

Creating Shared Value



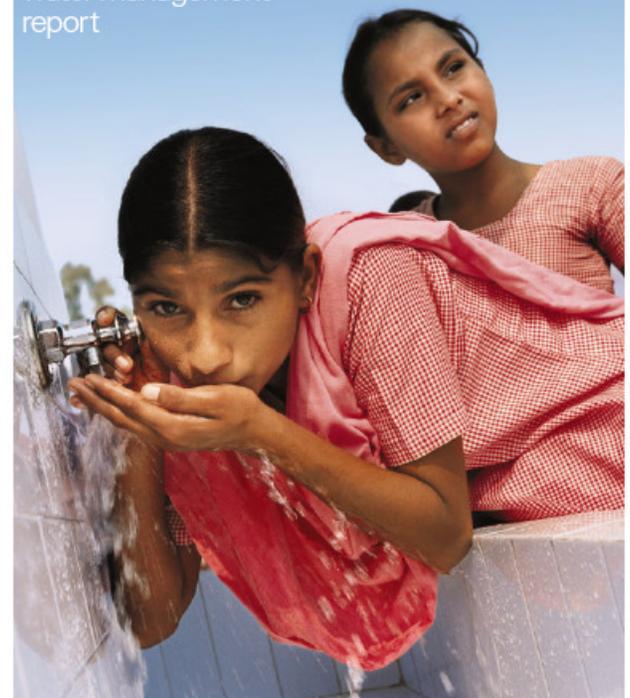
The Food Industry's Commitment to Sustainable Water Use

The Future of Science
Food and Water for Life
Venezia, 25 September 2008
Dr. Claus Conzelmann, Vice President, Nestlé

The Nestlé
Creating Shared Value
Report



The Nestlé
water management
report



Water advocacy: World Economic Forum, UN Global Compact



Peter Brabeck-Letmathe ist Präsident und Vorstandsleiter der Nestlé AG. Professor Klaus Schwab ist Gründer und Präsident des World Economic Forum.

KLAUS SCHWAB & PETER BRABECK-LETMATHE

It takes 16,000 litres of water to produce a kilo of beef and 2,700 to make a T-shirt

Mangel an Trinkwasser wird zur Zeitbombe

Nestlé CEO says increasing scarcity of water could become problem

The Daily Telegraph

We take running a bath far too much for granted
PERSONAL VIEW

Contrairement aux émissions de CO₂, avec l'eau, il n'existe pas de solution de remplacement, pas de substitut

Ban warns business on looming water crisis

Water as Critical as Climate Change - World Economic Forum
World Economic Forum (Geneva)

Die Wasserreserven versiegen schneller als die Ölreserven

Pénurie d'eau: une véritable tempête se prépare

Klaus Schwab, directeur, fondateur du World Economic Forum, et Peter Brabeck-Letmathe, PDG de Nestlé, vont lancer un appel à Davos pour créer de

FINANCIAL TIMES

theguardian

Food and drink firms promise to cut water use by industry

Groups pledge to cut water use by 20%

04-MAR-2007

Quotidiano Milano

CORRIERE DELLA SERA

Direttore: Paolo Mieli

Letori Audipress 2700000

da pag. 20

La Nestlé cerca una strada ecologista
«Risparmiati 47 miliardi di litri d'acqua»

Il presidente Brabeck-Letmathe: produzione trasformata per diminuire i consumi idrici

Standpunkt Klaus Schwab und Peter Brabeck-Letmathe

„Wir stehen am Rand einer globalen Wasserkrise“



What we will cover

- Nestlé - Short overview
- Is our current economic development model sustainable?
- Water – the biggest environmental challenge
- Where is water (mis-) used?
- Some elements for solving the water crisis:
 - More sustainable production
 - More sustainable consumption
 - More market (= less subsidies) and better governance

Enhance quality of life by bringing nutrition to all consumers everywhere

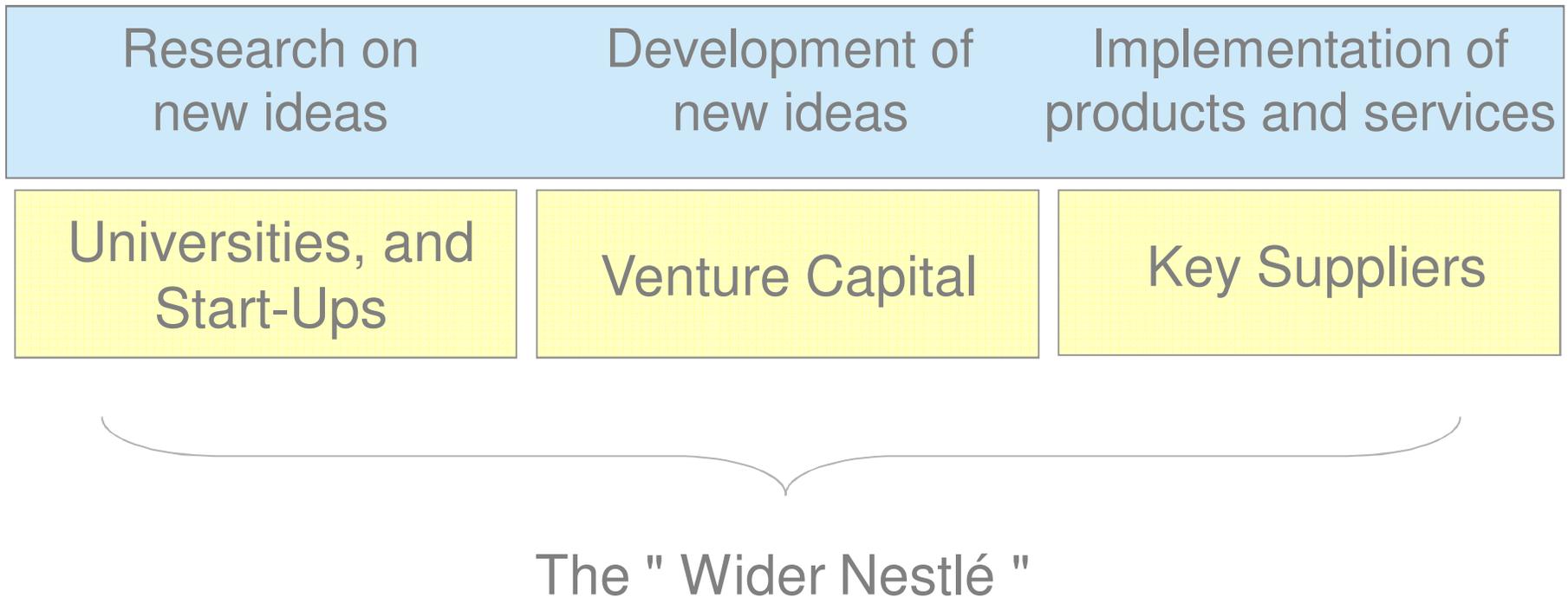
- 10,000 different products
- Around 1 billion products sold every day
- A product for every moment of every day, from morning to night and from birth to old age



