



Valuing Natural Capital –
Workshop
Annabelle Bennett
[@bella_bennett/@trucost](#)



Contents

- **Introduction to Trucost**
- **Why should business' care about natural capital?**
- **Case studies – How valuing natural capital can enhance your business**



Trucost helps organisations understand the true cost of business in order to use resources more efficiently, today and tomorrow.





Trucost has analysed the environmental performance of +100,000 suppliers, representing **\$100billion expenditure**.



Trucost has conducted environmental footprint analysis of **funds worth \$2.7trillion**.



Trucost data drives **\$582million AUM** in environmentally optimised funds.



Trucost data is used by **15 academic institutions** (including Harvard, Yale & Oxford University) and is supported by an International Academic Advisory Panel.



Trucost has been researching, standardising and validating the world's most comprehensive data on corporate environmental impacts for **+12 yrs**.



Trucost advisory panel

Trucost has the support of an International Advisory Panel of **leading academics in the fields of economics and the environment** who support the ongoing development of Trucost's methodology.

Dr Robert Costanza
Advisory Panel
Coordinator

Professor of Ecological Economics and Director of the Gund Institute of Ecological Economics at the University of Vermont and co-founder of the International Society for Ecological Economics.

Dr Robert Ayres

Emeritus Professor, Environmental Resource Management, INSEAD, France.

Dr Kerry Turner CBE

Director of CSERGE and Professor in the School of Environmental Sciences at the University of East Anglia.

Dr Robert Goodland

Environmental Commissioner, for the EIR, a World Mining Commission, for the UN World Summit on Sustainable Development 2002. Previously Environmental Advisor to the World Bank for 25 years.

Dr Peter Victor

Professor of Environmental Studies at York University, Toronto. Previously the Assistant Deputy Minister of the Environmental Sciences and Standards Division with the Ontario Ministry of Environment and Energy.

Dr Glenn-Marie Lange

Team leader, Policy and Economics. Environment Department, The World Bank

Dr Stephen Farber

Professor in the Graduate School of Public and Urban Affairs & International Development and Director of Environmental Policy Studies at the University of Pittsburgh

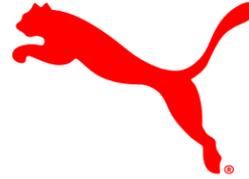
Dr Robert Repetto

Senior Fellow at the United Nations Foundation. Previously, Professor in Economics of Sustainable Development, Yale School of Forestry and Environmental Studies.

Dr Tim Jackson

Professor of Sustainable Development at the University of Surrey and Director of the Research group on Lifestyles, Values and Environment (RESOLVE).

Selected Trucost Clients



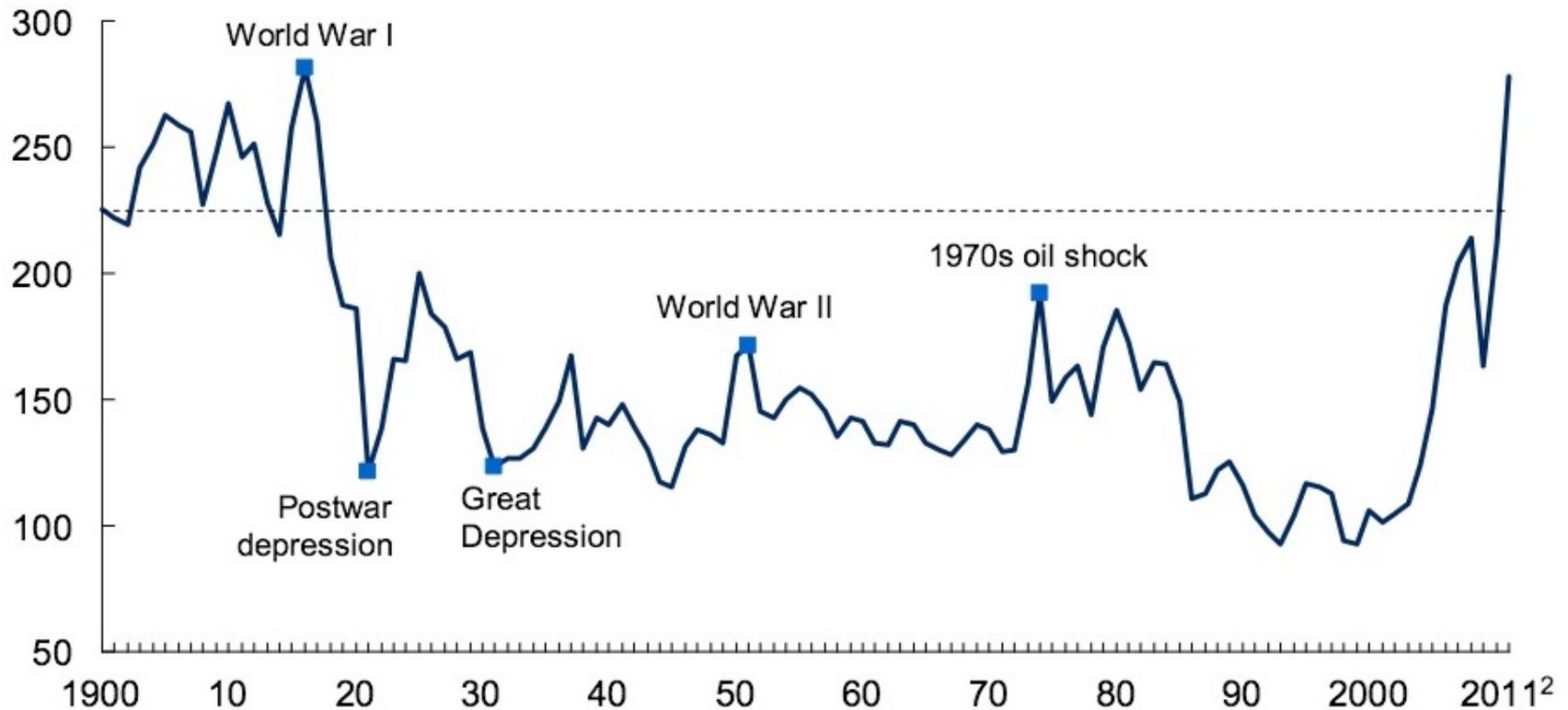


Why should corporations **care** about natural capital?



The world enjoyed a 1 per cent decline in real prices to 2001, but prices are now higher than they have been for 100 years

MGI Commodity Index, years 1999–2001 = 100¹



1 Based on arithmetic average of four commodity subindexes: food, nonfood agricultural items, metals, and energy; each subindex weighted by total world export volumes 1999 to 2001 at indexed prices in real terms.

