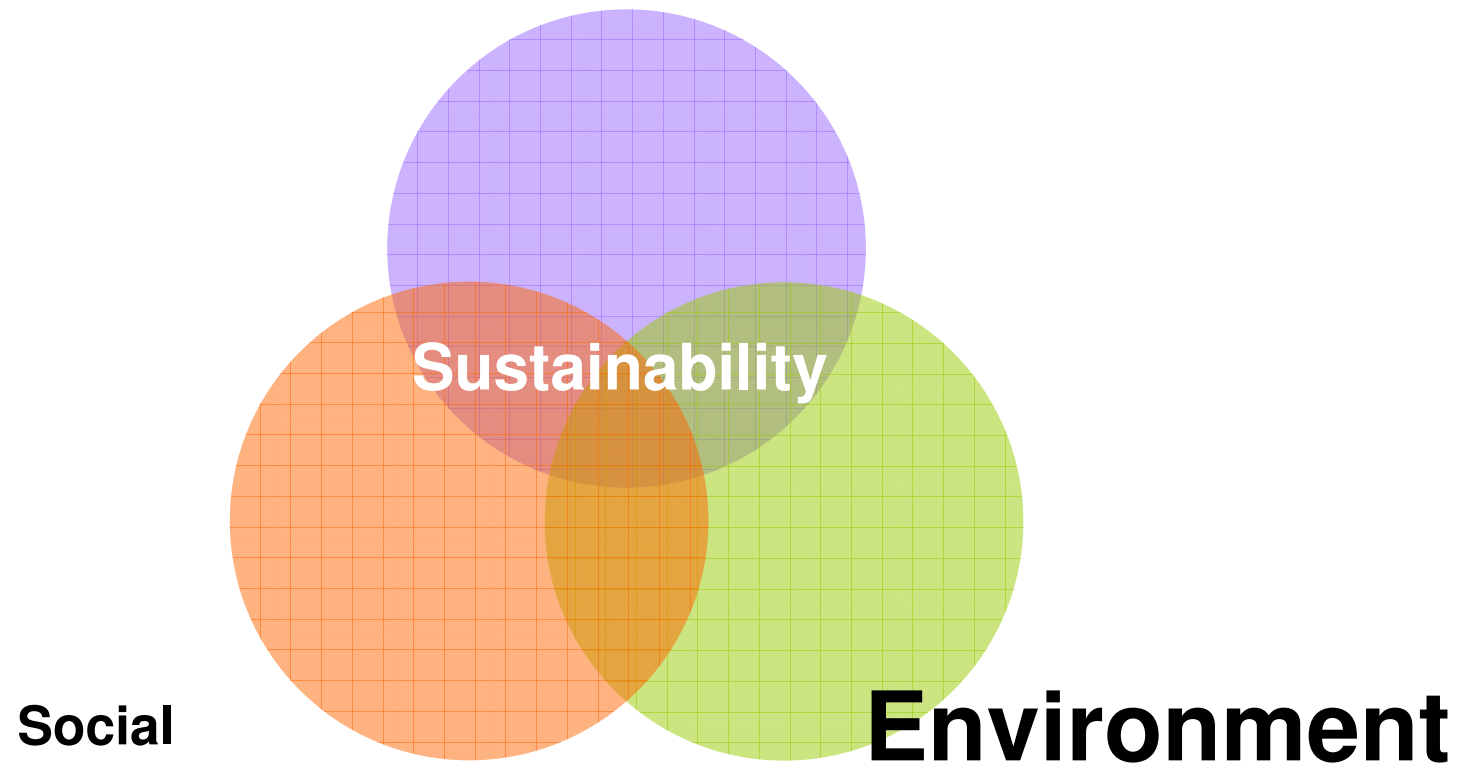
## Delivering for business... *Naturally*

- The benchmark for packaging reliability
- Resistant & magnetic: supply chain efficiency at its best
- Highest eco-efficiency



