



The Economics of Ecosystems and Biodiversity initiative (TEEB)

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IEEP/GLOBE EU Training for MEP Assistants on Climate Issues

Session Six: The future of EU funding on climate and alternative approaches to distributing funds, including: delivering public goods in agriculture and valuing biodiversity and ecosystems services

Friday 4 December 2009

12:30 – 14:30

European Parliament, Room A5E-2

Brussels



TEEB's Genesis and progress

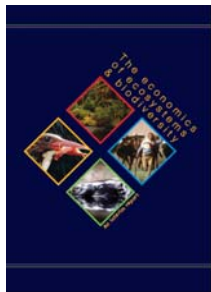


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"Potsdam Initiative – Biological Diversity 2010"

1) The economic significance of the global loss of biological diversity



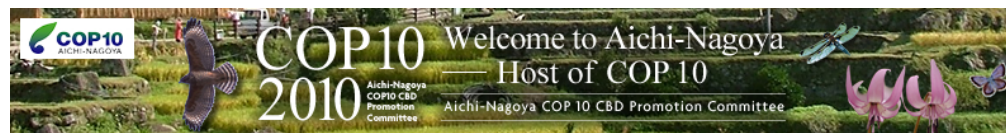
TEEB Interim Report @ CBD COP-9, Bonn, May 2008



Stromstad Sept.



Brussels 13 Nov





The values of biodiversity and ecosystems are missing

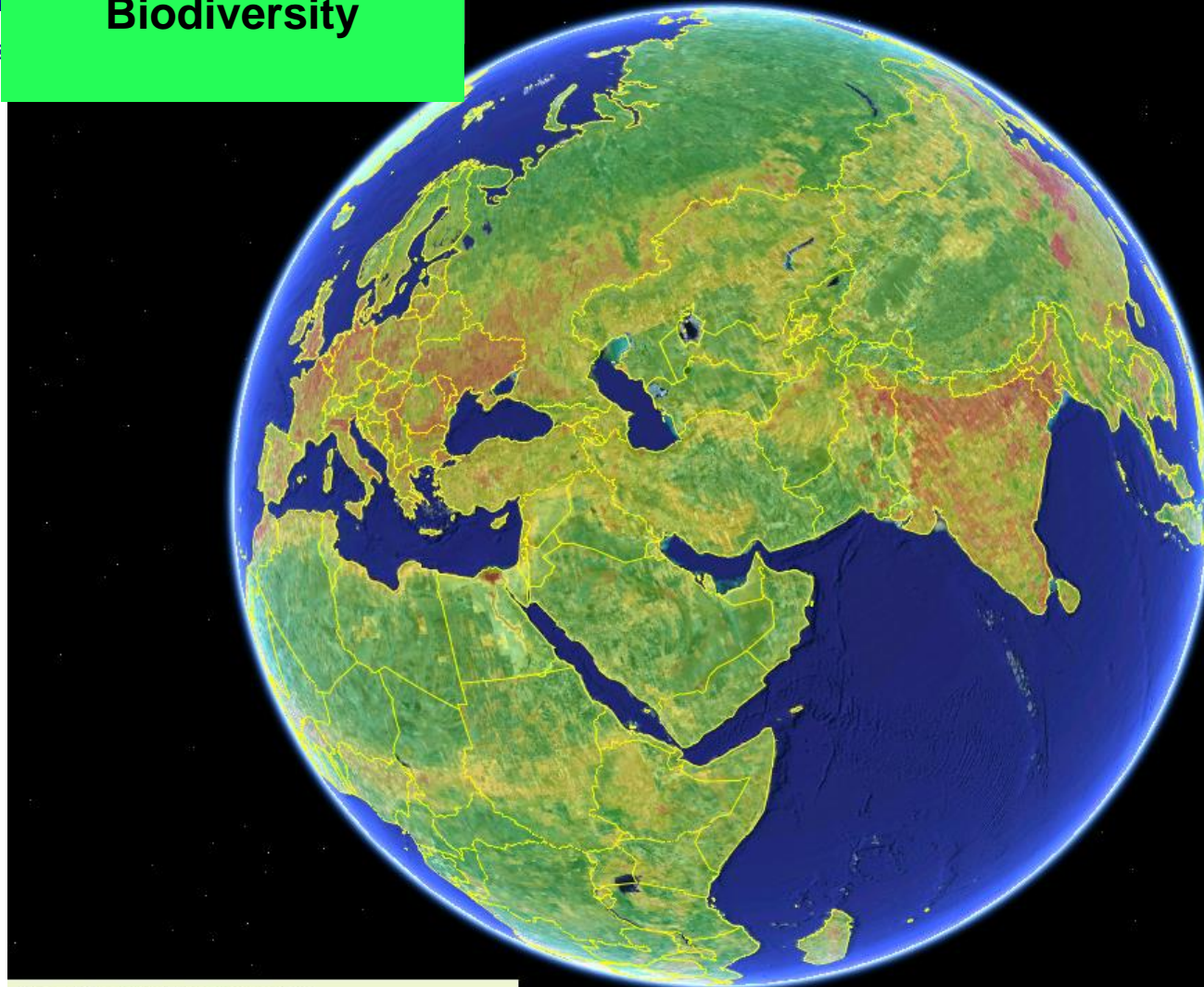
- Many not known (but this is changing); widespread lack of **awareness**
- They are generally not integrated into the **economic signals, into markets** – the economy is therefore often not part of the solution
- Values are not taken systematically into account in **assessments** and **decision making**
- The value of nature is not reflected in **national accounts** nor in leading **macro economic indicators**

