

Sustainability Messages

How does metal packaging contribute to sustainable development?

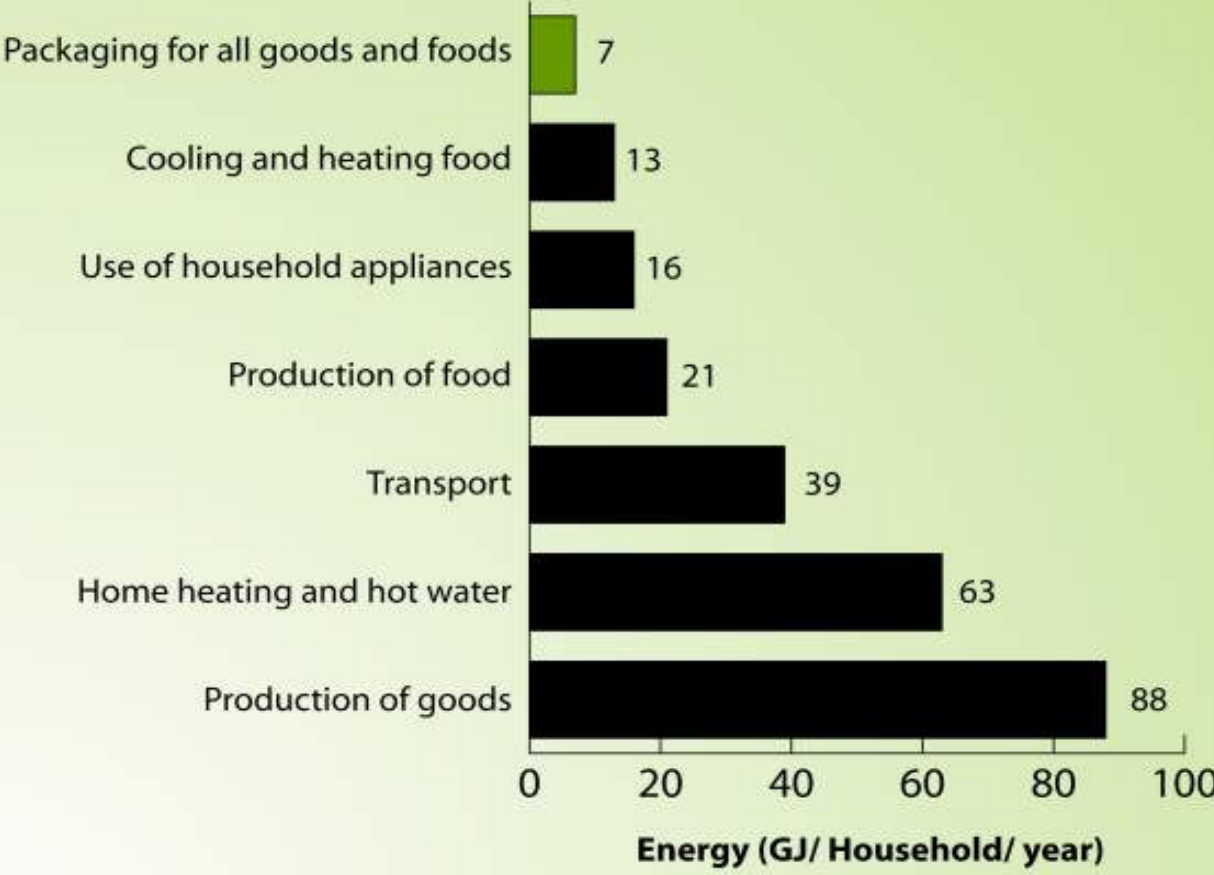
What is meant by sustainable development?

“ Meeting the needs of present generations without jeopardizing the needs of future generations. ”

“ Social, economic and environmental needs are inseparable and interdependent components of human progress. ”

**Extracts from the UN World Commission on Environment and Development
Brundtland Report (1987)**

Consumption impacts & packaging in perspective



- Packaging energy consumption relatively small in comparison to other energy consumptions.
- Packaging must:
 - Protect product
 - Be robust to prevent
 - Breakage
 - Spoilage
 - Maximize shelf life

Source: INCPEN

How does metal packaging contribute to sustainable development?

