



Institute
for
European
Environmental
Policy



How to ensure that 'green' is truly green?

- Policy mixes for integrating nature in green economy -

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Questions

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- What is a green economy ?
- Why is nature and nature's capital integral to green economy ?
- Policy mixes for truly 'green' green economy, i.e. *"I have a dream"*

What is a green economy?

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What is a Green Economy?



- Recognises the value of - and invests in - natural capital
 - Supports poverty alleviation
 - Creates 'green' jobs & enhances equity
 - Substitutes fossil fuels with renewable energy & low-carbon technologies
 - Is resource & energy efficient
- **Multiple goals – surely needs a mix !**
- UNEP defines a green economy as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive. In a green economy, growth is driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and protect and restore biodiversity and ecosystem services. These investments need to be catalysed and supported by targeted public expenditure, policy reforms and regulation changes.

The development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and as a source of public benefits, especially for poor people whose livelihoods and security depend on nature.

What is a green economy?

Picture © IEEP Web

Green economy – how green are current initiatives?

- Too narrow ?!
- Too climate focused ?
- Too environmental technologies focused ?
- Too focused on simply creating green jobs ?
- ?!?

What is a green economy?

Picture © IEEP Web

National Bio-Economy Strategy



In 2009 the **Government of Finland** decided to prepare a **Council of State Natural Resources Strategy** and, as a part of it, a specific **National bio-economy strategy**.

In the bio-economy strategy it is intended to define and make an assessment on the concept and development of bio-economy by 2050 in Finland. Bio-economy is considered to provide answers and new working methods to the global challenges that decreasing natural resources and climate change

bring about. The objective is to create successful bio-based economy where knowledge in bio-processes in production is highly valued and investments in sustainable production and know-how is facilitated. Various forms of use for biomass are examined by research and innovation.

How green is this?

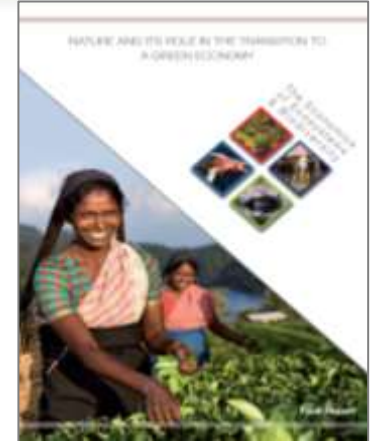


Routes for truly 'green' green economy?

Picture © IEEP Web

Improved 'business as usual'

- Understanding the value / role of natural capital
- Avoid inappropriate trade-offs
- Protect with regulatory baseline




Proactive 'green' management

- Investing in nature-based solutions and green infrastructure, (e.g. for risk management)

'Natural capital' is an 'economic metaphor for the limited stocks of physical and biological resources found on earth' (MA, 2005).

Mainstreamed environmental sustainability

- Increased eco- and resource efficiency
- Decoupling economy from negative impacts on natural capital and environment

A landscape photograph showing rolling hills in the background under a blue sky with white clouds. In the foreground, there is a body of water reflecting the sky and hills. Several dark rocks and a piece of driftwood are visible in the water.

Increasing understanding on natural capital to avoid inappropriate trade-offs

Understanding & systematically assessing ES stocks, flow & value

Ecosystem service stock
(status & trends)



Ecosystem service flow
(status & trends)



Ecosystem service value
(current & potential)

- Qualitative
- Quantitative
- Monetary

Trade-offs

Trade-offs

Trade-offs



Biodiversity (status & trends) Indication of resilience !

Enabling basis for a mix:

- *Regulations for env baseline*
- *Regulations for env standards*
- *Impact assessments*
- *Tools for "whole life costing"*
- *Market-based tools (design)*
- *Etc*

From stocks, flow & value to a comprehensive framework for natural capital information