- ➡ Inappropriate incentives; misinterpretation of right solutions, insufficient evidence base at policy makers' finger tips and weaker public support for action
- ➡ There is not enough political will or conviction or awareness of benefits/cost to launch due policies
- ➡ Biodiversity loss continues – eroding natural capital base without realising its value

The Global Loss of Biodiversity

2000

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Mean Species Abundance (%)



0 20 40 60 80 100

31°21'06.35" N 55°18'50.10" E

Image NASA
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Eye alt 11001.00 km

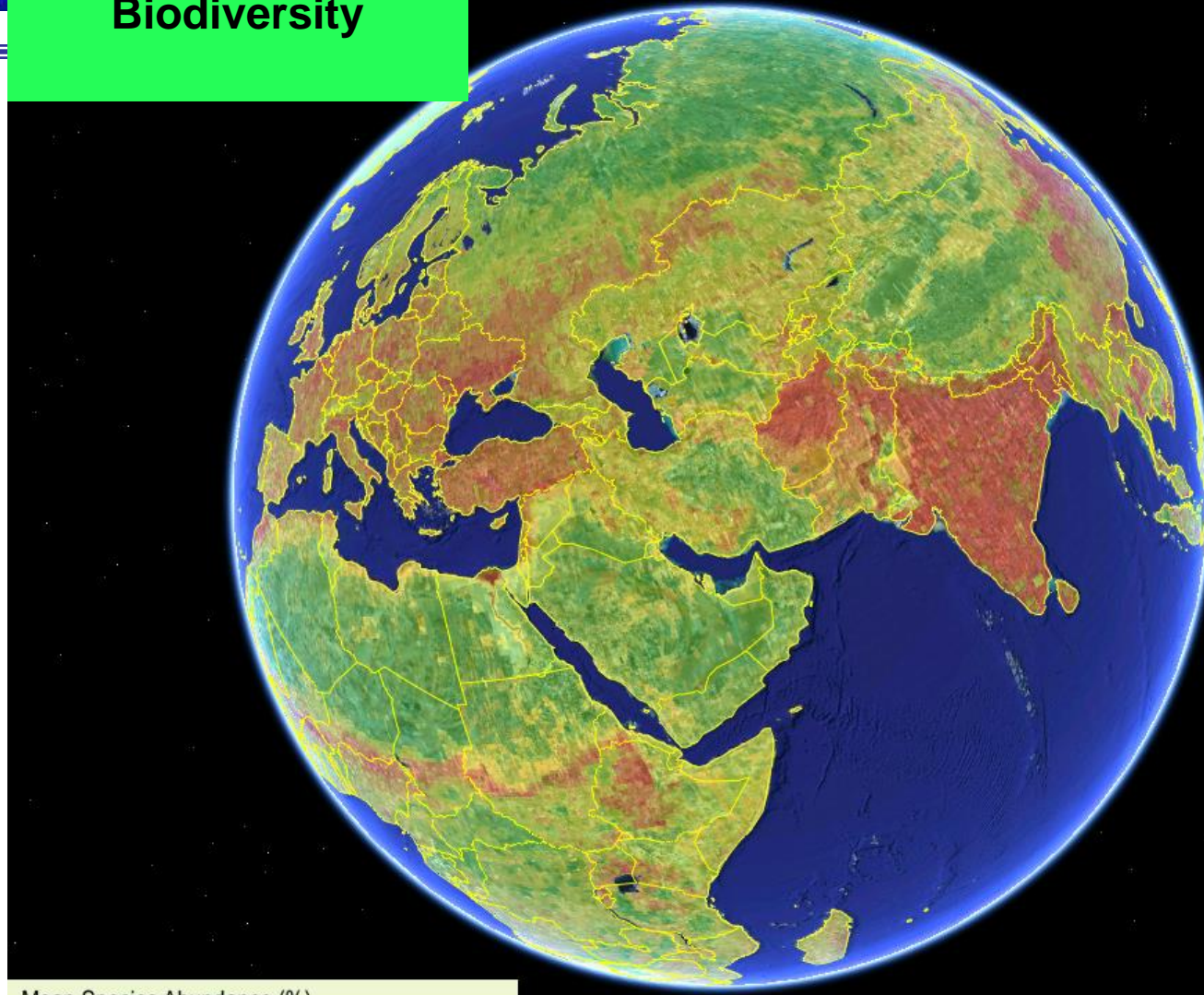
Source: L Braat presentation COP9 Bonn May 2008 on the COPI Study; building on MNP data