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**Economic**

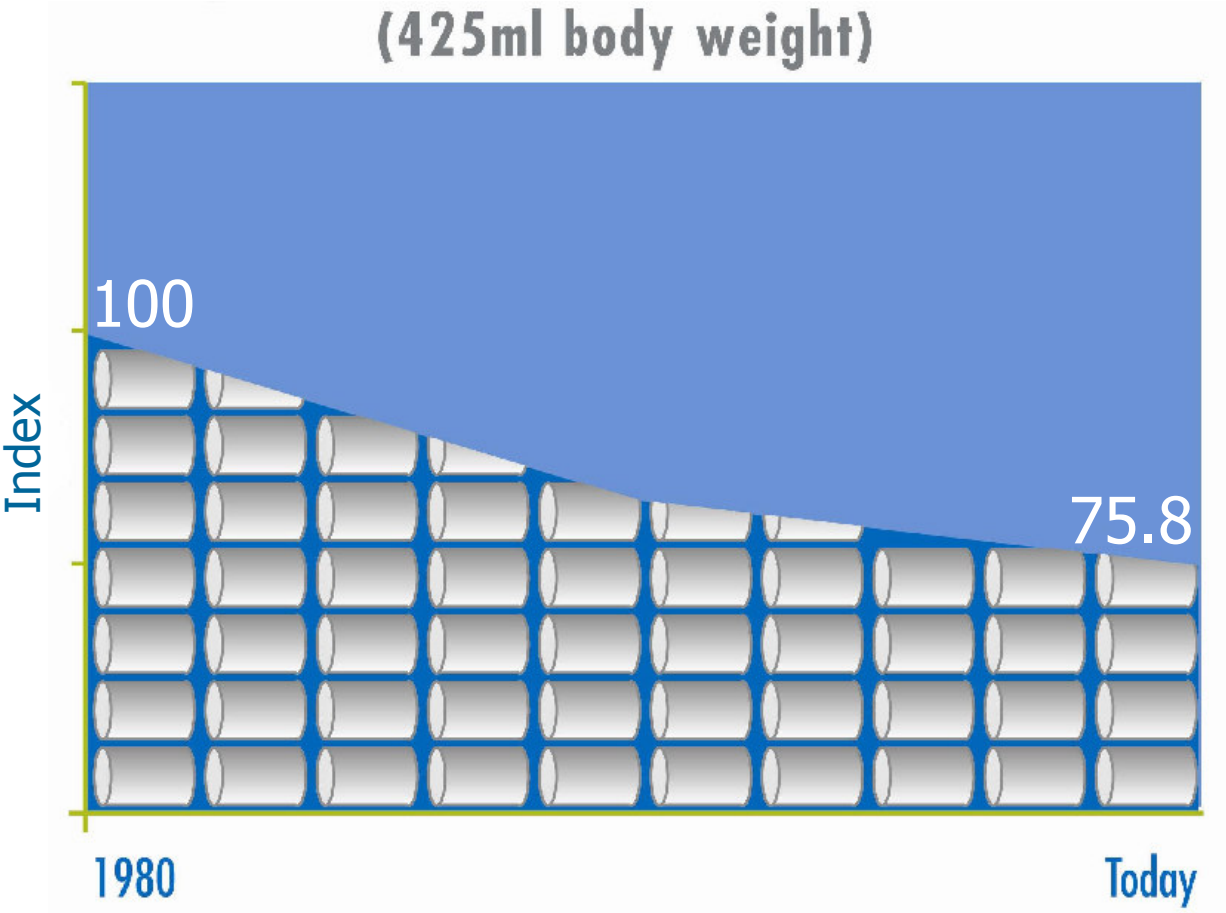


**Social**

**Environment**



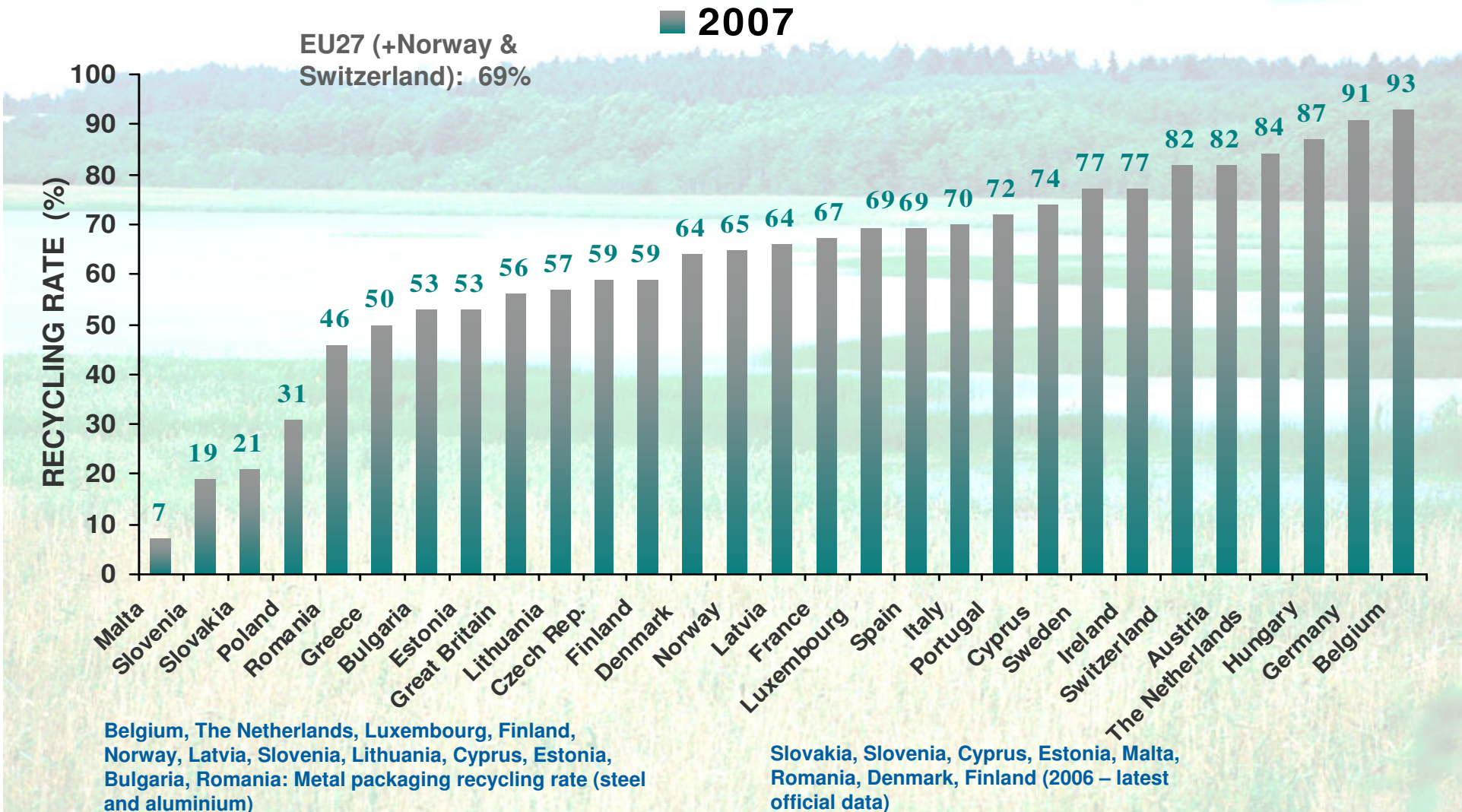
