

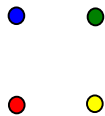
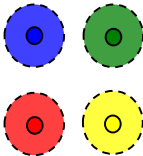
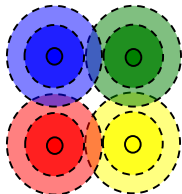
The European context: Ecosystem/Natural Capital Accounting

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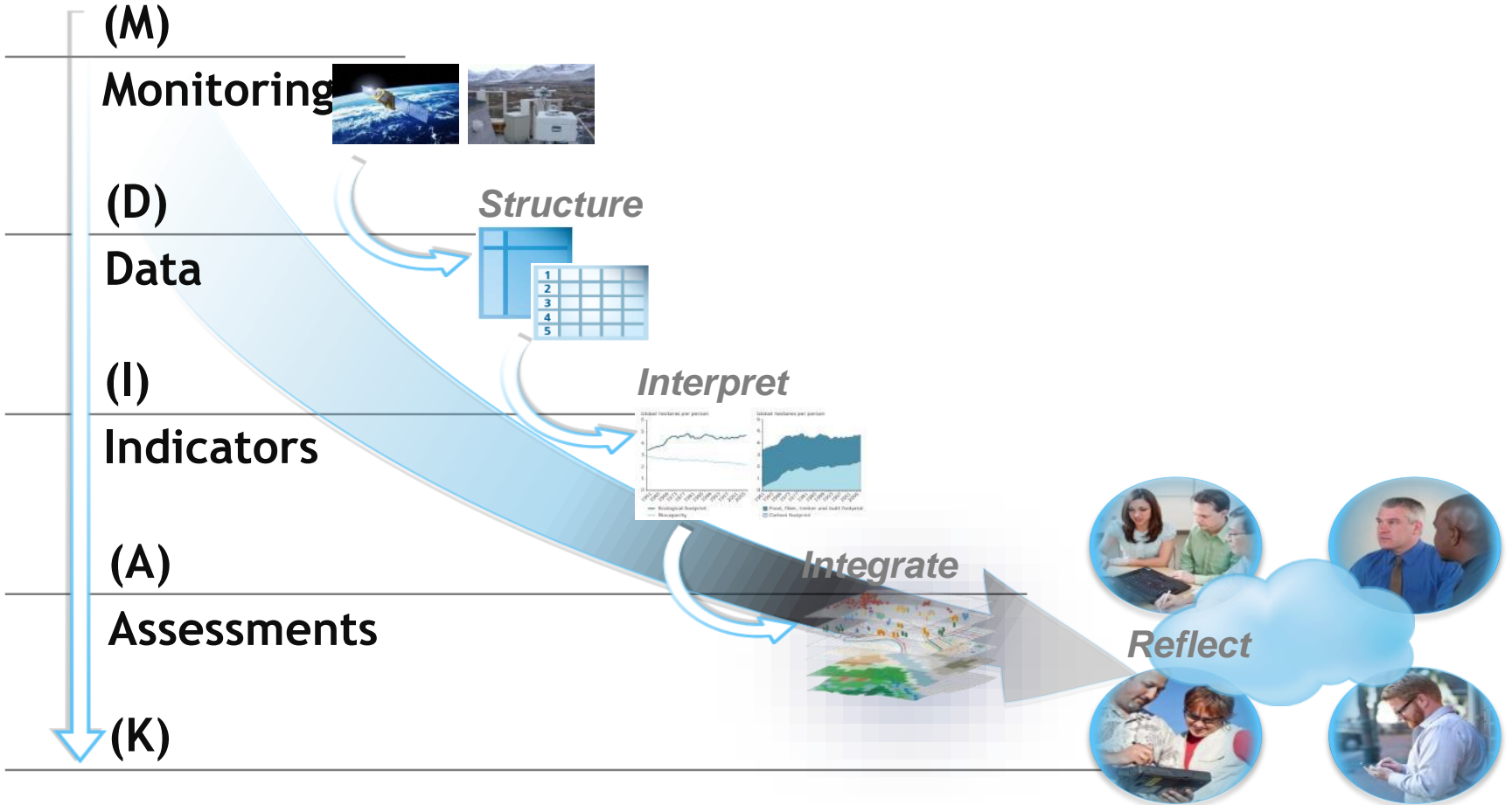
Four dimensions

1. Experimentation: SEEA-EEA-ECA-EUROPE
2. EU policy objectives and targets
3. European country initiatives
4. Integrated accounting: SNA/SEEA-CF/SEEA-EEA

From specific to systemic challenges

Characterisation of key challenges	Key features	In the spotlight in	Policy approaches (examples)
Specific 	linear cause-effect large(point) sources often local	1970s / 1980s (continuing today)	targeted policies and single-issue instruments
Diffuse 	cumulative causes multiple sources often regional	1980s / 1990s (continuing today)	policy integration and raising public awareness
Systemic 	systemic causes interlinked sources often global	1990s / 2000s (continuing today)	policy coherence and systemic approaches (a green economy?)