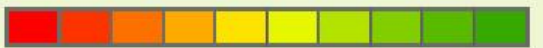
The Global Loss of Biodiversity

2050

for the
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Mean Species Abundance (%)



0 20 40 60 80 100
31°21'06.35" N 55°16'50.10" E

Image NASA
© 2008 Europa Technologies
Map data © 2008 DMapas/EI Mercurio
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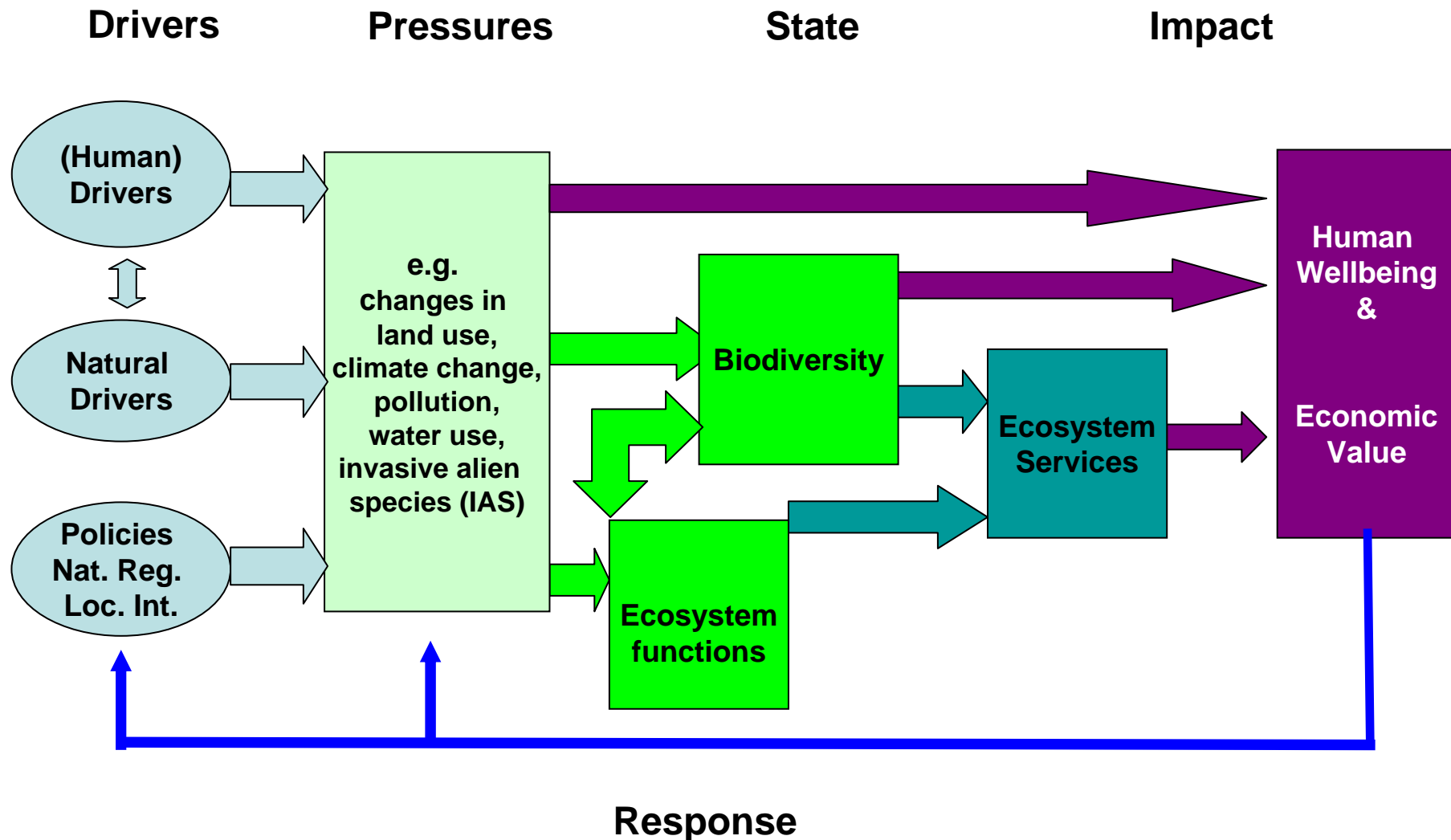
Source: L Braat presentation COP9 Bonn May 2008 on the COPI Study; building on MNP data