480 factories: half of them outside Europe and North America

Open Innovation: collaboration with universities and research institutes

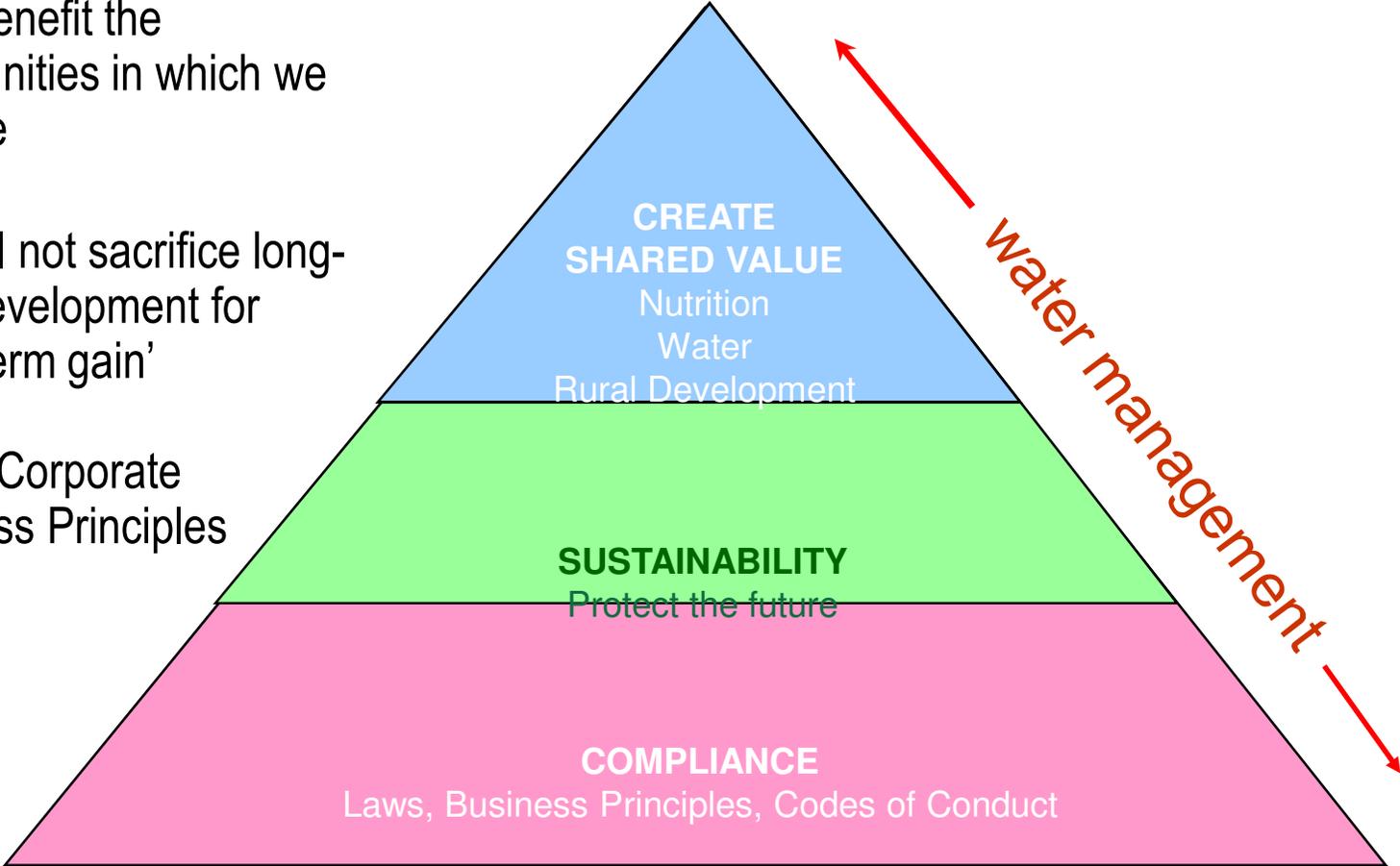
Nestlé Research Centre in Lausanne (Switzerland)
Global Network of 23 R&D centres – Total of 5000 people



Creating Shared Value

- Our economic activities must benefit the communities in which we operate
- ‘We will not sacrifice long-term development for short-term gain’

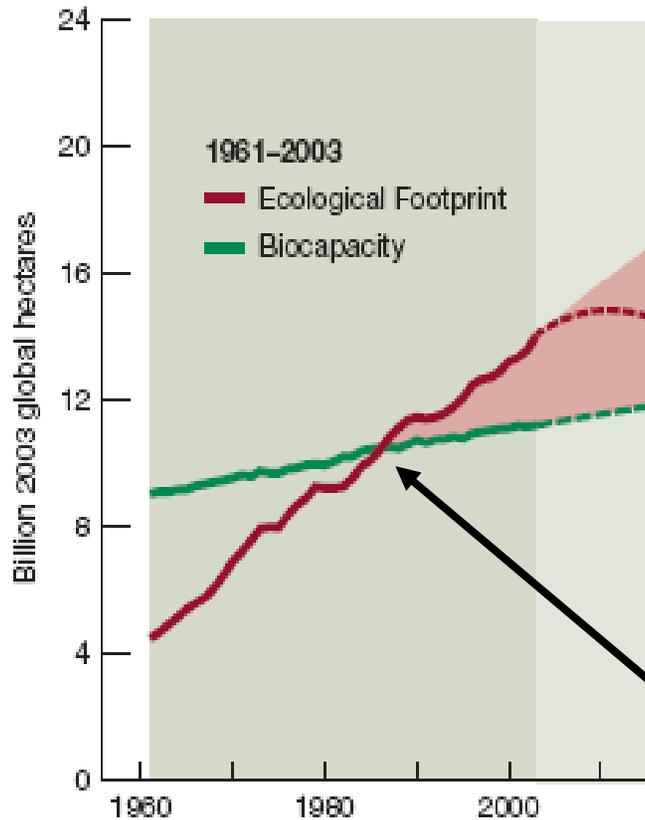
Nestlé Corporate Business Principles



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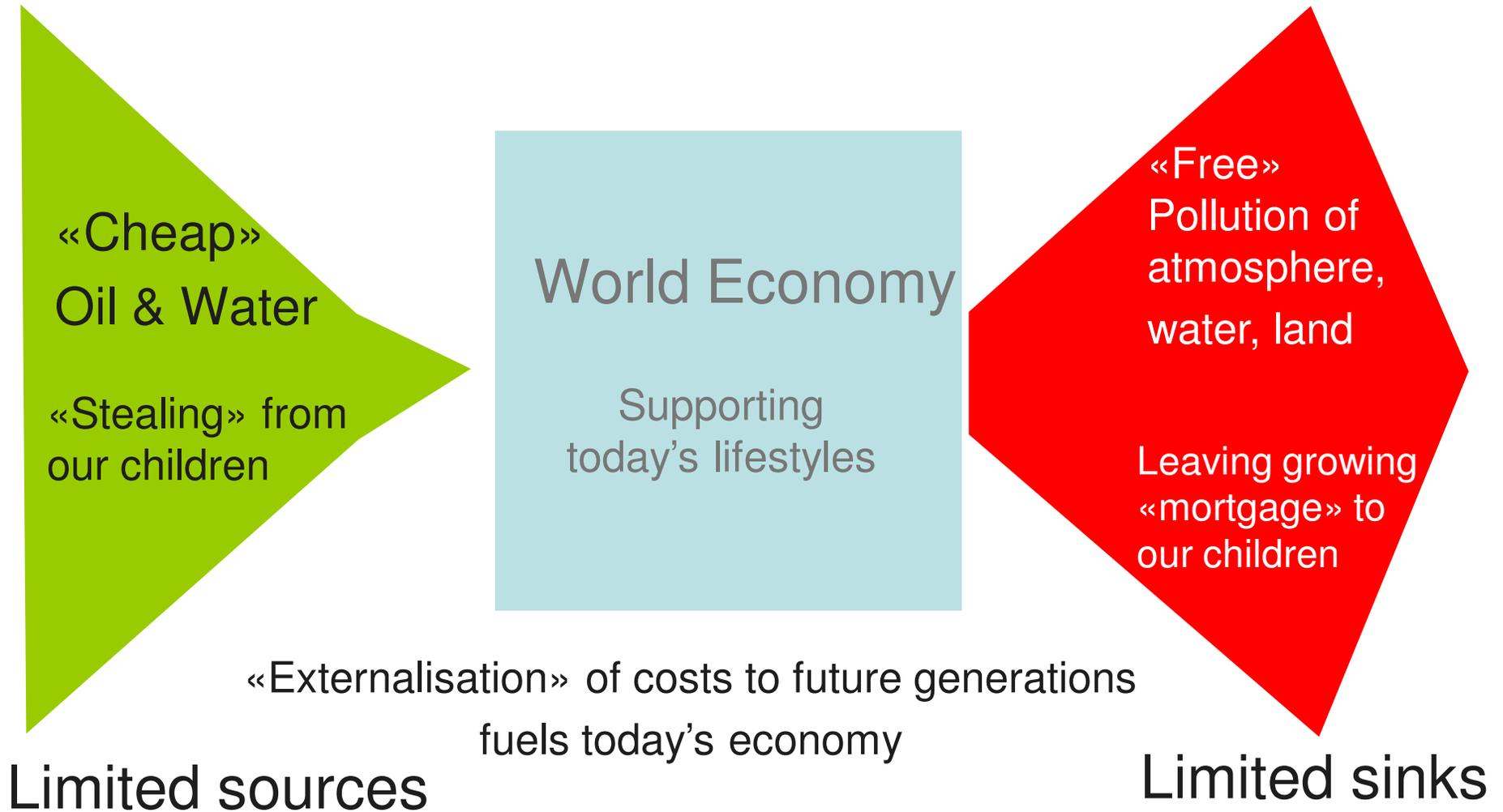
World's sustainable capacity already exceeded by 25%



The world was «sustainable» until 1987



How can the world economy continue to grow in an environment of limited sources and sinks?



