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EXPERTS IN SUSTAINABILITY



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The 6th annual allFresh! conference
at Sun City,
on 26 and 27 October 2011

**Sustainability development in the
food supply chain:**

**From theory to implementation in
the food industry**

There is increasing **pressure from stakeholders** in all parts of the **food supply chain** to better understand the environmental impacts of agriculture derived products.

- the **consumer** who wants to make an informed choice about the food they buy,
- the **retailer** who seek to gain competitive advantage by offering greener products,
- **food producing companies** who seek to reduce their energy demand, their carbon emissions and doing so, their production costs
- **governments** who are seeking to reduce national Greenhouse Gas Emissions.

Example:

how the food supply chain demonstrates GHG concerns



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"We're delighted that Walkers is the first company to retain the use of the Carbon Trust's Carbon Reduction Label, as consumers have told us that they welcome the Label and the commitment it represents. The 7% reduction is a joint achievement with our suppliers and Walkers will be building on this achievement as part of PepsiCo UK's wider commitment to reduce energy consumption by 20% by 2011."

Salman Amin, President of PepsiCo UK & Ireland - Walkers' parent company

Our recent carbon emission reductions have saved us an estimated £400,000, but we're not in it for the money. Climate change is one of the greatest challenges the world faces today. That's why we're reinvesting the money we've saved into more environmental initiatives, for example hosting Sustainability Summits with suppliers.

http://www.walkerscarbonfootprint.co.uk/walkers_carbon_trust.html



PEPSICO

Example:

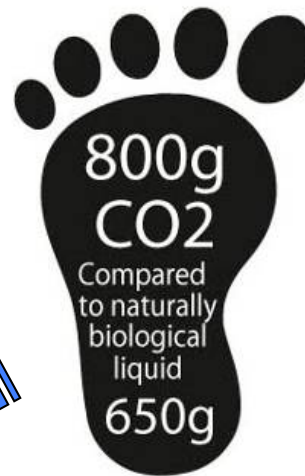
Tesco Customer Information: carbon footprint labels



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working with the Carbon Trust



per wash

The carbon footprint for this product is 800g per wash and we have committed to reduce this

By comparison the footprint for Tesco naturally biological liquid is 650g per wash

Help to reduce this footprint by:
- washing at 30°C rather than 40°C saving 170g CO₂ per wash






Carbon footprint of the product




Comparison to a similar product

Tip on how to reduce the footprint



			
Carbon footprint	<ul style="list-style-type: none"> • Special Carbon footprinting tool 	<ul style="list-style-type: none"> • Identify carbon “hot-spots” • Significantly reduce 	<ul style="list-style-type: none"> • Identify carbon “hot-spots” • Reducing the carbon footprint
Energy and energy efficiency	<ul style="list-style-type: none"> • Reducing energy consumption 	<ul style="list-style-type: none"> • Improving energy efficiency - Proportion of renewable energy 	<ul style="list-style-type: none"> • Reducing electricity, fuel and gas usage
Transport	<ul style="list-style-type: none"> • Efficiently as possible 	<ul style="list-style-type: none"> • Improving the efficiency 	<ul style="list-style-type: none"> • Describing the reduction measures
Packaging	<ul style="list-style-type: none"> • Reducing and use of sustainable materials 	<ul style="list-style-type: none"> • Sustainable packaging materials 	<ul style="list-style-type: none"> • Describing the reduction of waste



			
Waste	<ul style="list-style-type: none"> • Waste and Resources • Action Programme 	<ul style="list-style-type: none"> • Waste and Resources • Action Program 	<ul style="list-style-type: none"> • Describing the reduction of waste
Water	<ul style="list-style-type: none"> • Water Management Strategy 	<ul style="list-style-type: none"> • Improving water monitoring and efficiency 	<ul style="list-style-type: none"> • Reducing water usage and describe
Pestizides and fertilizers	<ul style="list-style-type: none"> • Minimise the use • Employ Integrated Crop Management 	<ul style="list-style-type: none"> • Phase-out hazardous pesticides • Pesticide Residue Reduction Network 	<ul style="list-style-type: none"> • Reducing of fertiliser and other agricultural inputs

▶ Reducing our direct footprint

- “Green design of shops”
- Halve emissions from existing and new buildings by 2020
- Halve distribution emissions per case delivered by 2011

