



# The Economics of Ecosystems and Biodiversity for Business

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IUCN and TEEB



## Outline

- TEEB background
- What is happening to biodiversity?
- Why should business care?
- What can business do?



## Who asked for TEEB?



### Potsdam Initiative – Biological Diversity 2010

**“In a global study we will initiate the process of analysing the global economic benefit of biological diversity, the costs of the loss of biodiversity and the failure to take protective measures versus the costs of effective conservation.”**

[http://www.bmu.de/files/pdfs/allgemein/application/pdf/potsdam\\_initiative\\_en.pdf](http://www.bmu.de/files/pdfs/allgemein/application/pdf/potsdam_initiative_en.pdf)

## Who is involved in TEEB?

- Study Leader: Pavan Sukhdev (on leave from Deutsche Bank)
- Advisory Board: 14 international scientific & policy leaders
- Administration: United Nations Environment Programme
- Scientific coordination: UFZ, Leipzig
- Over **500** individual editors, authors and reviewers
- Financial donors and other institutional partners:



## What has TEEB delivered?



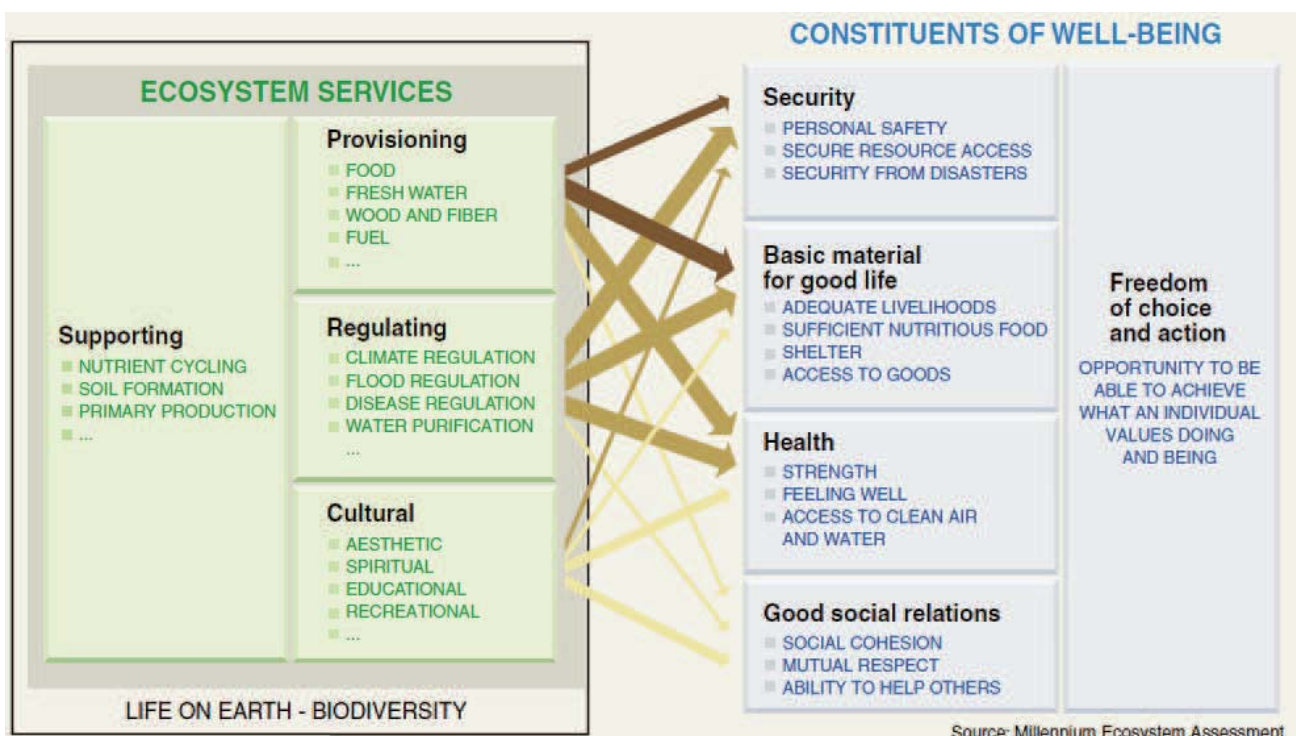
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# UN Convention on Biological Diversity (CBD) defines biodiversity as “the web of life”