2 2011 prices based on average of first four months of 2011.

SOURCE: Grilli and Yang, 1988; Pfaffenzeller et al., 2007; World Bank Commodity Price Data; International Monetary Fund; Organisation for Economic Co-operation and Development; FAOStat; UN Comtrade; McKinsey Global Institute analysis

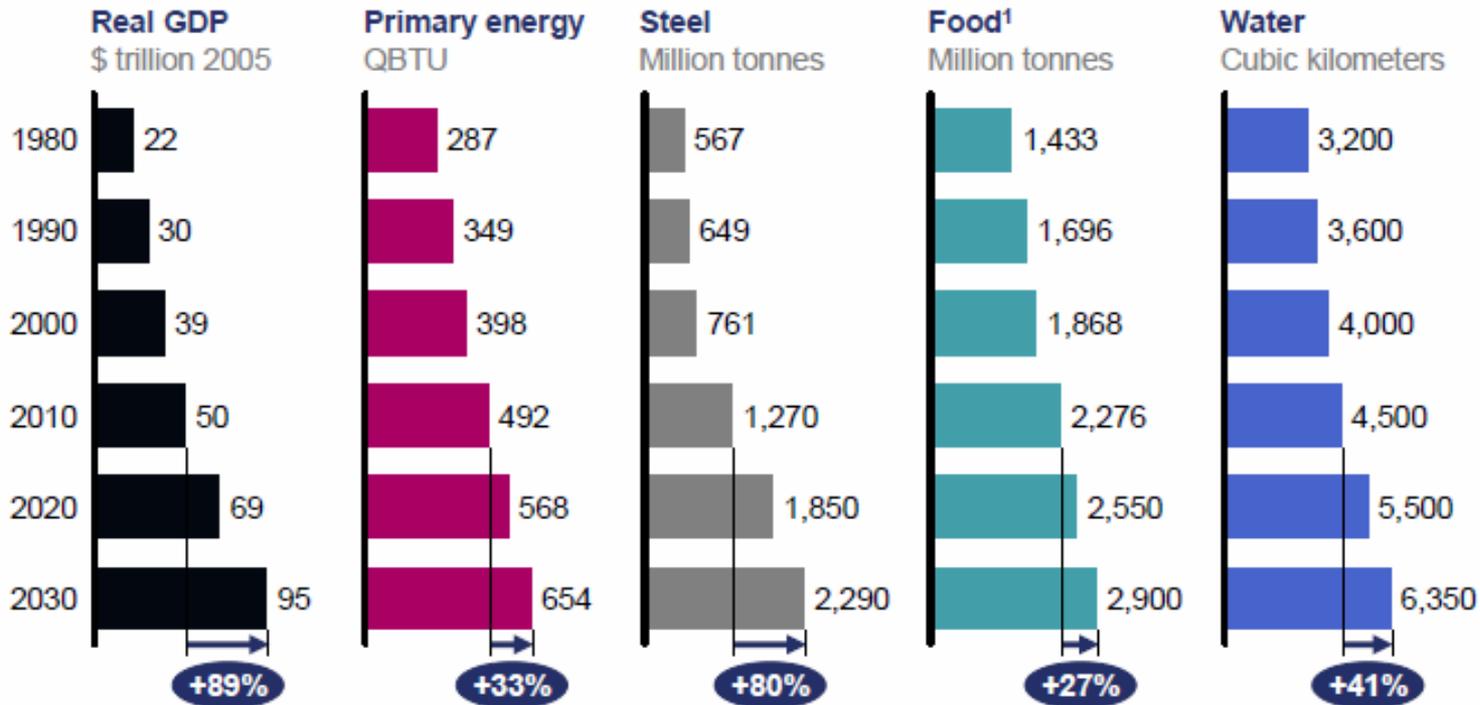
Drivers of the Resource Risk Megatrend



"In the next 40 years we need to produce as much food as we produced in the past 8,000." WWF

- **£3bn** more middle class consumers by 2030
- **147%** increase in real commodity prices since year 2000
- **80%** rise in steel demand projected 2010-2030 – Mckinsey
- **\$1 trillion** spent annually on resource subsidies

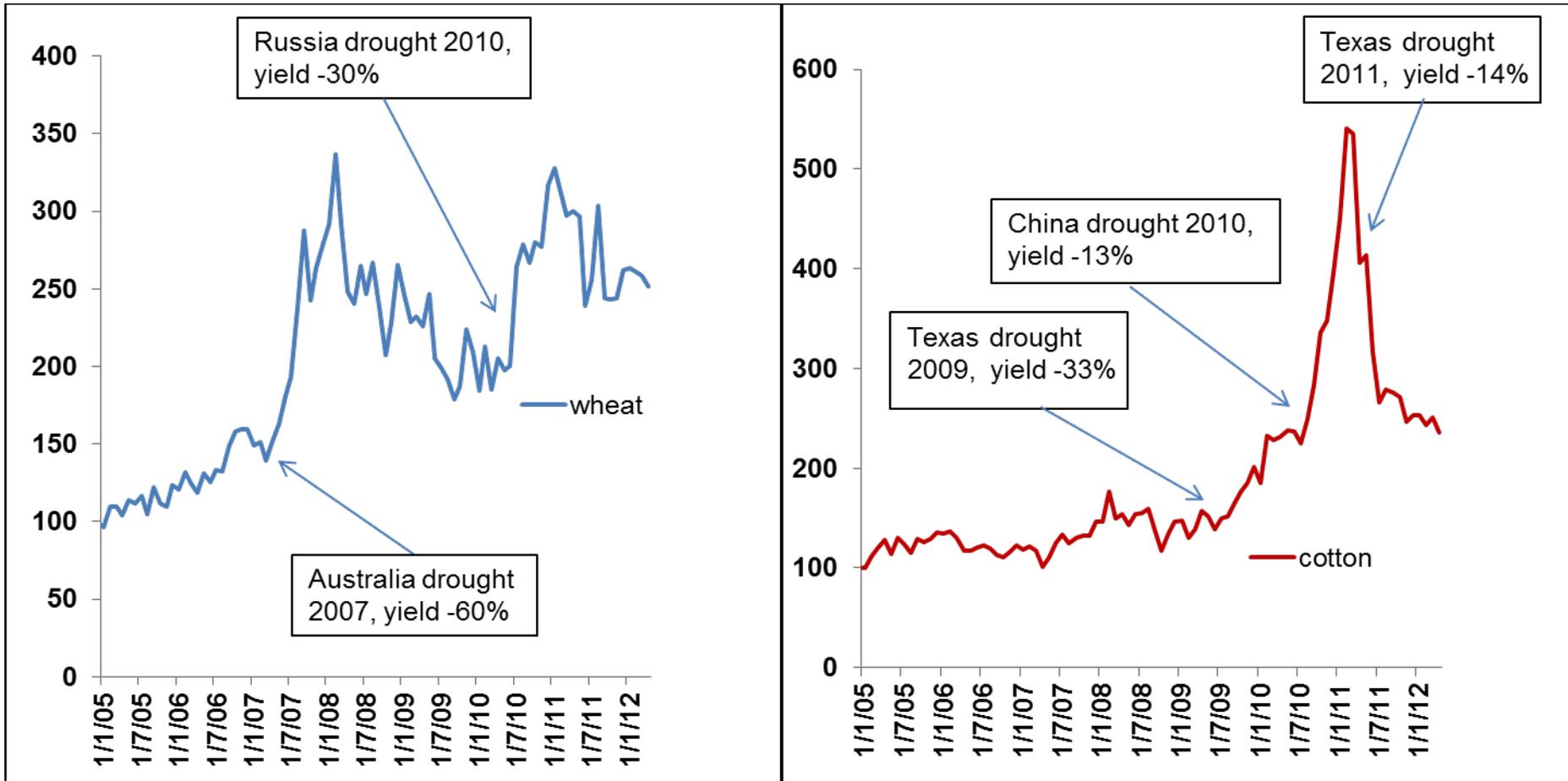
Demand for commodities risen strongly since 2000 – trend expected to continue to 2030



