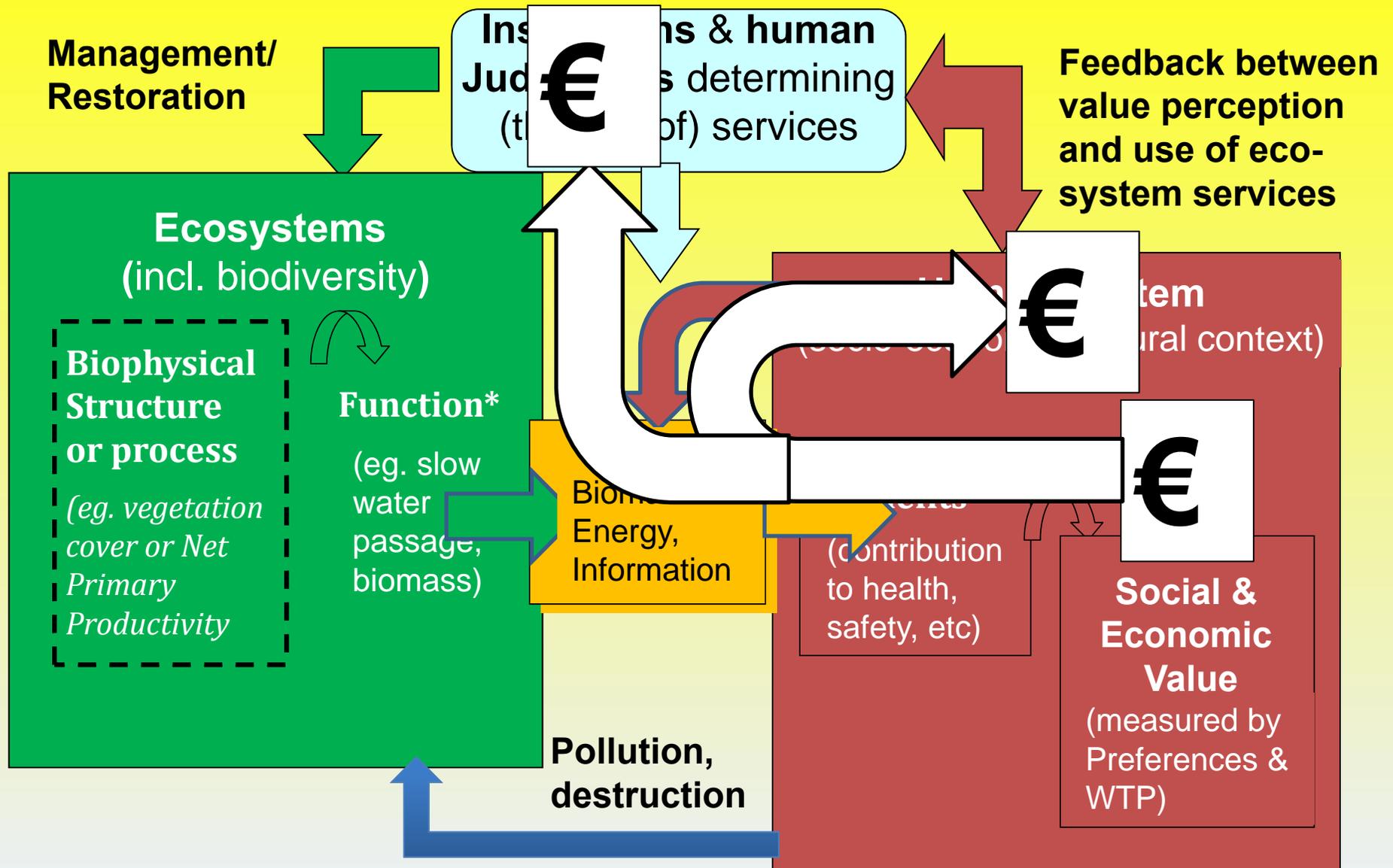


# Ecosystem Services: Valuation Across the Cascade

Leon C. Braat  
Alterra, Wageningen



# TEEB "CASCADE" MODEL OF ECOSYSTEM SERVICES



Adapted, based on: De Groot et al., 2010



## T2. Ecosystem maintenance and restoration

### Action 5:

Improve knowledge of ecosystems and their services in the EU