A customer view...



“Far from being a burden and waste, packaging adds value to products by extending the shelf-life of goods, minimizing breakage, reducing transportation and handling costs, safeguarding public health and providing product-use information and convenience to the consumer.

The negative perceptions of packaging simply as a troublesome byproduct are at direct odds with the significant role it plays in society.”

Source: The Coca-Cola Company

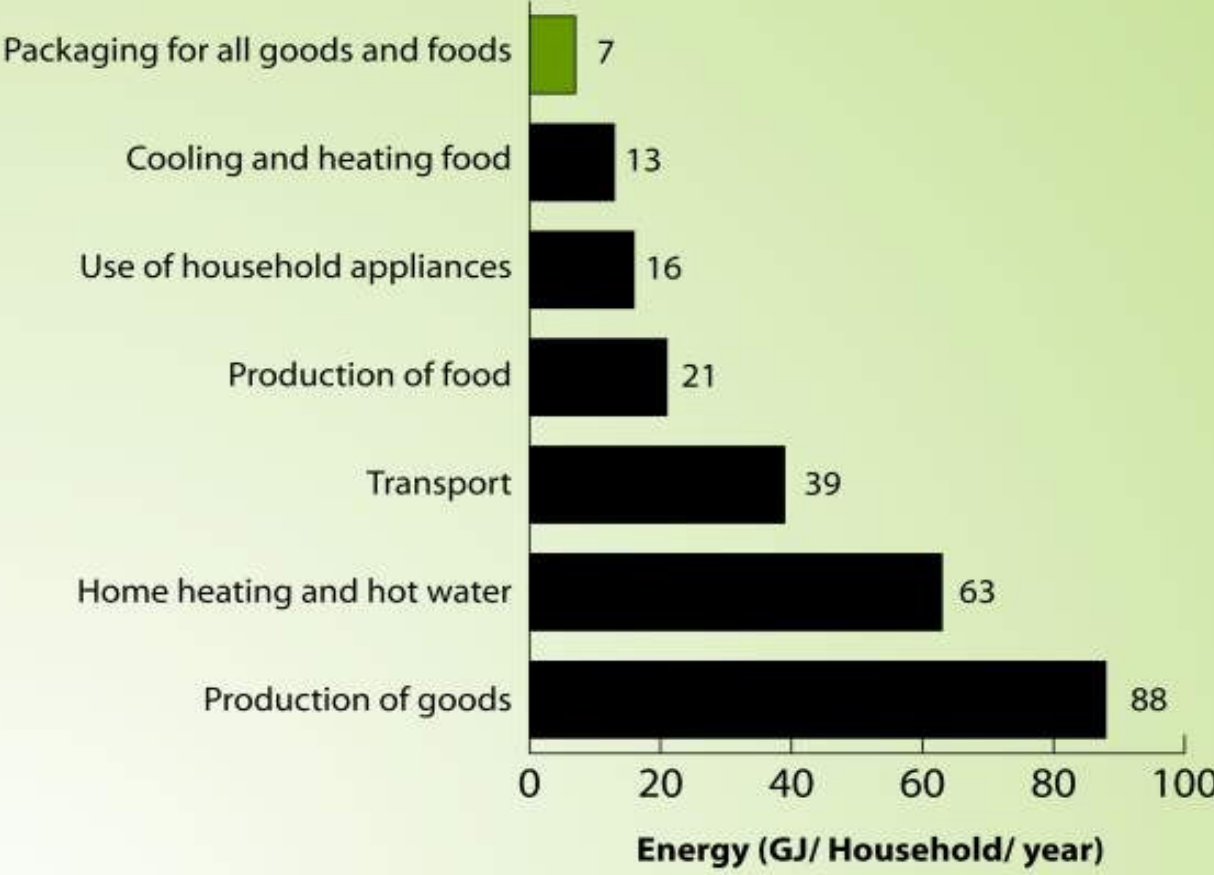
How does metal packaging contribute to sustainable development? A customer view...