1 Only cereals.

SOURCE: Global Insight; IEA; UN Environment Program (UNEP); FAO; World Steel Association; McKinsey analysis

Relationship between agricultural commodity prices and drought



Index, 2005=100

Source: Factset; USDA

Climate change is the unseen player in the Arab Spring



Thomas Friedman is a Pulitzer Prize-winning New York Times columnist.

Unilever boss: Climate change cost company €200m last year

"It's very clear that if we continue to consume key imports like food, water and energy without thought to their long-term sustainability, then none of us will prosper," he said. "A company like Unilever will also not be successful. We cannot operate in a world that doesn't function."

Paul Polman, April 24th 2012

Continental®

DOW®

BOSCH

BASF
The Chemical Company

P&G
Procter & Gamble

BAYER

GERDAU

lyondellbasell

MARUTI

CLOROX

SUZUKI



Unilever

MICHELIN

POSCO

KINGSMAN
energy from nature

HBIS
河北钢铁集团

NACHI



Schneider Electric

TSINGTAO
青島啤酒

Norske Skog



Mercedes-Benz

BAOSTEEL

H&M

AmBev

CHALCO

鞍钢股份有限公司
ANGANG STEEL COMPANY LIMITED



SUZANO

LAFARGE

BARRICK

HERMÈS
PARIS

Fibria

Hankook

HEIDELBERGCEMENT

May 1st, 2012

Commodities prices dent company profits



Commodities prices “remain stubbornly high”, Jean-Marc Huët, chief financial officer at Unilever, the world’s second largest consumer goods company, said. Thomas Falk, chief executive of Kimberly-Clark, the maker of Huggies nappies, added: “Most oil-based costs are tracking a little higher than we expected.”

Kurt Bock, chief executive of BASF, the world’s biggest chemical maker by sales, told investors “increased raw material costs could not be fully passed on in all business areas, which put pressure on our margins”.

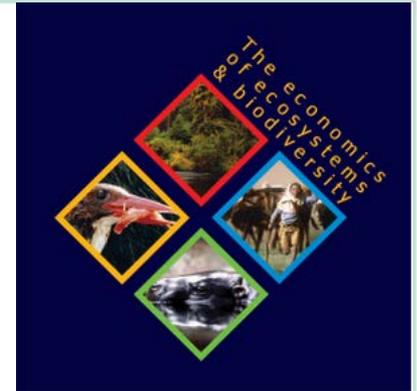
Jon R. Moeller, chief financial officer at Procter & Gamble, the world’s biggest consumer goods company, added that “higher commodity cost” was one of the reasons for lower-than-expected profits even as the company was raising prices.

How do we manage?