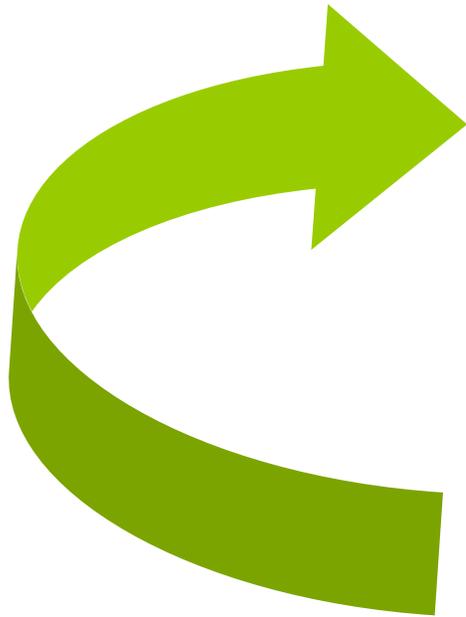
Adapted from: Limits to Growth (Meadows et al., 2004)

Developing a lean and eco-efficient Circular Economy

Supporting a «Western Lifestyle» for 9 billion people by 2050 requires...

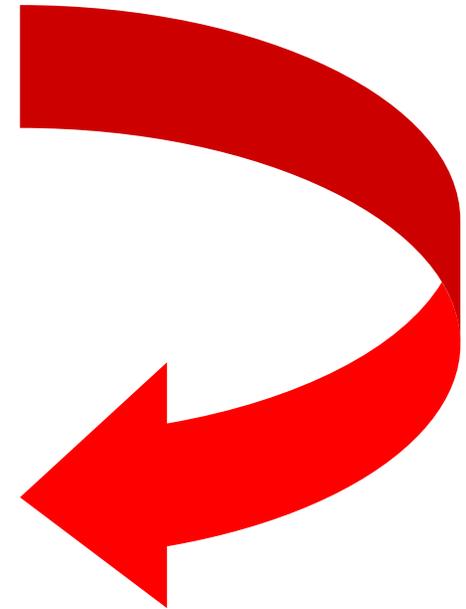
a 10 x efficiency increase

and radically new concepts



World Economy

Supporting
tomorrow's lifestyles



Ecosystems

Sustainable sources

Sustainable sinks

Adapted from: Limits to Growth (Meadows et al., 2004)

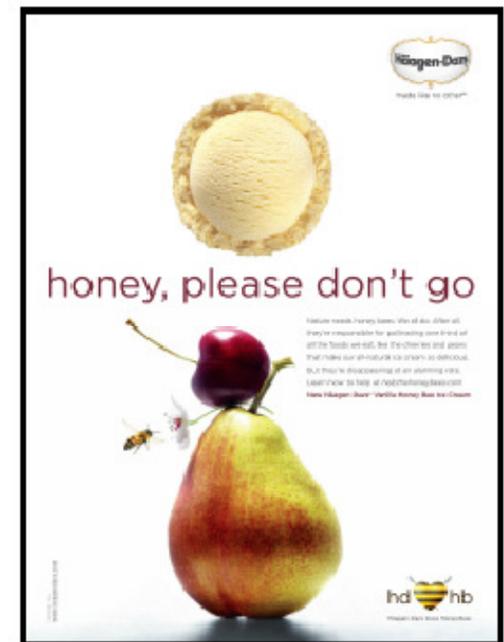
Everything we consume ultimately comes from Nature

- How can we ensure that Nature will continue to provide its services to us?



Disappearing honey bees threaten food supply

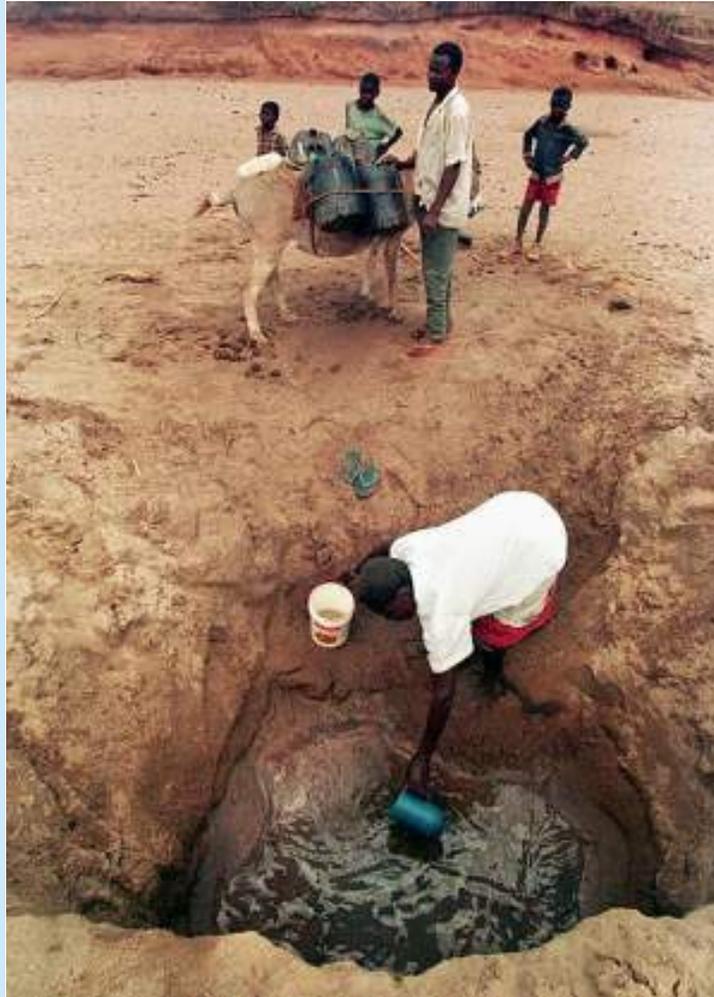
- **Sustainable Pollination Research** – Häagen-Dazs donated \$250,000 to Penn State and UC Davis to continue Colony Collapse Disorder research, the inexplicable threat to the bee population.
- **Awareness creation through Marketing**