- The Environment
 - A fundamental commitment to WD40's business
 - Our products are responsibly manufactured, with recycled materials used in many packaging components

Source: www.WD40.com

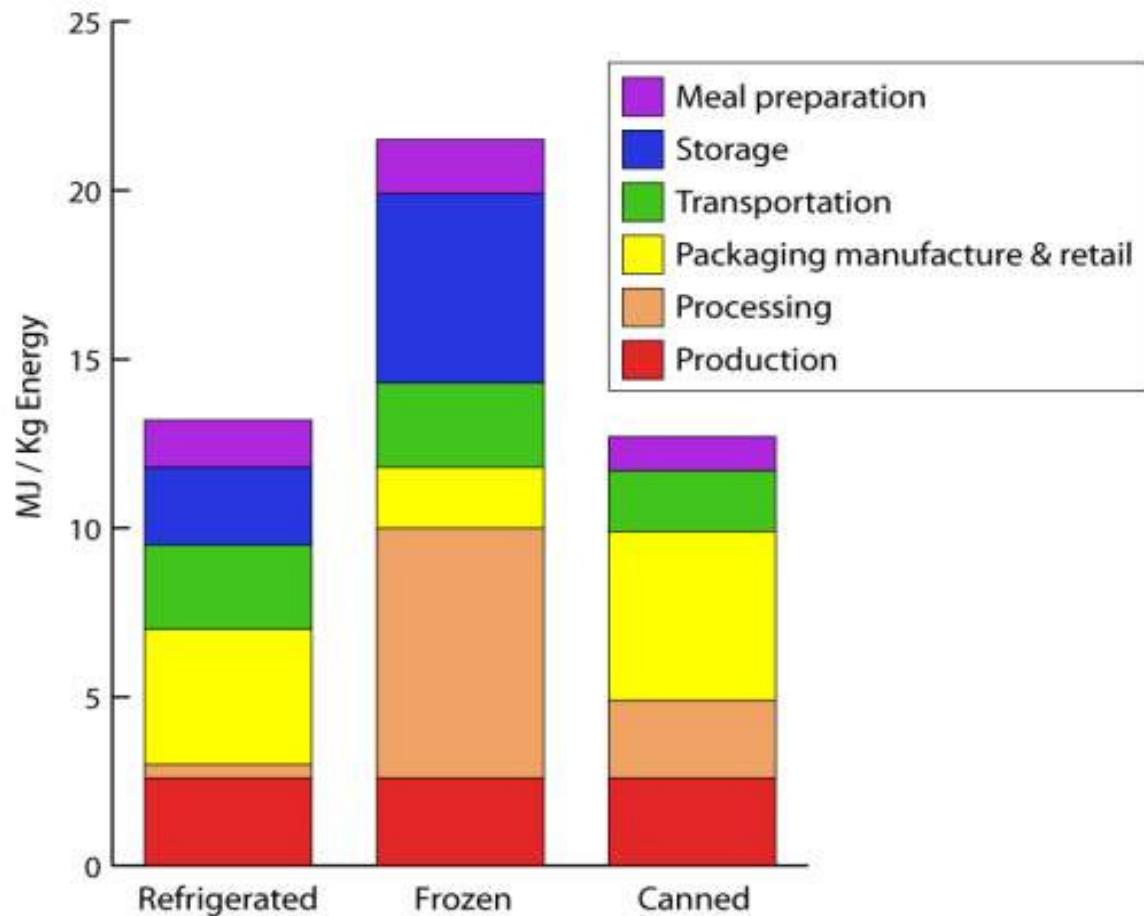
Consumption impacts & packaging in perspective



- Packaging energy consumption relatively small in comparison to other energy consumptions.
- Packaging must:
 - Protect product
 - Be robust to prevent
 - Breakage
 - Spoilage
 - Maximize shelf life

Source: INCPEN

North American Delivery System: Energy Consumption Assessment



Study conducted by Scientific Certification Systems

- The most energy effective method for food product delivery is canned-ready meals followed by bulk refrigerated products and fresh fruits & vegetables.
- Frozen products require about 70% more energy to bring the food from the farm to the table.

How does metal packaging contribute to sustainable development?

6 key messages



Cans contribute to sustainable development because....