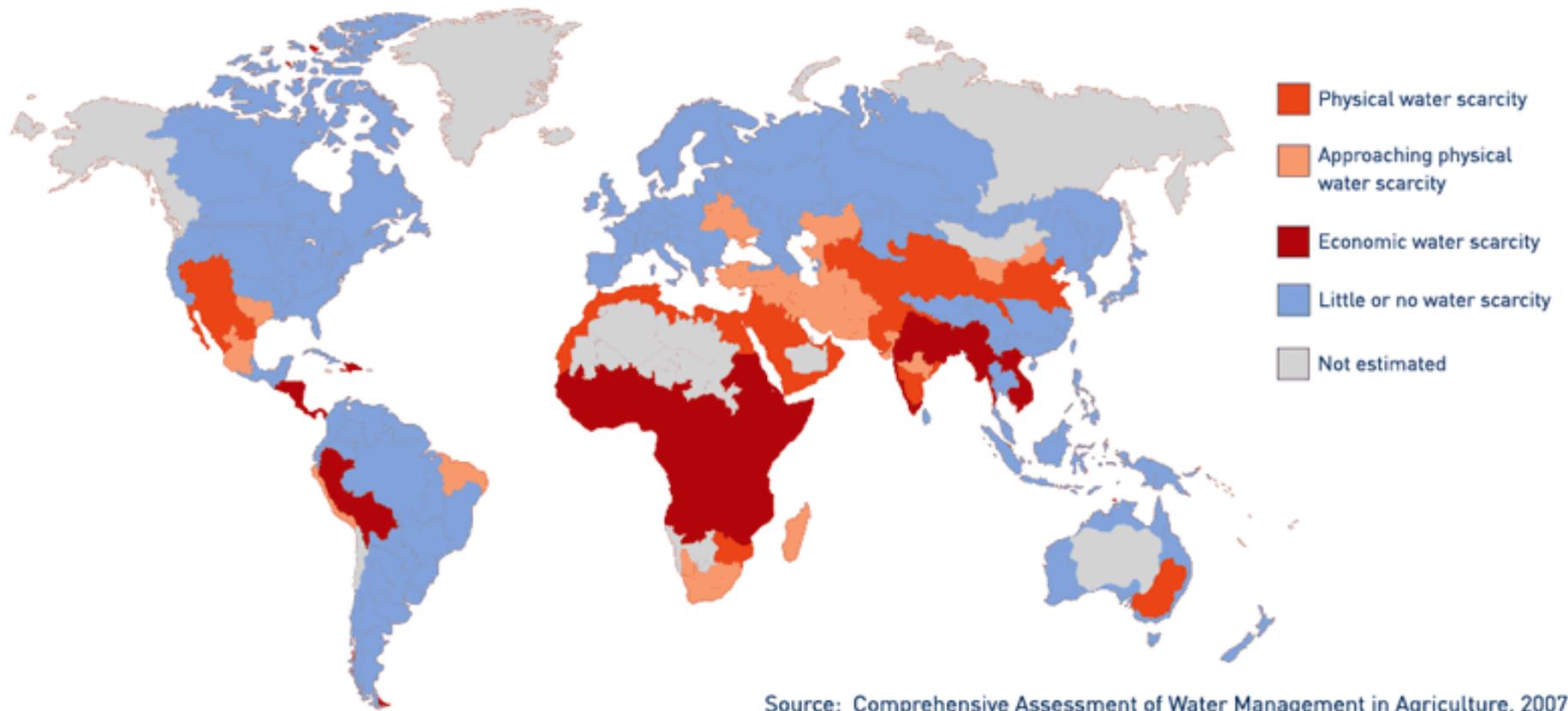


You cannot manage



what you do not measure.





Source: Comprehensive Assessment of Water Management in Agriculture, 2007

Fact: There is a *negative* correlation between the price of water and water scarcity*

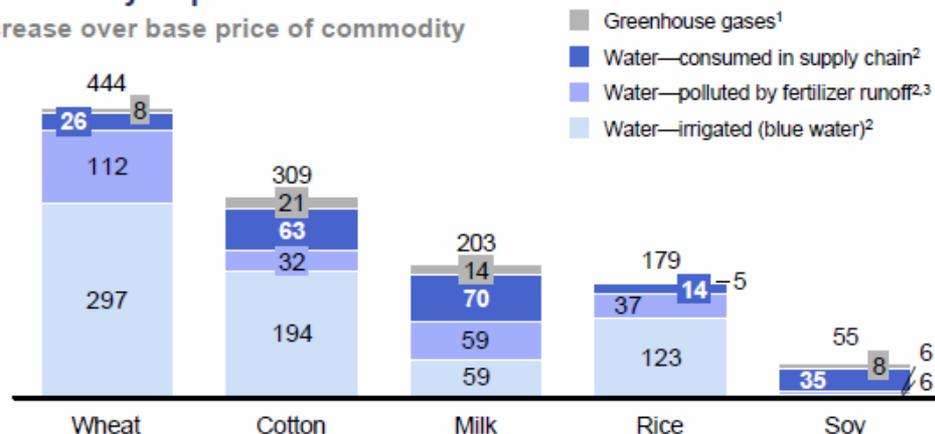
*GWI/OECD 2008 Global Water Tariff Survey

Company cost bases likely to change significantly with increase in price of commodities



Prices of soft commodities could increase by 50 to 450 percent if allowing for currently unpriced externalities

Average cost increase over base price of commodity %



Increase in cost of commodity from externalities \$/tonne



1 Greenhouse gases were measured in terms of tonnes of carbon dioxide equivalent. Carbon is priced at \$30 a tonne. Both direct and indirect greenhouse gases were calculated for each commodity.

2 Based on true “economic cost” of water, which reflects the opportunity cost of water in the given water basin from which these commodities are sourced (or a global level of scarcity in the case of indirect consumption in supply-chain inputs).

3 Based on the volume of water required to dilute nitrogen fertilizer runoff from crop production back to a safe level.

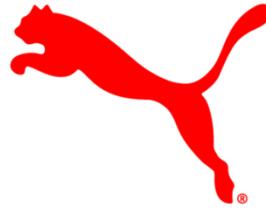
NOTE: Numbers may not sum due to rounding.

SOURCE: Trucost; McKinsey analysis



How Valuing Natural Capital Can Enhance Your Business



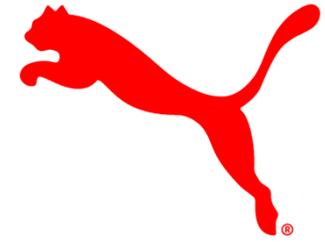


PPR



Environmental Profit and Loss Account

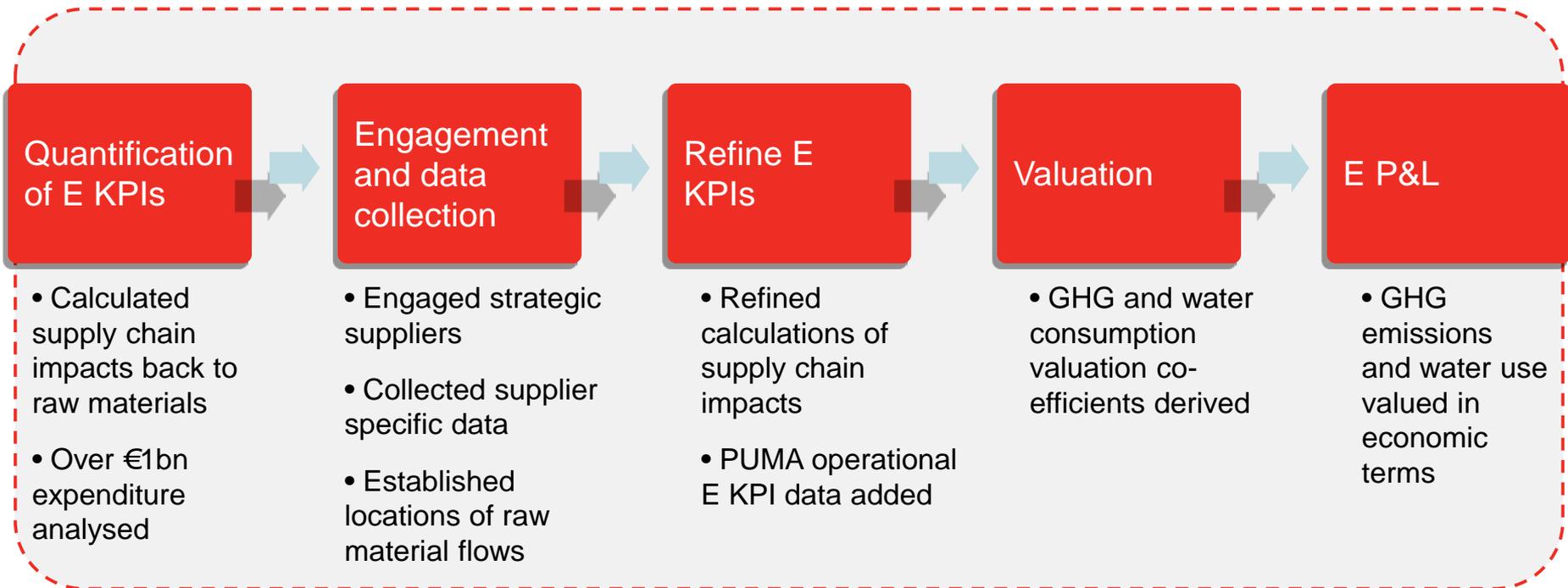




An EP&L places a financial value on the environmental impacts across the value chain...