Links from Drivers to ecosystem functions to impacts and wellbeing



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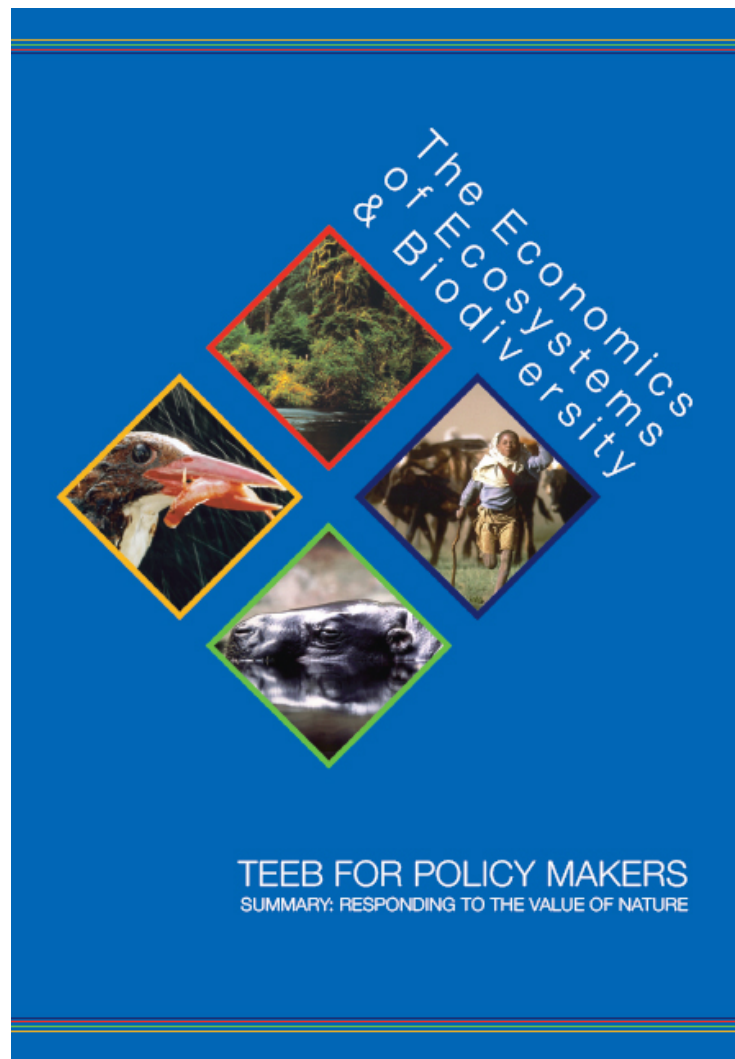


