

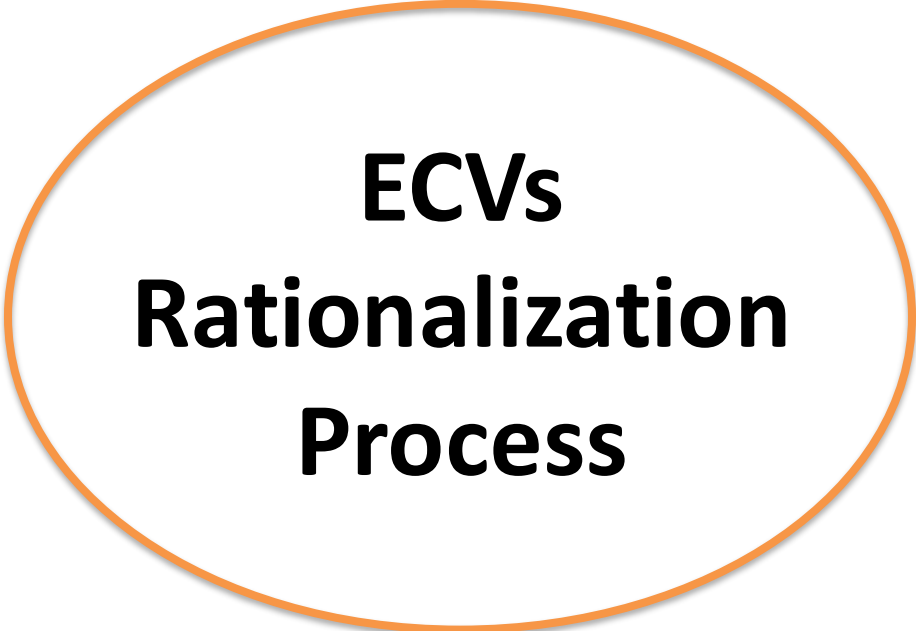
# Some preliminary comments from the Climate Science Advisory Board

