



Expanding Integrated Assessment Modelling:
Comprehensive and Comprehensible Science
for Sustainable, Co-Created Climate Action

D3.10 – Report on collaboration and synergies

WP3 – Exchanging: Open & FAIR science,
mutual learning



26/02/2025



Funded by
the European Union

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Grant Agreement Number	101056306		Acronym	IAM COMPACT	
Full Title	Expanding Integrated Assessment Modelling: Comprehensive and Comprehensible Science for Sustainable, Co-Created Climate Action				
Topic	HORIZON-CL5-2021-D1-01-04				
Funding scheme	HORIZON EUROPE, RIA – Research and Innovation Action				
Start Date	September 2022	Duration		36 Months	
Project URL	https://www.iam-compact.eu				
EU Project Advisor	Andreas Palialexis				
Project Coordinator	National Technical University of Athens – NTUA				
Deliverable	D3.10 – Report of collaboration and synergies				
Work Package	WP3 – Exchanging – Open & FAIR science, mutual learning				
Date of Delivery	Contractual	28/02/2025		Actual	26/02/2025
Nature	Report		Dissemination Level		Public
Lead Beneficiary	National Technical University of Athens (NTUA)				
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Keywords	Synergies; collaboration				

EC Summary Requirements

1. Changes with respect to the DoA

No changes with respect to the work described in the DoA.

2. Dissemination and uptake

This document is intended to act as a key reference for consortium partners to stay informed and aligned on the project's coordination and synergy efforts with other initiatives. It will also be accessible to external stakeholders, such as policymakers, other scientists, and citizens, as a record of the efforts undertaken to foster collaboration and alignment with other research projects.

Additionally, it will serve as a guide for the consortia of related projects and initiatives, including the IAM COMPACT sister project (ELEVATE) and others, outlining expectations, ideas, and opportunities for joint actions and partnerships.

3. Short summary of results (<250 words)

IAM COMPACT has established links with its sister project, ELEVATE, and stayed up to date with its activities, with the sister project represented in our Scientific Advisory Board (SAB).

The project's data exchange platform, the I²AM PARIS open-access data exchange platform, has been established as an international modelling vessel, attracting the participation of over twenty non-consortium modelling teams (including from the sister project), who have published their models' documentations. Various synergies have been established with other projects in terms of policy events, with IAM COMPACT co-organising or participating in four other projects' events, including the NDC ASPECTS, TRANSCIENCE, and DIAMOND projects, and the Climate Compatible Growth (CCG) programme. Twenty-eight scientific publications have been published by IAM COMPACT jointly with other projects (such as DIAMOND, NDC ASPECTS, 4C, PROVIDE, ELEVATE). Notably, one of our briefs, focusing on the project's policy response mechanism, has been presented at various international modelling meetings and events (including the IAMC 2024 and ECEMP 2024 meetings) as well as in transdisciplinary science meetings (such as SSH in Energy 2024), gathering positive feedback and interest with regards to our stakeholder engagement practices. Efforts to establish synergies will continue until the end of the project.

4. Evidence of accomplishment

This report and the reported activities (publications, events, material, etc).



Preface

IAM COMPACT supports the assessment of global climate goals, progress, and feasibility space, and the design of the next round of Nationally Determined Contributions (NDCs) and policy planning beyond 2030 for major emitters and non-high-income countries. It uses a diverse ensemble of models, tools, and insights from social and political sciences and operations research, integrating bodies of knowledge to co-create the research process and enhance transparency, robustness, and policy relevance. It explores the role of structural changes in major emitting sectors and of political, behaviour, and social aspects in mitigation, quantifies factors promoting or hindering climate neutrality, and accounts for extreme scenarios, to deliver a range of global and national pathways that are environmentally effective, viable, feasible, and desirable. In doing so, it fully accounts for COVID-19 impacts and recovery strategies and aligns climate action with broader sustainability goals, while developing technical capacity and promoting ownership in non-high-income countries.