TEEB for Policy Makers report

- launched 13 November 2009 -



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The Global Biodiversity Crisis

- Coral reef emergency
- Deforestation
- *et al*

Measuring what we manage

- Natural capital accounts
- Footprints
- Beyond GDP indicators *et al*

Available Solutions

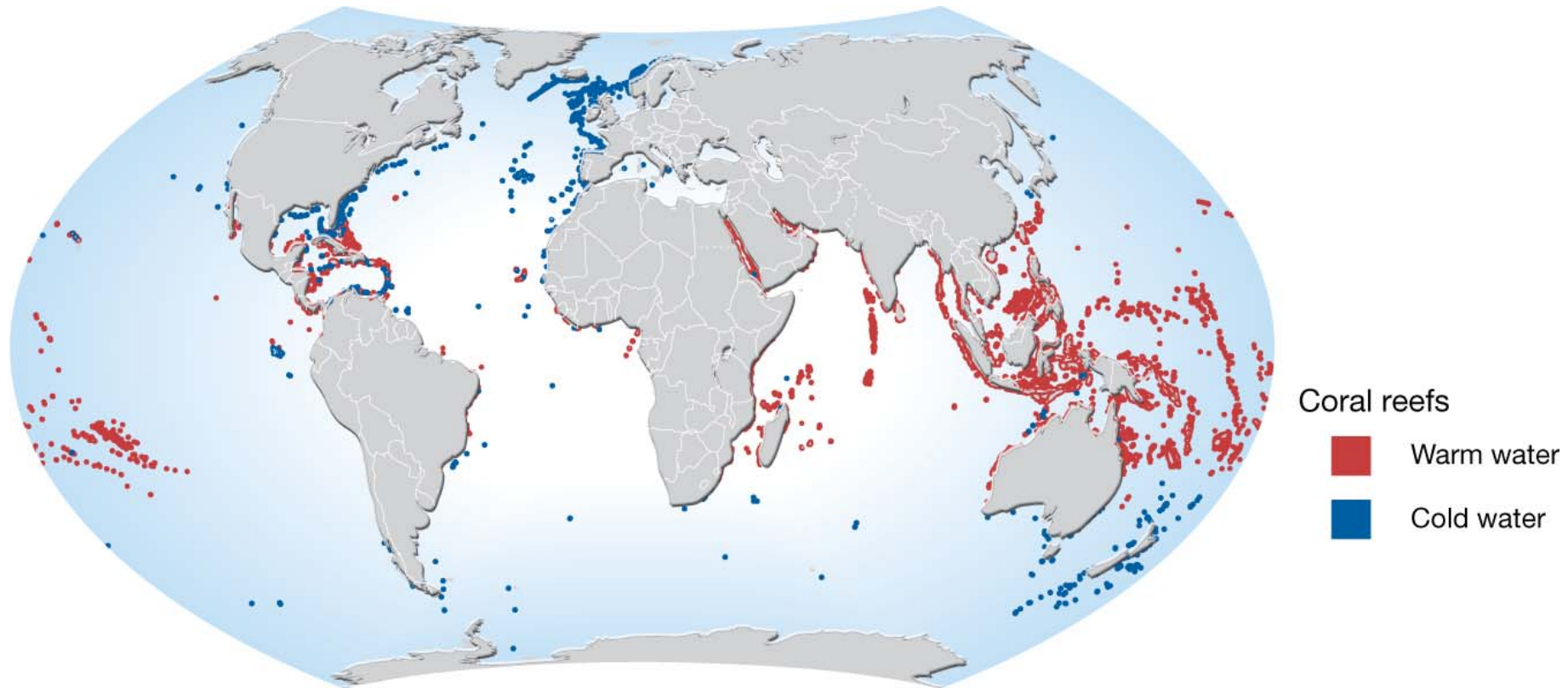
- PES – REDD+, PES HNV
- Subsidy reform
- Ecosystem invest. for clim. Adaptation
- *et al*

Responding to the value of nature`



Coral Reefs

- Major coral reef loss already happening given temperature rise to date.