“The tool PE has developed for us based on the i-report software enables us to consider the environmental impact of the choices and decisions we make, without over-complicating the whole subject matter .” Anna Pickering, Environmental Design Manager, Tesco, UK

▶ Reducing emissions in our supply chain

“We also pledged to cut emissions in the products in our supply chain by 30 % by 2020” (page 3 of CSR report 2010)

<http://www.tiltes.co.uk/companies/tesco/reports.html>

▶ Leading a revolution in green consumption

- Help customers to halve their carbon footprint by 2020

Tesco's Climate Change Strategy

Statement: Tesco has a large sphere of influence



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- Tesco has a crucial role to play in tackling climate change and we intend to lead by example.
- We have a large sphere of influence - through working with our suppliers and helping our customers to play their part too, we can have an effect on over 85 times our direct emissions.



Reference: presentation of Emma Jones published on www.dairyco.org.uk



- By 2020, we'll have worked with our own brand suppliers to reduce carbon emissions across all of our own brand products by 50 per cent relative

Our progress to date

- Developed a carbon footprinting tool specially designed for our farmers, which has the potential to reduce their energy costs and their carbon footprint by 10 per cent annually
- We are actively working with suppliers to develop products with a reduced environmental footprint.
- Sainsbury's Energy is helping our customers to reduce their environmental footprint.

- By 2020, we'll have reduced our operational carbon emissions by 30 per cent absolute and 65 per cent relative, compared with 2005 (this is part of our broader target of an absolute carbon reduction of 50 per cent by 2030)

Our progress to date

- World-first use of award-winning geothermal technology, enabling our Crayford store to supply 30 per cent of its energy from on-site renewable sources.
- Opened the first supermarket in the world to use a Smart Grid system, which monitors the National Grid and activates a biofuel generator when there is an increased demand for electricity.
- Installed a total of 20 biomass boilers since 2008, which use wood chips or pellets – a renewable resource – to heat the store rather than fossil fuel-based gas.
- In 2010/11 we achieved an absolute reduction in direct carbon emissions of 18,933 tonnes compared to last year.
- We were the first UK supermarket to commit to switching our entire refrigeration network to natural refrigerants by 2030 (i.e. CO₂).



- With 11 commitments still to achieve in 2012, **our priorities** are to continue improving the way we engage with our employees, to promote innovation and to implement systems that will **improve sustainability in our supply chains**. (page 6 of the “how to do business report 2011”)
- We’ll also continue the roll out of systems to **improve carbon and energy efficiency in our supply chains**. (page 8 of the “how to do business report 2011”)
- We will also continue to work with our suppliers on **reducing waste in our supply chains** (page 10 of the “how to do business report 2011”)

- Supply chain managers at Kraft Foods had identified a goal that they believed would lead to competitive advantage: actively involve customers as “value creation co-designers.” They envisioned a new culture based on enhanced collaboration and innovation that would drive step changes in targeted supply chain processes.

(*Reference:* published on

<http://www.supplychainbrain.com/content/headline-news/single-article/article/kraft-foods-applies-product-innovation-concepts-to-supply-chain-processes/>)

Objectives highlighted for the 2010-2015 timeframe include:

- *Source 100% of European coffee brands sustainably*
- *Increase sustainable sourcing of agricultural commodities by 25 percent*
- *Reduce energy use in manufacturing plants by 15 percent*
- *Reduce energy-related CO2 emissions in manufacturing plants by 15 percent*
- *Reduce water consumption in manufacturing plants by 15 percent*
- *Reduce waste at manufacturing plants by 15 percent*
- *Eliminate 50,000 metric tons (100 million lbs.) of packaging material*
- *Reduce 80 million km (50 million miles) from transportation network*

Reference: published on <http://www.triplepundit.com/2011/05/kraft-foods-sustainability-2015-2/>

- Walmart Announces Goal to Eliminate 20 Million Metric Tons of Greenhouse Gas Emissions from Global Supply Chain
- Collaboration with suppliers and environmental experts leads to development, measurement and independent assessment of carbon reductions
- “Reducing carbon in the life cycle of our products will often mean reducing energy use. That will mean greater efficiency and, with the rising cost of energy, lower costs, making our business stronger and more competitive. And, as we help our suppliers reduce their energy use, costs and carbon footprint, we’ll be helping our customers do the same thing.
- Our broad environmental goals at Walmart are simple and straightforward:
 - To be supplied 100 percent by renewable energy;
 - To create zero waste;
 - To sell products that sustain people and the environment.
- Our Sustainable Value Networks (SVNs) help integrate sustainable practices into all parts of our business.