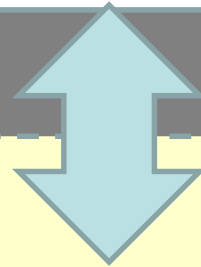
From 'closed' to 'open' knowledge systems



SEEA-EEA-ECA-EUROPE

Flows embedded into trade

Domestic economy's global impacts



**Ecological Balance Sheet in €
Adjustment for Consumption of
Ecosystem Capital**

**Ecosystem economic
benefits of projects,
policies and plans**

**Ecological Balance Sheet (assets &
debts) in ECU**

**Total Ecosystem Capital Capability in
ECU**

Biomass/carbon

Biomass/carbon

Biomass/carbon

Water

Water

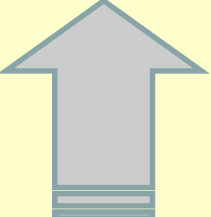
Water

**Landscape-
species**


**Landscape-
species**

**Landscape-
species**

Land cover change accounts


**Estimation
of
Restoration
Costs (€)**
=====

**==
Use of
natural
resources**


**Valuation
of
Ecosystem
Services (€)**
=====

**=
Ecosystem
Services &
Human well
being**

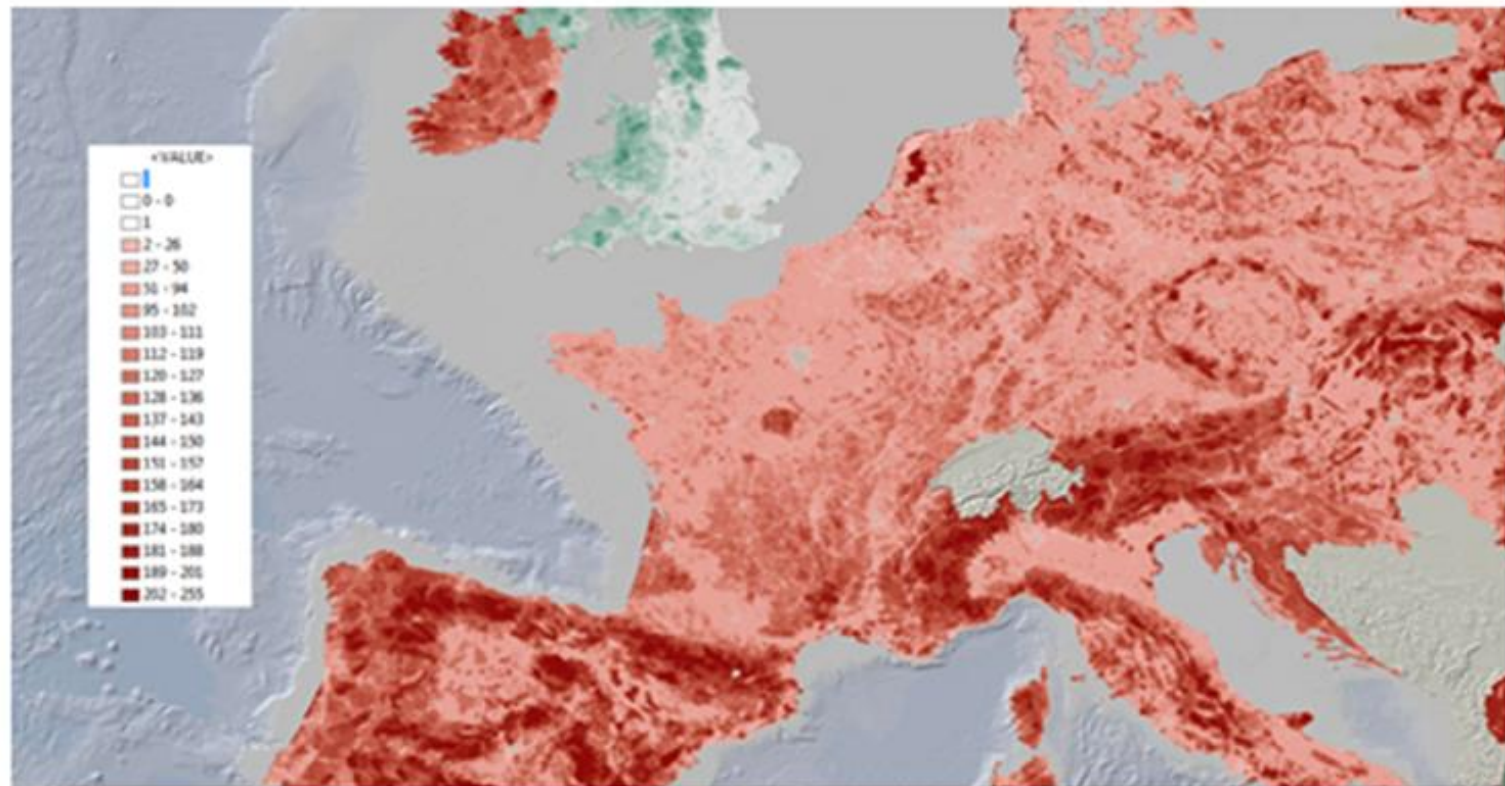


Exploring the landscape/species component of ECA-EUROPE

Key feature	Expressed by	Data Source	Indices
Intensity of land use/management	Green background landscape index	CORINE LANDCOVER (EEA)	Net Landscape Ecological Potential
Fragmentation	Effective Mesh Size MEFF	TeleAtlas and CORINE LANDCOVER (EEA)	
Conservation value	Proximity of designated/protected areas	Natura 2000 spatial data, CDDA spatial data (EEA)	
Resilience	Population trends and future prospects of protected species per dominant ecosystem type	Conservation status Article 17 data base and species distribution (EEA)	<p>Mean Species (Population Trend) Change Index per dominant landscape</p> <p>Mean Species Future prospects Index per dominant type</p>
	Composite index		Landscape-species index

Landscape-species index calculated for 2010 (2000 in prep)

Landscape capability: integrity combined with species biodiversity....



Ecosystem Accounting/Assessment in the EU Biodiversity Strategy 2020

Action 5 under target 2 of the EU Biodiversity Strategy to 2020:

”Member States, with the **assistance** of the Commission, will **map and assess** the **state of ecosystems** and **their services** in their national territory by 2014, **assess the economic value** of such services, and promote the integration of these values into accounting and reporting systems at EU and national level by 2020.”