Han Dolman

# ECVs will change...

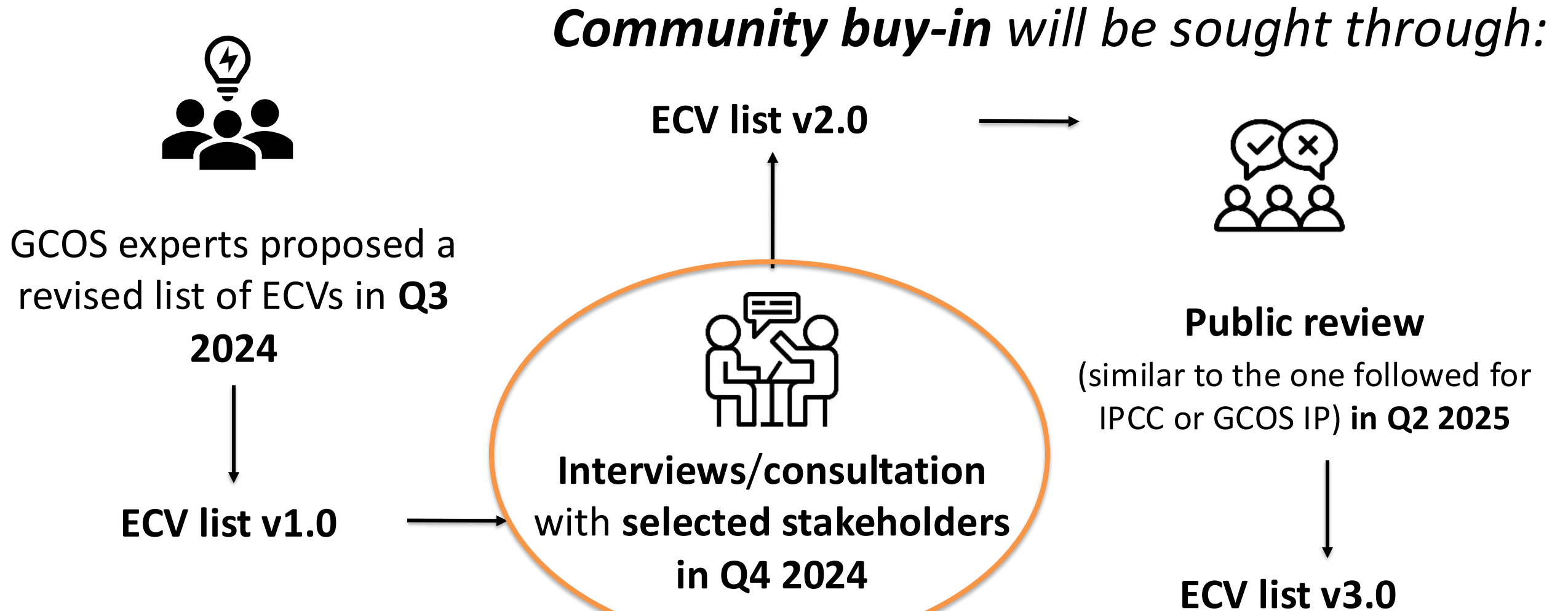
*After 20 years of ECV framework:*

- Are all the 55 Essential Climate Variables **still essential**? Are we **missing anything**?
- Is the **current grouping the best possible** one? Is it **balanced**? Is it **consistent** across domains and across earth cycles?
- Is there **enough transparency** and **coherence** in the process that leads to including a new ECV in the list?



**ECVs  
Rationalization  
Process**

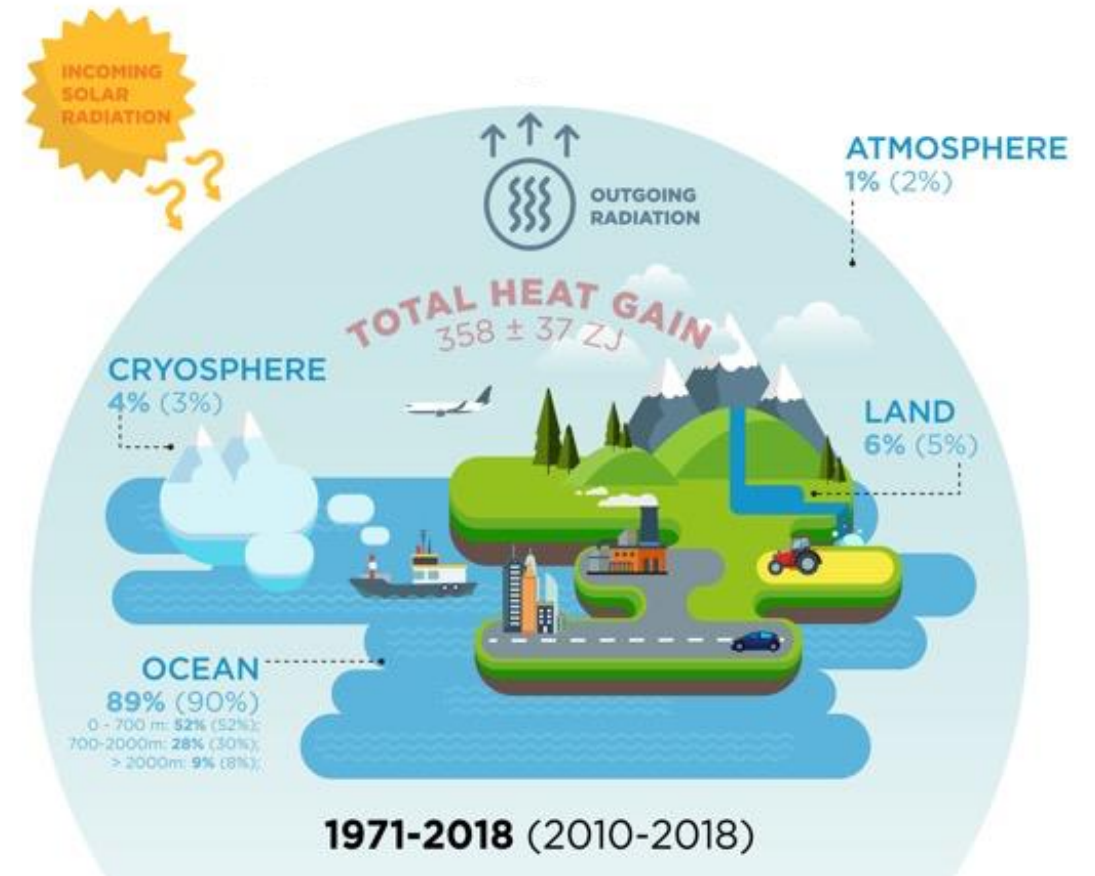
# ECVs Rationalization Process



The consultation with selected stakeholders allows them to **influence the process** before the public review