NTUA – National Technical University of Athens	EL	
Aalto – Aalto Korkeakoulusaatio SR	FI	
AAU – Aalborg Universitet	DK	
BC3 – Asociacion BC3 Basque Centre for Climate Change – Klima Aldaketa Ikergai	ES	
Bruegel – Bruegel AISBL	BE	
CARTIF – Fundacion CARTIF	ES	
CICERO – Cicero Senter for Klimaforskning Stiftelse	NO	
E3M – E3-Modelling AE	EL	
KTH – Kungliga Tekniska Hogskolan	SE	
POLIMI – Politecnico di Milano	IT	
UPRC – University of Piraeus Research Center	EL	
UVa – Universidad De Valladolid	ES	
WI – Wuppertal Institut fur Klima, Umwelt, Energie GMBH	DE	
IIMA – Indian Institute of Management	IN	
THU – Tsinghua University	CN	
USMF – University System of Maryland	US	
AAiT – Addis Ababa University	ET	
KEI – International Civic Organisation Kyiv Economics Institute	UA	
RUSL – Raja Rata University of Sri Lanka	LK	
TUM – Technical University of Mombasa	KE	
UNIGE – Université de Genève	CH	
Imperial – Imperial College of Science, Technology and Medicine	UK	

Executive Summary

WP3 (Exchanging – Open & FAIR science, mutual learning) objectives inter alia include achieving a fruitful dialogue across scales and disciplines in the project and with/within the broader modelling community; and establishing productive synergies and collaborations, by coordinating activities with relevant research projects.

The primary task for achieving these objectives is Task 3.5 ('Collaborating with and creating synergies among modelling research projects'), which aims to foster synergies with and among other projects funded by the EU and relevant initiatives, in which members of relevant consortia (IAMC, EMF, etc.) participate. Building on a map of relevant projects, groups of participants and projects with similar orientations have been clustered (*MS4 – Plan on collaboration and synergies*) to facilitate coordination and amplify outreach toward supporting national/global climate targets.

This notion of enhanced cooperation, in terms of climate policy, is reflected in the project's envisaged analyses of current and future action pledges of the EU (and Member States), of major emitting countries outside the EU, as well as of selected less emitting countries; in the incorporation of finance, policy, and technological exchange and of different international cooperation and coordination scenarios and mechanisms in the modelling analyses; and in the ongoing stakeholder dialogue, along with the establishment of the *policy steering* and *scientific working* groups. It is also reflected, in terms of actively engaging and cooperating within the scientific community—e.g., in the management and support of the open access, multi-model, data exchange platform, IAM PARIS, and in synergies that the project actively has sought to create with relevant scientific efforts and research projects.

Synergies can come in many forms and have multiple aims but, given the objectives, scope, and framework of the IAM COMPACT project, we distinguish two axes of synergies, both aimed at delivering high-quality, relevant and robust policy prescriptions: (a) joining scientific forces to promote science/evidence-based policy-formulation; and (b) broadening outreach to promote inclusiveness and stakeholder participation. There have been research projects that offered opportunities in the first axis, projects offered for coordinating efforts in the second axis, and others that can be reached for both types of cooperation.

As part of Task 3.5, 23 relevant EU projects were mapped (of which ten are within the Horizon Europe CL5-2021-D1-01 ecosystem of 'sister' projects), and potential collaboration/synergy activities were identified for each one of them. In our original plan (MS4), which inter alia outlined the goals of and principles for establishing synergies, we particularly focused on spaces for collaboration with the other ten Horizon Europe IAM ecosystem projects (ELEVATE, DIAMOND, WorldTrans, CHOICE, PRISMA, DISTENDER, KNOWING, NEVERMORE, MAGICA, MAIA).