#### Step 1. → recognising value

map and assess ecosystems and their services **by 2014**

#### Step 2. → demonstrating value

assess the economic value of these services,

#### Step 3. → capturing value

values into accounting systems for policy **by 2020**

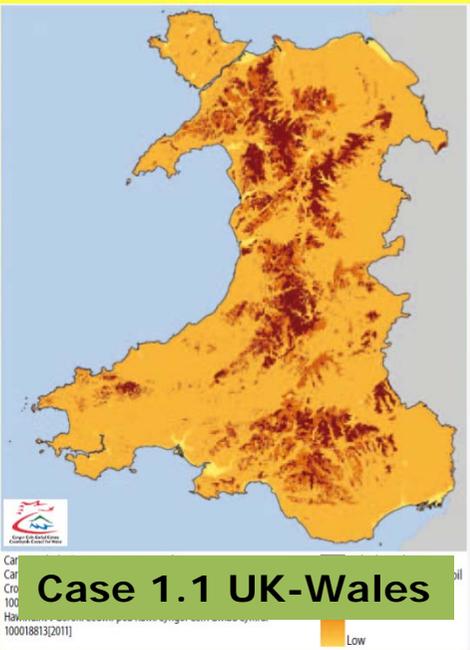
# Step 1. → recognising value

map and assess ecosystems and their services **by 2014**

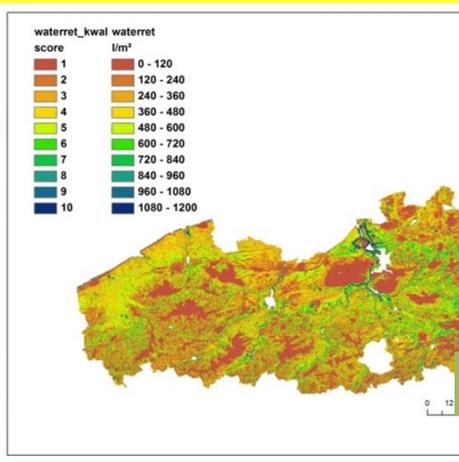
**EXAMPLE 1  
FOREST**



# MESEU PROJECT



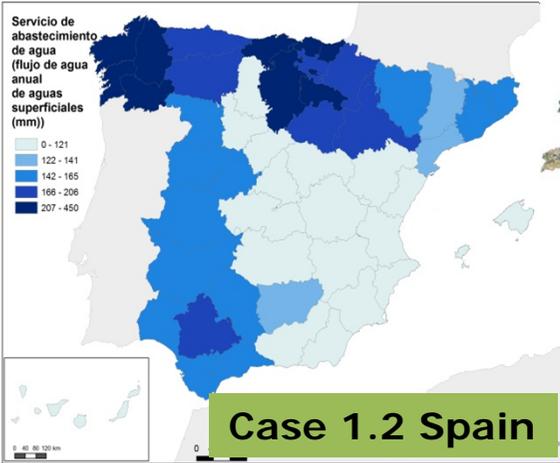
Case 1.1 UK-Wales



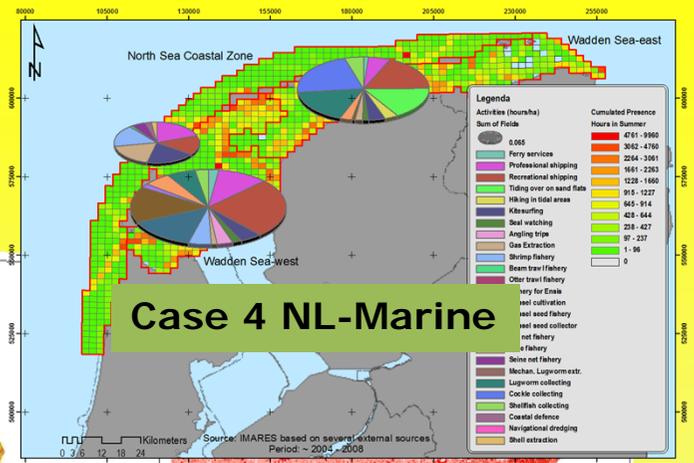
Case 2.1 Belgium



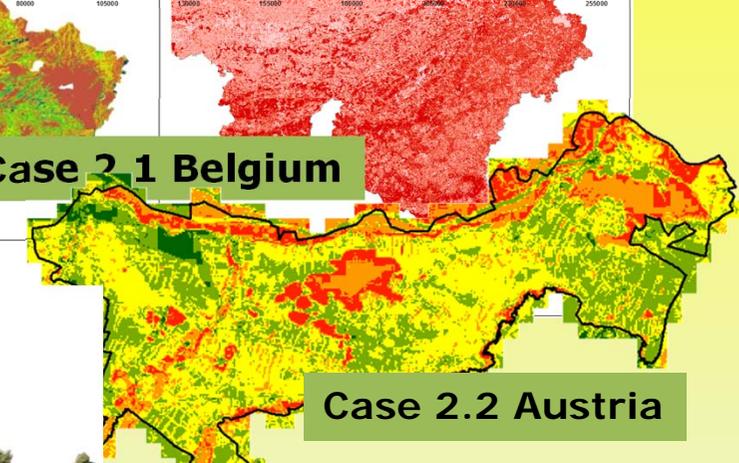
Case 3.1 Switzerland



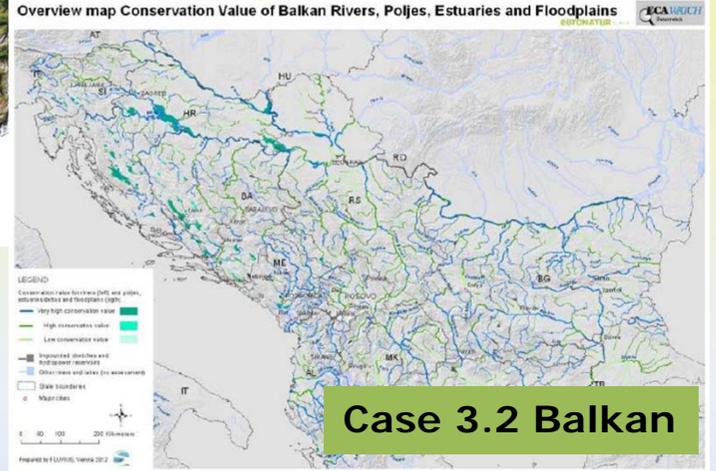