# WEIGHT REDUCTION OF STEEL FOOD CANS



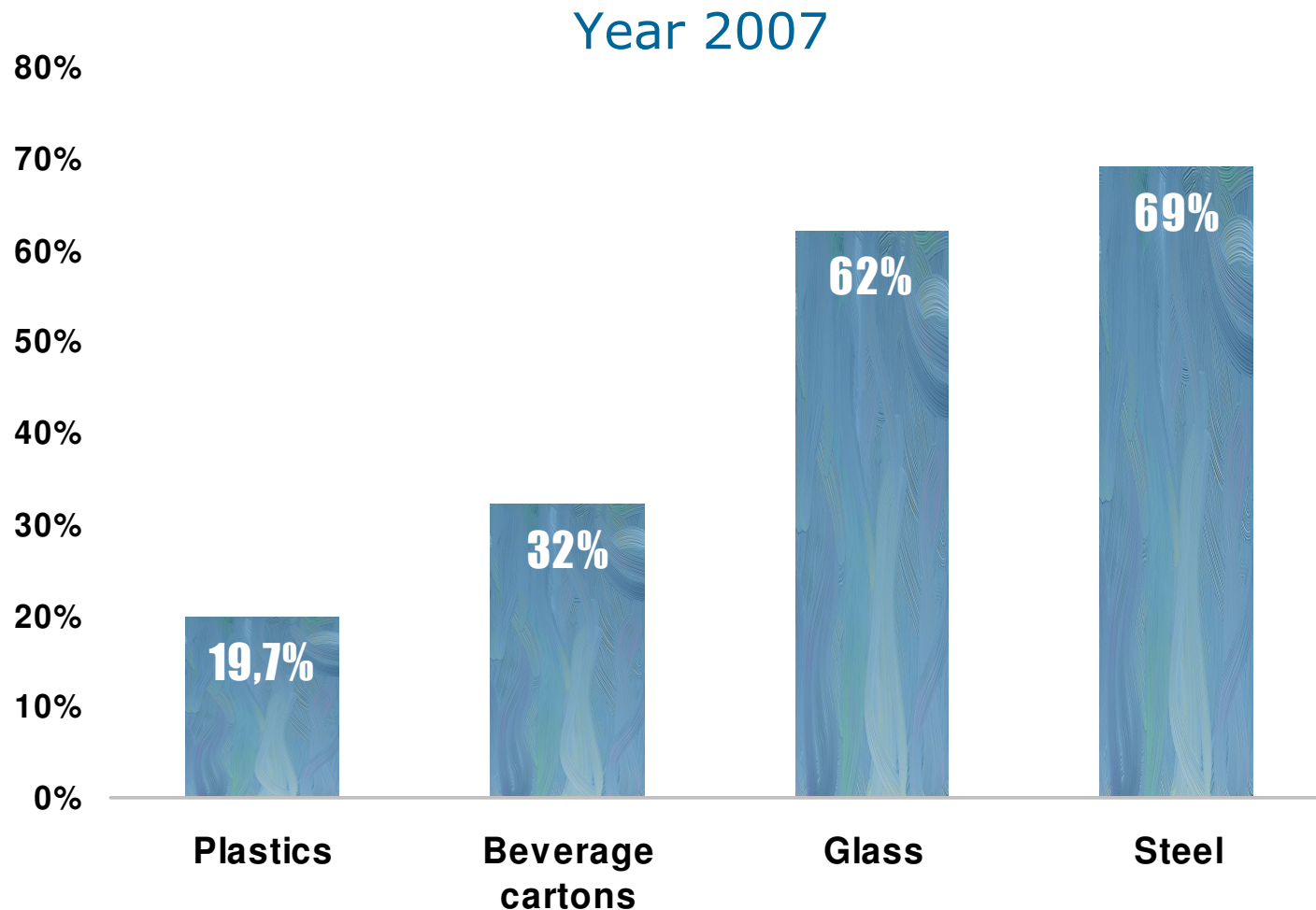
Source: APEAL



# Recycling of steel packaging in Europe – EU27



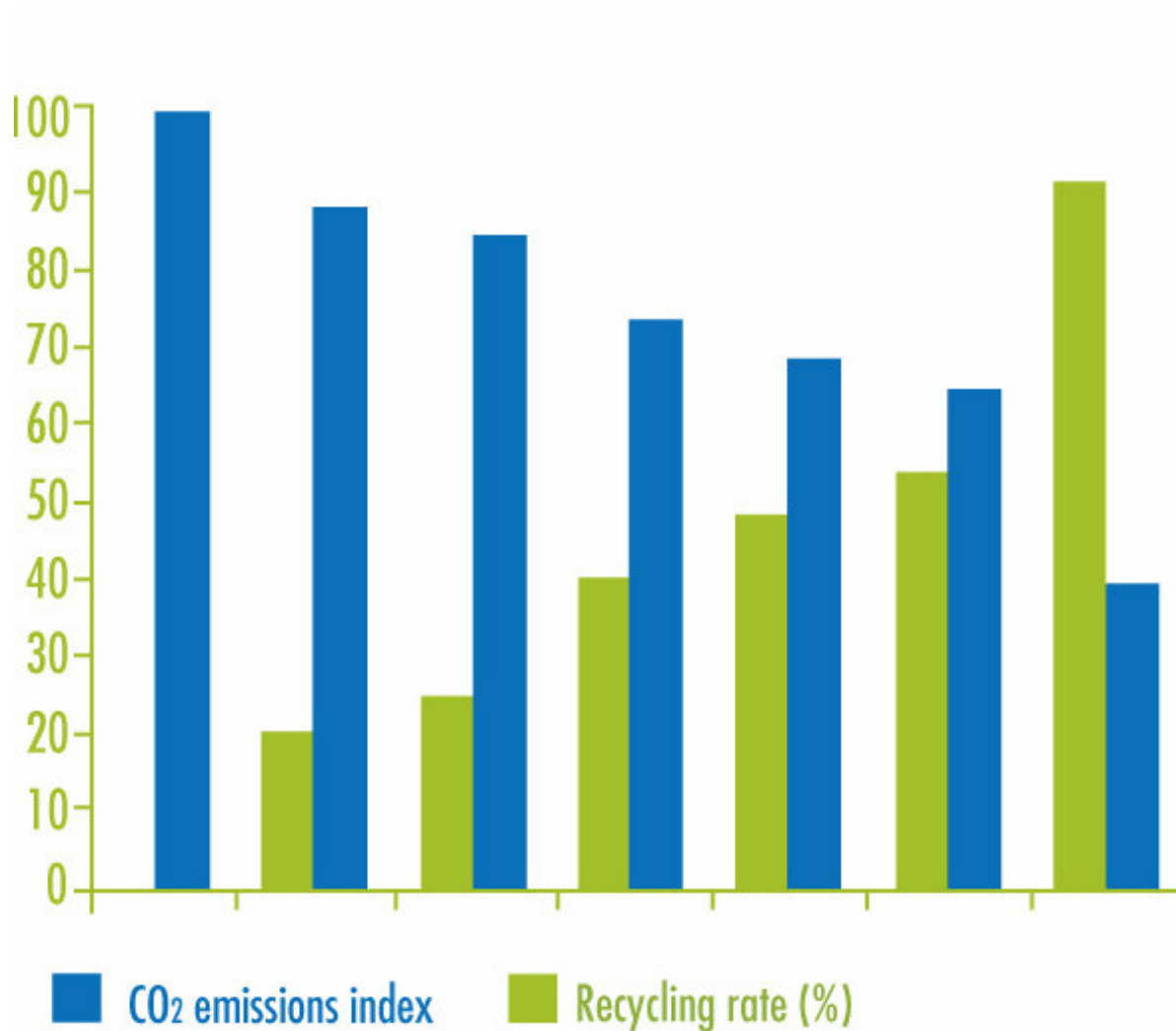
# Steel packaging reaches **high recycling** rates in Europe.



**Source:** Industry experts - Association of European Producers of Steel for Packaging (APEAL) - European Glass Packaging Federation (FEVE) - The Alliance for Beverage Cartons & the Environment (ACE) - PlasticsEurope (figures for plastic relate to 2006)