1. Cans prevent product waste
2. Cans keep consumers safe and healthy
3. Cans are economical through the supply chain
4. Cans are produced from viable sources of primary and recycled materials
5. Cans are infinitely recyclable without loss of quality
6. Resource minimization



The details...



1. Cans prevent product waste and ensure the product is fit for purpose when used by the consumer



1. Cans prevent product waste

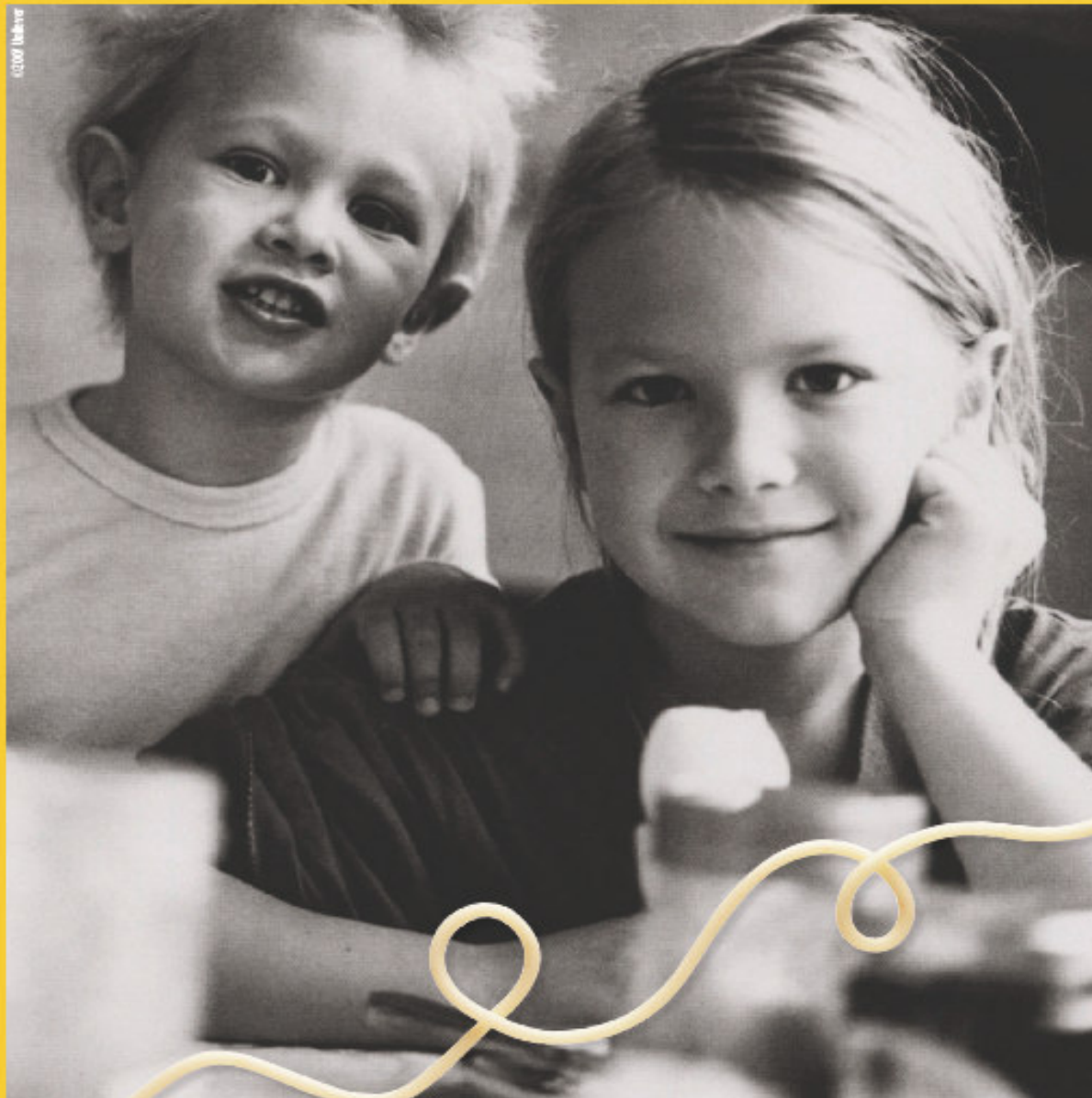


- Aluminum and steel are materials that retain their properties at a high level for a maximum period. They prevent spoilage and waste because they provide:
 - total product protection against light, oxygen and harmful microbes
 - the longest shelf life
- The International Food Information Council quotes food spoilage rates of >40% in developing countries.
- European surveys show that up to 30% of food purchased is thrown away
- Retailers struggle to control waste of products that have reached their “sell by” date

