



# The System of Environmental-Economic Accounting – Ecosystem Accounting (SEEA EA) and the proposal for an EU legal module on ecosystem accounting

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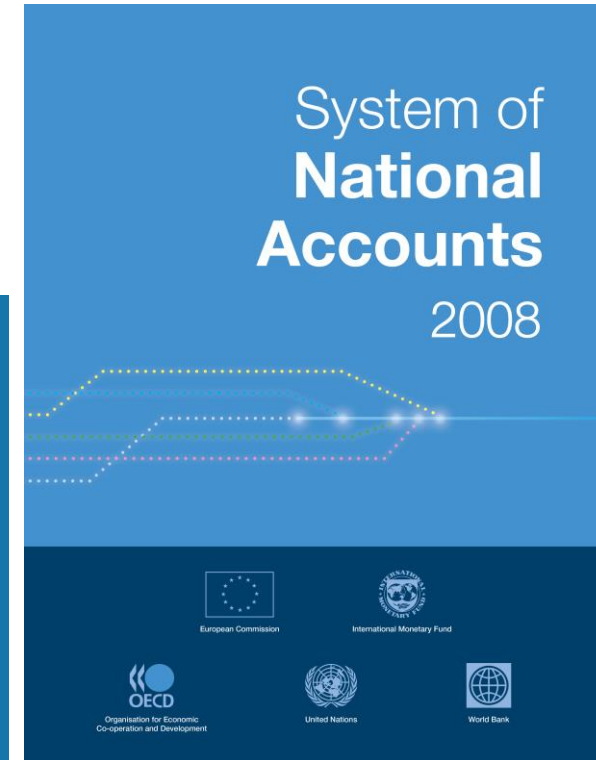
*21 October 2021*

# Reminder 1: accounting = creating knowledge

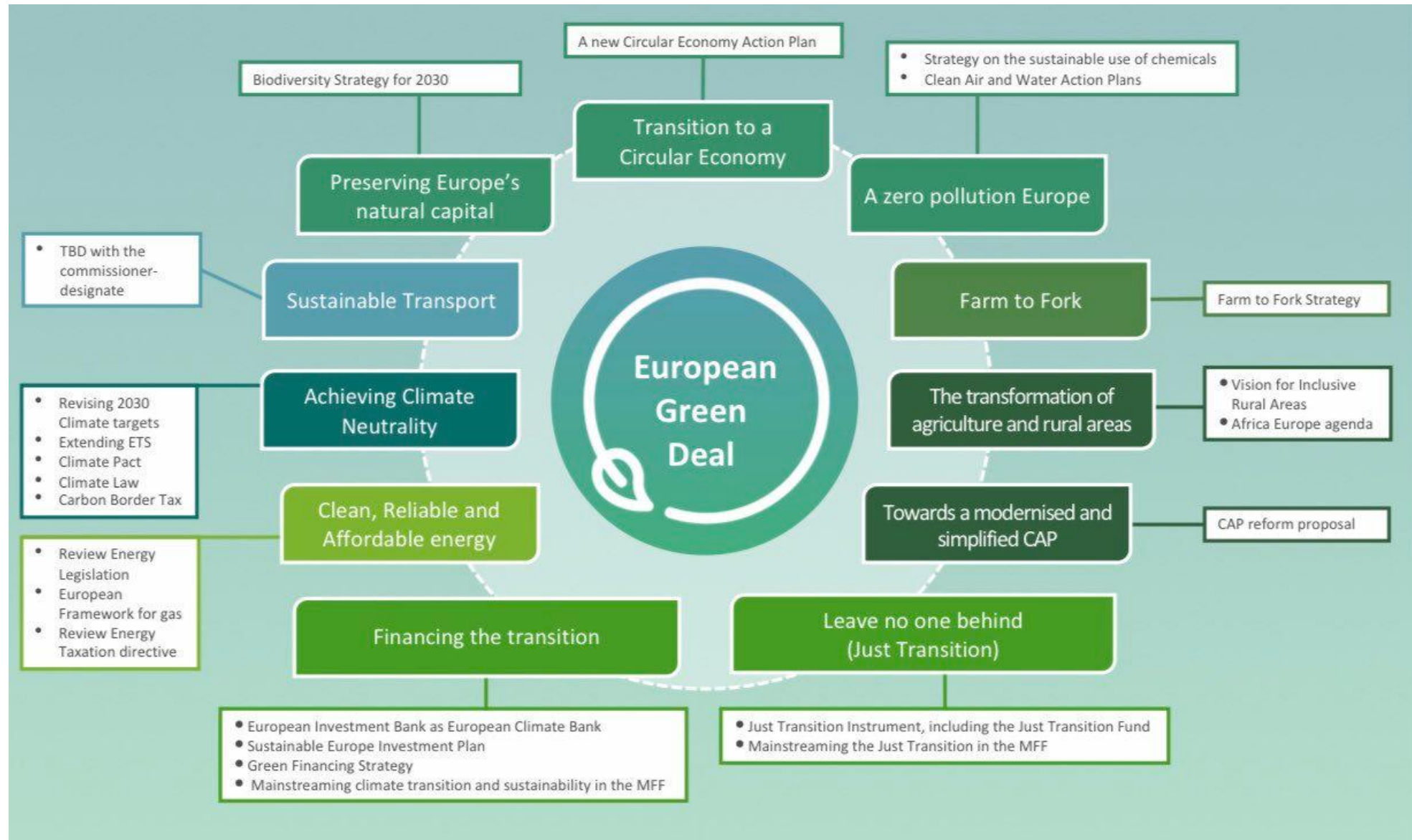
- accounts: a system of structured tables with an internal logic  
*(ideally based on exhaustive observation of each transaction - e.g. business accounts)*
- accounting as a process: integrating different data sources to generate a coherent 'big picture' and some 'bottom lines'  
*(more broadly: generating key indicators using multiple sources, models, estimation procedures)*