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Water Crisis



Economist.com

BUSINESS

Business and water

Running dry

Aug 21st 2008 | NEW YORK
From The Economist print edition



Everyone knows industry needs oil. Now people are worrying about water, too

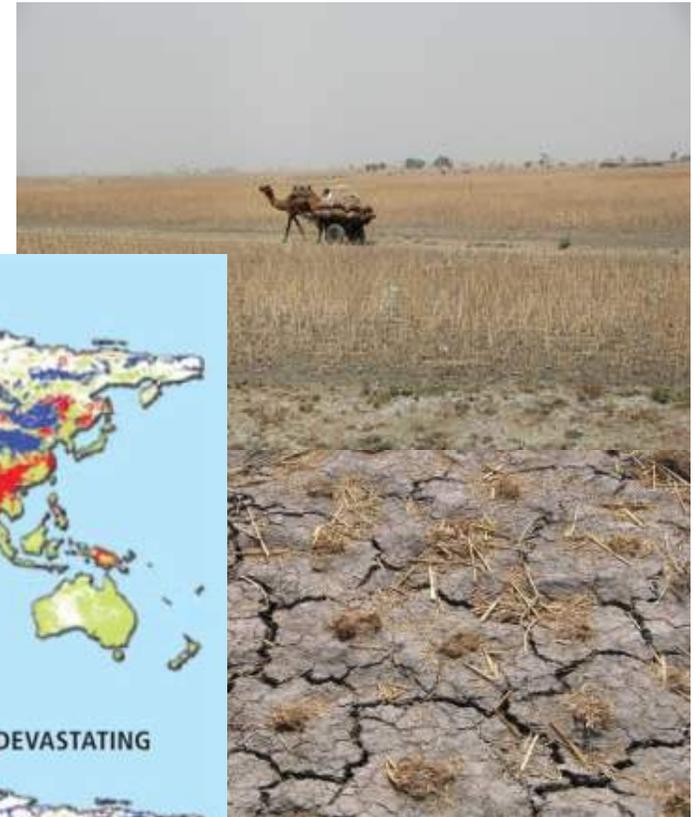
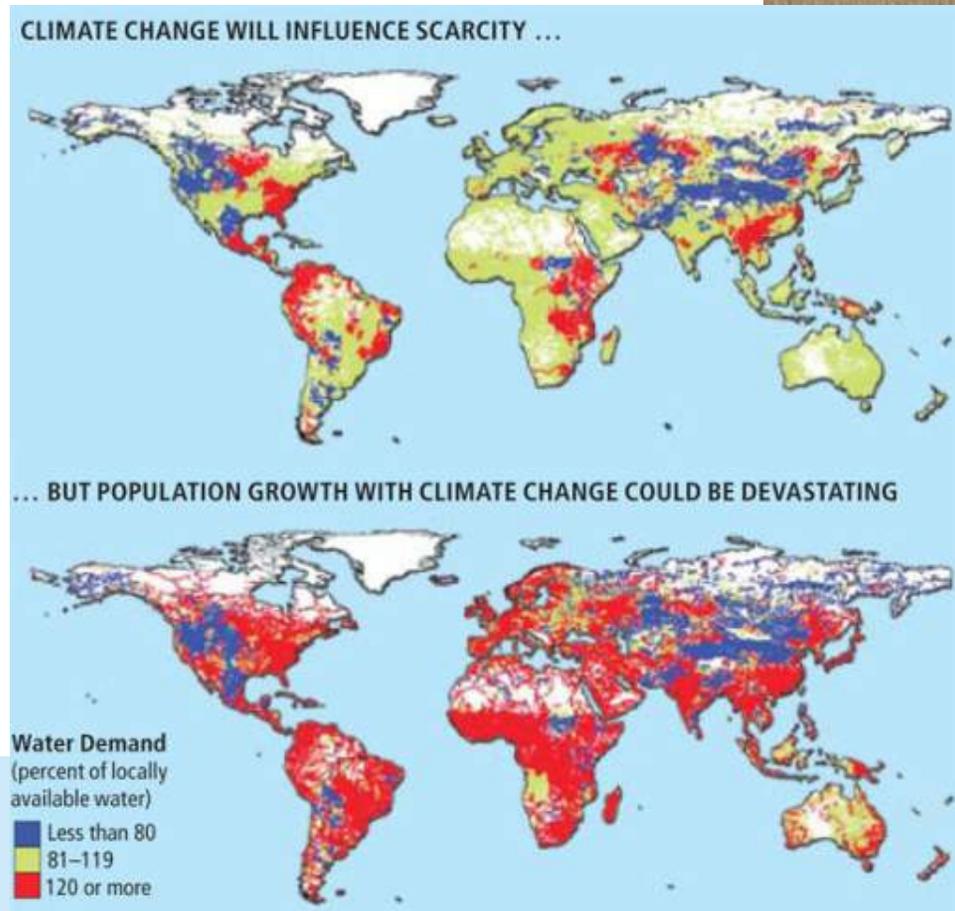
WATER is the oil of the 21st century,” declares Andrew Liveris, the chief executive of Dow, a chemical company. Like oil, water is a critical lubricant of the global economy. And as with oil, supplies of water—at least, the clean, easily accessible sort—are coming under enormous strain because of the growing global population and an emerging middle-class in Asia that hankers for the water-intensive life enjoyed by people in the West.

The key issue: From water shortage to food shortage

“If present trends continue the livelihoods of one third of the world’s population will be affected by water scarcity by 2025.

We could be facing annual losses equivalent to the entire grain crops of India and the US combined.”

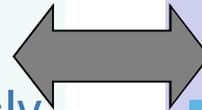
*Frank Rijsberman,
Director General
International Water
Management Institute*



Water and Carbon (with thanks to WWF)

Water

- Chronic global shortages already exist in many areas
- Solving water problems is a local issue
- Shortages can vary disastrously from year to year
- Meaningful solutions must be found in the watershed
- More complicated and will be difficult to solve
- Confusion over response



Carbon

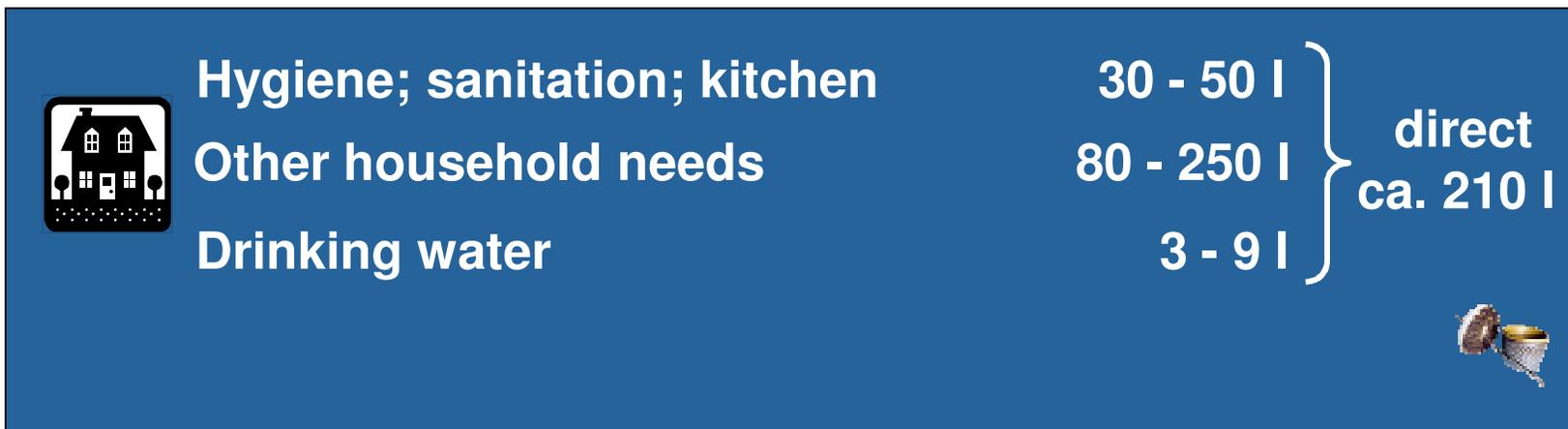
- Global impacts are slowly increasing
- Solving carbon problems is a global issue
- CO₂ increases and decreases gradually
- Cap and trade carbon trading systems to address impacts
- More obvious problem to solve
- Confusion over measurement

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Where does it go: "Visible" water withdrawals

Type of use **Daily withdrawals (litres/person)**



From Zehnder *et al.* 2003 EPFZ; based on data from UNESCO, Shiklomanov 1999

Why is water important to a food company?

➤ Raw materials

- 70% of global water withdrawal
- 3000 l of water per kg of raw material
- low efficiency



➤ Processing

- washing, cooking
- 4 l of water per kg of product sold



➤ Consumer use

- food preparation, dishwasher



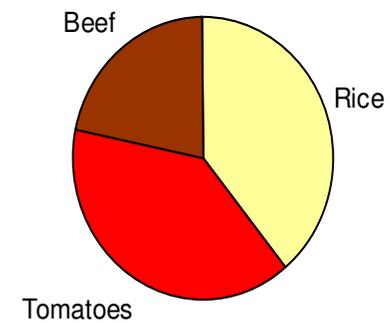
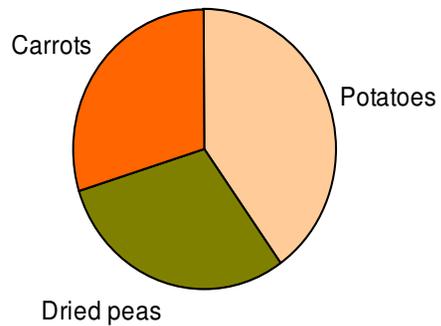
➤ Bottled water