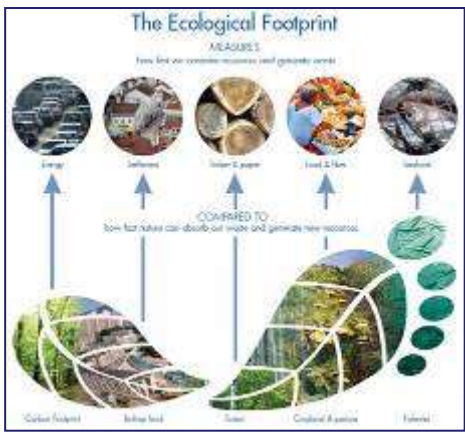
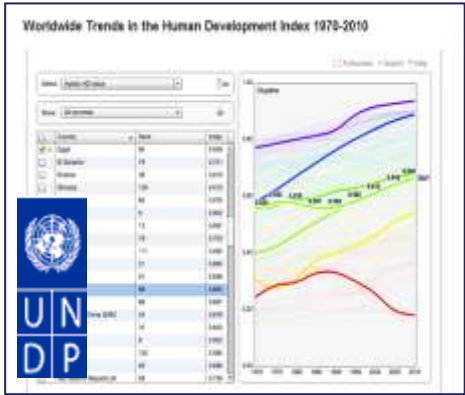


Indicators:
ES Stock – Flow – Value
Biodiversity




Natural Capital Accounting (NCA):
Ecosystem accounts (EA) &
System of Integrated
Environmental and Economic
Accounting (SEEA)

Beyond GDP



**A bundle of greener
macroeconomic & societal
indicators**

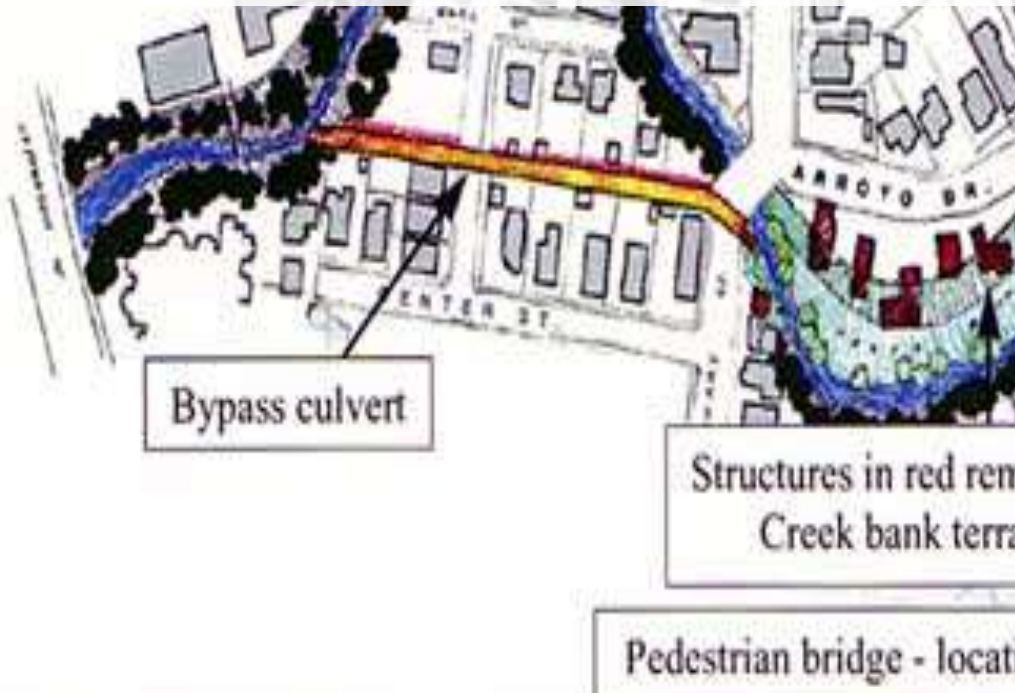


Investing in green infrastructure,
Inc. active management of
environmental risks using nature-based
solutions

Nature-based flood risk management, Napa Creek (US)

Benefits of natural flood management

- Various local benefits enhanced:
flood prevention, recreation & tourism
- Costs of flooding ↓
- Insurance rates ↓
- Property values ↑