# Reminder 2: accounting for the economy

- **System of National Accounts (SNA)**
  - International statistical standard to measure economic activity and produce indicators, e.g. GDP
- **European System of Accounts (ESA)**
  - Used for economic policy
  - Specific EU uses:
    - Debt and deficit criteria (€)
    - EU budget own resource
- **Regulation 691/2011 on European environmental economic accounts**  
(see previous presentation)



# Reminder 3: European Green Deal



# Action plan for statistics for the Green Deal

- ESS Committee had first discussion in Oct 2020 and asked Eurostat to make an action plan
- A draft was developed with Directors groups for ESS Committee approval on 29 October 2021
- The action plan is fully aligned with the ESS multiannual work programme. It coordinates and streamlines current statistical activities related to the European Green Deal and helps to better prioritise
- The Action plan includes 29 activities, in three categories:
  - a) Enhanced communication and dissemination of European statistics for the Green Deal, e.g. indicator sets for monitoring frameworks such as circular economy, green deal monitoring dashboard, new quarterly greenhouse gas emissions estimates
  - b) Update the legal basis for official statistics related to the Green Deal, e.g. delegated act to update current 691/2011 to apply from April 2022; amending act to add to 691/2011 three new modules (forest accounts, environmental subsidies, ecosystem accounts) to enter into force in late 2023 (?)
  - c) Develop official statistics beyond legal basis, e.g. estimate EU level ecosystem accounts, material footprints for all Member States

# Accounting for economy and environment

## System of Environmental-Economic Accounting (SEEA)

- follows the principles of the SNA to measure key components of the environment and interactions between environment and economy
- **SEEA central framework** *adopted* as international statistical standard in March 2013 by the UN Statistical Commission
- **SEEA Experimental Ecosystem Accounting** (SEEA EEA) *welcomed* in March 2013 by the UN Statistical Commission. In 2018, revision of SEEA EEA started
- In March 2021 [UN Statistical Commission adopted](#) revised **SEEA – Ecosystem Accounting** as international statistical standard (chapters 1-7 – physical accounts) and as internationally recognised statistical principles and recommendations (chapters 8-11 on monetary valuation). White Cover version is on UNSD website.

System of  
Environmental-Economic  
Accounting 2012  
Central Framework

System of  
Environmental-Economic  
Accounting 2012  
Experimental Ecosystem Accounting

System of  
Environmental-Economic  
Accounting  
Ecosystem Accounting

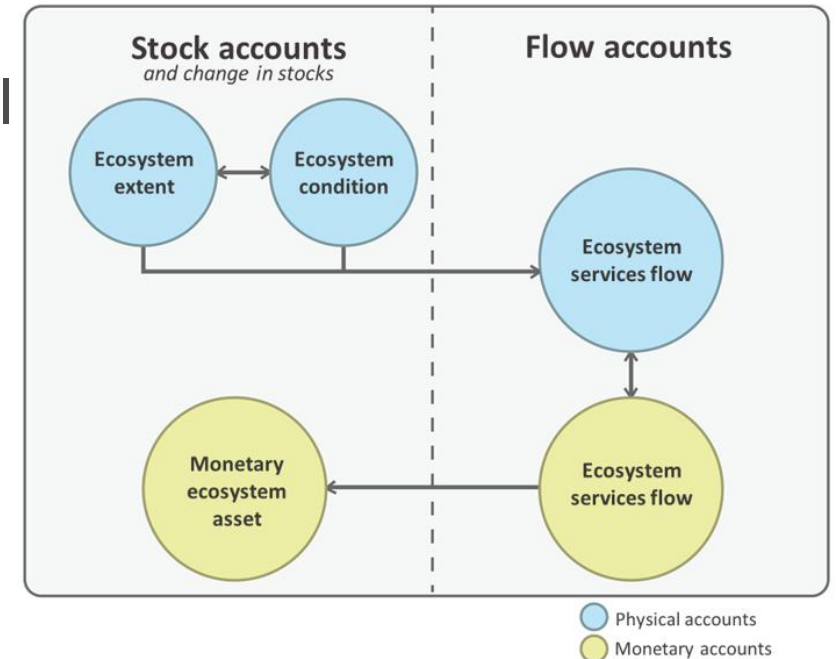


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# Ecosystem accounting – key concepts