1. Metal closures prevent product waste



©2007 Unilever



We use preservatives all the time. They're called lids.

Ragú® is all natural. It's made with tomatoes, not chemicals. Salt and pepper, not artificial additives. And that, you can feel good about. **Feed our kids well.**



1. Cans prevent product waste



- Of the total energy used in the food chain
 - 50% is used in food production
 - 10% on transport to the shops and retailing
 - 10% to make the packaging
 - 30% used by shoppers to drive to the shops and store and cook food.

Source: INCPEN 2000

2. Cans keep consumers safe and healthy



2. Cans keep consumers safe and healthy

- Cans are hermetically sealed, preventing ingress of microbes
- Cans are the most robust form of packaging
 - They do not tear or break if dropped, thereby keeping consumers safe



2. Cans keep consumers safe and healthy



- Cans are the safest form of packaging for potentially hazardous materials (paints, household cleaners, etc.)

3. Cans are economical through the supply chain and are affordable for the consumer



3. Cans are economical through the supply chain

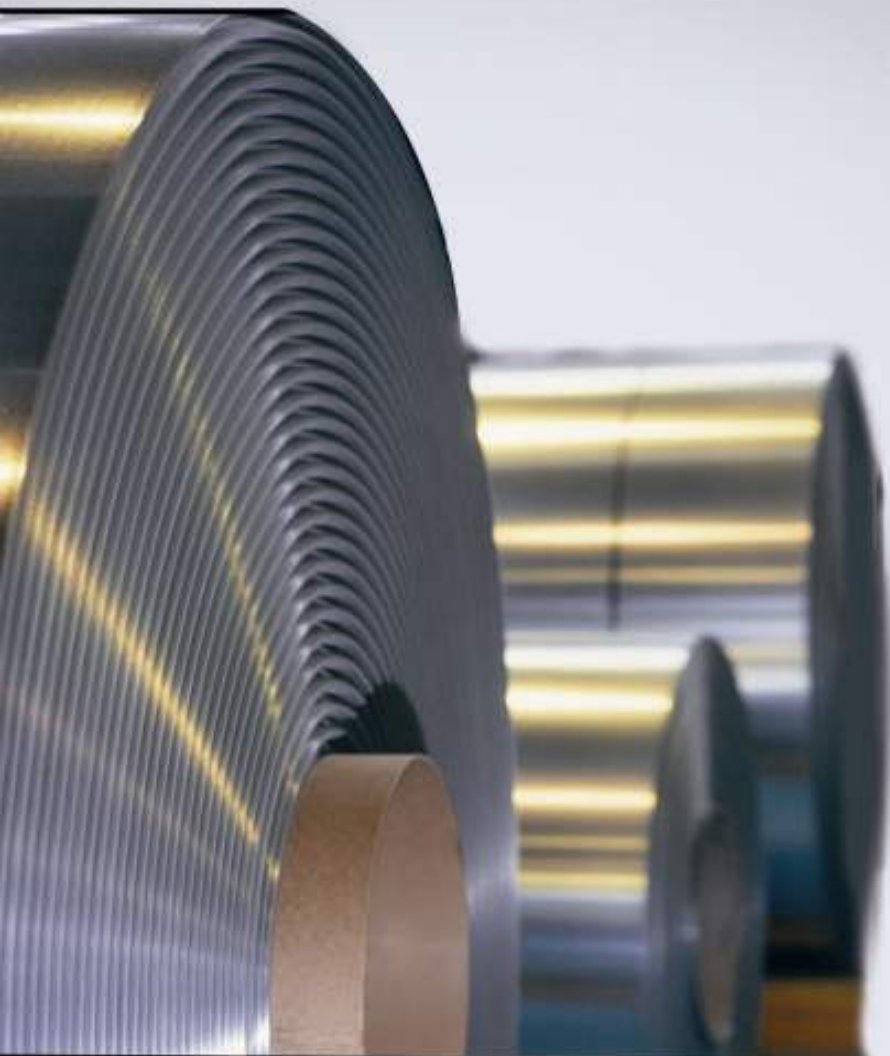