E P&L Approach

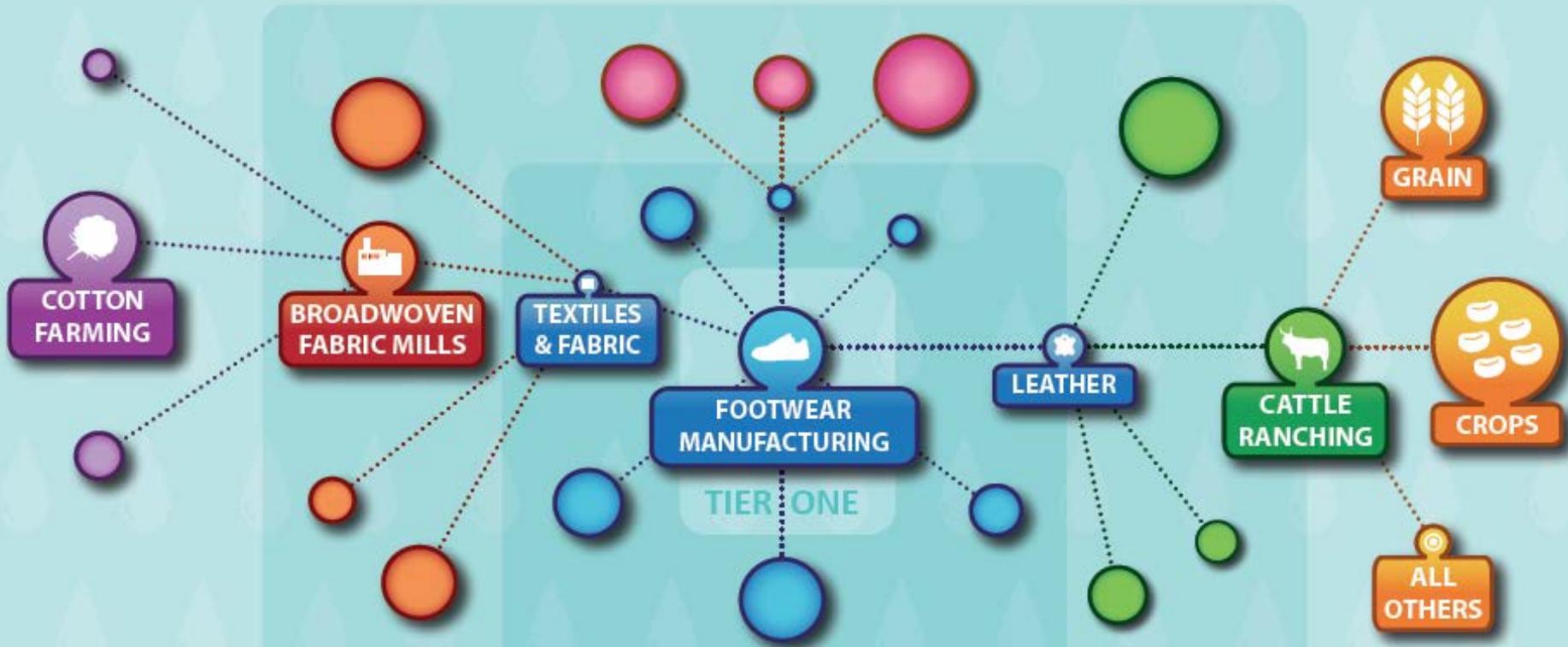


(E KPIs) x (GHG & Water Valuation) = E P&L

THE TRUE COST OF WATER

PUMA'S FOOTWEAR SEGMENT

€25 mn



TIER FOUR

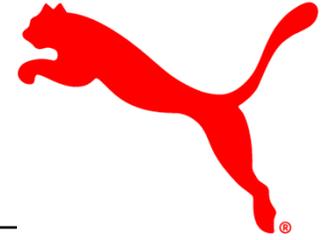
TIER THREE

TIER TWO

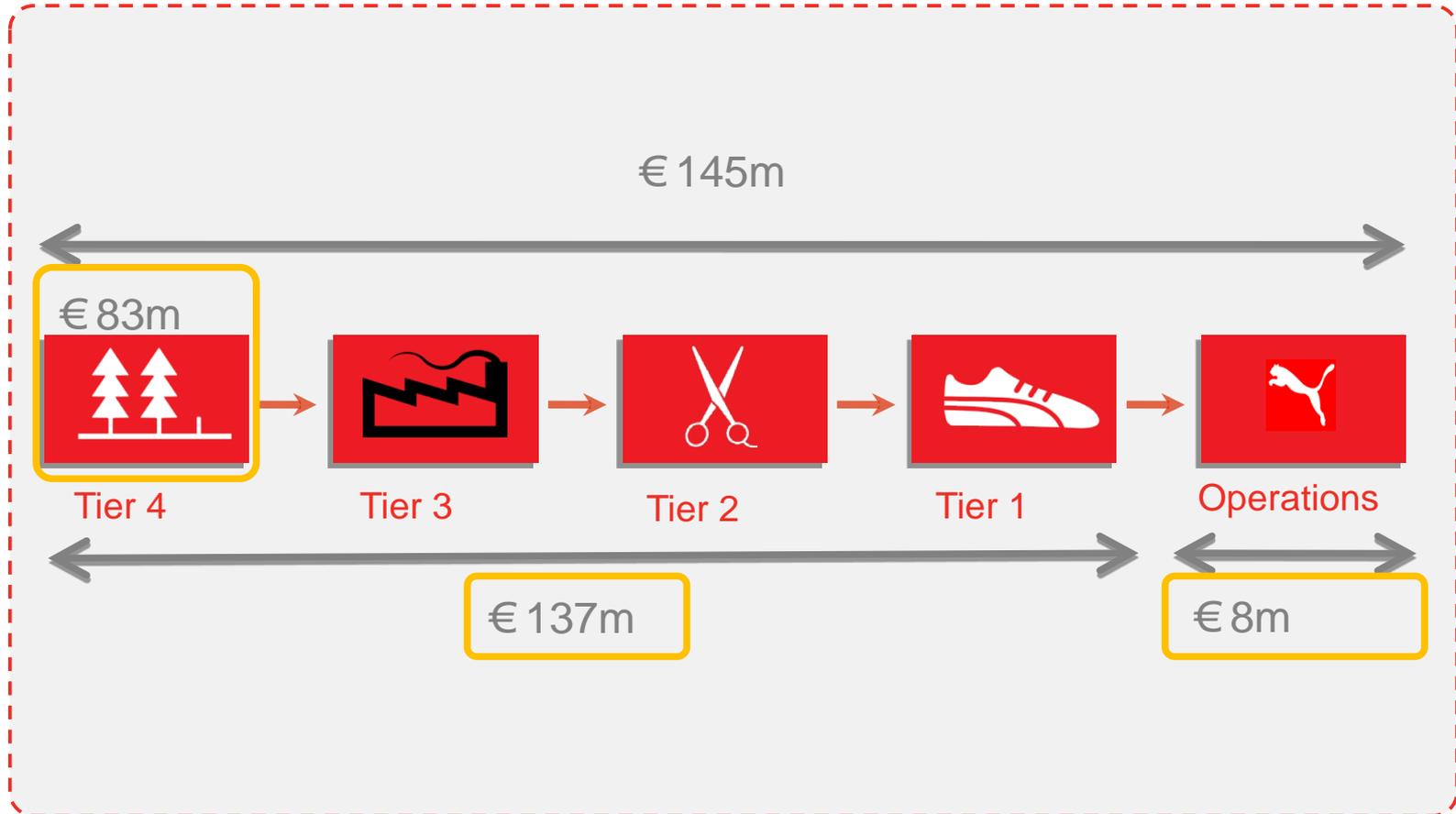
TIER THREE

TIER FOUR

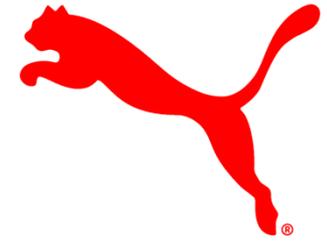
FOR ILLUSTRATIVE PURPOSES ONLY



EP&L Results



PPR



	Water use €million	GHGs €million	Land use €million	Other air pollution €million	Waste €million	TOTAL €million	% of total
	33%	32%	26%	7%	2%	100%	
TOTAL	47	47	37	11	3	145	100%
PUMA operations	•	●	•	•	•	8	6%
Tier 1	•	●	•	•	•	13	9%
Tier 2	•	●	•	•	•	14	10%
Tier 3	●	●	•	•	•	27	19%
Tier 4	●	●	●	•	•	83	57%



June 22nd, 2012

Puma to kick leather into touch

By Pilita Clark in Rio de Janeiro

Puma will have to stop using leather in its famous football boots and trainers because it is such an environmentally damaging product, the sportswear company's executive chairman has said.

"I think eventually we'll have to look at alternative materials, there's no question about it," Jochen Zeitz told the Financial Times in an interview at the UN Rio+20 earth summit. "We should eat less meat, all of us, and we should use less leather, I mean that's reality."

"We all know that cattle and beef are among the biggest contributors to carbon emissions."

Mr Zeitz is regarded as a pioneer of environmentally sound business practices and says he has cut his own meat consumption by 80 per cent in recent years.



NAME	LAST	TODAY'S CHANGE	1 MONTH CHANGE
Puma SE	217.56	-4.54	
At Jul 12 2012 07:06 BST	EUR	-2.04%	-11.28%

He has also introduced "meat-free Mondays" in office canteens at Puma, whose shoes have clad the feet of some of the world's best known athletes, from Argentine footballer Diego Maradona to Jamaican sprinter Usain Bolt.