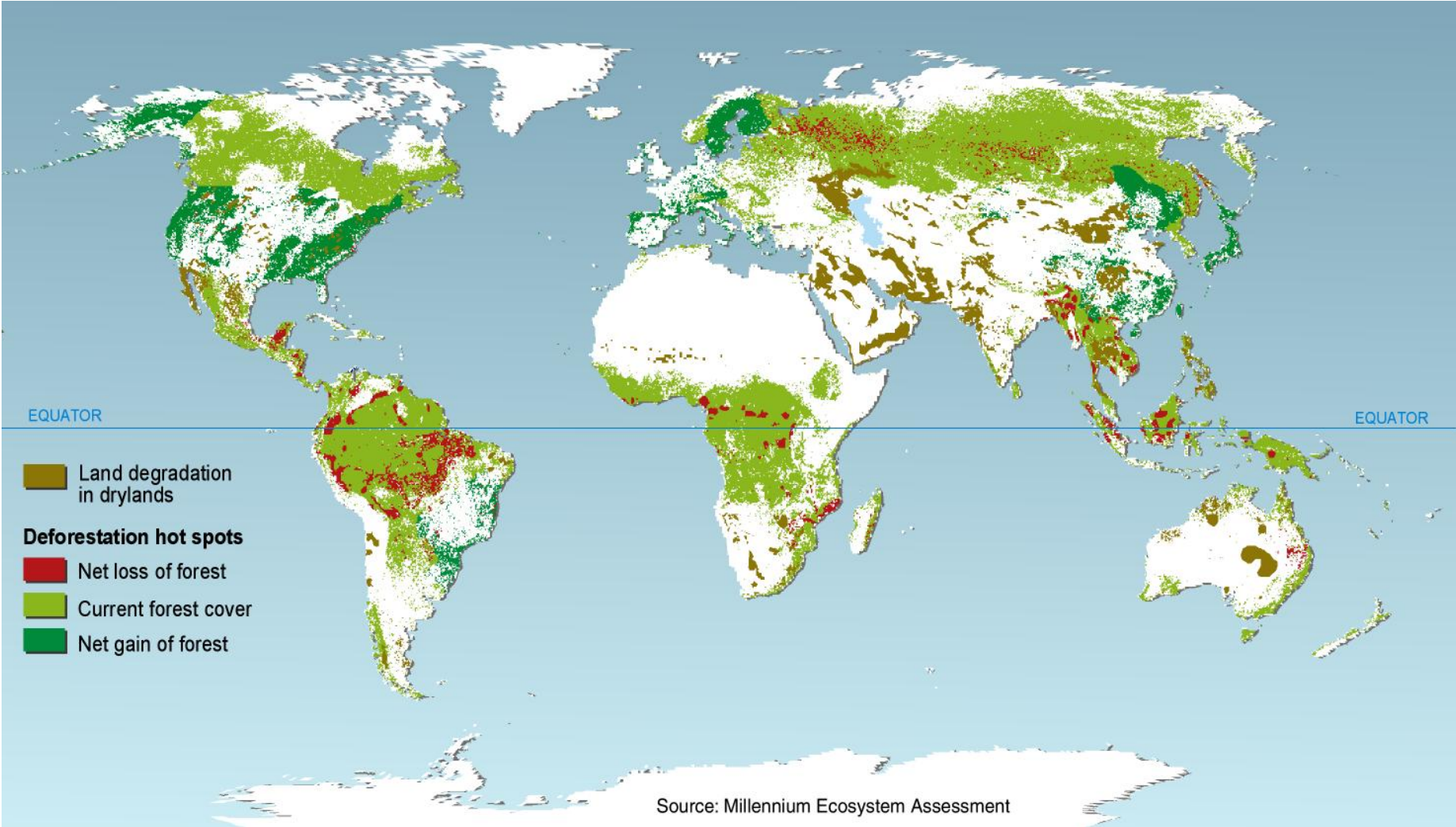
- Need as ambitious commitments as possible for GHG emissions reductions - 450ppm and 2 degrees already accepting major losses



Areas of rapid land use cover change



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Needs - All colours of Carbon

Brown, Green, Blue & Black Carbon



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- **Brown (industrial/energy), Green (land ecosystems), Blue (Oceans) & Black Carbon (soot)**
- REDD+ (suitably designed and implemented to (be able to) take wider set of ecosystem services into account)
- Investment in ecological infrastructure for adaptation (ecosystem based adaptation) & mitigation
- Natural capital accounts – carbon-biomass (but in wider ecosystem service context and process).
 - Start from existing work on forests/agriculture extend to other ecosystems.
- SEEA / extended income accounts

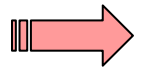


Subsidy Reform

Win-win biodiversity and climate



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1 trillion US\$/year spent on subsidies – value for money ?