- **Variety of species**
  - plants, animals and microorganisms
- **Genetic differences within each species**
  - e.g., varieties of crops and breeds of livestock
- **variety of ecosystems**
  - e.g., deserts, forests, wetlands, mountains, lakes, rivers, and agricultural landscapes

## Why does biodiversity matter?



## Status of ecosystem services (2005)

### “Enhanced”

Crops  
Livestock  
Aquaculture  
Carbon sequestration

### “Degraded”

Capture fisheries  
Wild foods  
Wood fuel  
Genetic resources  
Biochemicals  
Fresh water  
Air quality regulation  
Erosion regulation  
Water purification  
Pest regulation  
Pollination  
Natural hazard regulation  
Regional & local climate regulation  
Spiritual & religious  
Aesthetic values

### “Mixed”

Timber  
Fiber  
Water regulation  
Disease regulation  
Recreation & ecotourism

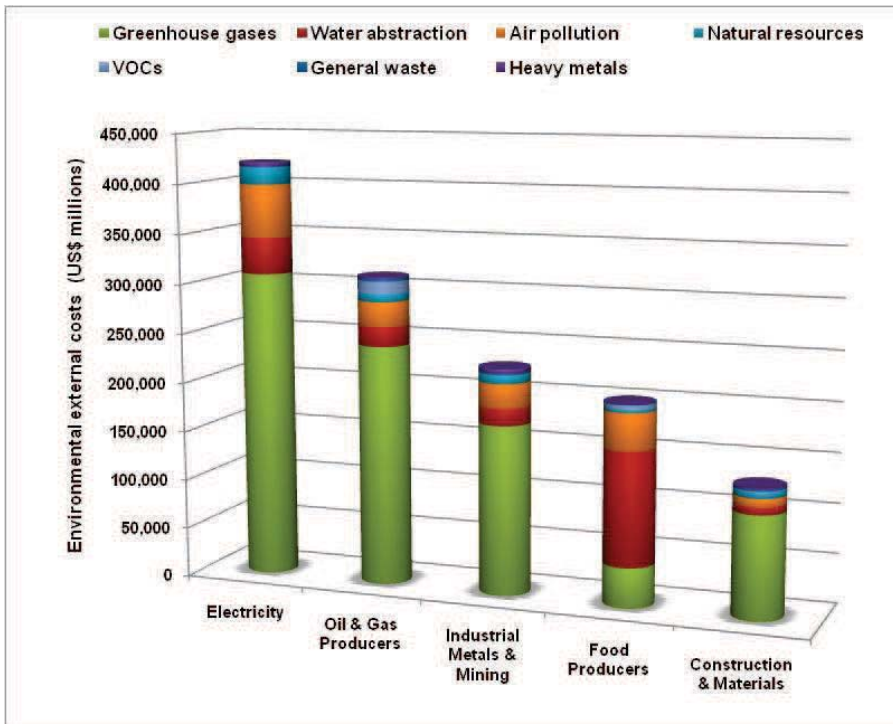
Source: Millennium Ecosystem Assessment, 2005.

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## Impacts on ecosystem services



➤ US\$ 6.6 trillion/year estimated global environmental costs of economic activity (11% of 2008 GDP)

➤ Five sectors account for about 60% of environmental costs

Source: Trucost for UNPRI, 2010.



## Dependence on ecosystem services

- Value of insect pollination to food crops: €153 billion in 2005 = 10% of VA in the agriculture sector (Gallai et al. 2008)
- Example: Michigan USA blueberry crop worth US\$ 124 million/year; totally reliant on pollination by bees at cost of about US\$ 1.5 million/year (renting hives)
- Example: Wild pollinators increase coffee yields by 20% on farms within 1 km of forest in Costa Rica (Ricketts et al. 2004)
- Pollination services to agriculture are threatened by 'colony collapse disorder' mainly affecting domesticated bees