The company unveiled an "environmental profit and loss account"

last year that valued the environmental impact of its operations and supply chain at €145m. In the first quarter of 2012 Puma's sales were €821m.

The measure showed the production and processing of raw materials was the biggest contributor to Puma's environmental footprint, said Mr Zeitz, "with leather being the biggest impact driver".

That is partly because cattle ranching soaks up water supplies and requires land to be cleared, which can affect plant and wildlife species, and also because of the chemicals and contaminants associated with leather tanneries.

That means footwear has the biggest environmental footprint of Puma's products, said Mr Zeitz, explaining innovative ways of tackling the problem had to be found.

"It may sound crazy, but maybe there's an economic way of producing a leather-like product in the laboratory," he said.

"We have to find alternative ways of producing our raw materials without

The start of solutions



GUCCI



YVES SAINT LAURENT

STELLA MCCARTNEY

ALEXANDER
MCQUEEN

BALENCIAGA

sergio rossi

Prioni



BOUCHERON
PARIS

JEANRICHARD
CREATIVE CRAFTSMANSHIP
SINCE 1681



GP
GIRARD-PERREGAUX



The start of solutions

PPR


TRUCOST[®]

Francois-Henri Pinault, Chairman and CEO, PPR:

“We are confident that this type of innovative, sustainability-driven approach will ultimately generate new business revenues from sustainable products and services and create new business models for us as a Group.”



Product level assessments



TRADITIONAL VS MORE SUSTAINABLE

**CONVENTIONAL PUMA.
COTTON T-SHIRT**



**BIODEGRADABLE PUMA.
INCYCLE COTTON T-SHIRT**



VS.

