

RFF - CMCC - NAVIGATE Webinar
December 14, 2023 - h 3:00 pm CET

HOW TO ACHIEVE A RAPID, FAIR, AND EFFICIENT TRANSFORMATION TO NET ZERO EMISSIONS. KEY FINDINGS FROM THE NAVIGATE PROJECT.

Registration required



NAVIGATE

Next generation of advanced integrated
assessment modelling to support climate
policy making



Your **audio and video** are **deactivated** by default; if you need to **intervene** or ask questions, you can use the **CHAT**



NOTE:

This webinar will be recorded and uploaded on the CMCC Youtube Channel:
<https://www.youtube.com/CMCCvideo> and on the CMCC website: www.cmcc.it
and on the EIEE website www.eiee.org

If you have any further question about this webinar, please email: webinar@cmcc.it

The NAVIGATE webinars are also available on
project's website: <https://navigate-h2020.eu/>



How to achieve a rapid, fair and efficient transformation to net zero emissions - Key findings from the NAVIGATE project

Elmar Kriegler (Potsdam Institute for Climate Impact Research)

The NAVIGATE Consortium

NAVIGATE final outreach webinar, 14.12.2023



Advancing the next generation of integrated assessment models

Detailed-process integrated assessment models:

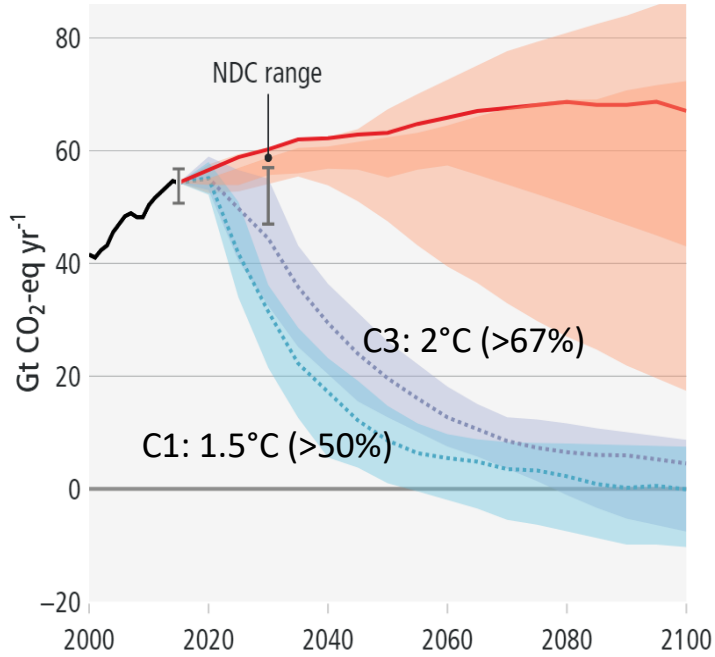
- global (and national/regional) models coupling the energy, land, economy and climate systems
- with the goal to assess policy-relevant climate change pathways and underlying transitions of energy and land use, and socio-economic activity