- Cans offer the fastest filling rates
- Cans have high cubic efficiency and stackability, reducing distribution and storage costs
- Cans require minimal use of transport packaging due to their inherent rigidity
- Processed canned products do not need refrigeration through the supply chain (reducing costs and CO₂ emissions)
- Processed canned food only requires quick heating, not long cooking (reducing costs and CO₂ emissions)

4. Cans are produced from viable sources of primary and recycled materials

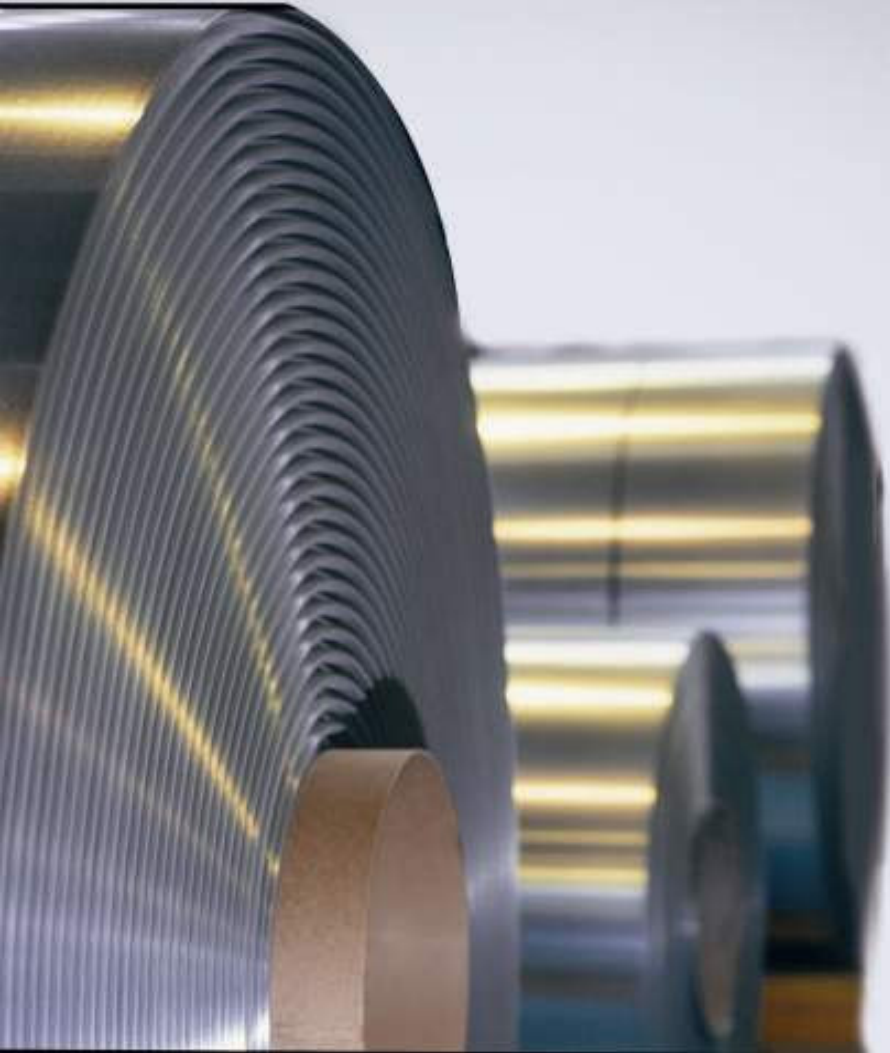


4. Cans are produced from viable sources of primary and recycled materials



- Aluminum and Iron are the 3rd and 4th most common elements in the lithosphere, after oxygen and silicon. We are not going to run out.
- Recycled aluminum and steel reduce the demand for virgin material (reducing energy demand and CO₂ emissions)
 - Global steel production is 1.2 bn tons
 - Steel for packaging is only <1.5% of total
 - Of the 1.2 bn tons, 38% (460 million tons) is recycled steel, saving 38% of virgin material
 - 18 bn tons of steel in use and therefore available for future recycling