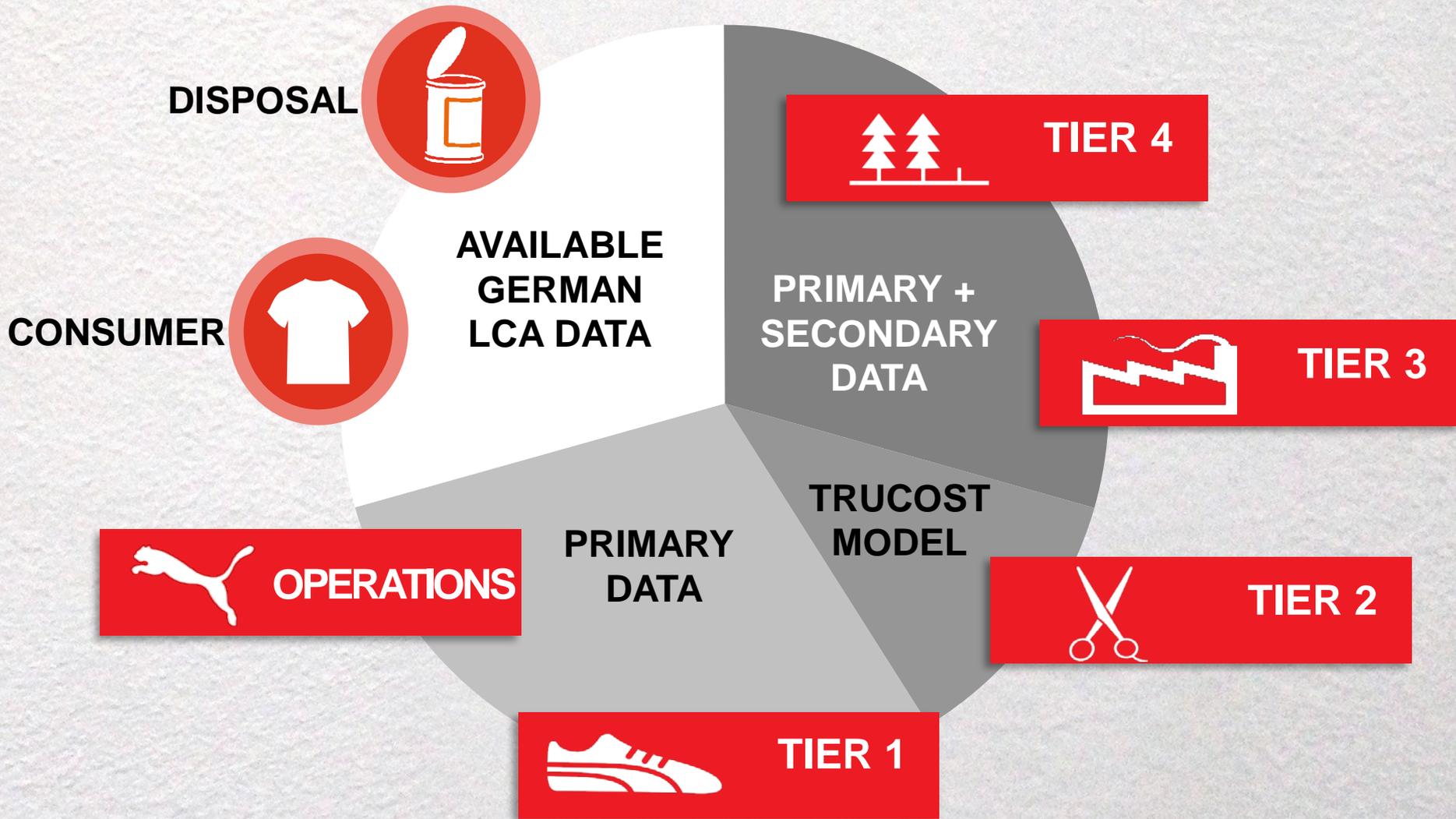
**CONVENTIONAL PUMA.
SUEDE**



**BIODEGRADABLE PUMA.
INCYCLE BASKET**

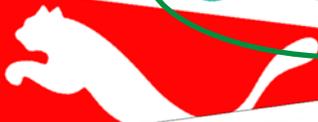


DEEP DIVE: DATA ACROSS LIFECYCLE



BIODEGRADABLE PUMA INCYCLE T-SHIRT

 GHG	€ 1.20	 WATER	€ 0.34
 AIR	€ 0.70	 LAND USE	€ 0.06
		 WASTE	€ 0.06
 TOTAL COST		2.36	



CONVENTIONAL PUMA T-SHIRT

 GHG	€ 1.79	 WATER	€ 0.33
 AIR	€ 1.00	 LAND USE	€ 0.20
		 WASTE	€ 0.10
 TOTAL COST		3.42	



BIODEGRADABLE PUMA INCYCLE BASKET

 GHG	€ 1.41	 WATER	€ 0.49
 AIR	€ 0.84	 LAND USE	€ 0.09
		 WASTE	€ 0.12
 TOTAL COST		2.95	



CONVENTIONAL PUMA SUEDE

 GHG	€ 2.16	 WATER	€ 0.61
 AIR	€ 0.74	 LAND USE	€ 0.48
		 WASTE	€ 0.30
 TOTAL COST		4.29	



Risk and opportunity

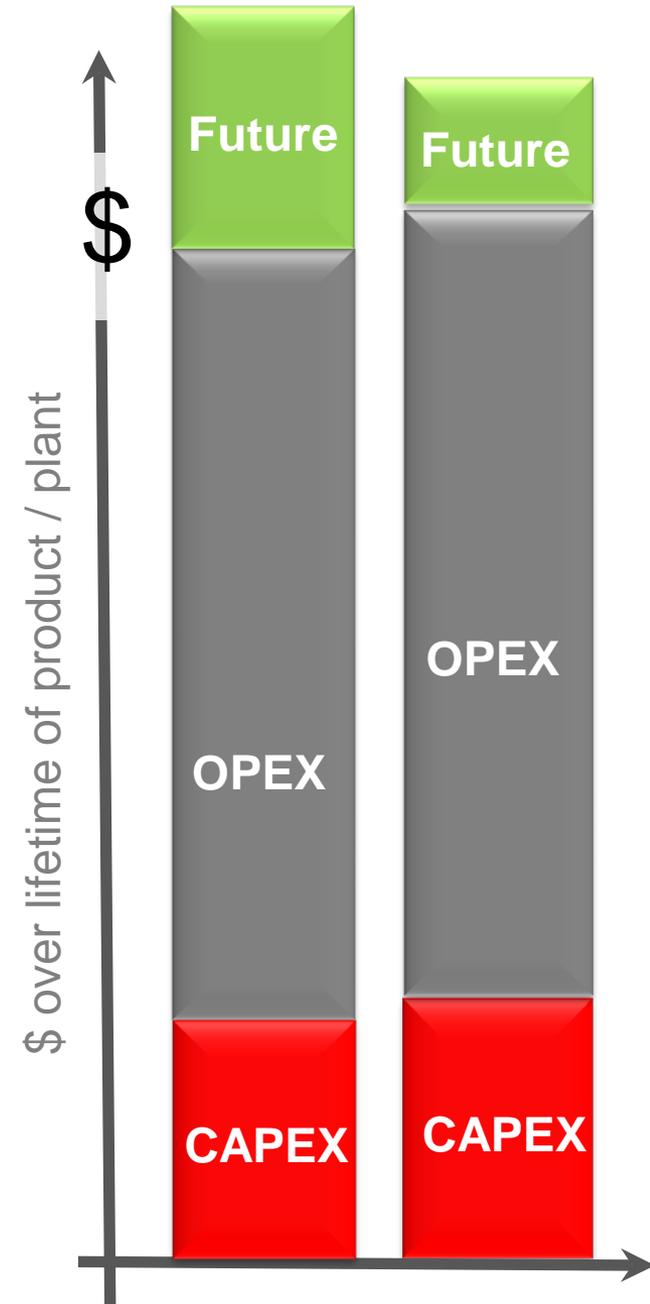
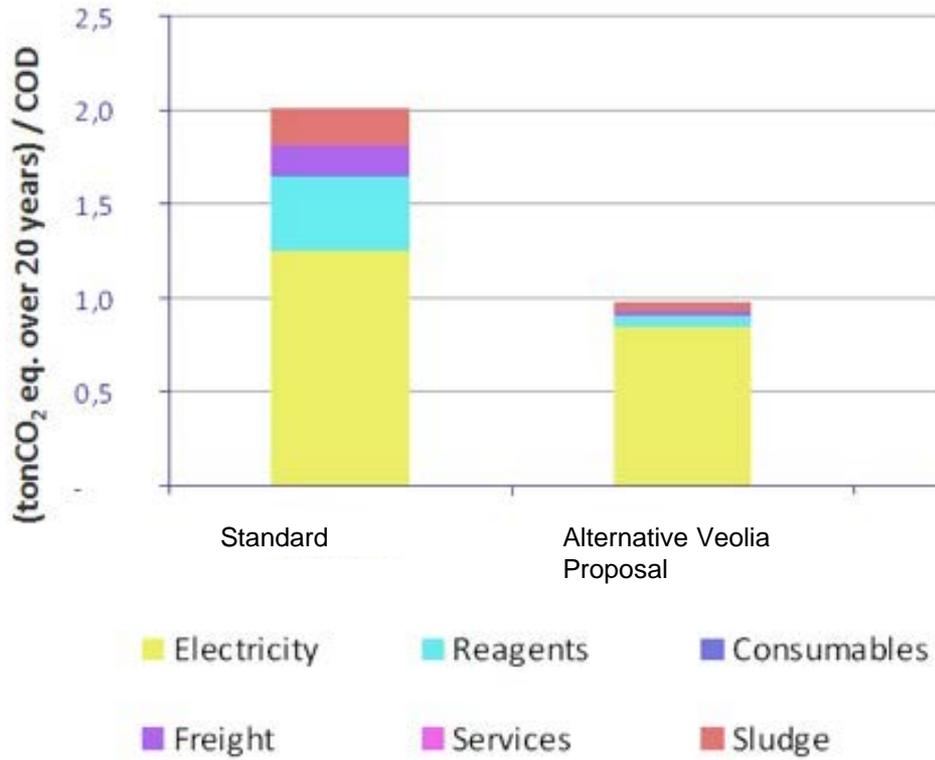
Water is a key input to many product life cycles, from raw materials to processing and packaging. Here we provide insight into how the 'True Cost' of consumer goods varies based on local water availability across the major production sites of the consumer goods analyzed. By identifying environmental risk and opportunity across production locations, we help business integrate environmental considerations at the heart of product and procurement strategy.



Capturing future flows and benefits



Solutions exist

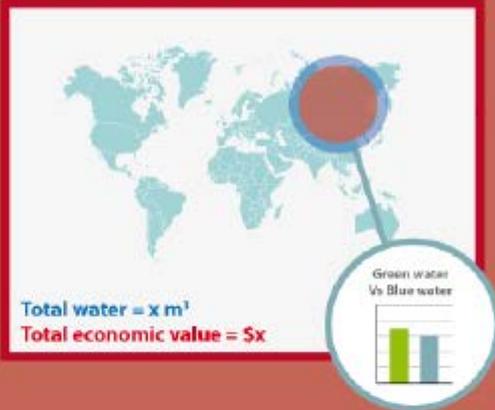


Scenario Analysis

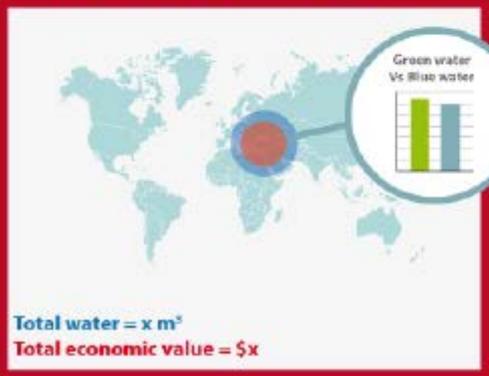
Current scenario - Country 0



Scenario A - Country 1



Scenario C - Country 3



Scenario B - Country 2



Scenario Analysis

Trucost used Hoekstra (2012) data to determine the blue and green water footprint of x tonnes of Commodity X grown in Country 0. An environmental cost (based on water scarcity) was applied to this water quantity to give an indication of the value of lost ecosystem services. This cost has been adjusted for purchasing power parity in each location.

To benchmark the water consumption quantities and total environmental cost, Trucost produced three scenario analyses to show the blue and green water footprint and environmental cost of the same amount of tomatoes grown in Country 1, Country 2 and Country 3. These three countries are the largest annual producers of Commodity X across the globe.

Blue water: The blue water footprint refers to the volume of surface and groundwater consumed (or replaced) as a result of the production of a good.

Green water: The green water footprint refers to the volume of rainwater consumed.



Natural Capital Assessment

Key Benefits:

- ✓ A **management tool** to identify and minimise where the greatest negative environmental impact is occurring and maximise the positive environmental benefit on an ongoing basis.
- ✓ To demonstrate in a robust and scientific way the **environmental benefits of products** both now and in the dynamics of a more resource constrained world.
- ✓ To accurately understand the environmental performance of products in **financial terms**.
- ✓ To understand **risk to supply chain** operations from natural resource dependency (including water dependency in relation to scarcity).
- ✓ To project the likely benefits of different business model configurations/ **sustainability strategies**
- ✓ To inform future **sourcing and business strategy**.
- ✓ To understand your impact on ecosystem services and provide a single environmental **performance indicator** that can be tracked and reported against.



Questions

Annabelle.bennett@trucost.com

+44 207 160 9810