- www.iamconsortium.org/what-are-iams/

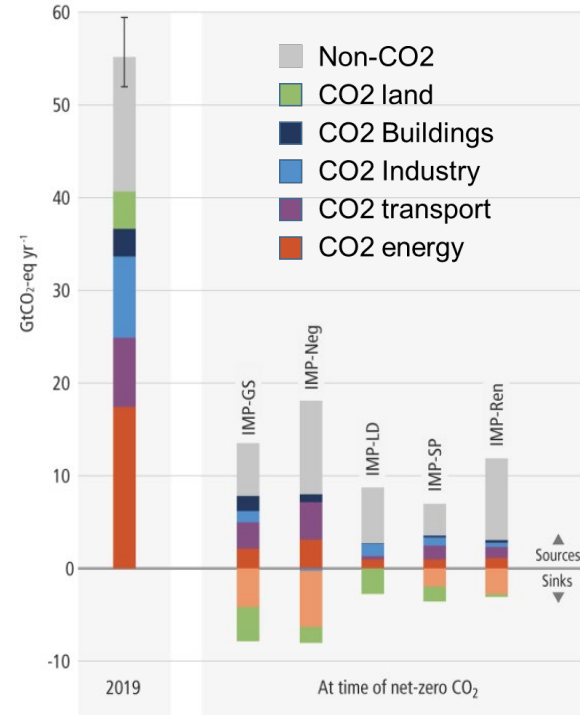
- www.iamcdocumentation.eu



a. Net global GHG emissions



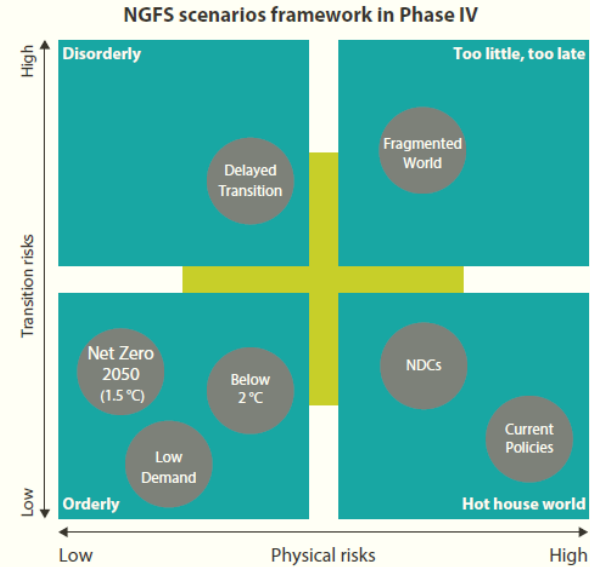
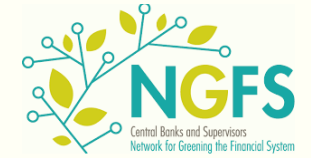
Emissions at net-zero CO₂ in IMPs



SUMMARY FOR POLICYMAKERS – FIGURE SPM.5

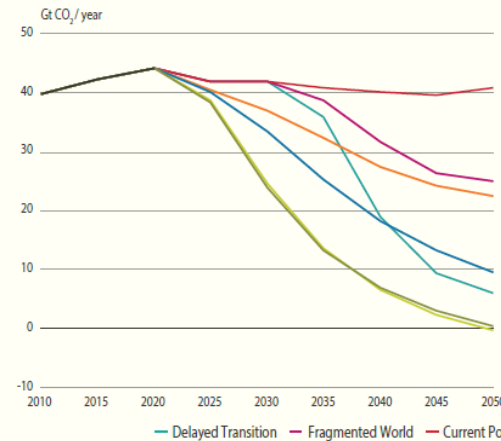
Integrated assessment modeling (IAM) results are prominently used in multiple contexts.

NGFS scenarios for financial regulators

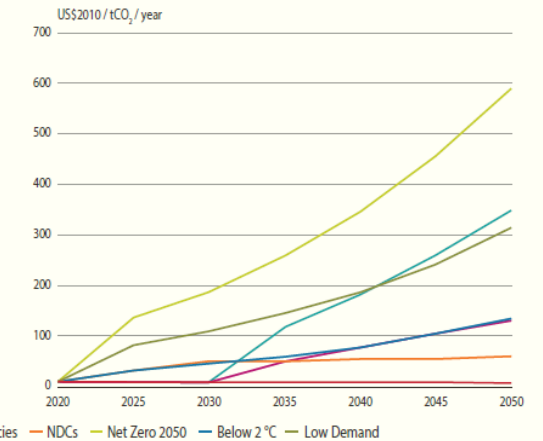


Accessible at
<https://www.ngfs.net/ngfs-scenarios-portal/>

Global Yearly CO₂ Emissions
REMIND



Shadow Carbon Price
REMIND



Source: IIASA NGFS Climate Scenarios Database, REMIND model. World aggregates mask strong differences across sectors and jurisdictions. Regionally and sectorally granular information is available in the IIASA Portal. End of century warming outcomes shown. 5-year time step data.