Case 1.2 Spain



Case 4 NL-Marine



Case 2.2 Austria



Case 3.2 Balkan

**Step 2. → demonstrating value**  
assess the economic value of these services,

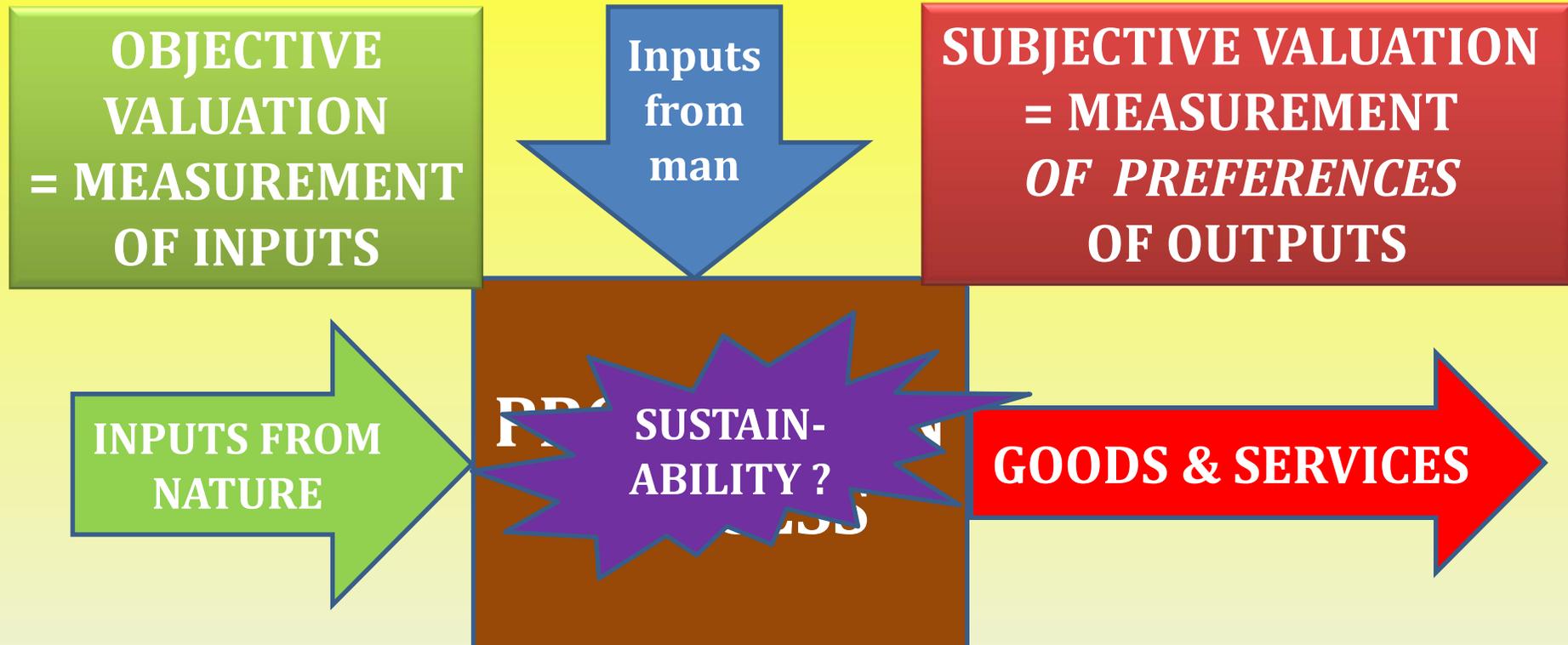
*Valuation is consciously & unconsciously done by all humans*  
*to assess situations, to decide on action in view of desirable ends*