# THE HIGHER THE RECYCLING RATE, THE LOWER THE CO<sub>2</sub> EMISSIONS



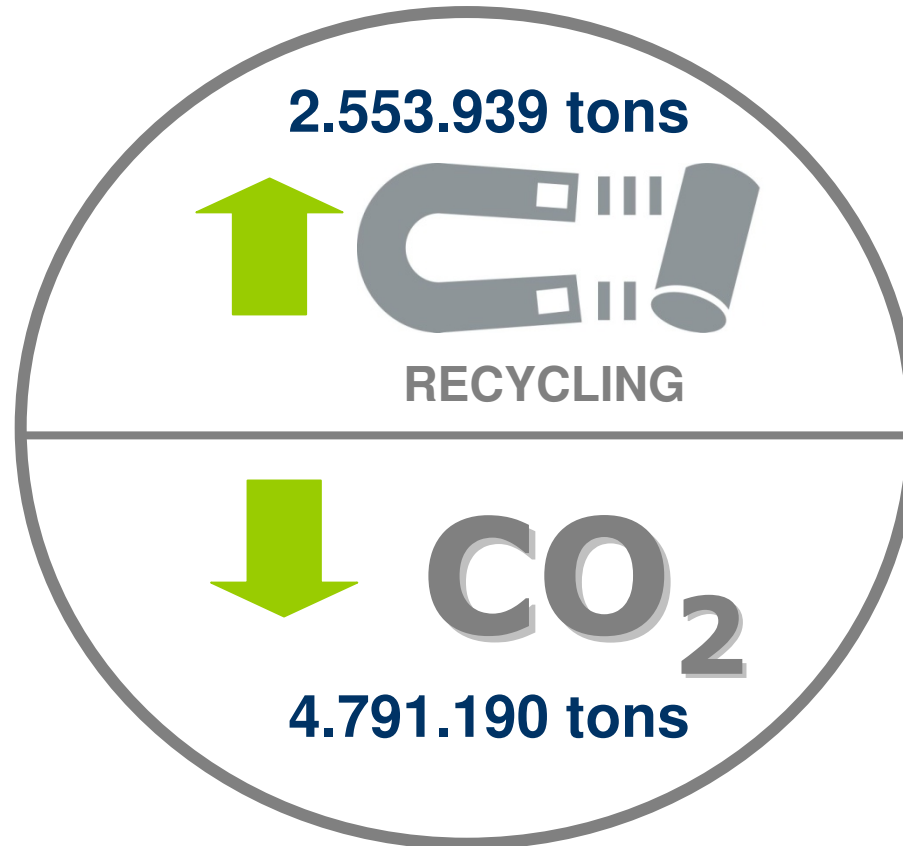
■ CO<sub>2</sub> emissions index    ■ Recycling rate (%)

Source: APEAL





# Steel packaging recycled tonnage & total CO<sub>2</sub> savings (year 2007)





The recycling of steel packaging in Europe saves enough energy to power three large cities the size of Sheffield each year.



# Allows for **raw material consumption reduction & energy savings.**



➤ **4,9 million tonnes iron ore**

➤ **1,6 million tonnes coal**

➤ **Up to 70% energy saving**

(savings from steel packaging recycling EU27, 2007)



# STEEL PACKAGING: ENDLESSLY RECYCABLE WITHOUT LOSS IN QUALITY





**MAGNETIC SORTING**



**INFINITELY RECYCLABLE**

## Caring for the environment...

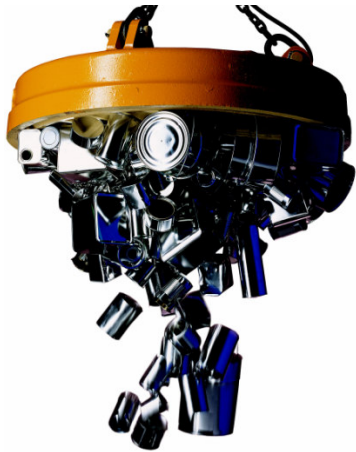
*Naturally*

- Magnetic sorting, highest recycling
- Eternally recyclable
- Higher recycling, lower CO2
- Saving resources & energy





# INTRINSIC PROPERTIES OF STEEL FOR PACKAGING



**MAGNETIC**



**HIGHEST  
STRENGTH**



**TOTAL BARRIER  
PROPERTIES**

...and **eternally recyclable** without loss of quality.





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# Steel for packaging sustainability positioning



**UNIQUE?**





STEEL  
FOR  
PACKAGING



*Naturally*®



STEEL  
FOR  
PACKAGING

*Naturally®*