- Nestlé uses 0.0009% of global freshwater

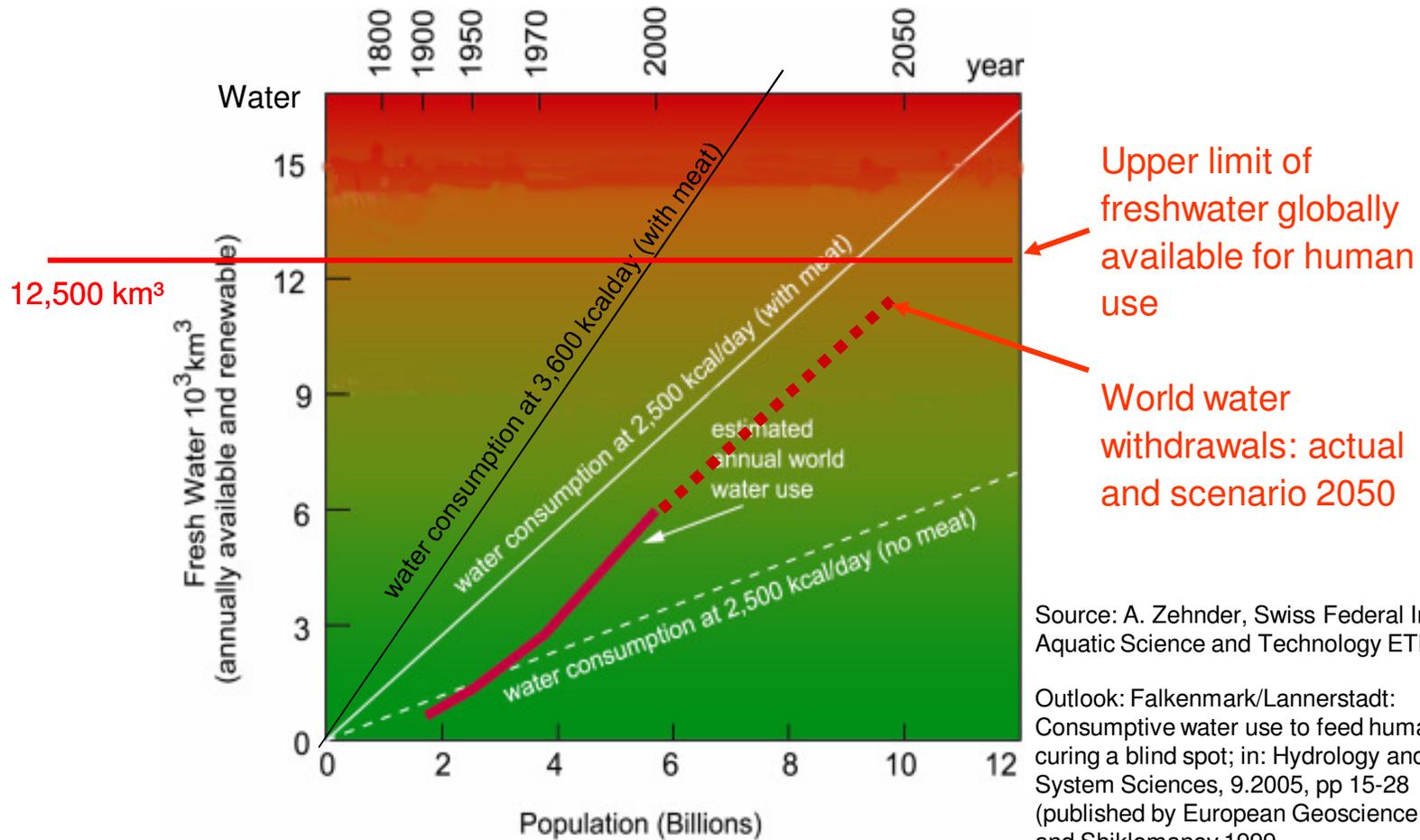


Two balanced meals...

A ten-fold difference in water and greenhouse gases



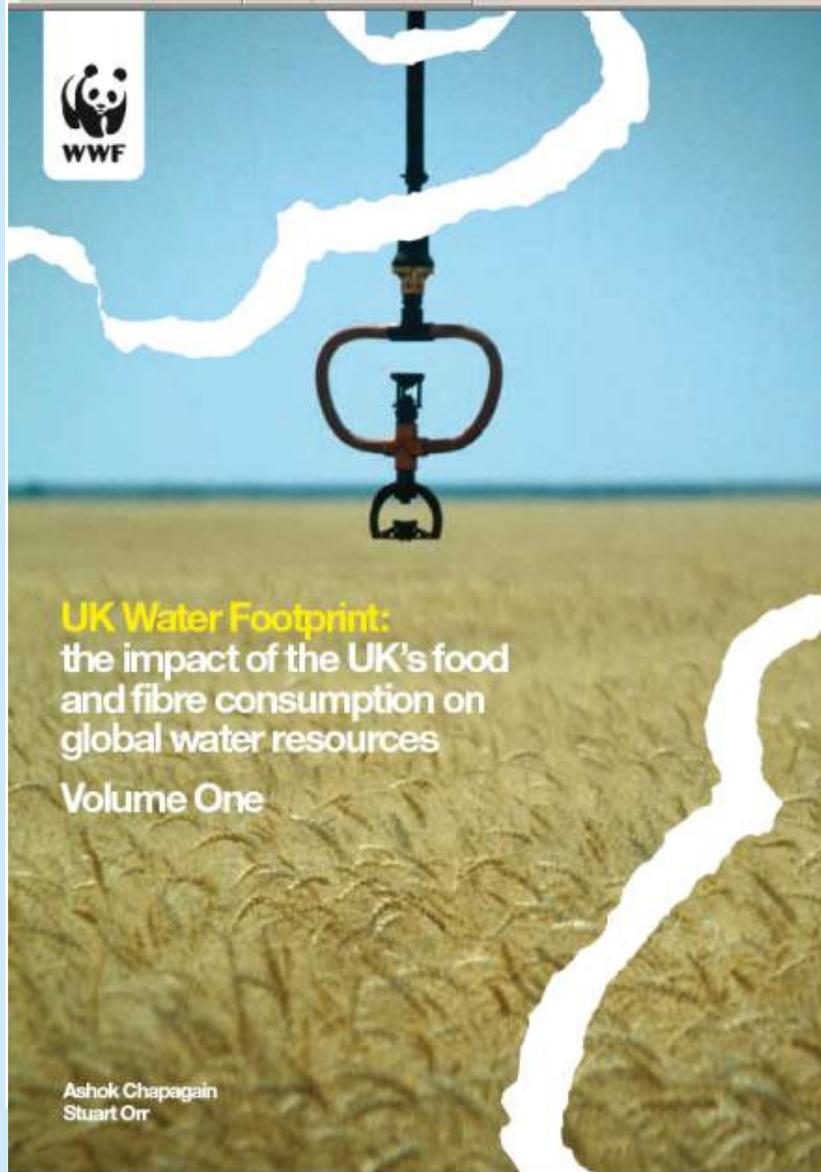
Scenario 2050 of global water withdrawals; limits



Source: A. Zehnder, Swiss Federal Institute of Aquatic Science and Technology ETHZ 1999

Outlook: Falkenmark/Lannerstadt: Consumptive water use to feed humanity – curing a blind spot; in: Hydrology and Earth System Sciences, 9.2005, pp 15-28 (published by European Geoscience Union) and Shiklomanov 1999

Water Footprint: WWF report



You take 58 baths a day - virtually

WWF estimates that only 32% of the UK's total water use comes from national sources.

Country	Export	Import	Net import
Brazil	91	199	107
Mexico	19	103	84
Japan	4	86	83
China	55	133	78
Italy	38	88	50
UK	15	55	40

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Clean Water: Vital for Nestlé

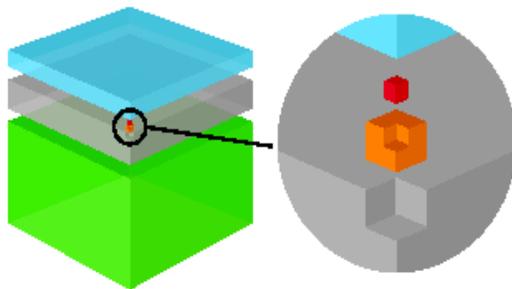
We need to look beyond ideologies, and focus on where each one of us can make a difference, whether as individuals, industry or the agricultural sector.



The Nestlé Commitments on



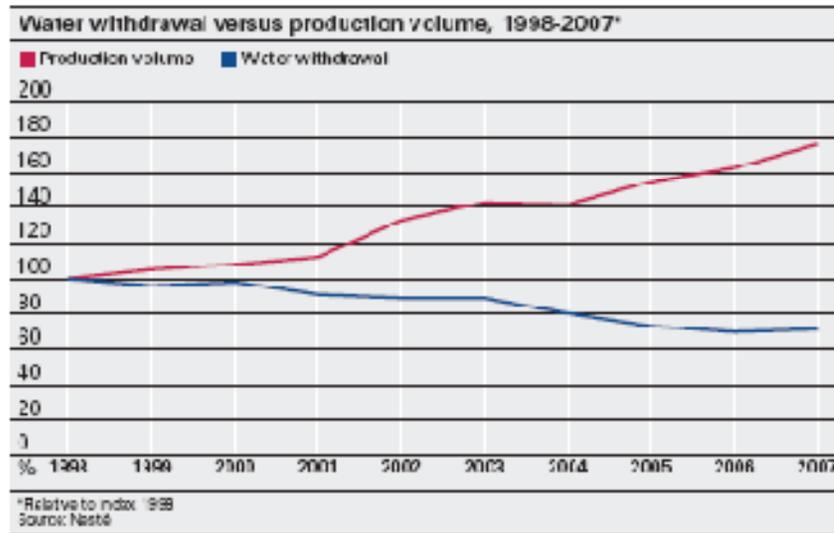
Nestlé and global freshwater consumption