**1. Ecological-Sustainability-**

**2. Social-Justice –**

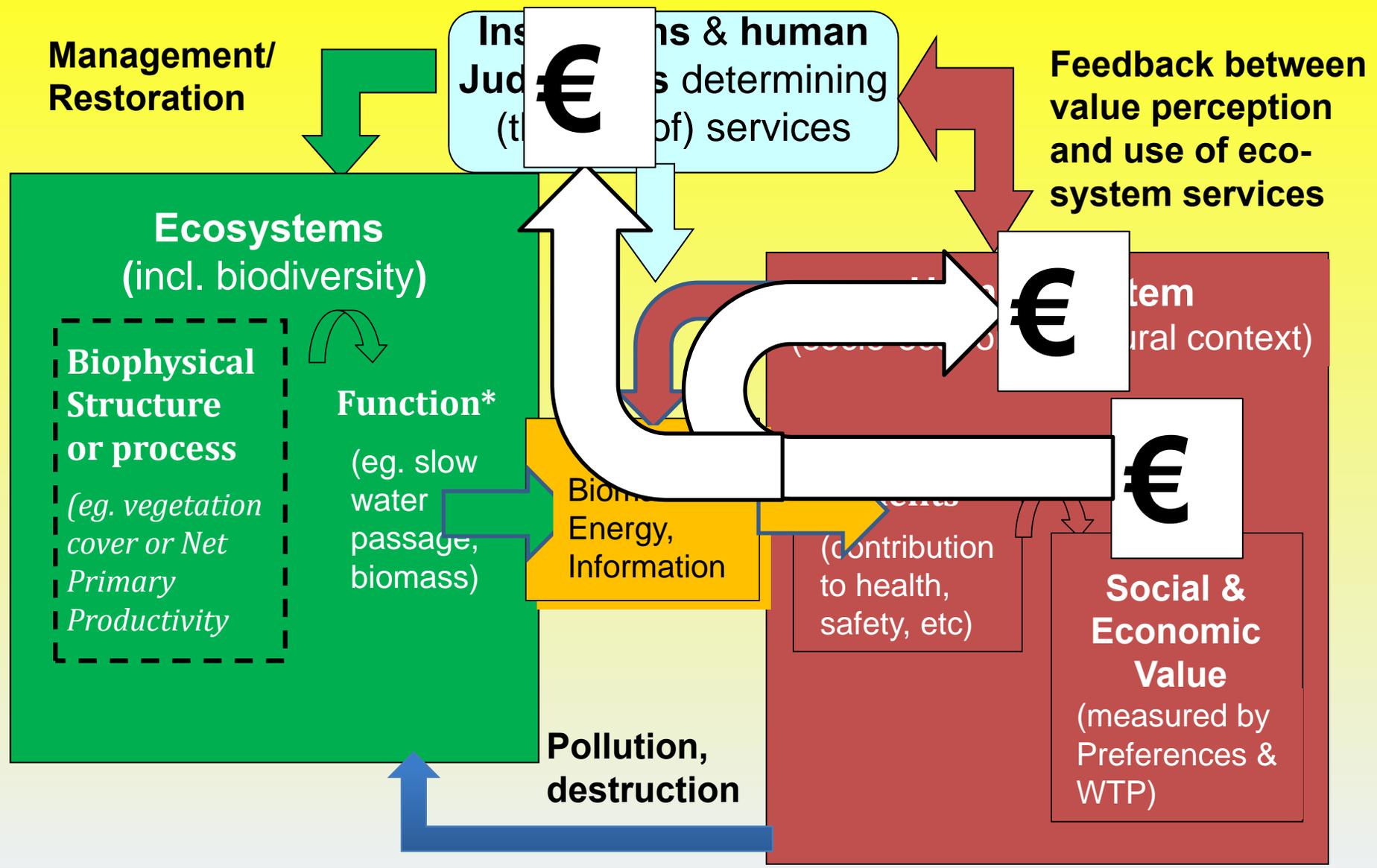
**3. Economic-Efficient allocation –**

# THE CAUSAL CHAIN OF VALUE PRODUCTION



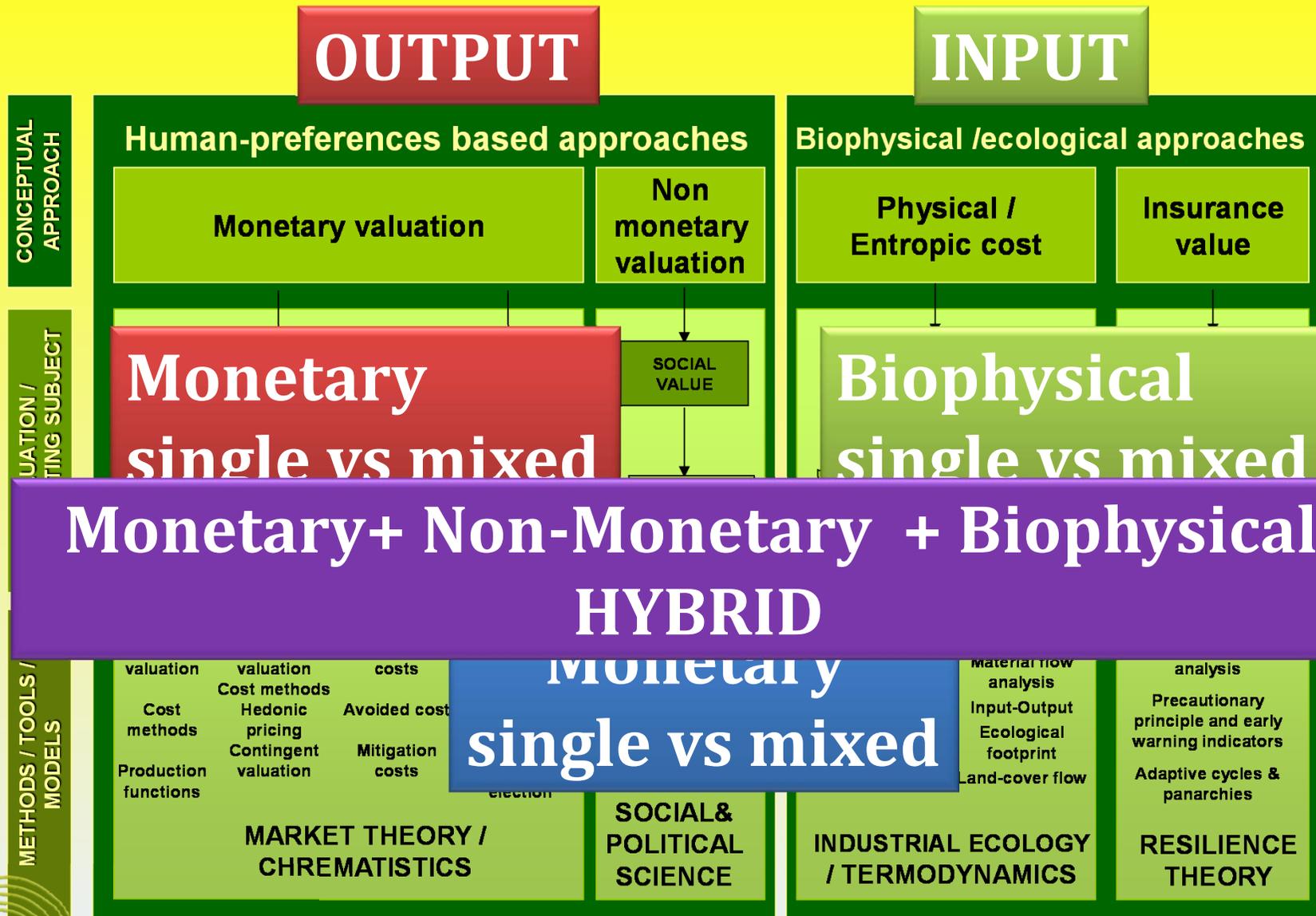
**BEWARE OF OMISSIONS, UNREAL TRADE-OFFS  
& DOUBLE COUNTING**

# TEEB "CASCADE" MODEL OF ECOSYSTEM SERVICES



Adapted, based on: De Groot et al., 2010

# Ecological -Economic Valuation of Ecosystems & Services



**OpenNESS**

Operationalisation of natural capital and ecosystem services: from concepts to real-world applications

# FROM HYBRID VALUATION → INTEGRATED (Ecological Economic) VALUATION

## HYBRID VALUATION =

an approach that merely combines components that have been assessed and valued independently.

## INTEGRATED VALUATION =

a systems approach recognising causal relationships between components of ecological-economic systems in assigning values to benefits (resulting from ecosystem services) at individual, social group and society level

(adapted from Gomez-Baggethun et al. 2014).