Notably, IAM COMPACT has participated in some of these projects' steering activities, with project coordinator Dr. Alexandros Nikas joining the Scientific Advisory Board (SAB) of WorldTrans and NEVERMORE; likewise, the project coordinator of the ELEVATE project (Dr. Isabela Tagomori from PBL) was invited in and joined the IAM COMPACT SAB. Apart from joint activities, such as the 'Feedback to policy (F2P) for climate science projects' event organised by MAIA and the European Commission as well as a side-event at COP28 with DIAMOND, IAM COMPACT participated in a series of events for fostering collaboration with other such initiatives, including but not limited to the Global Change Analysis Model (GCAM) Annual Meeting in 2023, the 2023 Summer School on Integrated Assessment Models organised by ENGAGE and NAVIGATE, the 2023 ICTP Joint Summer School on Modelling Tools for Sustainable Development, the Massive Open On-line Course (MOOC) organised by LOCOMOTION, the 2023 European Climate and Energy Modelling Platform (ECEMP) conference (in which IAM COMPACT also chaired the session on 'Multi-Model Comparisons for robust policy insights'), etc. Among other synergies, the I²AM PARIS platform was further promoted as an established modelling vessel, with a series of Horizon Europe projects such as DIAMOND, EU-CHINA-BRIDGE, TRANSCIENCE, ENTICE (and soon ACCLIMATE) officially employing it as their model and workspace documentation platform. Moreover, 28 joint papers were so far published collaboratively with other projects (e.g., PARIS REINFORCE, DIAMOND, JUSTEM, NDC ASPECTS, MANET, CCG, ECEMF, POWERPOOR, PROVIDE, 4C, CONSTRAIN, ENGAGE, ESM2025, PEGASOS, RESCUE, GENIE, ELEVATE), while numerous conference presentations were the outcome of collaboration with other such projects.



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1 Introduction

The core objective of IAM COMPACT is to support the assessment of global climate goals, progress, and feasibility space, as well as the design of the next round of NDCs and policy planning beyond 2030 for major emitters and non-high-income countries. Towards this goal, we have been using a diverse ensemble of models, tools, and insights from social and political sciences and operations research, and integrated different bodies of knowledge to co-create the research process and enhance transparency, robustness, and policy relevance.

The project has established an interdisciplinary and transdisciplinary modelling framework toward providing robust scientific evidence, supporting efforts to inform and underpin the design of ambitious national climate policies for the post-2030 period toward long-term ambitious objectives, and to enhance collaboration among the diversity of scientific (modellers, social scientists, etc.) and policy communities from all around the world. In line with the European Research Area's (ERA) objectives, IAM COMPACT has enhanced the cooperation among universities, business, and other R&I actors, by bringing together experts from different scientific fields in an interdisciplinary approach and in tandem with stakeholders, and by enhancing the transdisciplinary climate policy co-creation field.

The driving force of the project's policy relevance is its Policy Response Mechanism, a demand-driven framework based on co-design principles, coordinated by Bruegel. Within this, our co-creation and network-building activities have enhanced the cooperation, exchange of information, and trust-building among stakeholders in the EU and partnering major emitters and non-high-income countries (scientists, policymakers, business, and civil society actors, including NGOs and climate activists). To increase the impact of the project on climate policy worldwide and promote international cooperation, IAM COMPACT brings together a global consortium of research/modelling teams from 18 countries, including European countries, major emitters, as well as non-high-income countries and/or countries with limited in-house modelling capacity.

Non-high-income partner countries (Ethiopia, Kenya, Sri Lanka, and Ukraine) have had the opportunity to further develop/extend their institutional capacity to support their climate efforts and sustainable development, while capturing their countries' specificities, and to assume ownership of their toolboxes, climate scenarios, and resulting policy prescriptions. Cooperation has been further enhanced through workshops to strengthen the modelling capacity of these countries (see *D6.7 – Open-access models for case-study countries*), supporting comprehension and trustworthiness of modelling results among local policymakers, and ensuring ownership of the resulting decarbonisation pathways.