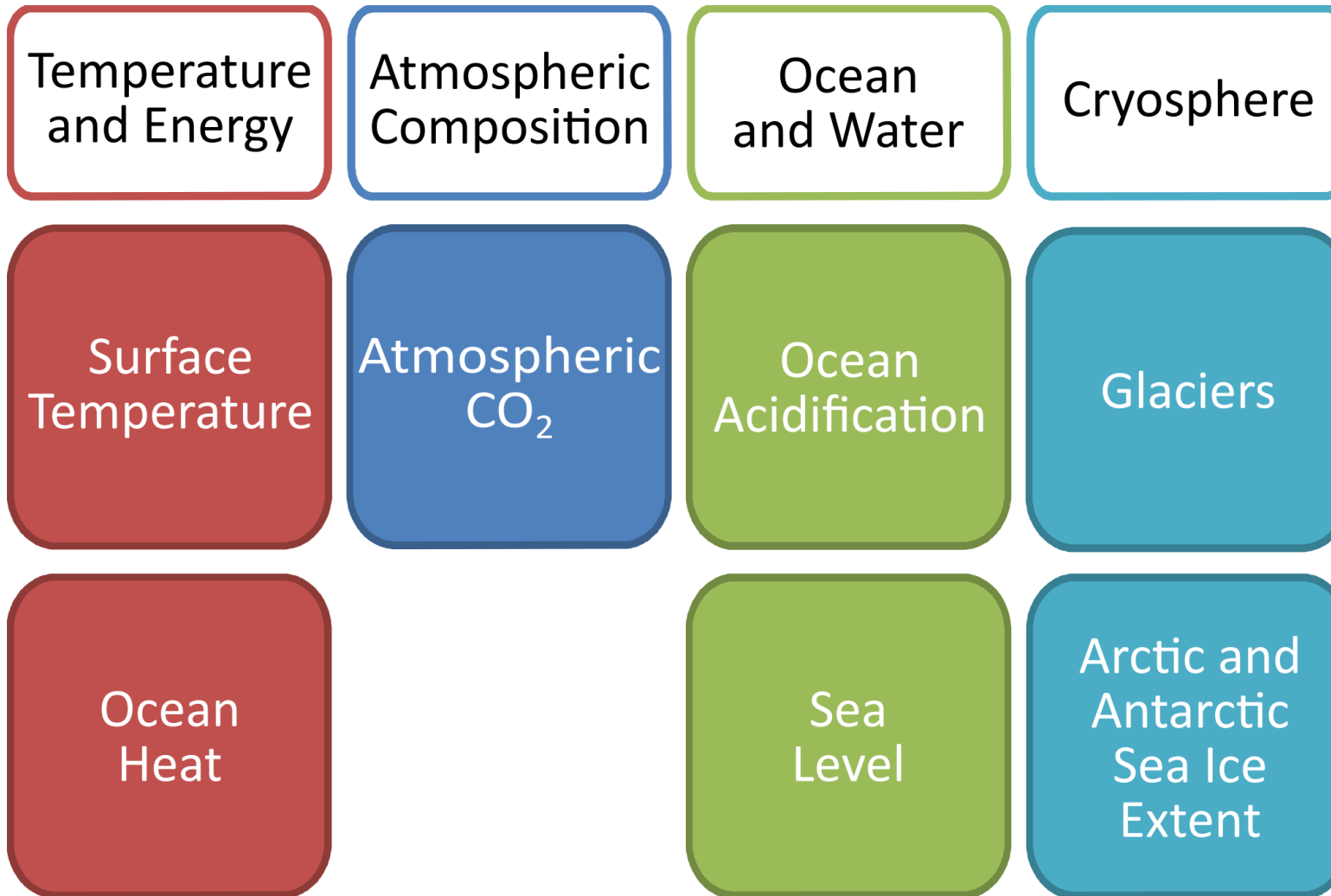
# Cycles WCRP & GCOS initiative: across ECV projects

- i) As our understanding of the global cycles and errors improves, the decomposition of the Earth system can be refined: geographical regions or process-oriented regions, wherever possible.
- ii) Improved methods will be developed to estimate geophysical variables and their error characteristics.
- iii) With a strong commitment from the community, annual updates of the global integrals for the different fluxes and stocks can be achieved, making a continuous assessment (at annual frequency) close to real time feasible.