Source: IIASA NGFS Climate Scenarios Database, REMIND model. Shadow carbon prices are a weighted average of regional carbon prices at global level. Regionally and sectorally granular information is available in the IIASA Portal. End of century warming outcomes shown. 5-year time step data.

How integrated assessment modeling informs international climate action

- providing system-level integrated assessment of mitigation strategies including milestones, benchmarks and targets for policy (see e.g. COP28 decision text and its references to modelled 1.5°C pathways)
- allowing analysis of mitigation challenges, decarbonization bottlenecks, investments needs, interactions with broader societal objectives, ...
- allowing to contextualize policy, socio-economic, technological developments (if-then analysis with scenarios)

➔ Strong demand for improved policy relevance of integrated assessment

- Integration of missing processes, particularly relating to deep structural transformation
- More sector granularity and policy detail
- Broader and more policy relevant scenario design, including e.g. equity and institutional considerations
- More frequent model and scenario updates
- realistic near term trends,
- transparency





Horizon 2020

Advancing the next generation of integrated assessment models

Usability

- Transparency
- Accessibility
- Relevance

Transformative system change

- Economy, technologies, sectors
- Lifestyles, consumption and services

People

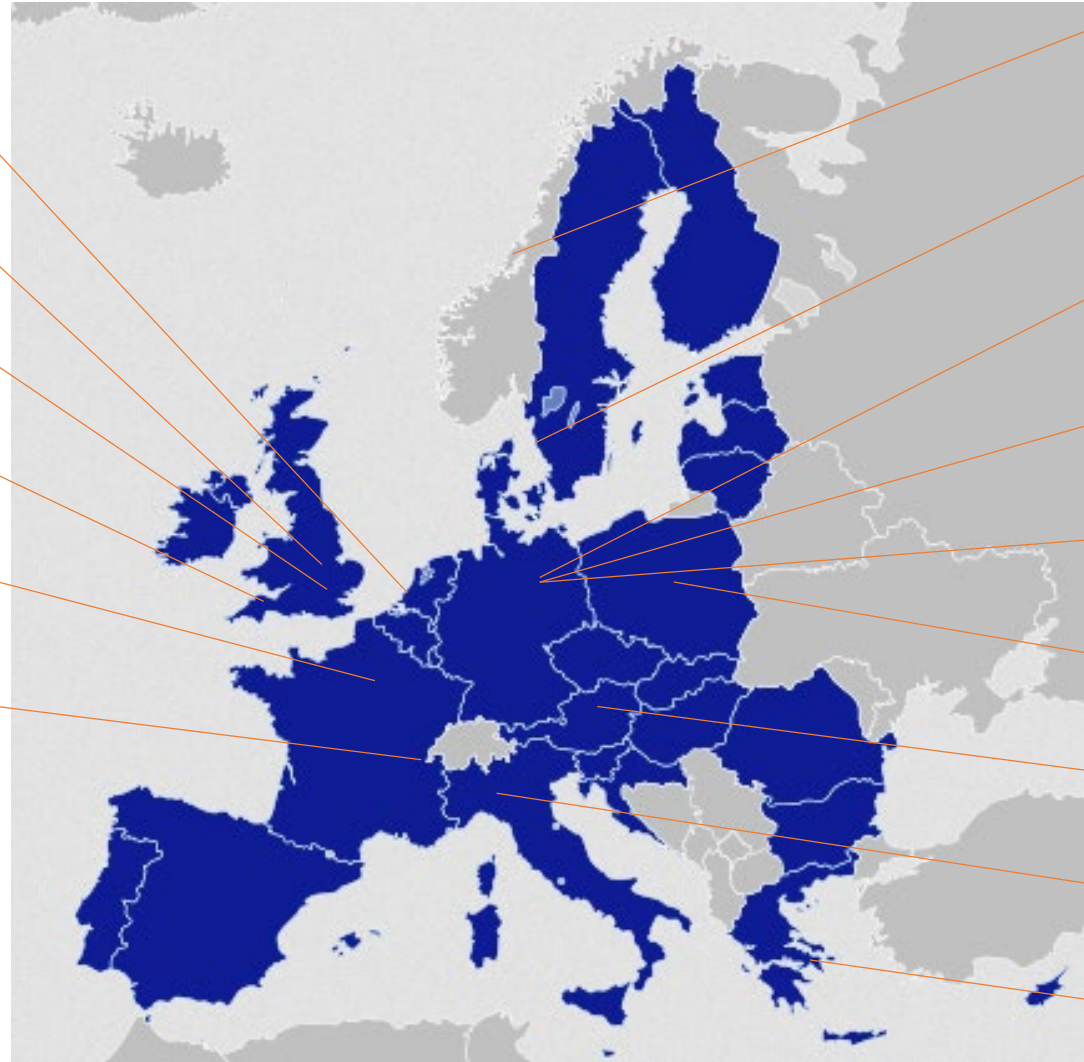
- Representing heterogeneity
- Analysing distributional impacts