Table 6.1: Aggregate subsidy estimates for selected economic sectors

Sector	Region
Agriculture	OECD: US\$ 261 billion/year (2006-8) (OECD 2009) Biofuels: US, EU and Canada US\$ 11 billion in 2006 (GSI 2007; OECD 2008b)
Fisheries	World: US\$ 15-35 billion (UNEP 2008)
Energy	World: US\$ 500 billion/year (GSI 2009a) US\$ 310 billion in the 20 largest non-OECD countries in 2007 (IEA 2008)
Transport	World: US\$ 238-306 billion/year – of which EHS US\$173-233 billion (EEA 2005)
Water	World: US\$ 67 billion – of which EHS US\$ 50 billion (Myers and Kent 2002)



Establish transparent and comprehensive subsidy inventories



**Develop prioritised plans of action for subsidy removal or reform,
for implementation in the medium term**

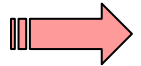


Economic signals

The values of nature are often invisible in markets, to citizens

Business/citizens face the “wrong incentives”

We are running down our natural capital without knowing its value

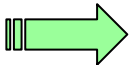


Full cost recovery – water (WFD), timber, energy etc



Polluters paying not society

- eg pesticide & fertiliser charges, pollution taxes
- eg liability and compensation
- eg carbon / energy taxes



Rewarding benefits – payments for ecosystem services (PES)

- eg carbon & REDD;
- eg PES and water for cities;
- eg HNV agriculture and public goods
- Eg Fair sharing of benefits – access and benefits sharing (ABS)



Protected Areas (PAs)

- **Better managed, better connected, better governed and better financed protected areas are recognised as key to both mitigation and adaptation responses to climate change.**
- **Climate change mitigation:** 15% of global terrestrial carbon stock is contained in protected areas (Campbell et al.2008).
- **Adaptation:** help people adapt - maintaining ecosystem services that reduce natural disaster impacts (coastal and river protection, control of desertification), stabilise soils and enhance resilience to changing conditions.



Finalisation of the networks (in EU – notably MPAs - & globally)



Address financing gap – new funding, new instruments (eg PES)



In EU: use of funding – better integration (EAFRG, LFA, EFRD etc)
New Biodiversity fund ?



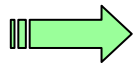
Investment in ecological infrastructure



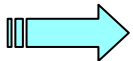
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Ecological infrastructure key for adaptation to climate change

- **Afforestation: carbon store+ reduced risk of soil erosion & landslides**
- **Wetlands and forests and reduced risk of flooding impacts**
- **Mangroves and coastal erosion and natural hazards**
- **PAs & connectivity to facilitate resilience of ecosystems and species**



