

Good Food, Good Life

LCA in the development of new food products: Nestlé Eco-Design tool

June 21st, 2011





The world's leading nutrition, health and wellness company





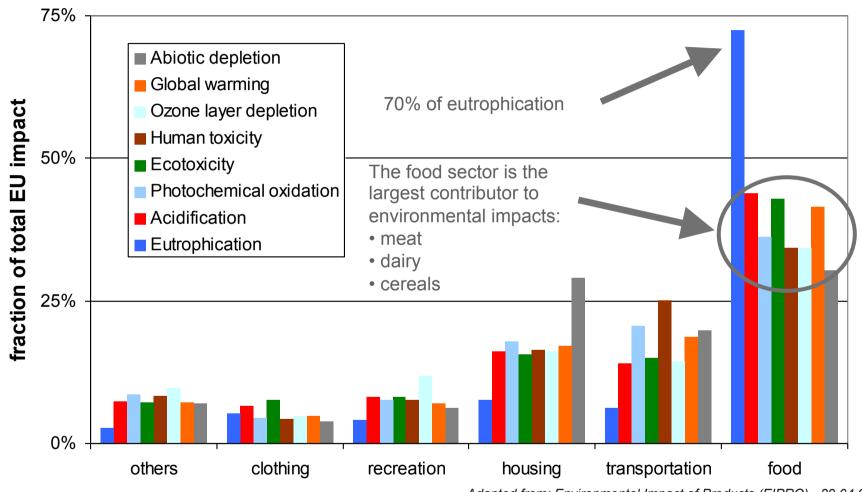


3 June 8th, 2011 Urs Schenker, Nestlé Research Center

Nestle

The food sector is the largest contributor to environmental impacts in Europe





Adapted from: Environmental Impact of Products (EIPRO) - 29.04.05 based on 7 existing studies & own analysis



Nestlé Policy on Environmental Sustainability



Policy Mandatory August 2010	Nestlē	Our product life cycle approach		
Po	Good Food, Good Life		We apply a product life cycle approach is working our partners from farm to consumer in order to minimise the aswirdnmental impact of our products and activities.	In this way, we intend to help consumers to achieve better nutrition, health and wellness through offering healthier and tastier food and beverages choices while being a reference for
	We apply a product life cycle a our partners from farm to cons	sumer in order	Our aim at all stages of the cycle is to use natural resources efficiently, to favour the use of sustainably-managed renewable resources and to target zero waste.	preserving the environment and natural resources for future generations.
	to minimise the environmental impact of our products and activities.		Our priority areas	Platform that we co-founded.
	Environmenter odotamedomty		 bave identified our four priority areas as follows: Water, which is used by all our suppliers, operations and by consumers. As a founding signatory of the United Nations Global Compact CEO Water Mandate, we continue to: work to reduce the amount of water withdrawn per kilo of product; assure that our activities respect local water resources; take care that water we discharge into the environment is clean; engage with suppliers to promote water conservation, especially among farmers; reach out to others to collaborate on water conservation, especially among farmers; reach out to others to collaborate on water conservation, especially among farmers; Prefer to use agricultural raw materials which are produced based on sustainable practices and are locally available; Prévide technical assistance on sustainable agriculturel services on through partnership with public agricultural services and research organizations; Promote cooperation with other stakeholders in the food chain to leverage sustainable Agriculture Intibative 	 During the manufacturing and distribution of our products, we use efficient technologies and apply best practices to: - reduce the amount of energy consumed per kills of product; - utilise sustainably-managed renewable energy sources, where economically viable; - control and aim to eliminate emissions, including greenhouse gases. - recycle or recover energy from by-products. The packaging of our products is critical to guarantee our high quality standards, to prevent food waste and to inform consumers. We strive to: - reduce weight and volume of materials from sustainably-managed renewable resources; - support initiatives to recycle or recover energy from used packaging: - use recycled materials.
		2		The Nestlé Policy on Environmental Sustainability