rio de Janeiro, Brazil



Beijing, China



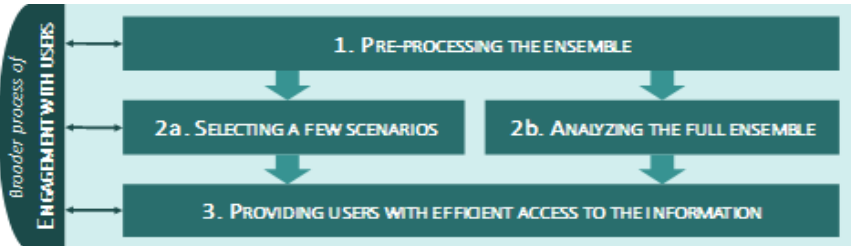
Picture source: https://commons.wikimedia.org/wiki/File:EU28-2013_European_Union_map.svg



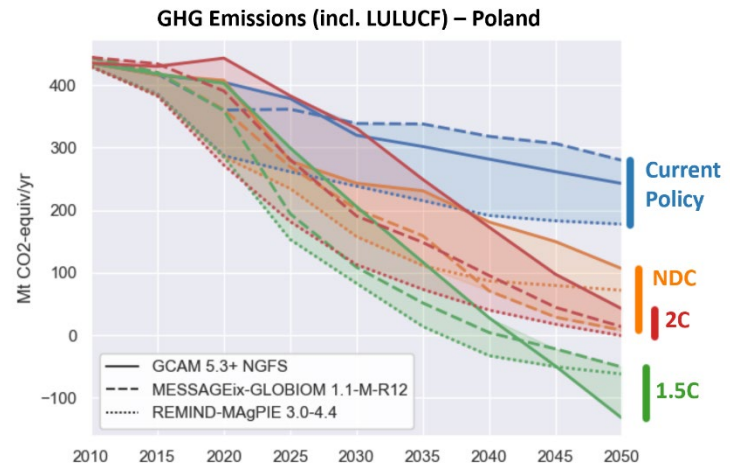
NAVIGATE facilitates user uptake of IAM results

Usability: How to generate insights from large ensembles of climate change mitigation scenarios?