Our project's regional and global analyses have inter alia been exploring various international cooperation and coordination scenarios and mechanisms, including equity principles, finance, policy, and technology exchange. All modelling activities have been designed to be coherent and integrated across different scales, ensuring that national and regional pathways for major emitters and selected non-high-income countries align with global trajectories. To achieve this, the consortium has drawn upon its extensive scientific and stakeholder network. The international collaborations established through policy steering and capacity development workshops will continue beyond the project's duration, further strengthening capacity-building and knowledge transfer in climate change research and (co-)governance.

Additionally, the project has actively fostered synergies and connections with relevant scientific initiatives and research projects in this field. These synergies have taken multiple forms and served various purposes but, within the objectives, scope, and framework of the IAM COMPACT project, they can be categorised into two main axes, both aimed at delivering high-quality, relevant, and robust policy recommendations: (a) strengthening scientific collaboration to advance research, and (b) expanding outreach to enhance inclusiveness and stakeholder co-creation. Some projects have offered opportunities for collaboration in the first axis, others in the second, while some have served both types of cooperation.

These aspects have represented the project's conceptual approach to cooperation in policymaking. In the light of the evolving challenges posed by climate change and the Paris Agreement, the project recognises that steering the world toward sustainable pathways requires not only collaborative action but also fundamental transformation

in how scientific support for climate policymaking is provided—embracing the same spirit of cooperation.

This deliverable reports on the coordination and joint activities with our 'sister' and other research projects and climate action initiatives. We distinguish two categories of relevant research projects and initiatives, with which IAM COMPACT has sought to establish ties for coordination and synergies: (a) projects of the Horizon Europe CL5-2021-D1-01 programme, on "climate sciences and responses for the transformation towards climate neutrality", i.e., 'sister projects' (Section 3); and (b) other projects and initiatives (Section 3).

2 Research projects and initiatives considered

2.1 Brief presentation of the projects

The activities outlined in this report have been motivated by the IAM COMPACT project's commitment to addressing the need for synergies and potential coordination of efforts in the implementation of the four research and innovation projects/components of the Horizon Europe "CL5-2021-D1-01: Climate sciences and responses" package, and beyond. Therefore, the project is, first and foremost, aiming at boosting fruitful coordination and productive synergies among the following projects:

- Enhanced integrated assessment in pursuit of global climate goals (CL5-2021-D1-01-04)
 - **ELEVATE** (01/09/2022 – 31/08/2026; 48 months) coordinated by PBL (20 partners)
- Improvement of Integrated Assessment Models in support of climate policies (CL5-2022-D1-02-03)
 - **DIAMOND** (01/12/2022 – 30/11/2026; 48 months) coordinated by ICCS (20 partners)
 - **PRISMA** (01/01/2023 – 31/12/2023; 48 months) coordinated by CMCC (16 partners)
 - **WorldTrans** (01/12/2022 – 30/11/2026; 48 months) coordinated by MET.NO (10 partners)
 - **CHOICE** (01/11/2023 – 31/10/2026; 36 months) coordinated by ICCS (16 partners)
- Better understanding of the interactions between climate change impacts and risks, mitigation, and adaptation options (CL5-2021-D1-01-05)
 - **DISTENDER** (01/06/2022 – 30/11/2025; 42 months) coordinated by UPM (32 partners)
 - **KNOWING** (01/06/2022 – 31/05/2026; 48 months) coordinated by AIT (20 partners)
 - **NEVERMORE** (01/06/2022 – 31/05/2026; 48 months) coordinated by FBK (16 partners)
- Maximising the impact and synergy of European climate change research and innovation (CL5-2021-D1-01-03)
 - **MAGICA** (01/06/2022 – 31/05/2026; 48 months) coordinated by CMCC (24 partners)
 - **MAIA** (01/09/2022 – 31/08/2025; 36 months) coordinated by BC3 (14 partners)