4,202,000 billion litres per year
(4,202 km³/year) = 100%

Domestic	10%
Industry	20%
Agriculture	70%
+ Nestlé	0.005%
Nestlé Waters	0.0009%

Reducing our own direct water footprint through focused management



Testing water quality at Chaochengsao, Thailand

- Water withdrawal down 28% 1998-2007 despite 76% production increase
- Targeting 10-15% reduction/tonne of product over next five years
- 18% factories certified to ISO 14001 and OHSAS 18001

Value for Society: reduced impact on water availability/quality

Value for Nestlé: risk and cost reduction

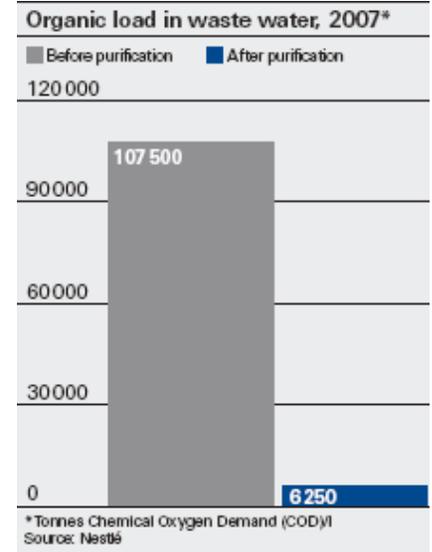
A focus on water treatment



Nigeria: sharing knowledge with Ghanaian colleagues for 2007 Tema plant



Water treatment plant, El Jadida, Morocco



- 94% COD organic load removed from waste water
- Water treatment plants operate to high standards at 480 factories worldwide
- Where laws or infrastructure don't exist, we build
- We share proactively our technical knowhow with governments, water authorities
- A key asset in global year of sanitation

Value for Society: sustainable impact on water quality, knowledge sharing

Value for Nestlé: risk and cost reduction, protecting input quality

Water management in the supply chain



Livestock workers in Pakistan include water management in training



Investigating research possibilities with drought-resistant coffee and cocoa



Water source protection techniques in Mexico

- South Africa: more efficient irrigation for milk producers
- Vietnam: coffee farmers reduce water use in washing by 60%
- Shuangcheng, China, dairy farmers store farm effluent correctly
- Interacting with 600,000 farmers globally
- Increasing importance of water in industry platforms, eg SAI

Value for Society: knowledge sharing, improved agricultural/water management practices

Value for Nestlé: quality supplies from motivated, enabled farmers

Huge potential for savings: Theoretical versus actual freshwater withdrawals for food farming

For example: growing a balanced daily meal, 2,500 Kcal/per capita, 20% meat:

Actual withdrawal
of freshwater
3000 - 4000 litres

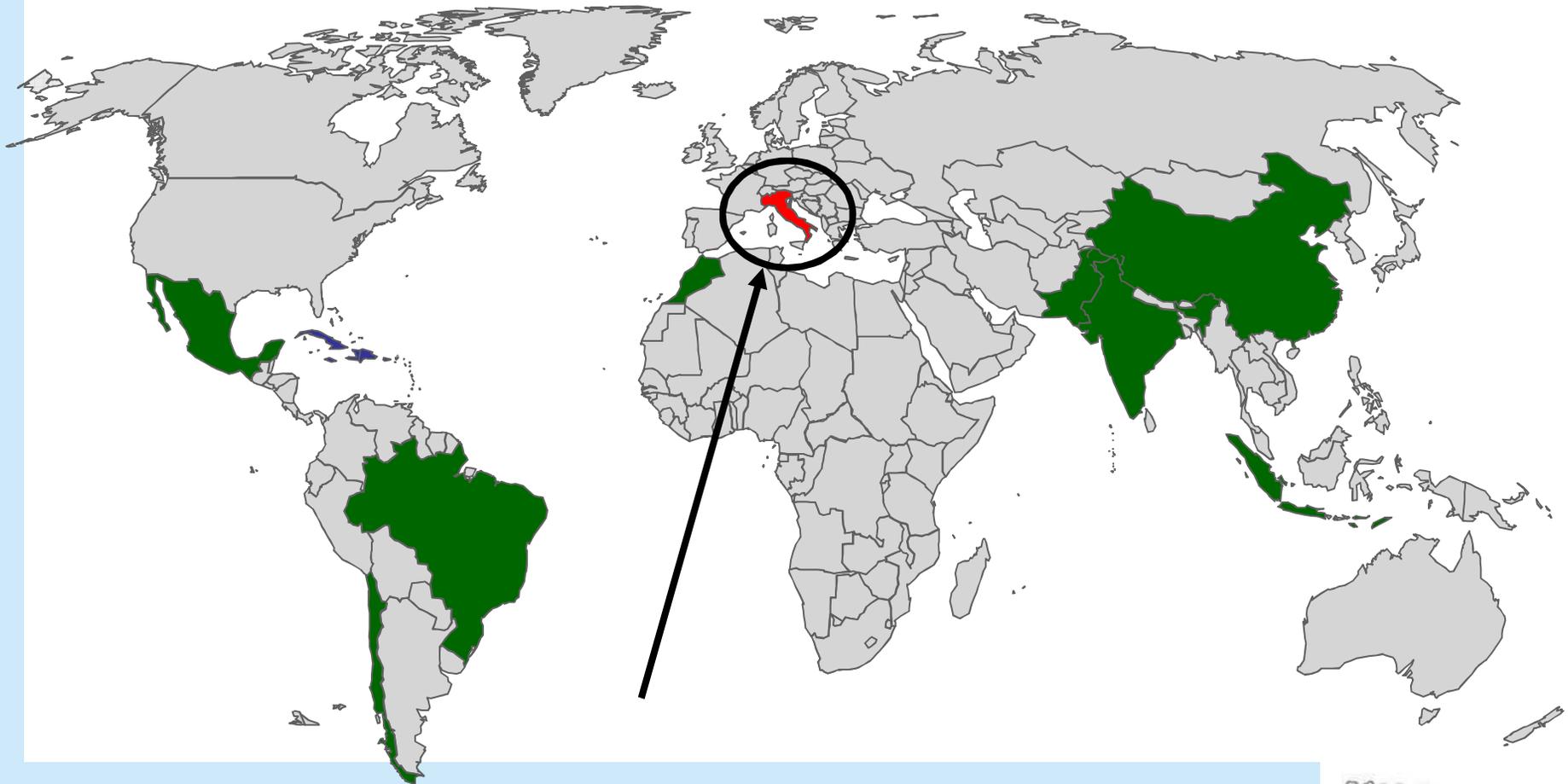


theoretically necessary
to grow this amount of food
in a water-efficient manner
1900 litres of freshwater

**Potential
for savings
40%-70%**

Source: Zehnder, ETHZ and www.the-world-around-water.net

Agricultural/water management practices in Italy



Tomato Irrigation: Water project with Suppliers



Crop Sense Soil Moisture Monitoring

- > to study water behavior in the soil
- > to optimise irrigation
- > 10 farms – 3 years



Biogas digesters: Nestlé assisting Chinese farmers



- Less water pollution
- Biogas for households
- Fertiliser
- Tradeable Emission Certificates

Sustainable Agriculture Initiative

Nestlé

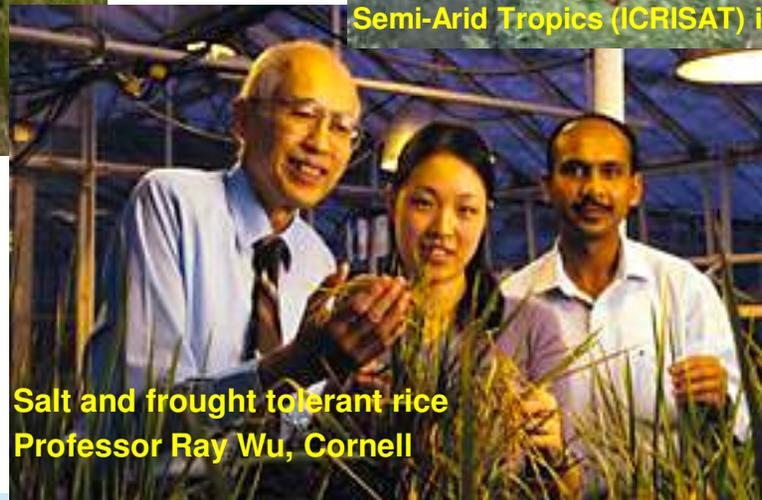
Biotechnology: salt and drought tolerant plants