- Ecosystems = a key component of natural capital
  - has a potential to provide ecosystem services
  - supply of a service = use, i.e. no users = no supply (but potential supply)
- Core accounts:
  - Ecosystem extent accounts ('size')
  - Ecosystem condition accounts ('quality')
  - Ecosystem services accounts (supply and use in physical and monetary terms)
  - Asset accounts (monetary terms)
- Thematic accounts:
  - On a specific component of nature of policy interest , e.g. marine, carbon, urban



# Main sources

- Large number of sources:
  - Land cover and land use data from satellites, aerial photos, maps, surveys, cadasters
  - Data linked to condition, e.g. protected areas, soil sampling, species data, also pressure (fertiliser use etc.) – partly administrative sources
  - Data linked to services: agricultural and forestry production, specific data on natural risks, recreation activities.....
  - Models used for different purposes
  - Requires cooperation across institutions, data sources often not yet designed to be integrated and important synergies could be expected in the longer run.



# Uses of ecosystem accounts

- Ecosystem extent and ecosystem condition accounts:
  - If used on their own, they do not (necessarily) provide information beyond what would be available from well-established monitoring schemes (if these are available)
  - Added value: use of a common integrated framework for data reporting, regular production, data structure, coherent time series of changes supporting analyses
- Ecosystem services accounts:
  - Novel; concepts (traditionally) used in economic accounting implemented for ecosystems
  - Recognise and quantify the role of ecosystems as providers or contributors to economic goods and services, and our well-being – extending the supply chain
- Advanced integrated analyses:
  - e.g. loss of ecosystem services following the reduction in the extent or the condition of a specific ecosystem asset
  - Trade-offs with other uses and between ecosystem services

# Implementation in the EU – EU level

- **INCA project** set up by ESTAT, JRC, ENV, RTD and EEA:
  - To develop EU ecosystem accounts (methods, sources, first results)
  - To help the MAES process
  - To help the revision of the SEEA EA international handbook
  - Objective is to institutionalise the accounts
  - [Final report](#) of Phase 2 released in June 2021
  - Value of a first set of ecosystem services estimated at € 230 billion for 2019



# Implementation in the EU – national level

- Research projects (e.g. MAIA) and Eurostat grants, national implementation in some Member States
- **Proposed legislation on ecosystem accounts**, to be reported by Member States - amendment to [Regulation \(EU\) No 691/2011](#) on *European environmental-economic accounts*
  - **Commission technical proposal – mid 2022**
  - Voluntary reporting by Member States – soon after
  - **First mandatory reporting ca 2026**
  - Legislation supported by:
    - Tools, grants for statistical offices and courses
    - **Methodological TF on ecosystem accounting (TF EA)** – first met in June 2021
- Vision: **national data will replace the EU estimates once data of good quality** (the same process as used for other envt accounts)

# Proposed legislation on ecosystem accounts

- New ‘module’ of [Regulation \(EU\) No 691/2011](#)
- Current version of the proposal not stable yet – MS would report:
  - **Ecosystem extent accounts**
    - National level tables to ESTAT (+spatial data to be published nationally)
    - 3-yearly reporting (first year: 2024)
    - MAES classification (discussed links: LULUCF, EUNIS, IUCN)
  - **Ecosystem condition accounts**
    - Few condition indicators that are relatively easy to measure and relevant for services
  - **Ecosystem services accounts**
    - National level tables to ESTAT (+spatial data to be published nationally)
    - Annual reporting (first year: 2024?)
    - List of some 10 services TBD but focus on policy relevant ones
    - Physical and monetary units
- Discussions ongoing to finalise the proposal
- Develop tools for Member States in parallel

# Proposal – classification of ecosystem types

1	Urban ecosystems
2	Croplands (annual, perennial crops, agroforestry)
3	Grasslands (pastures, semi-natural and natural grasslands)
4	Forests and woodlands
5	Heathlands and shrubs
6	Sparsely vegetated ecosystems
7	Inland wetlands
8	Rivers and canals
9	Lakes and reservoirs
10	Marine inlets and transitional water
11	Coastal wetlands, beaches and dunes (shorelines)
12	Marine ecosystems (offshore coastal, shelf and open ocean)

# Proposal – ecosystem services accounts

- Annex: Section 3 – List of characteristics (point 4) – list of ecosystem services proposed :
  1. crop provision
  2. pollination
  3. timber provision
  4. air filtration
  5. soil erosion control
  6. global climate regulation
  7. urban climate regulation
  8. flood protection
  9. ~~water purification~~
  10. recreation-related services

# Legal proposal: next steps

- Task force on ecosystem accounting discussed technical elements on 23-24 Sept. and 14 Oct and will meet again on 27-28 Oct 2021
- Directors of sectoral and environmental statistics and accounts (DIMESA) on 20-21 October 2021 discussed the proposal. Main suggestions were to be simple and start monetary accounts later. A revised draft legal act will be provided mid-November to DIMESA for a written consultation.
- Commission proposal to be adopted before summer 2022, then deliberations in Council Working Group on statistics and European Parliament, expected entry into force end 2023 or in 2024 depending on speed of process



# Thank you



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