4. Cans are produced from viable sources of primary and recycled materials



- Aluminum produced for rigid packaging is less than 10% of total aluminum production (EU figures)
- Over 50% of used beverage cans are recovered and returned to rolled products for recycling
- Since the start of commercial operations 150 years ago, 75% of all primary production (global) is still in use and available for future collection and recycling

5. Cans are infinitely recyclable without loss of quality



5. Cans are infinitely recyclable without loss of quality



- Metals are re-cycled in a true material to material loop (aluminum to aluminum, steel to steel) and retain their original properties throughout the recycling loop
- Metals are not down-cycled for less demanding uses as is the case with some other materials
 - Plastics (degradation of the molecular structure with each cycle)
 - Paper / board (loss of structural integrity of the cellular structure)
- Metals are therefore a “re-usable material”

5. Cans are infinitely recyclable without loss of quality



5. Cans are infinitely recyclable without loss of quality



- Metals have a well developed recycling infrastructure
- Metal recycling is a long- established activity in its own right, and is driven by market forces and in particular by the value of scrap metals
- Cans are recovered easily from the household waste stream by:
 - Eddy current or magnetic extraction at municipal sorting centers or after incineration
 - Curbside collection
 - Bring schemes (can banks)
- Recovery and recycling of metals does not require subsidy by other materials. By contrast, metals often subsidize plastics in recovery and collection schemes

5. Cans are infinitely recyclable without loss of quality

Cans are universally recycled with high return rates compared with competitors

- Steel cans: Over 60% in USA and Europe
- Aluminum cans: Over 50% in USA and Europe
- Glass bottles: Over 50% in USA and 60% in Europe
- Plastics: 6% in USA and 25% in Europe
- Drinks cartons: 20% in Europe (milk)

Most important is material recycling rate, not recycled content. Every unit of material recycled replaces the need for virgin material, whether used in a can, a car, or a bridge.

6. Cans have an excellent record in resource minimization through reducing the amount of material used consistent with meeting the requirements of manufacture, storage, distribution and marketing (saving energy and CO₂)



6. Resource minimization



- Significant lightweighting of DWI and 3 piece cans over the last 20 years:
 - Aluminum beverage cans are 28% lighter
 - Steel food cans are 33% lighter
 - EU industry averages
- A Crown example
 - Over 100 bn SuperEnds® produced by Crown and its licensees have saved:
 - Over 25,000 tons of aluminum
 - Over 4,000 tons of coatings
 - Over 200,000 tons of GHGs
 - Equal to 11,000 cars per year

6. Resource minimization



- Recycling saves 75% of the energy required to produce steel from virgin materials
- Recycling saves 95% of the energy required to produce primary smelted aluminum
- Recycling saves 40% of CO₂ emissions with a steel recycling rate of 63% (USA and EU in 2005)
- Recycling saves 10 tons of CO₂ for every ton of used beverage cans recycled