Sustainability Index

- Step 1: Supplier Sustainability Assessment
- Step 2: Lifecycle Analysis Database
- Step 3: A Simple Tool for Customers

Reference: published on <http://walmartstores.com/sustainability/9292.aspx>

Walmart: Supply chain assessment

15 questions – selection of eight questions



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Energy and Climate: Reducing Energy Costs and Greenhouse Gas Emissions

1. Have you measured your corporate greenhouse gas emissions?
2. Have you opted to report your greenhouse gas emissions to the Carbon Disclosure Project (CDP)?
3. What is your total annual greenhouse gas emissions reported in the most recent year measured?
4. Have you set publicly available greenhouse gas reduction targets? If yes, what are those targets?

Material Efficiency: Reducing Waste and Enhancing Quality

5. If measured, please report the total amount of solid waste generated from the facilities that produce your product(s) for Walmart for the most recent year measured.
6. Have you set publicly available solid waste reduction targets? If yes, what are those targets?
7. If measured, please report total water use from facilities that produce your product(s) for Walmart for the most recent year measured.
8. Have you set publicly available water use reduction targets? If yes, what are those targets?

Natural Resources:

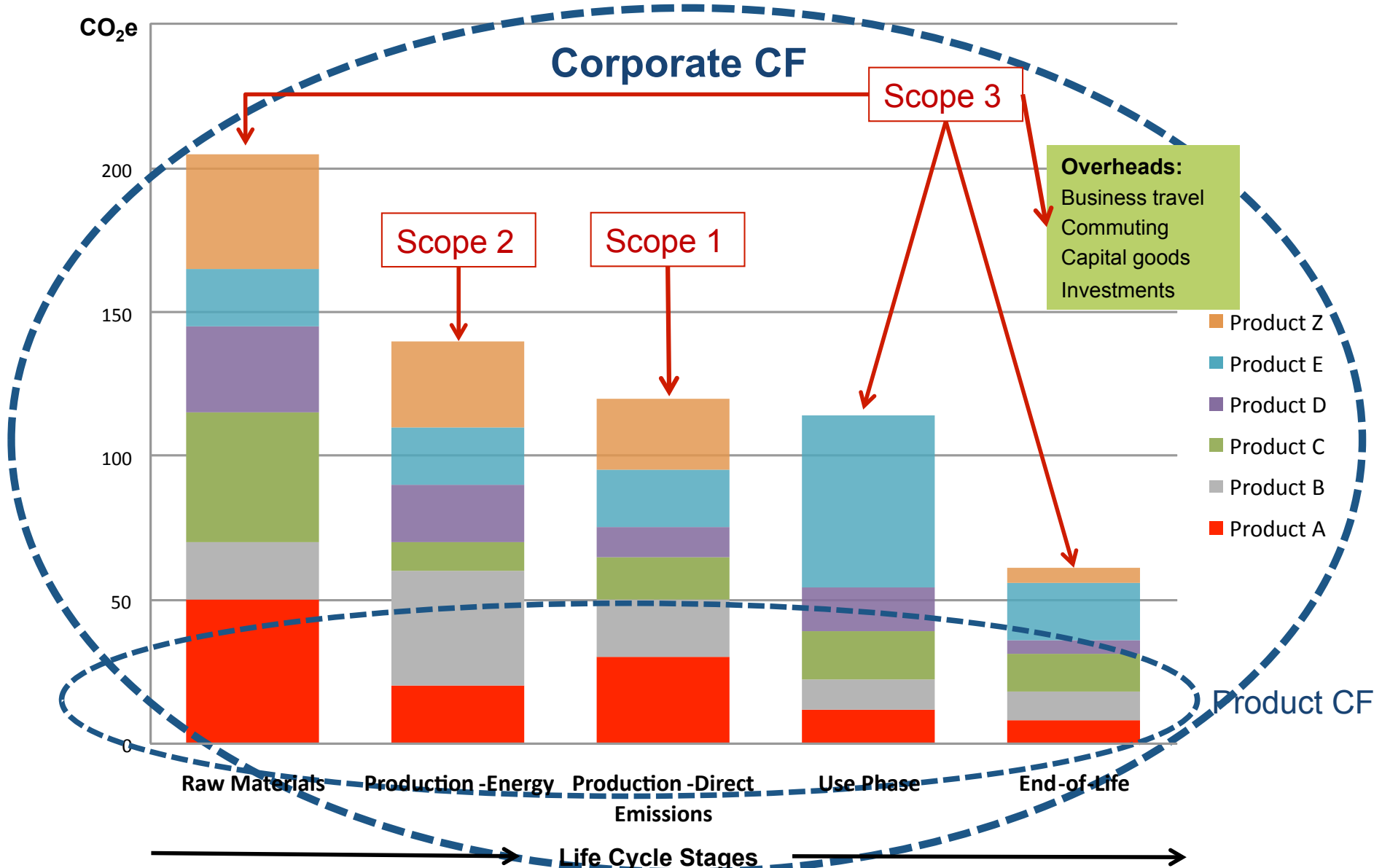
Producing High Quality, Responsibly Sourced Raw Materials