Drought tolerance
RIKEN Plant Science Center, Thailand

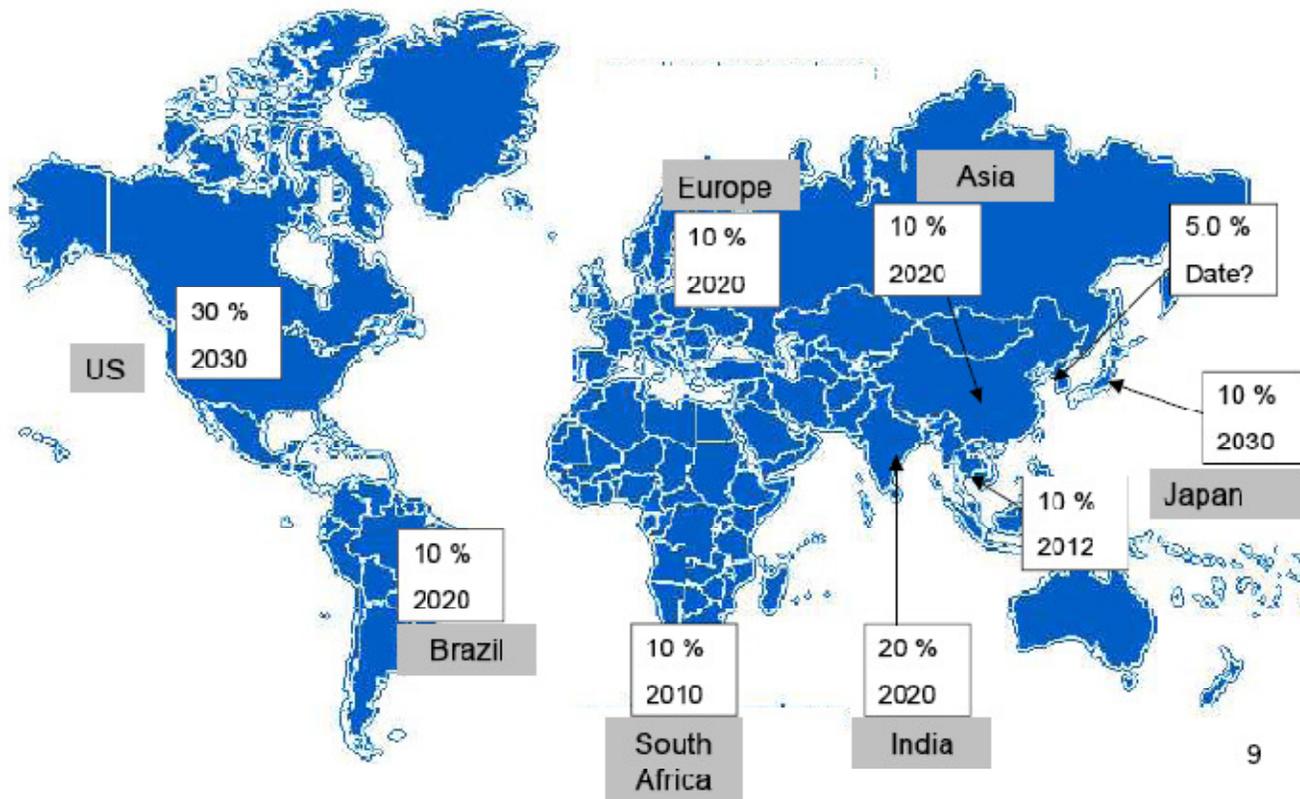


International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in Hyderabad, India

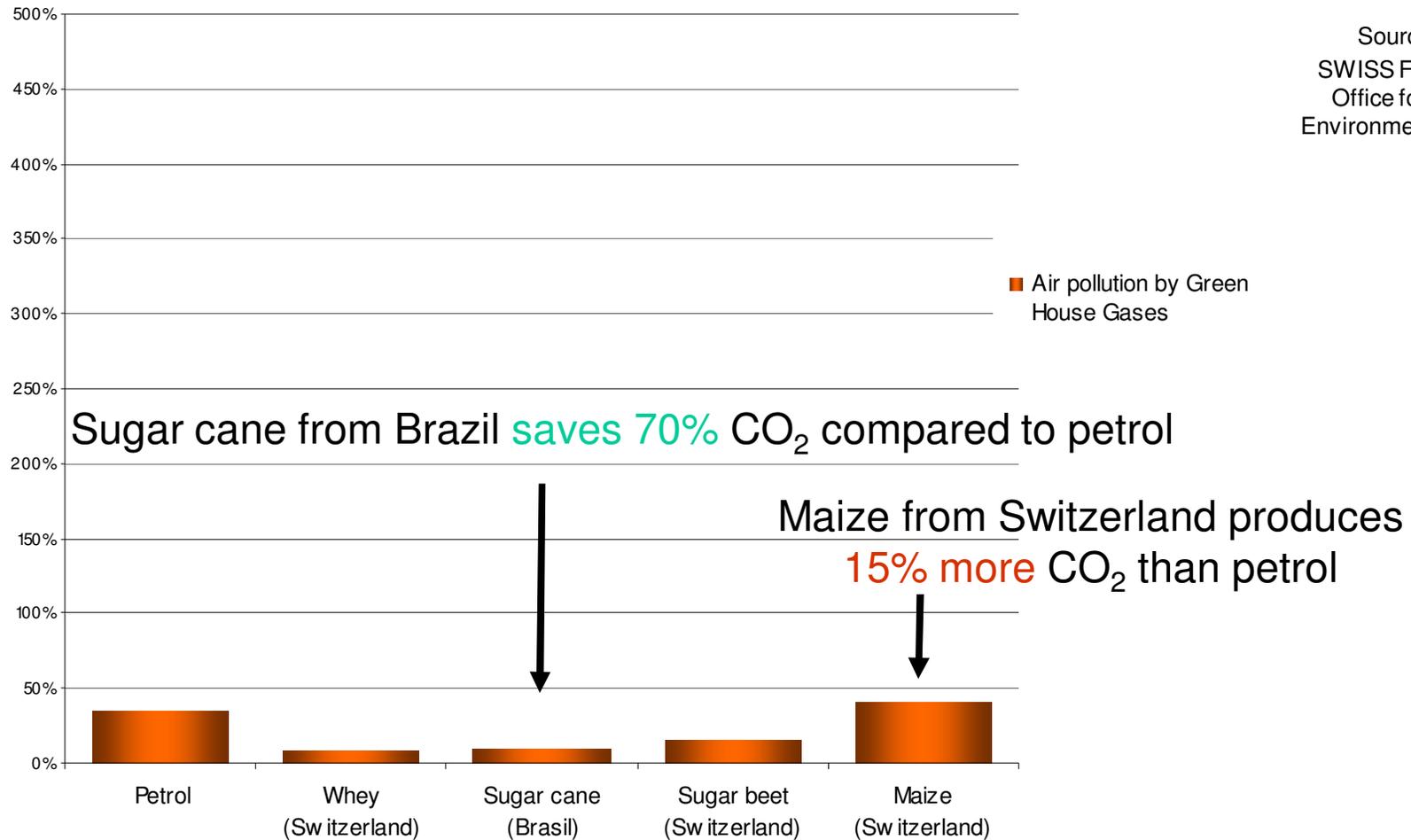


Salt and drought tolerant rice
Professor Ray Wu, Cornell

Additional demand on scarce water resources – targets for biofuel in transportation