EU efforts



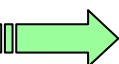
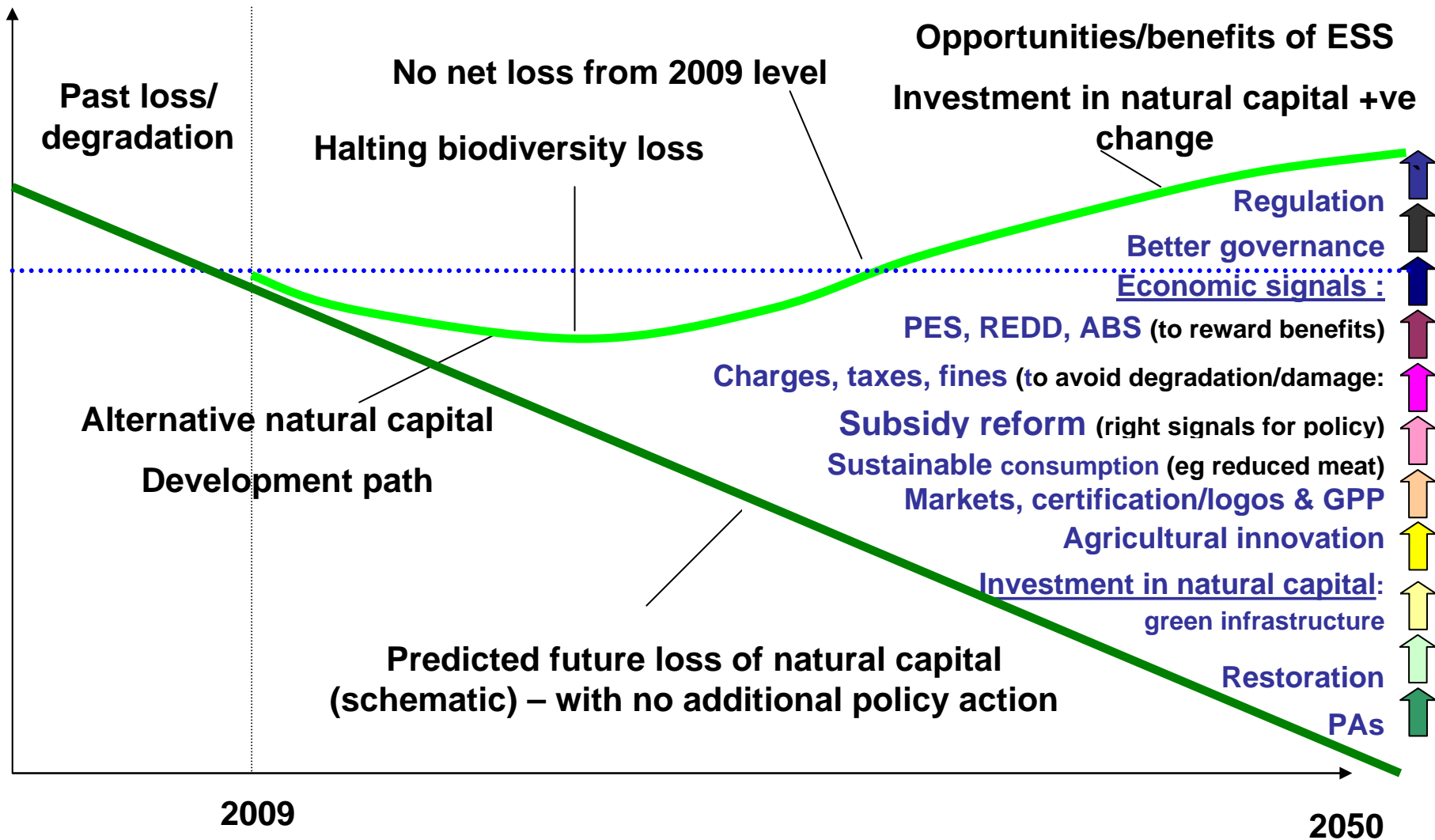
Global responsibility / contribution



Instruments and measures Contributions to natural capital



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Real potential for biodiversity-climate synergies for each instrument



Biodiversity and Climate



- Important synergies~ : win-wins for the two.
- Cannot address climate without biodiversity - mitigation & adaptation
- Avoid partial solutions that focus only on part of the picture (eg wrong REDD design/implementation; biofuels subsidies that encourage land conversion)
- Moving to a low-carbon economy critical
- This is only part of the solution – need to move to a resource efficient economy.
- With 9 billion people in 2050, a lot of resource boundaries and ecosystem thresholds will be crossed.
- Need systematic use of windows of opportunity – Copenhagen the first



Funding Needs

- **Not all actions imply higher costs** - Whole life cost approach for products and investments can lead to lower costs
- **Some action imply costs, but can be value for money** – eg investment in forest carbon stocks (REDD), soil carbon in agriculture (PES link) - can be cheaper than manmade carbon capture and storage (CCS)
- **Some funds exist** – eg EAFRG, LFA, EFRD - **can be used better/more for biodiversity & climate synergies**
- **Potential funds exist** – reforming subsidies, which are 1 US\$ trillion p.a.
- **Need for PA investment to complete network and offer greater resilience to climate change.**
 - globally financing gap – global needs circa 45 billion/year for 15% land coverage, 30% sea.
 - Global benefits estimated to be at least 10 times more
- **Global cooperation on climate** – adaptation to climate should include careful look at where ecological infrastructure is value for money



Thank you

Where do you see particular policy needs and opportunities?

For full TEEB for Policy Makers report – see TEEB website

<http://www.teebweb.org/>

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