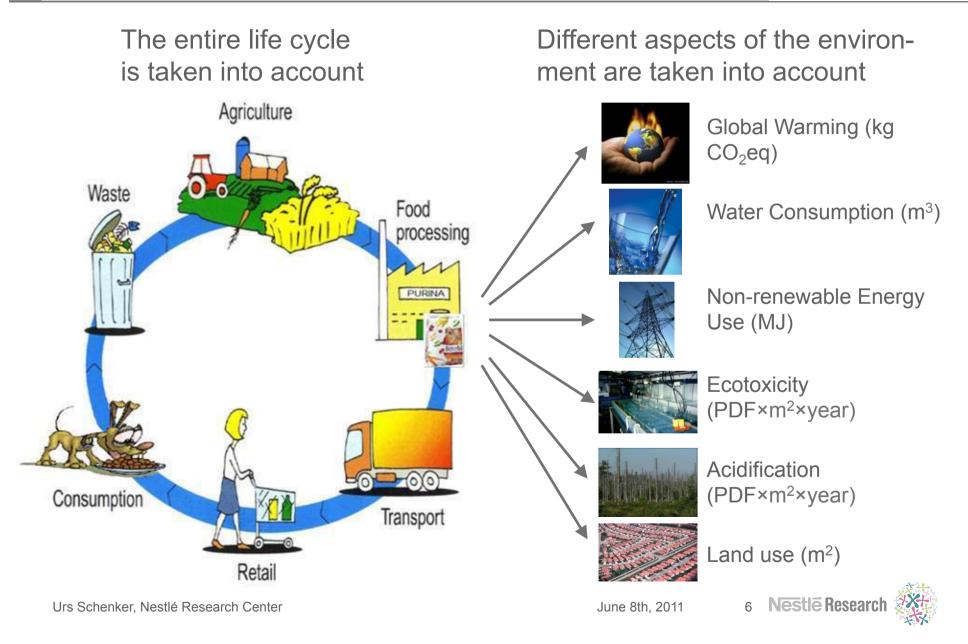
Urs Schenker, Nestlé Research Center

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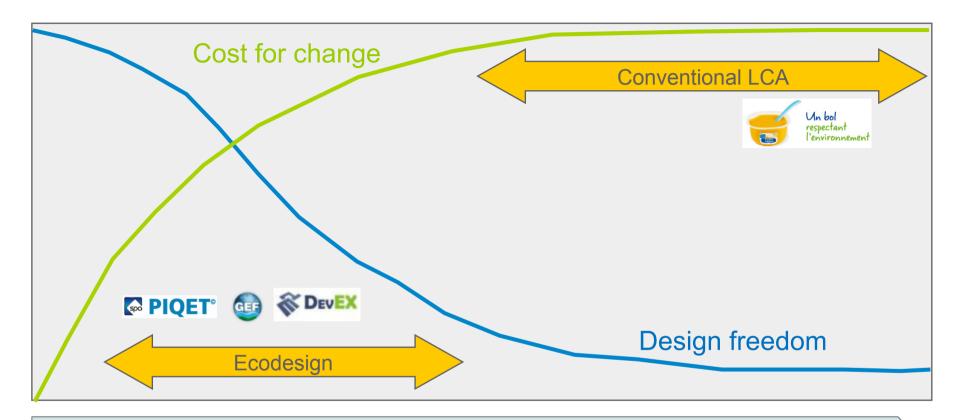
Life Cycle Assessment





Ecodesign delivers results much faster than conventional LCA





Product development process

Ecodesign makes LCA cheaper, faster, and more efficient



PIQET allows streamlined LCA on every packaging innovation & renovation project



- Web-based interface to SimaPro •
- Adapted to food and beverage packaging development
- Further information:
 - http://www.sustainablepack.org/





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Source: internal Nestlé research

Source: internal Nestlé screening LCA studies

Harvesting & processing losses: 10-50% THUNNE Processing losses (Nestlé): 1-10% - CAN Retail losses: 2% Consumption losses: 0-40% Eaten Food **Total range of food** losses: 19-85%

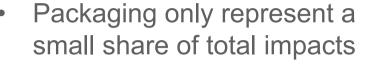
Ecodesign only on packaging fails to identify

Packaging serves to protect

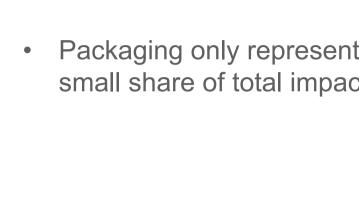
Planted crops: pre-harvest losses: 7-40%

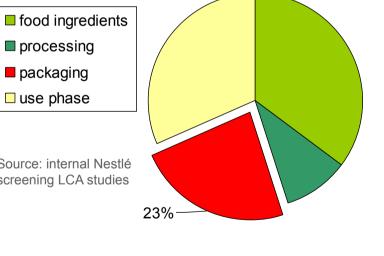
the food it contains

opportunities to reduce environmental impacts



global warming potential





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Requirements for a product ecodesign tool:

Takes into account Representative set of For non-expert use, the entire life cycle relevant indicators quick results generation TevEX **Global Warming** (kg CO₂eq) a Eleverad Milk is 200 ed 147 New LCA S New I CA So Water Consumption (m³) Non-renewable Energy Use (MJ) t.b.d.