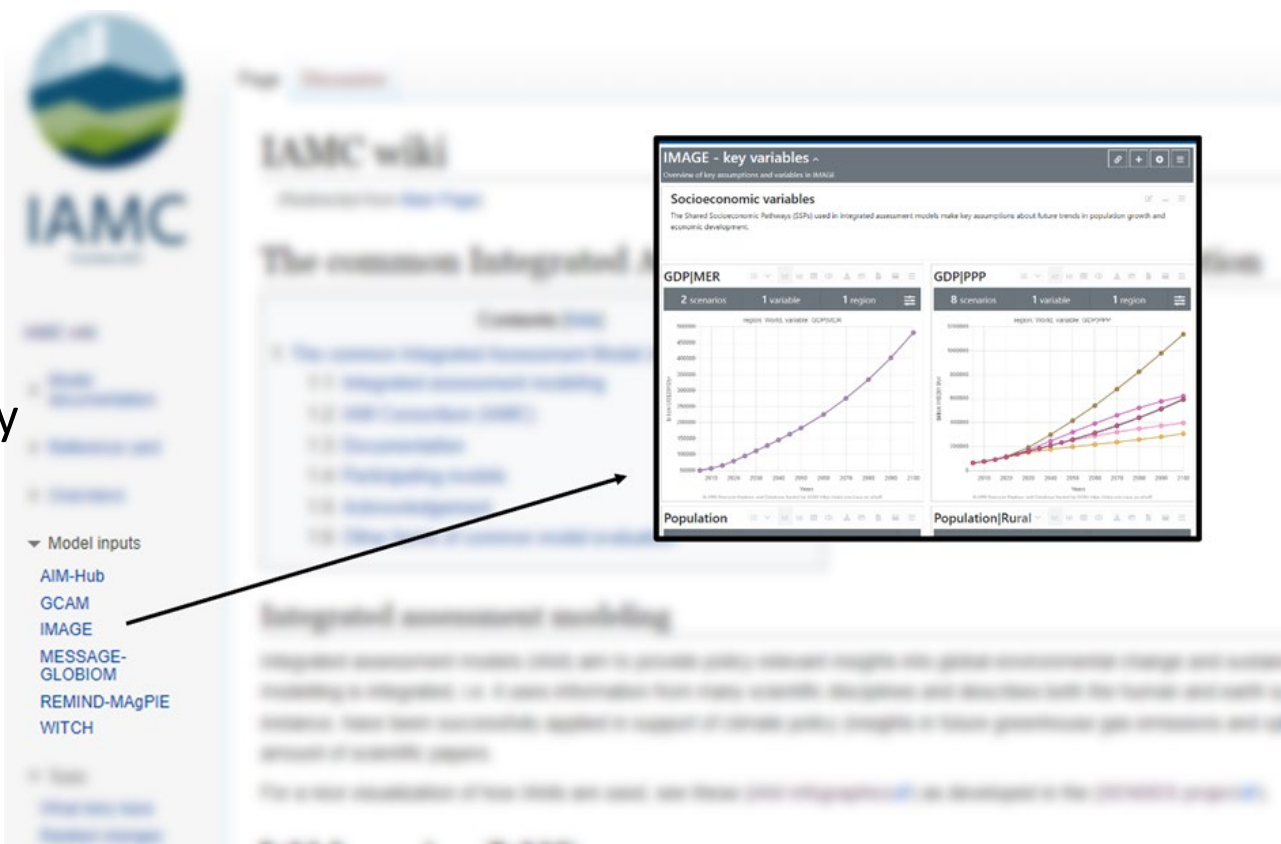
Guivarch et al., 2022, Nat. Clim. Chang. 12, 428–435.
<https://doi.org/10.1038/s41558-022-01349-x>



Relevance: For example, downscaling methodology to country level for global IAM scenarios



Transparency: IAMC model documentation wiki
www.iamcdocumentation.eu



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Moderator: Ramona Gulde (PIK)

NAVIGATE overview (Elmar Kriegler, PIK)

3.10-3.40 pm: System and sector transitions

- The scope for accelerating emission reductions with advanced mitigation action (Jessica Strefler, PIK)
- Hard-to-abate industry sector CO₂ emissions in Paris compatible scenarios: a model comparison study (Nico Bauer, PIK)
- The role of demand-side measures in climate mitigation pathways (Rik van Heerden, PBL)
- Q&A (10 min)

3.40-4.15 pm: Equity, efficiency and sustainable development

- Distributional implications of climate policies and impacts (Johannes Emmerling, RFF-CMCC)
- Assessing the socio-economic impacts of different ways to recycle revenues from carbon pricing (Panagiotis Fragkos, E3M)
- Exploiting synergies between climate, land, energy and water related SDGs (Isabela Schmidt Tagomori, PBL)
- Q&A (10)

Short break (5 min)

4.20-4.50 pm: Breakout sessions on accelerating decarbonisation in different sectors

- Industry – Nico Bauer, PIK
- Buildings – Bas van Ruijven, IIASA
- Shipping and Road Transport –Eduardo Müller-Casseres, COPPETEC and Sonio Yeh, Chalmers
- Agriculture –Mathijs Harmsen, PBL