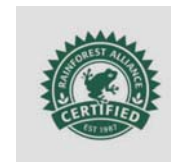






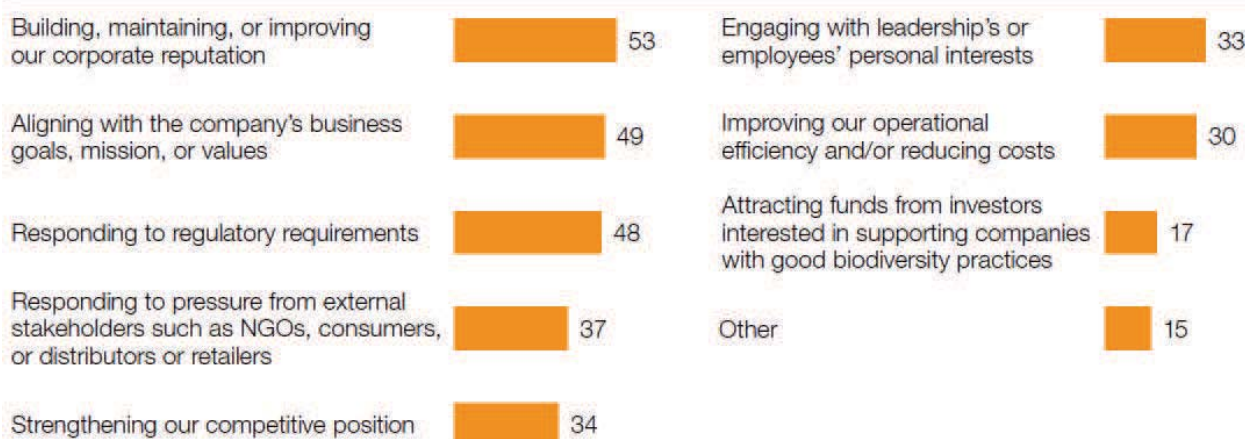
## Consumer demand for 'green' products and services

- Global sales of organic food and drink = US\$ 60 billion in 2009
- Sales of certified 'sustainable' forest products increased four-fold between 2005 and 2007
- The global market for eco-labeled fish products grew by over 50% from 2008 to 2009, to a retail value of US\$ 1.5 billion
- Major consumer brand owners and retailers have added 'ecologically-friendly' attributes to key product lines:
  - Mars (Rainforest Alliance cocoa)
  - Cadbury (Fairtrade cocoa)
  - Kraft (Rainforest Alliance Kenco coffee)
  - Unilever (Rainforest Alliance PG Tips)



## Awareness and concern among business leaders

*In what ways is biodiversity important to your business?*



Source: McKinsey & Company (July 2010) "Global Survey results: The next environmental issue for business" Based on 1,576 responses from executives representing the full range of regions, industries, tenures, and functional specialties.

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## The Economics of Ecosystems & Biodiversity



## What can business do?

### Some ideas from TEEB...

1. Set ambitious biodiversity targets
2. Measure, value and report your footprint
3. Use and improve tools for biodiversity management
4. Build pro-poor, pro-biodiversity business
5. Support market-friendly environmental policy





## 1. Set ambitious targets

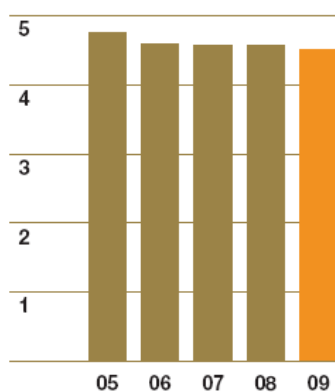
- **BC Hydro:** “long-term goal of no net incremental environmental impact.”
- **Coca Cola:** “Our goal is to safely return to communities and nature an amount of water equivalent to what we use in all of our beverages and their production.”
- **Danone Group:** “Attain carbon neutrality for the major Danone brands, including Evian, by the end of 2011.”
- **Marks & Spencer:** “Our goal is to become carbon neutral by 2012 in our UK and Republic of Ireland operations.”
- **Rio Tinto:** “Our goal is to have a ‘net positive impact’ on biodiversity.”
- **Sony:** “strives to achieve a zero environmental footprint throughout the lifecycle of our products and business activities.”
- **Unilever:** “Today we source 10% of our agricultural raw materials sustainably. By 2012 we will source 30%; by 2015 50%; and by 2020 100%.”
- **Walmart:** “Committed ... to permanently conserve at least one acre of priority wildlife habitat for every developed acre.”