## Step 3. → capturing value

values into accounting systems for policy **by 2020**

- *subsidies and fiscal incentives*
- *charging for access and use*
- *adaptation/ mitigation strategies,*
- *property rights and liability,*
- *eco-labelling and certification*
- *payments / compensation for ecosystem services*

**→ BASED ON NATURAL CAPITAL ACCOUNTS**

**MAPPING 1**  
(Burkhard et al)

**PES**  
(Sattler et al)

**MAPPING 2**  
(Willemen et al)

**URBAN ES**  
(Elmquist)

# ECOSYSTEM SERVICES

SCIENCE, POLICY & PRACTICE

**Water Nexus**  
(Bidoglio)

**Socio-Behavioural**  
(Kumar)

**Marine Economics**  
(Nunes&Gowdy)

**Trade Offs in Marine ES**  
(Villasante)

**Biodiversity Offsets**  
(Hrabanski&Froger)

**Nature in Finland**  
(Vier

**Governance**  
(Loft)

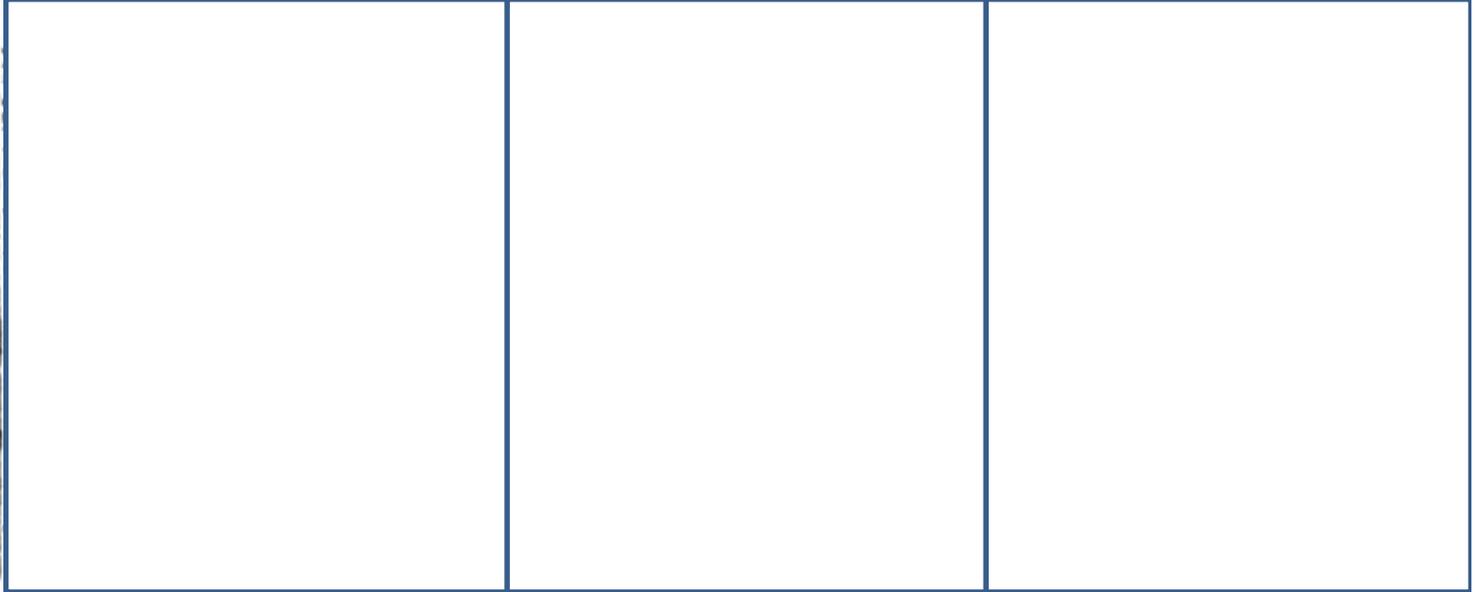
**Peatlands**  
(Hansjurgens)

**MBIs**  
(Schleyer & Farley)

**Legal Aspects**  
(Mauer & Kistenkas))

**ISSUE**  
Management within natural limits  
Recognising and respecting biological limits and thresholds and conserving ecosystem structures and productivity.

Associated with the  
Ecosystem Services Partnership (ESP)



*The End*