People and Community:

Ensuring Responsible and Ethical Production

Reference: published on <http://walmartstores.com/sustainability/9292.aspx>

Walmart  **Corporate**

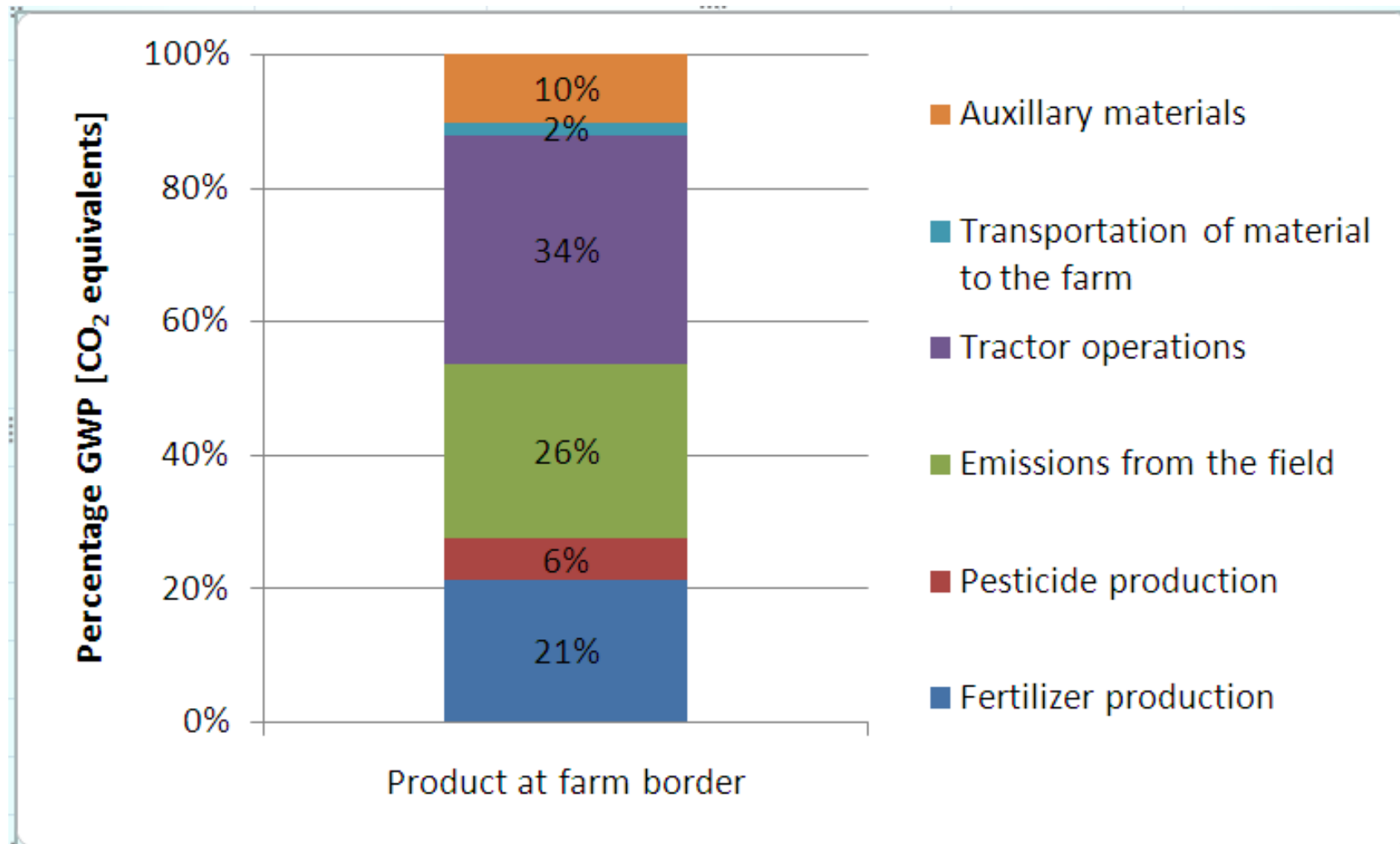


CF in Agriculture

Example: CF results of a fruit crop



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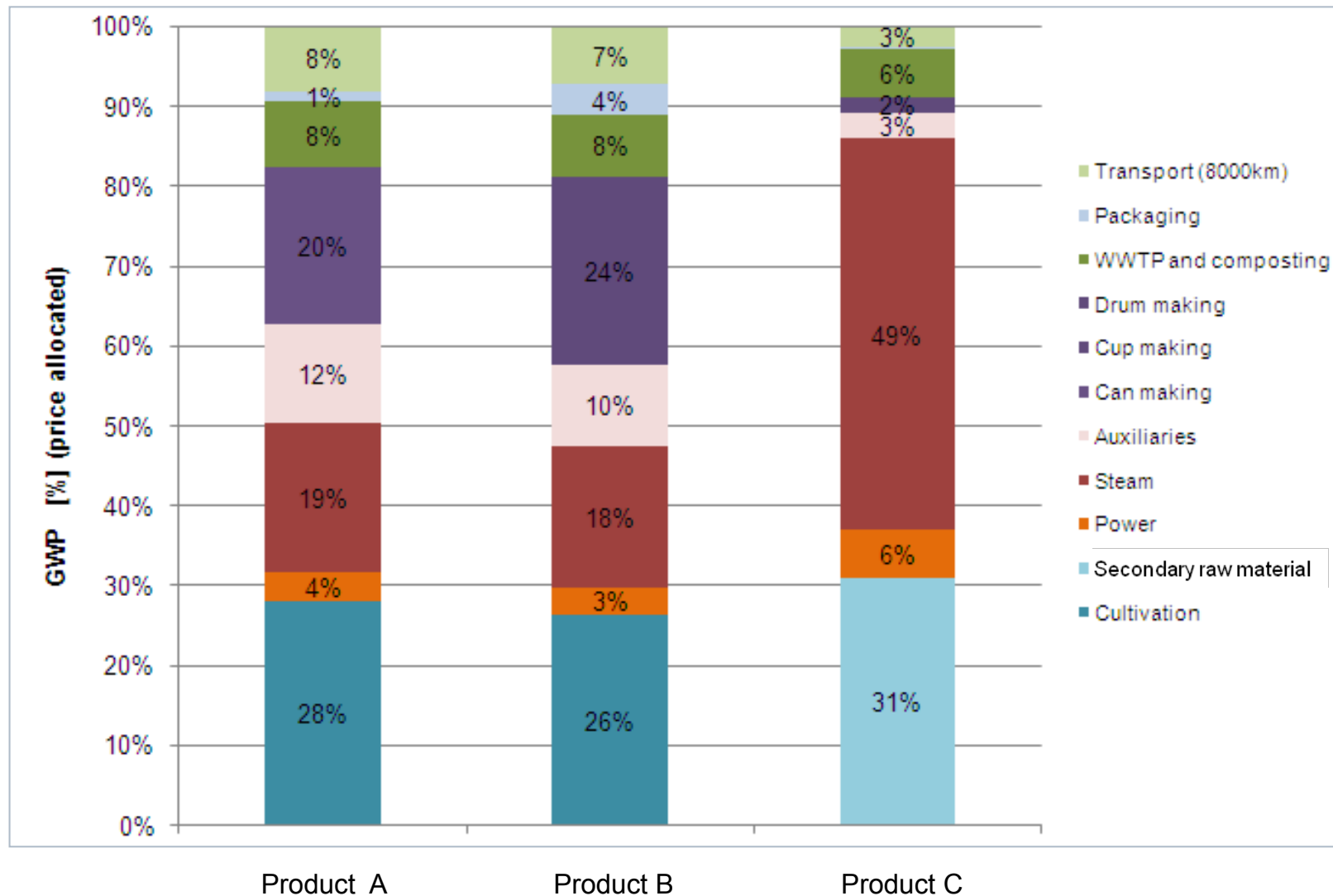