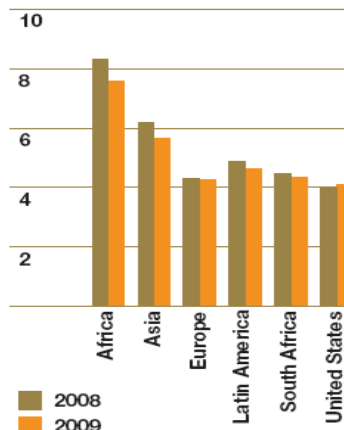
## 2. Measure, value & report

- Water reporting by SAB Miller
- Target: increase water productivity by 25% by 2015
- Potential savings: 20 billion litres of water/year

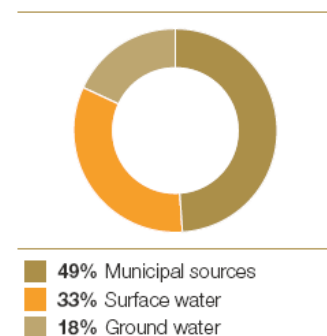
**Water to beer ratio**  
hl water/hl beer



**Regional water to beer ratio**  
hl water/hl beer



**Water sources**  
percentage breakdown by volume





## 2 (continued) – How to measure?

### Climate change: CO<sub>2</sub>e

#### Biodiversity and ecosystems:<sup>1</sup>

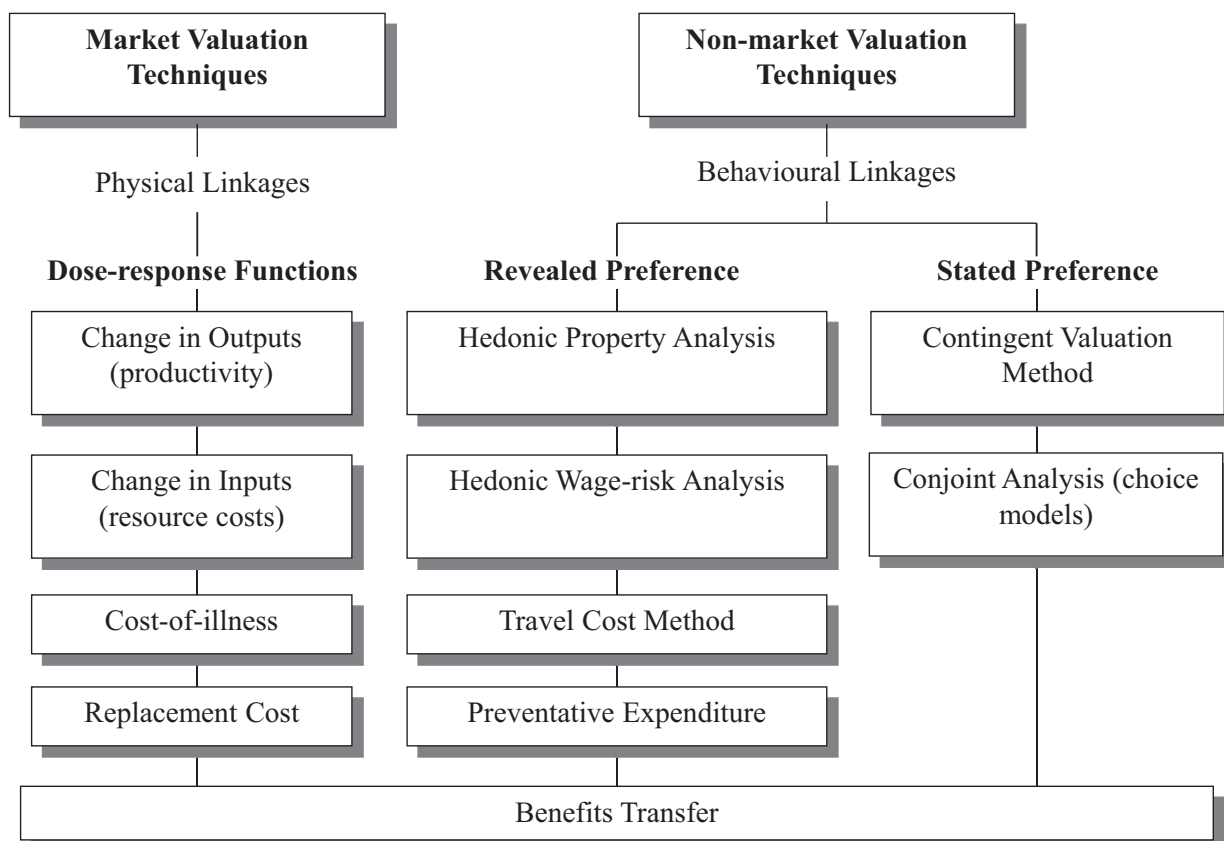
- Living Planet Index (LPI)
- Wild Bird / Waterbird indices
- IUCN Red List Index (RLI)
- Marine Trophic Index
- Forest / Mangrove / Seagrass extent
- Coral reef condition (cover)
- Water Quality Index
- Ecological Footprint
- Nitrogen deposition rate
- Number of Alien Species (in Europe)
- Exploitation of fish stocks
- Climatic Impact Indicator (on birds)
- Protected Area extent
- Coverage by PAs of important habitats
- Area of forest under sustainable mgmt.
- International IAS policy adoption
- National IAS policy adoption
- ODA in support of CBD
- LPI for utilized vertebrates
- RLI for food & medicinal species
- RLI for traded bird species