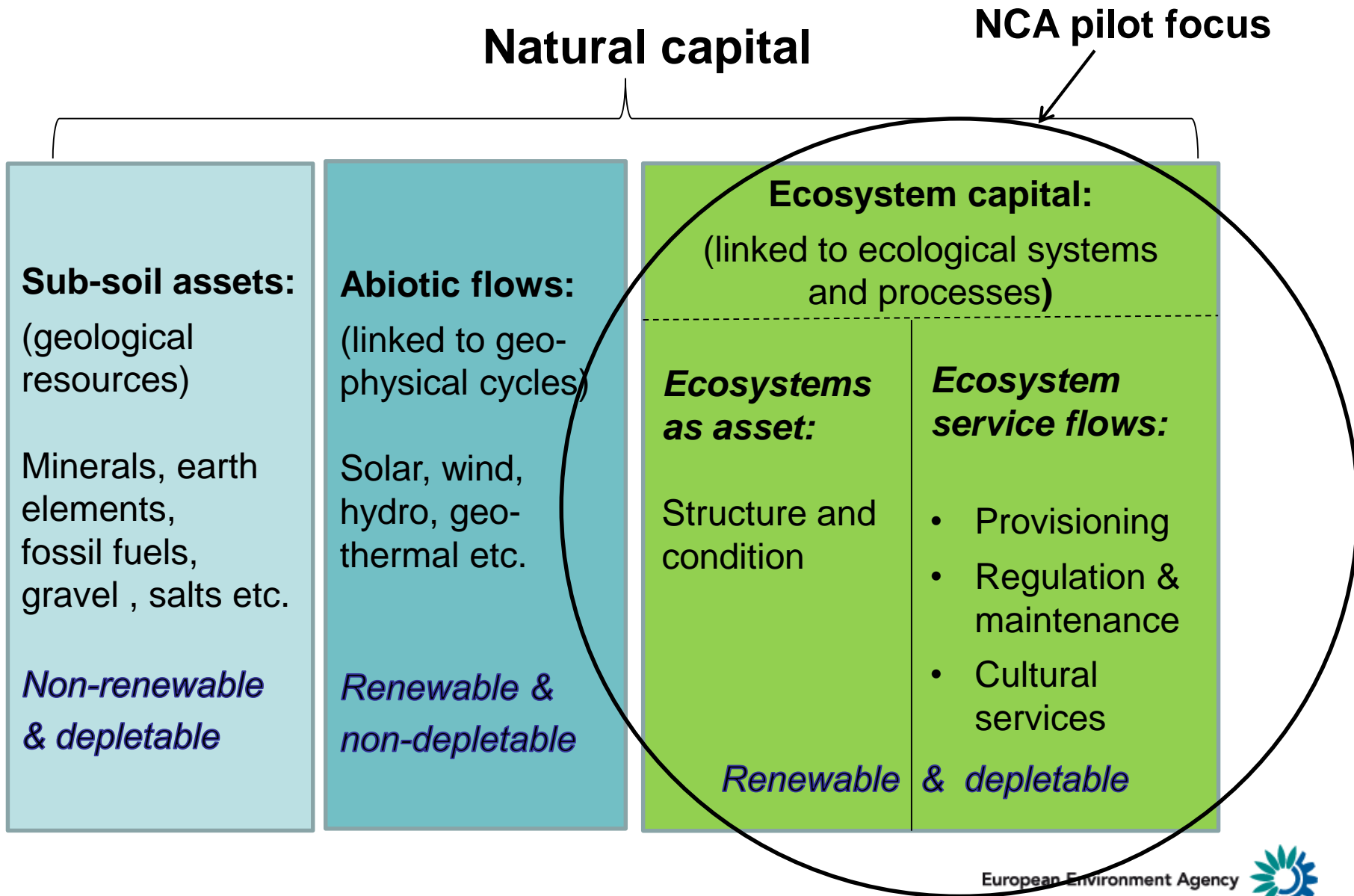
The EU implementation process: MAES

Implementation of Action 5 under target 2: ‘Mapping and Assessment of Ecosystems and their Services (MAES)’

Six pilot studies are on-going:

- ❖ Protected areas
- ❖ Agriculture ecosystems
- ❖ Forest ecosystems
- ❖ Freshwater ecosystems
- ❖ Marine ecosystems
- ❖ Natural Capital Accounting (NCA)

Components of Natural Capital



Examples of European country activities

Ecosystem/physical accounting	Ecosystem assessments	Valuation, cost-benefit studies
Bulgaria: water accounts based on permit system for abstraction	Estonia: pilot projects on forest and wetland ES	France: systematic study on 'non-paid ecological costs' (funded by MoE)
Czech Republic: various projects by Czech Globe	Spain : substantial NEA, as part of MA process	Germany: focused on high nature value farmland (restoration costs)
Norway: nature index - species monitoring & expert views combined	UK: recent NEA, very comprehensive	Lithuania: pilot study, monetization of ES in protected areas
UK: individual ecosystem accounts (e.g. woodland), i.e. not integrated	Many countries: no concerted public effort so far	UK: use of various valuation methodologies for individual ES in NEA

Integrated accounting of transition to an inclusive green economy

	Driving forces	Pressures	State	Impacts	Responses
Accounting frameworks	SEEA Central Framework – physical flow and asset accounts SNA 2008 EU Regulation 691/2011 on environmental economic accounts		SEEA Central Framework –asset accounts SEEA Vol.2 – experimental ecosystem accounts Ecosystem capital accounts		SEEA Central Framework – monetary flow accounts EU Regulation 691/2011 on environmental economic accounts
Individual accounts	Economy-wide Material Flow Accounts GHG/Air emissions Products (raw material equivalents) Energy (due 2017) Water flow Waste (?)		Land Carbon Water Forest Biodiversity (?) Nutrients (?)		Environmental taxes Environmental protection expenditure (due 2017) Environmental goods and services (due 2017) Environmental subsidies and similar transfers Resource use and management expenditure
Related statistics and Data	Population Economic growth		Human health and wellbeing Air quality Noise		
EU-27 Supply Use Input-Output Table extensions	Material resources GHG emissions Air pollutant emissions Energy (due 2014) Water (?) Waste (?)		Land Carbon Water Nutrients (?)		Linked to labour, taxes, subsidies and expenditure