6. Resource minimization – Case study



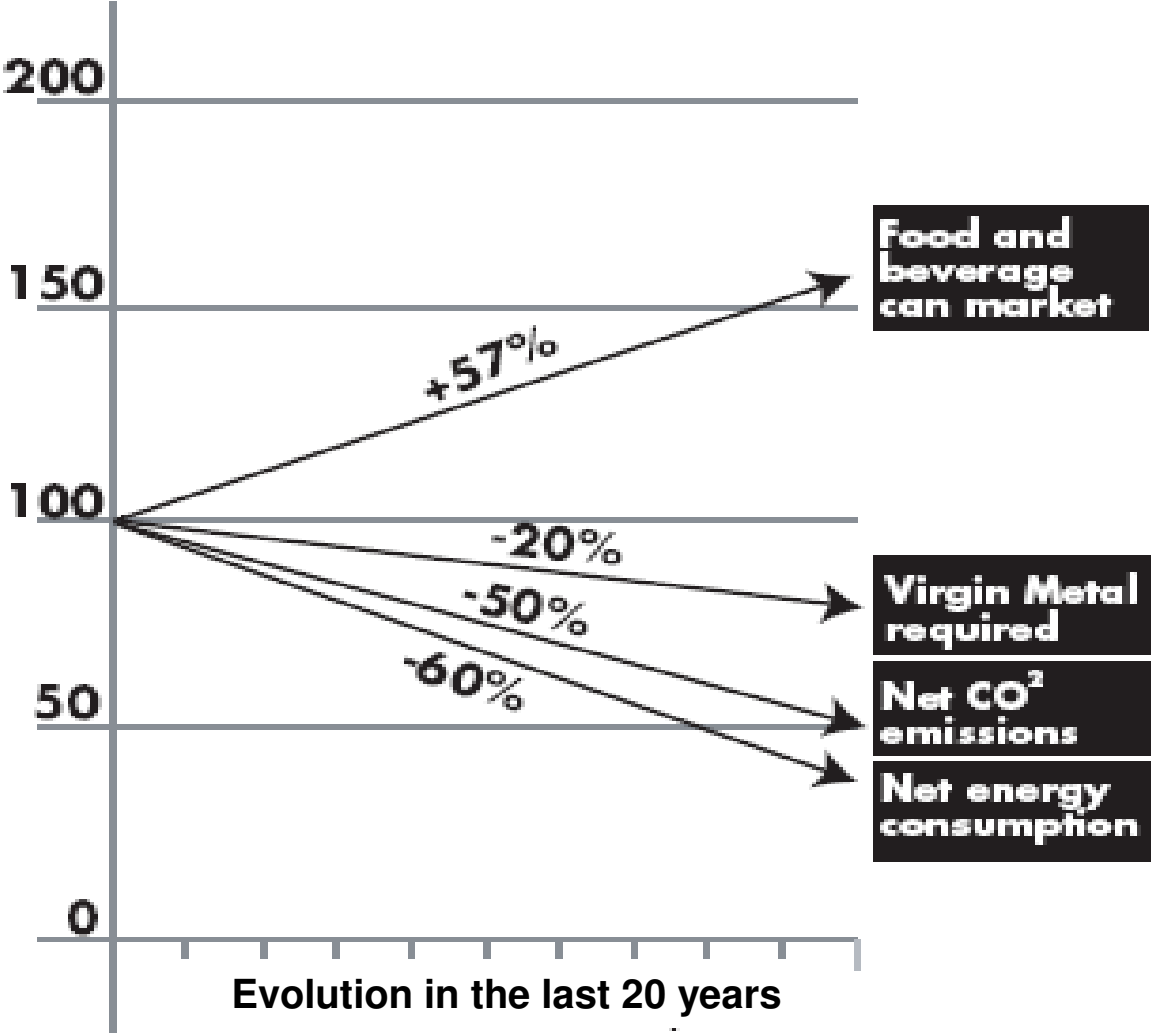
- GRR collects and recovers ~23mio scrapped, filled aerosol cans annually
- Annual environmental benefits include:
 - Recovery and subsequent recycling of ~5mio lbs of metal
 - Elimination of ~16mio lbs of waste, including hazardous waste
 - Generation of ~78bio BTUs of energy, which is then used to make cement. This energy from the aerosol cans avoids the requirement to burn ~3100 tons of coal and generate ~18mio lbs of CO₂.
 - To recoup that CO₂ you would have to grow over 200,000 tree seedlings for 10 years or use ~1mio fewer gallons of gasoline!

Cans contribute to sustainable development because....

1. Cans prevent product waste
2. Cans keep consumers safe and healthy
3. Cans are economical through the supply chain
4. Cans are produced from viable sources of primary and recycled materials
5. Cans are infinitely recyclable without loss of quality
6. Resource minimization



Moving forward metal packaging tells a strong story



These figures are EU Industry averages

Sustainability Messages

How does metal packaging contribute to sustainable development?