**Business needs indicators for:**

- **site, product, group level**
- **processes & performance**
- **internal & external reporting**

1/ Adapted from: Butchart *et al.* (2010) "Global Biodiversity: Indicators of Recent Declines" Science Express (29 April)

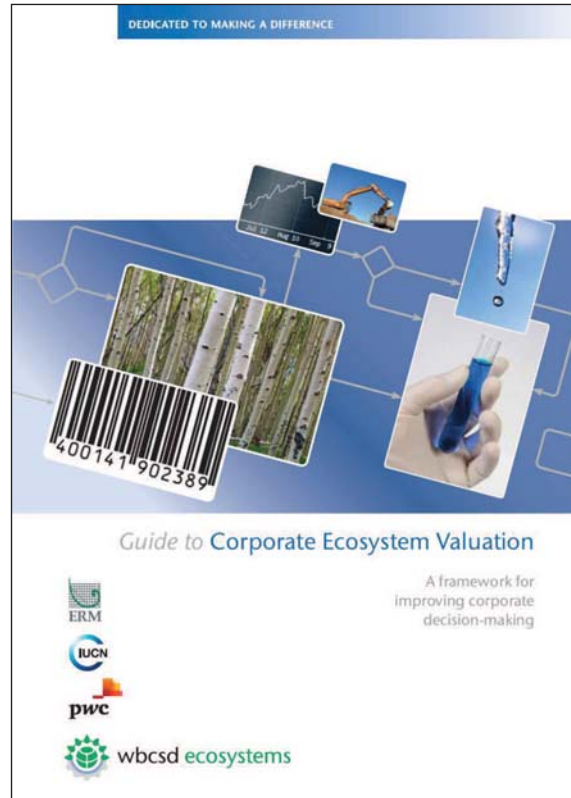
## 2 (continued) – How to value?



## 2 (continued) – How to value?

Available from 8 April 2011

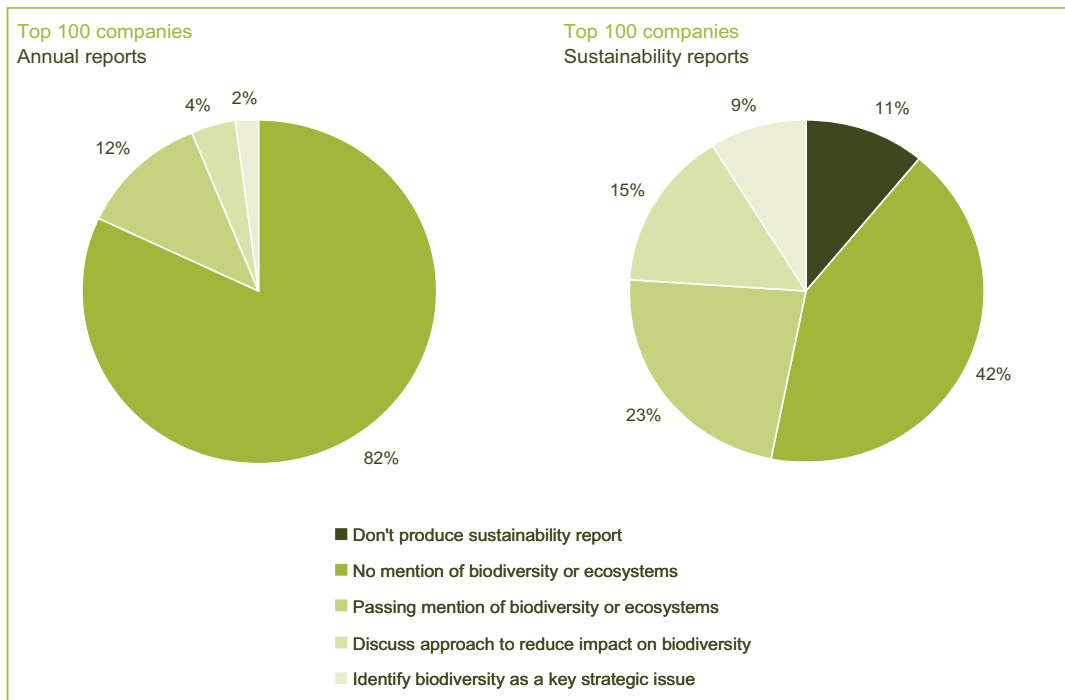
[www.wbcsd.org/web/cev.htm](http://www.wbcsd.org/web/cev.htm)