Napa Creek Project

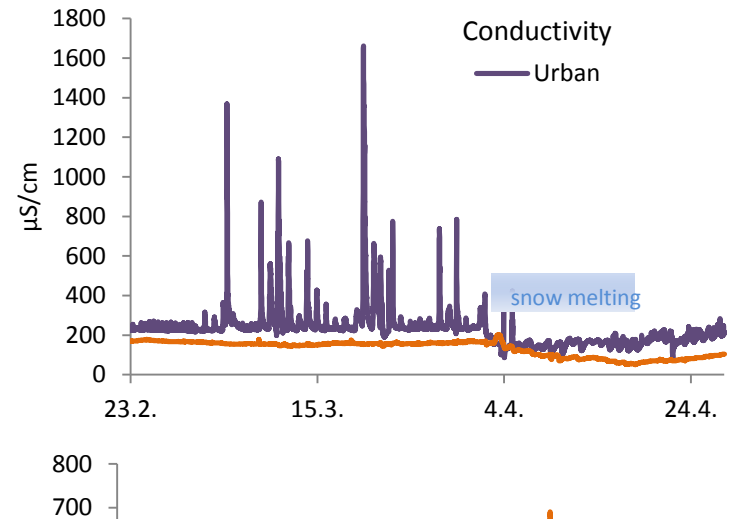
Instruments in a mix:

- *Information tools (mapping)*
- *Regulations for spatial planning*
- *Regulations for risk mitigation / management*
- *Etc*

Green infra for water management, Vihti (Finland)

Benefits of creating urban wetland

- Water quality ↑
- Cost-effective way for managing water quality
- Recreation area for local people
- Biodiversity conservation



Instruments in a mix:

- *Information (benefits of wetland)*
- *Public investment*
- *Participatory approaches*
- *Consultation*
- *Awareness raising*
- *Etc*

Wellbeing via restoration of nature (Nihili woodland, Tanzania)

Benefits of restoration

- Various local benefits enhanced: fuel, fruit, timber, honey, fodder & medicines
- Time required to collect fuel wood & other resources ↓
- More time for education and productive work
- Sale of products helped pay for children's schooling



Instruments in a mix:

- *Information (welfare benefits)*
- *Public (or private) investment*
- *Social and welfare policies*
- *Participatory approaches*
- *Consultation*
- *Etc*



Protected areas as promoters of regional economy (Finland)

Name or national park	Local, accumulative economic impacts of visits (EUR mil / year)	Person-years of employment
<i>Some examples of total 37</i>		
Nuukio	2.1	16
Pallas-Yllastunturi	34.3	450
Oulanka	15.5	200

Etc.


According to the assessment €1 investment in national parks and other key protected areas can result in €10 return to local economies.

See Kettunen et al. (2012) [TEEB Nordic](#), Kettunen and ten Brink (2013) and [Metsähallitus](#) for references



Instruments in a mix:

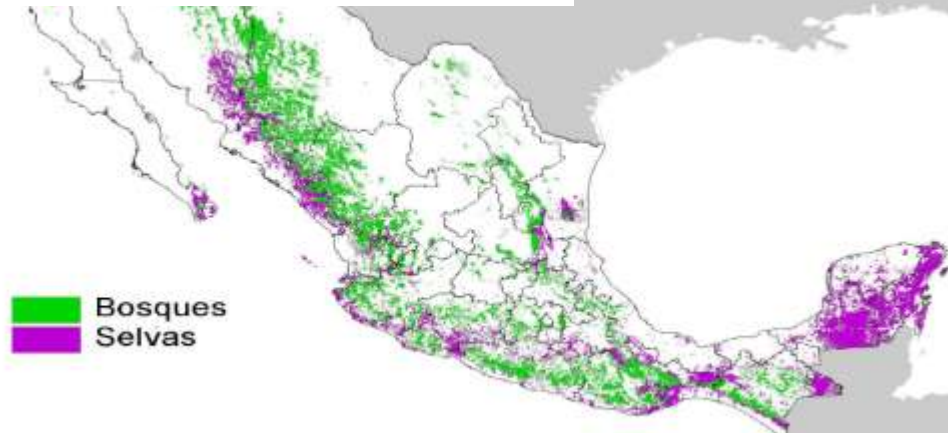
- *Regulatory basis for PAs*
- *Public investment*
- *Fiscal transfers*
- *PES*
- *Etc*

A landscape photograph showing rolling hills in the background, a body of water in the foreground, and a sky filled with white and grey clouds. The water reflects the sky and the hills. There are some dark rocks and a piece of driftwood in the water.