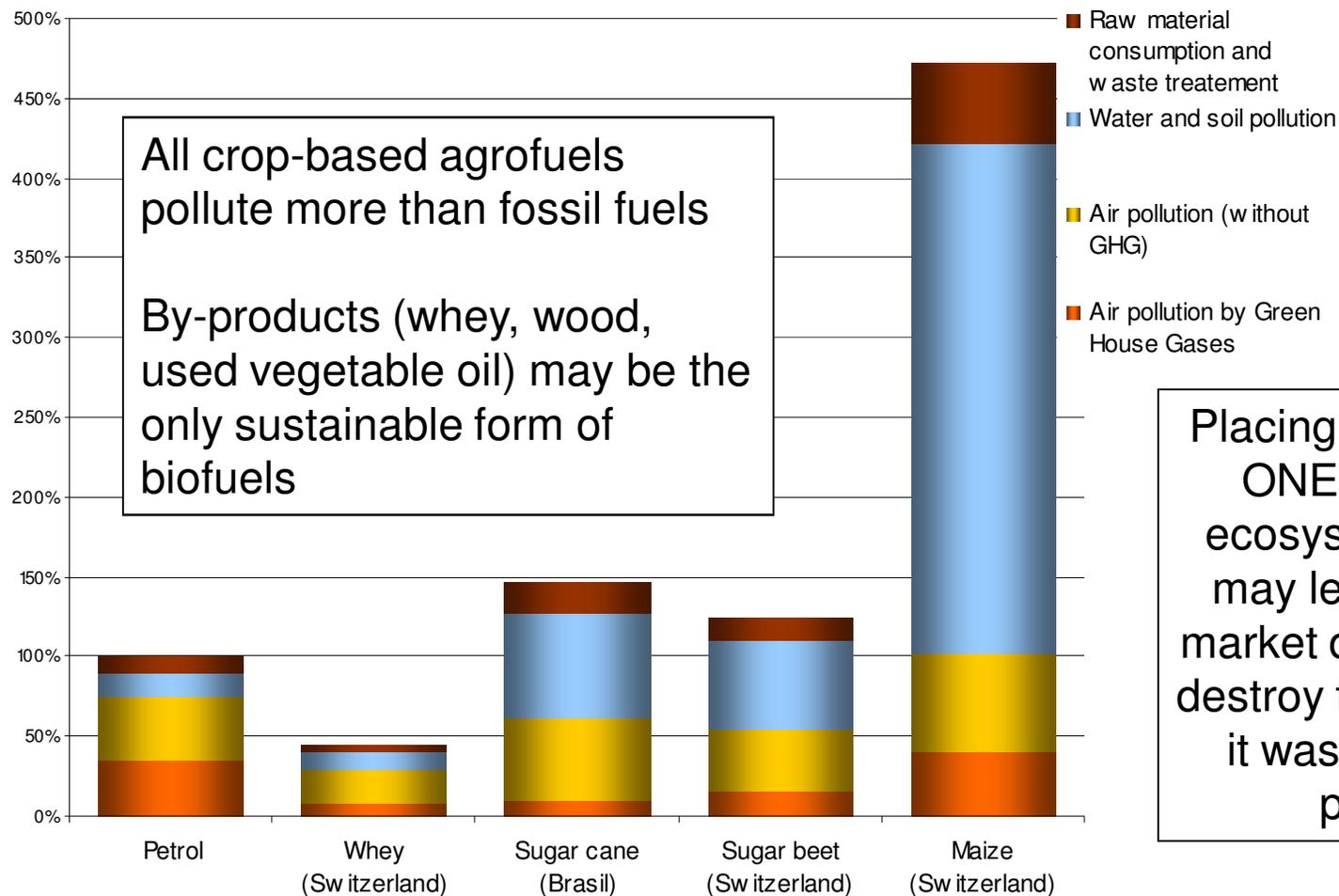


Agrofuel from food crops: Solution... ?



Ethanol

... or pollution !



All crop-based agrofuels pollute more than fossil fuels

By-products (whey, wood, used vegetable oil) may be the only sustainable form of biofuels

Placing value only on ONE element of ecosystem services may lead to severe market distortions and destroy the ecosystem it was intended to protect !

Water needs a price – with exemptions for the poor and quotas/caps to ensure enough water remains for Nature

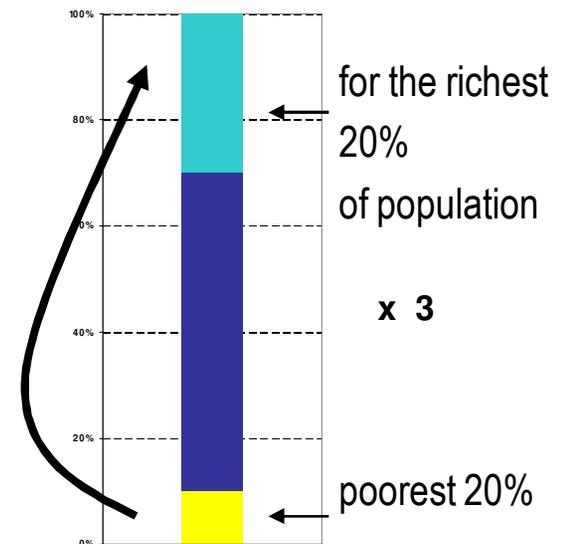
Cheap (subsidised) municipal water supply:

“If you don't have a price, the rich will get it free, the poor will pay a lot.”

Nancy Birsdall,
Center for
Global
Development



Who gets the benefits:



Source: Human Development Report 2006 (data for Bangalore)

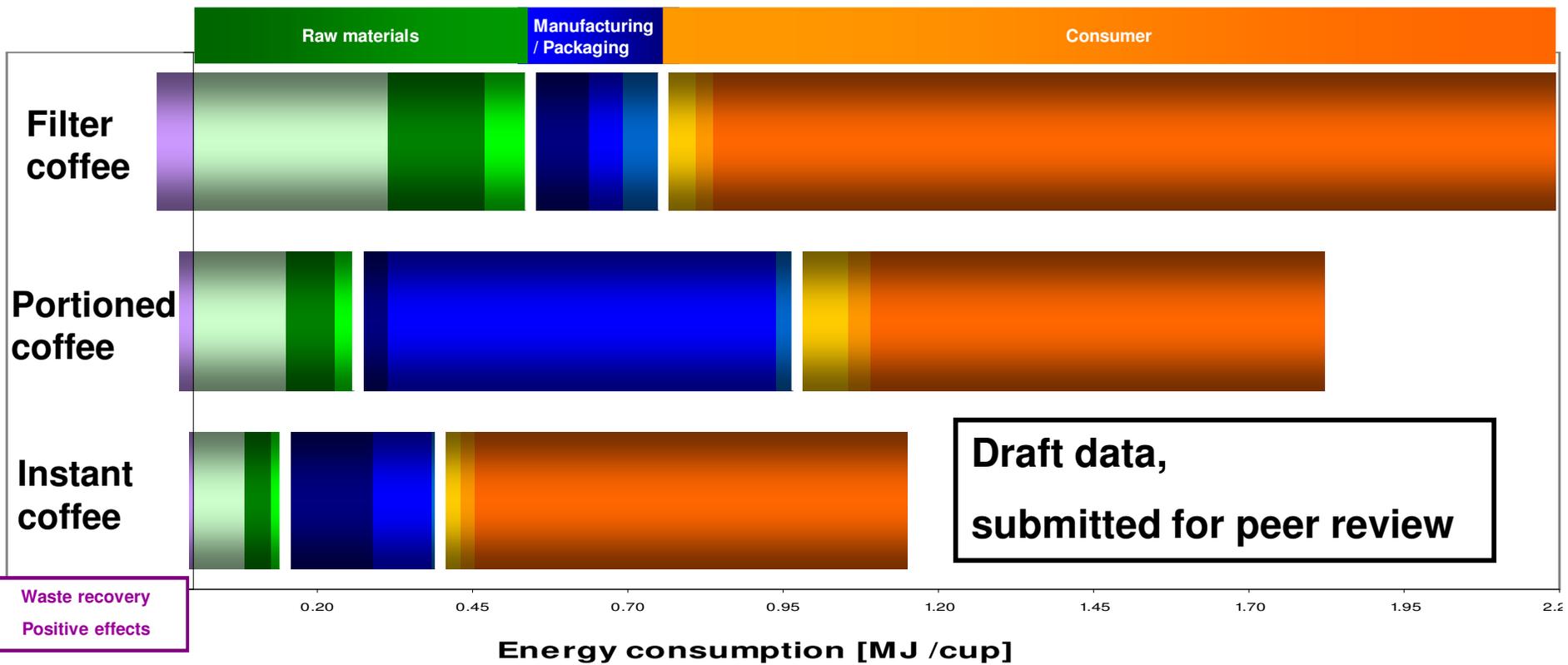
Sustainable Production ... and Consumption

- Consumer increasingly vote with their \$\$\$ and €€€
- Preference for products with lower environmental impact
- More transparency needed along the supply chain
- The challenge: easy-to-understand consumer communication vs. simplistic messages and « greenwashing »

Supply chain: "footprint" of companies vs. "footprint" of eating



e.g., Pakistan, India, Kenya: milk will be produced and sold to consumers also without us!



Carbon and water footprint of coffee

Instant coffee

10 l of water
60 g CO_{2e}



Filter coffee

38 l of water
125 g CO_{2e}



Portioned coffee

18 l of water
100 g CO_{2e}



Water footprint assumes irrigation with 4000 m³/ha/yr

Source: Ecoinvent



Conclusion

- Feeding 9 billion people adequately and sustainably in the water-constrained world of 2050 requires cooperation between all stakeholders:
 - Leveraging science and technology
 - Minimising waste along the supply chain
 - Market-based incentives that reflect true value of scarce resources while guaranteeing access to essential water as basic human right
 - Responsible choices made by informed consumers.



“We do not inherit the earth from our ancestors, we borrow it from our children...”

*Ancient proverb
Promoted by
Antoine de Saint-Exupéry*