CF in Agriculture

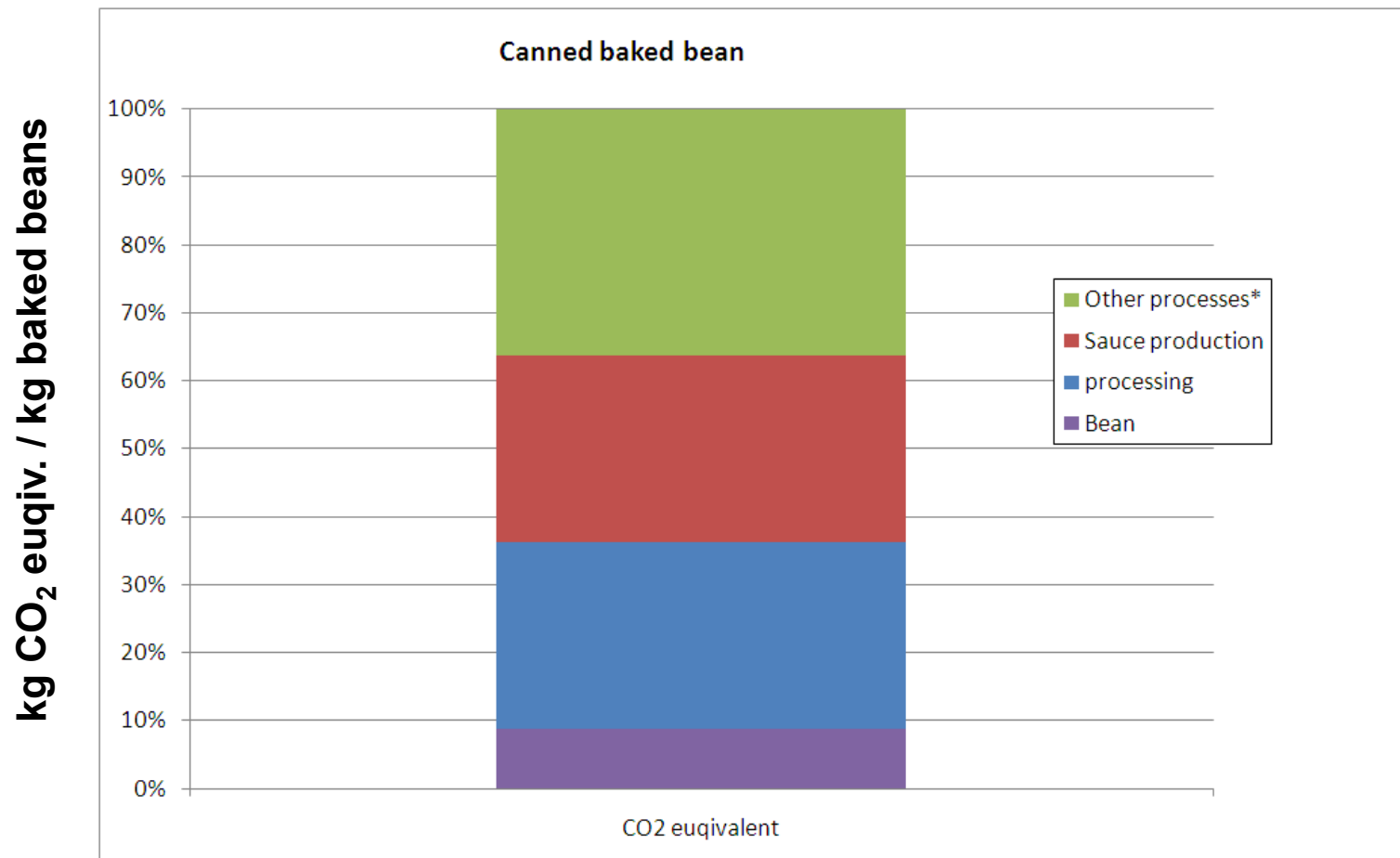
Example: CF results in the food Industry