Nature-based solutions for
resource- / eco-efficiency
and decoupling economy from resource use

Effective* and equitable natural capital management (Payments for Hydrological Services, Mexico)

Reduce deforestation



Address poverty



Benefits of PES

- aquifer recharge
- improved surface water quality
- reduce damage from flooding
- avoided deforestation and GHG emissions

Instruments in a mix:

- *Information (mapping)*
- *Regulation*
- *PES*
- *Participatory approaches*
- *Etc*

* At least in principle, see POLICYMIX studies evaluating effectiveness

Resource- and cost effective water management for business (Vittel PES, France)



Instruments in a mix:

- *Regulation (producing / marketing high quality natural water)*
- *PES*
- *Labelling schemes*
- *Certification schemes*
- *Etc*

Benefits of PES

- High quality water for Vittel (FR) from Vosges Mountains (no pre-treatment allowed by law)
- Cost-effective solution for maintaining water quality – sust. management of upstream ecosystems more cost-effective than moving the sourcing of water elsewhere
- Farmers upstream are paid to adopt best low-impact farming practises.

Nature-based innovations with low resource demand and high eco-efficiency / value added

Instruments in a mix:

- *Public investment for bioinnovations*
- *Labelling schemes*
- *Certification schemes*
- *Etc*

Bio-innovations:

- Fungi *Paecilomyces variotii* used commercially in Finland to turn paper mill waste in protein biomass production.
- Birch tar oil to form a basis for a natural herbicide in Finland, currently exploring the possibilities to develop into a commercial product.
- Pharmaceuticals
- Biomimicry

High value added products:

- Nature-based design
- Recycled (natural) resources
- Etc.



WANTED

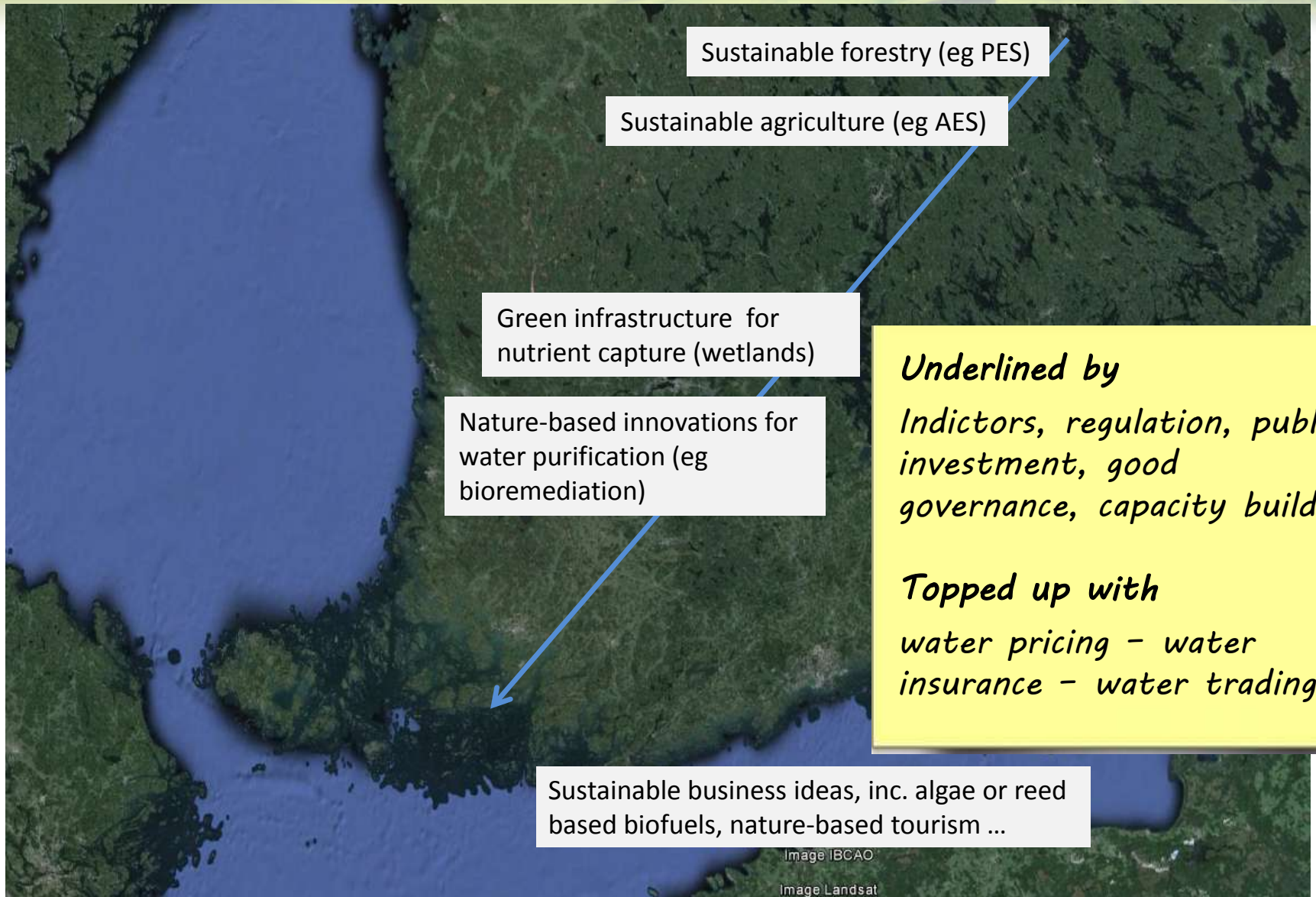
**Policy mixes for truly
'green' green economy !**