## The Economics of Ecosystems & Biodiversity



## 2 (continued) – How to report?



Source: PwC input to TEEB Report for Business



### 3. Use and help improve tools for biodiversity management in business

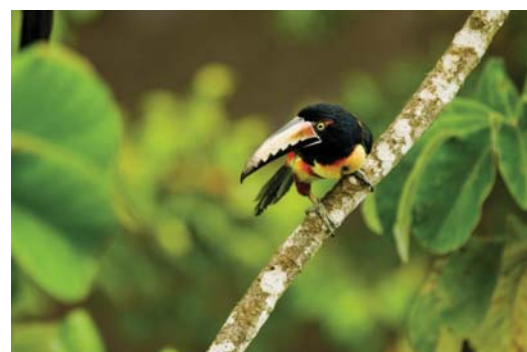
- **Integrated Biodiversity Assessment Tool**  FOR BUSINESS  
Integrated Biodiversity Assessment Tool
  - <http://www.biodiversityinfo.org/ibat/>
  - GIS database for site-level risk assessment
  - Based on World Database of Protected Areas, World Biodiversity Database, IUCN Red List of Threatened Species
- **Business and Biodiversity Offsets Program** 
  - <http://www.forest-trends.org/biodiversityoffsetprogram/>
  - Guidance on designing and implementing biodiversity offsets to ensure “no net loss”
  - Led by Forest Trends, Wildlife Conservation Society and Conservation International
- **Certification and labelling** 
  - <http://www.isealalliance.org/>
  - Global hub for social and environmental standards
  - Members represent fair trade, forest stewardship, organic agriculture, fisheries, etc.



### 4. Build “biodiversity business”

#### Adding BES to existing business

- Agriculture
- Biodiversity mgmt services
- Cosmetics
- Extractive industries
- Finance
- Fisheries
- Forestry
- Garments
- Handicrafts
- Pharmaceuticals
- Retail
- Tourism



#### New markets for BES

- Bio-carbon & REDD-plus
- Water quality trading
- Biodiversity banking

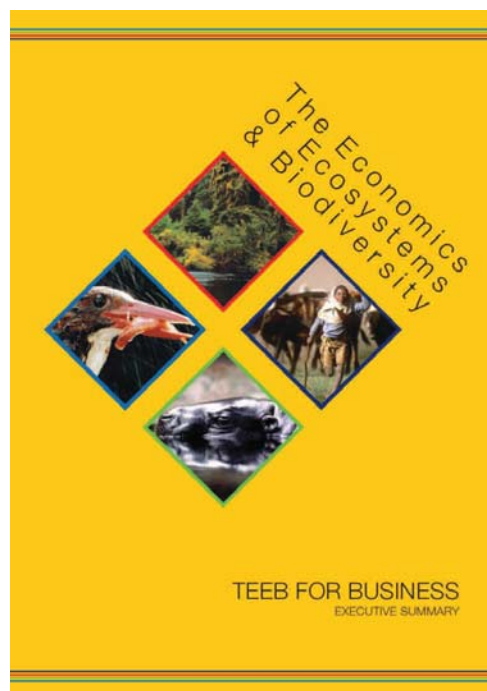


## 5. Support market-friendly policy

- Subsidy reform
- Tax credits and other incentives
- Voluntary certification and eco-labelling
- Payments for Ecosystem Services
- Environmental responsibility and liability
- Environmental trading schemes
- Public access to information



For more information...





## Thank You

[www.teebweb.org](http://www.teebweb.org)

[www.teeb4me.com](http://www.teeb4me.com)



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defra  
Department for Environment  
Food and Rural Affairs



UKaid  
from the Department for  
International Development



UNEP



Ministry of the Environment



Sida  
SWEDISH INTERNATIONAL DEVELOPMENT  
COOPERATION AGENCY