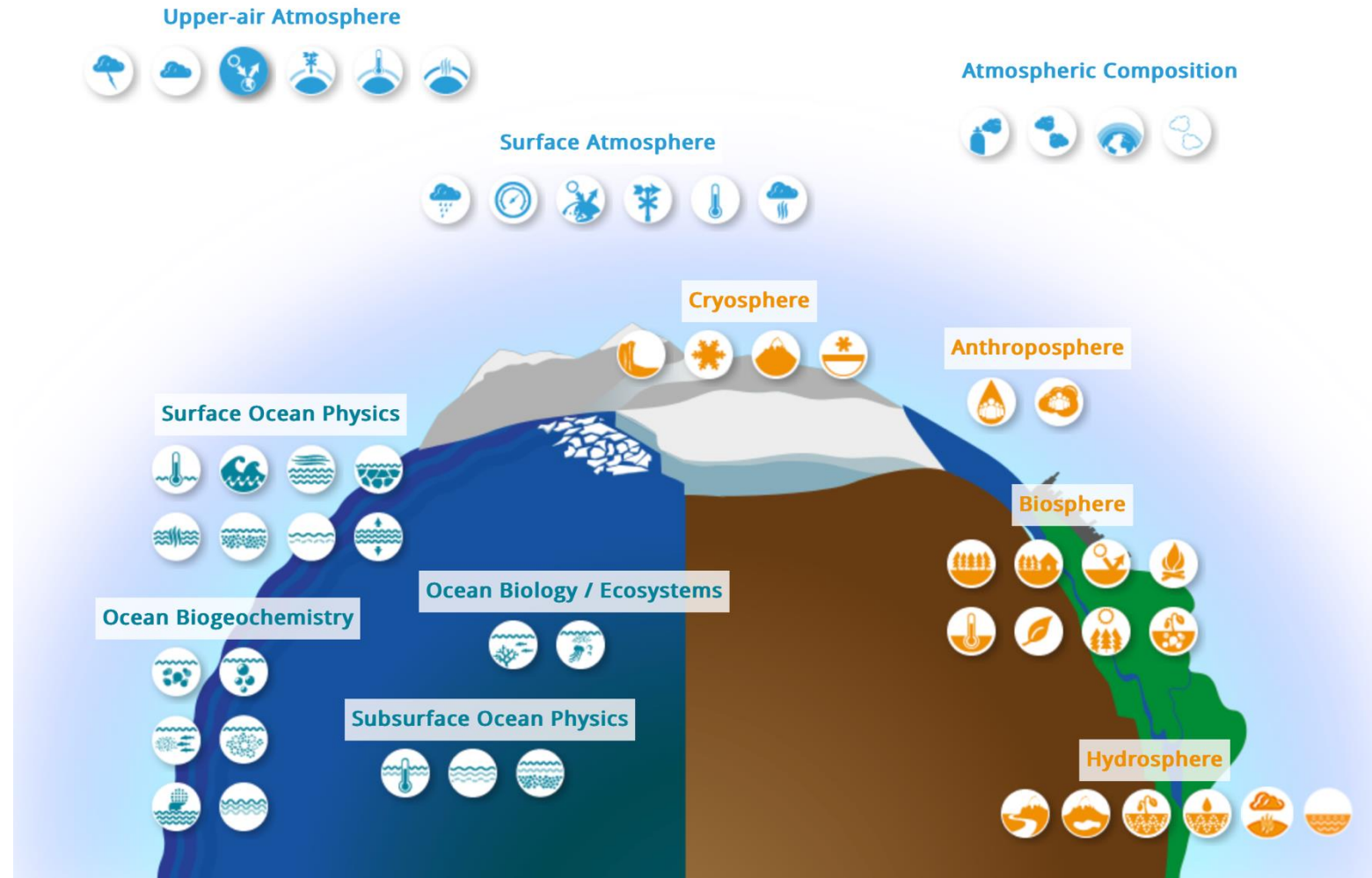
Von Schuckmann et al., 2023

# Indicators used by WMO



# CEOS CGMS WG Climate

WGClimate (where ESA is represented) is working on a Response to the Actions related to Space Agencies in GCOS Implementation Plan. GCOS SEC is collaborating with them for that. The document will be presented in spring next year (Q2) to CEOS/CGMS



55 ECVs, 37 observable from space, 27 ESA CCI

# Few observations today

After discussing the initial program it is great to see much progress in the Excellence base on individual ECVs. The work keeps pushing the requirements and applications,

Impressive work towards connecting to science and society

UNFCCC country reports (RECAP-2)

SL budgets

Tipping points,

CMUG

CMIP

Knowledge exchange and ESA Fellows!



# Next

Virtually all review questions can be answered in the affirmative

Looking forward to discuss the outcome of the review on 27 January with the CSAB