Harmonized LCA Methodology (ISO 14'000ff, EU Food SCP Rt, Sustainability Consortium)



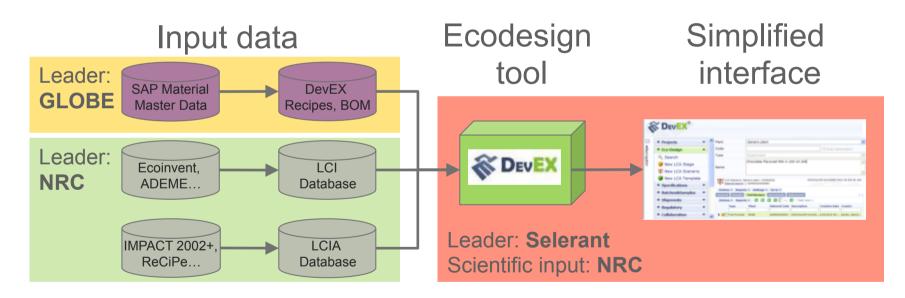
Nestlé is partnering with Selerant to develop a product ecodesign tool







- An established provider of product lifecycle management solutions for manufacturing based industry
- DevEX tool used at Nestlé previously to support recipe management, in particular regulatory compliance



Harmonized LCA Methodology (ISO 14'000ff, EU Food SCP Rt, Sustainability Consortium)



Prototype version of the tool exists



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	ᡝ Fat Milk Anhydrous Liq Bulk	transport, lorry 16-32t, EURO4 (RER su Refrigerated	d) 50.00km	50.00			
	🎁 Cocoa Beans Main Crop GH	freighter oceanic (GLO)	4,500.00km				
	🎁 Cocoa Beans Main Crop CI	freighter oceanic (GLO)	4,500.00km				
	🎁 Cocoa Butter PPP Fully Deo Liq	freighter oceanic (GLO)	4,500.00km				
	🄰 Lecithin Soya Liquid INS322	transport, freight, rail (RER)	670.00km				
	🄰 Cocoa Butter PPP Deo Blocked	freighter oceanic (GLO)	4,500.00km				
	🔰 Flavor Vanilla 1 Prova	transport, aircraft, freight, Europe (RER)	1,500.00km				
	Cocoa Beans Nigeria Fat Milk Anhydrous Liq Bulk Cocoa Beans Main Crop GH Cocoa Beans Main Crop CI Cocoa Butter PPP Fully Deo Liq Lecithin Soya Liquid INS322 Cocoa Butter PPP Deo Blocked	freighter oceanic (GLO) transport, lorry 16-32t, EURO4 (RER su Refrigerated freighter oceanic (GLO) freighter oceanic (GLO) freighter oceanic (GLO) transport, freight, rail (RER) freighter oceanic (GLO)	4,500.00km d) 50.00km 4,500.00km 4,500.00km 4,500.00km 670.00km 4,500.00km				
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Irs Schenker, Nestlé Resea	arch Contor		June 8th, 2011 p.	12 Nestie Res	earch 💖		



- Credibility of the tool is crucial
- Ecoinvent database for
 - Basic underlying data, such as electricity, transport, end-of-life
 - Most packaging materials & conversion processes
 - Food ingredients as far as available
- Some development of data by Nestlé / Selerant / Quantis
- Interested in contributing to a larger project on data development
- Incorporation / harmonization of data from AGRIBalyse, US DoA / NAL database, Ecoinvent 3.0...

Peer review of Eco-D (ISO 14'040 / 14'044)



- Methodology of the tool would be peer-reviewed, but not automatically the results
 - In very specific circumstances, communication without further review might be possible
- The tool methodology (possibly some of the data) already being peer-reviewed, the review of a given project would be simplified, faster, cheaper

Nestlé contributes to harmonized guidelines for LCA in the food industry

- EU Food Sustainable Consumption and Production Roundtable
 - Methodological alignment for food sector, initiated by European Commission & CIAA
- "A global Languange for Packaging and Sustainability "Report (June 2010)
- Sustainability Consortium in the US
 - Global alignment of approach and methods
- French Grenelle II law evaluation



Good Food, Good Life

European Food Sustainable Consumption and Production Round Table



THE GLOBAL PACKAGING PROJECT PART OF THE CONSUMER GOODS FORUM SUSTAINABILITY PILLAR





Nestle Resea