Policy mixes for truly green economy

Picture © IEEP Web

- **Each individual nature-based initiative** (e.g. PES) → requires a mix.
- **Regional / local:** Green economy within a locality needs to be combination of different nature-based measures, from information to market-based → requires a mix
- **National / international:** Green economy needs to work across different levels (local, regional, national, international) → requires a mix

Example: Policy mix for a green economy within river basin



Example: Policy mix for a green economy within river basin




Indicators for water:
Stock – Flow – Value
Biodiversity

**Natural Capital Accounting
(NCA)**



Pricing for water security ?!?

- Price for water would somehow integrate aspects of water security?!
- Building on the information on the status of water “stock” and “flow”
- Including foreseen potential of ecosystems to maintain water retention and purification




“Economic instruments need a regulatory home and a family of information instruments.”

- Policymix project -

Policy mix “recipe” for a green economy

Picture © IEEP Web

- **Information:** indicators for natural capital, including status and socio-economic value
- **Regulation:** need for a regulatory baseline, information on the value helps
- **Investment:** public investment is needed to show the way (e.g. fiscal transfers)
- **Economic / market-based:** plenty of potential but needs to be done right (e.g. PES)
- **Top up with: good governance, equity, participation**

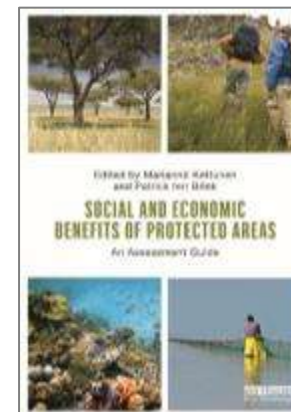
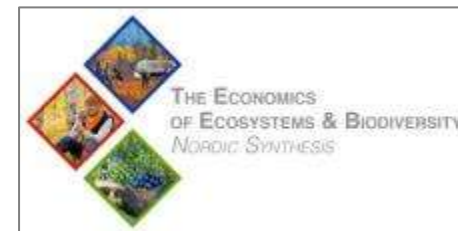
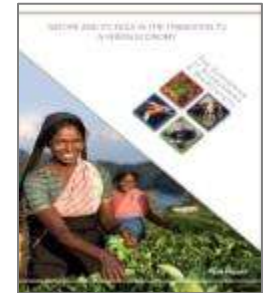


Take home message:
Ask how green is green?
How can your policy mix knowledge help to
make things greener?

Further information

Picture © IEEP Web

- [The Economics of Ecosystems and Biodiversity \(TEEB\)](#) (2008 -)
- [TEEB Green Economy](#) (2012)
- Guidance Manual for [TEEB Country Studies](#) (2013)
- [TEEB Water and Wetlands](#) (2013)
- Kettunen & ten Brink (2013) [Social and Economic Benefits of Protected Areas - An Assessment Guide](#)
- Kettunen et al. (2012) [TEEB Nordic](#)





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Thanks !

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