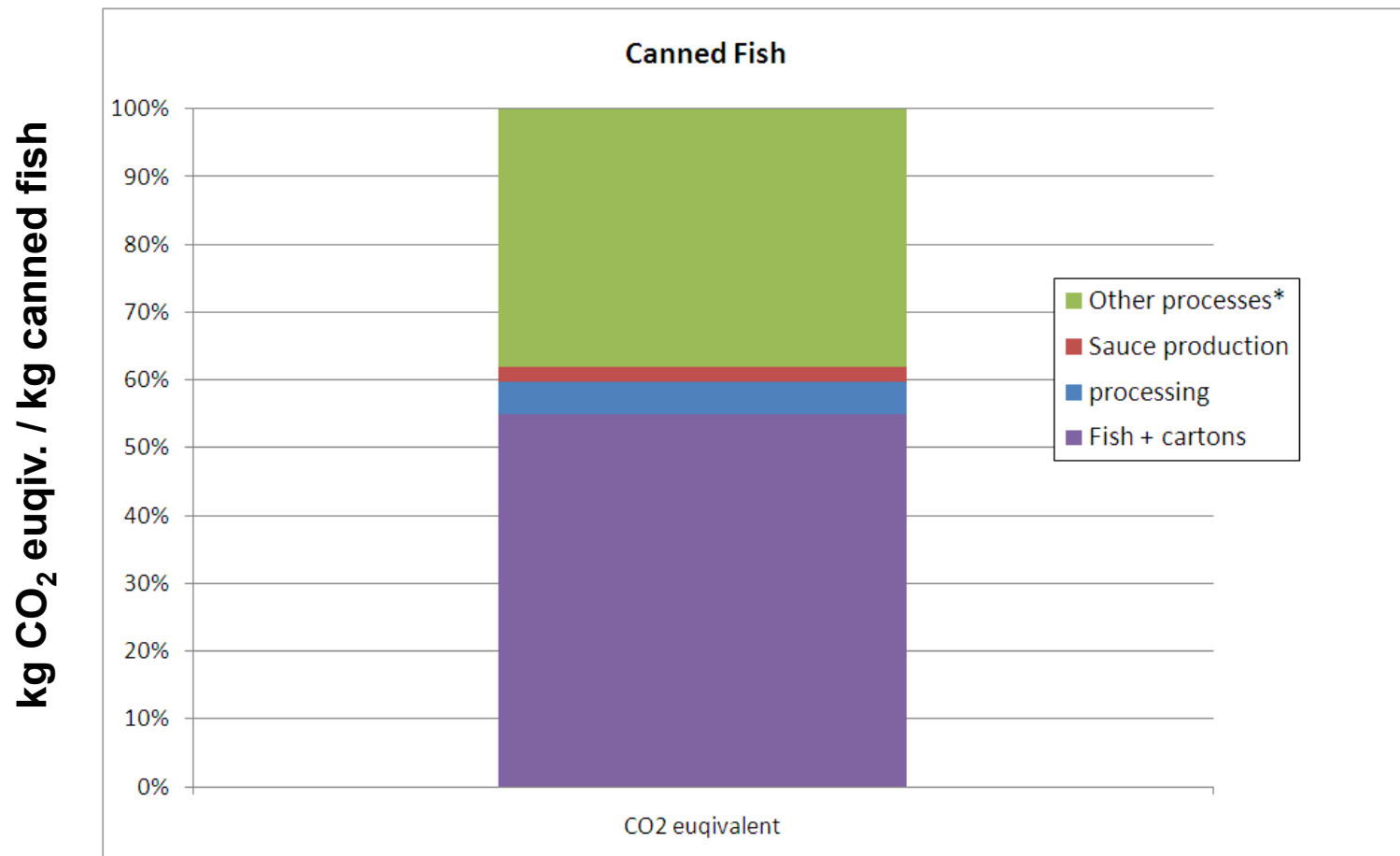
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- 50% of 'Other processes' from can production
- Remaining waste treatment, water treatment of food processing etc.



- 25% of 'Other processes' is can production
- Remaining waste treatment, water treatment of food processing etc.



What should suppliers in Southern Africa do, to further be able to deliver to the European market:

- On corporate level, quantitative statements on their operations
 - Energy consumption -> reduction targets
 - Corporate Carbon Footprint -> reduction targets
 - Waste -> reduction targets
 - water -> reduction targets

- On product level,
 - Product Carbon Footprints (PCF)
 - Life Cycle Assessments (LCA)
 - Comparison of supplier and customer impacts to own impacts (e.g. Tesco)
 - a break down into the different production / life cycle steps (e.g. Agriculture processing, logistics, packaging, etc.)
 - Develop databases (e.g. Walmart develops supplier based data)



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