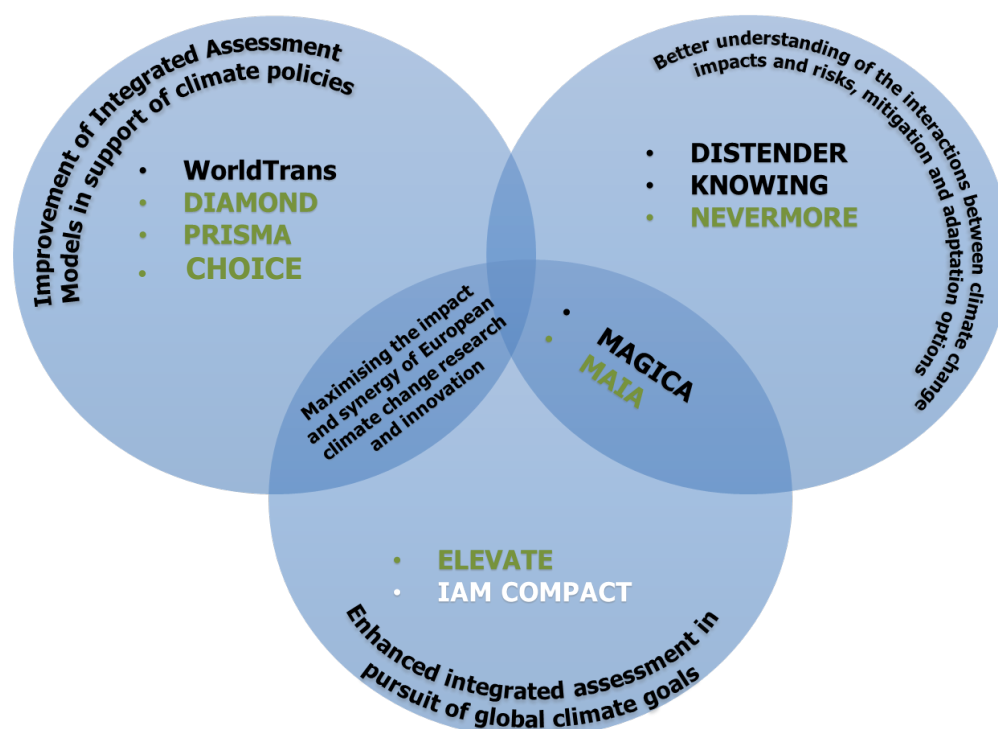


Figure 1: IAM COMPACT "sister" projects (IAM COMPACT is in white, sister projects where IAM COMPACT partners are involved are in green, all others are in black)

The coordination and synergising mechanism is expected to help build on the momentum developed within each of the Horizon Europe "CL5-2021-D1-01" & "CL5-2022-D1-02-03" components, to ensure synergies in the modelling analyses and other scientific activities; and promoting communication, dissemination and exploitation activities, by cultivating a broader stakeholder buy-in as well as shifting from four separate stakeholder networks

to a collective one.

2.1.1 ELEVATE

With a similar approach to IAM COMPACT, [ELEVATE](#) aims to create a robust scientific understanding required to strengthen NDCs and current climate policies towards reaching net-zero emissions. For this, ELEVATE brings together a unique multidisciplinary consortium of leading international and national modelling teams, climate policy experts and social scientists. It is not only the other project funded under the Horizon Europe “CL5-2021-D1-01” topic, but also the single project sharing the same overall objective of IAM COMPACT, which is to support the design and assessment of post-2030 climate policies. In particular, it aims to:

- interact directly with policymakers to define information gaps and attractive policies, thereby enhancing the usability of the knowledge base and stimulating mutual learning;
- systematically assess NDCs and policies at the global and national levels to identify current progress and good practice policies;
- explore a range of critical enabling factors related to sectoral action, international climate policy and the relationship with justice and sustainable development that can be leveraged to strengthen action.

Starting in September 2022 alongside IAM COMPACT, ELEVATE is coordinated by Detlef van Vuuren and Isabela Schmidt Tagomori of the Netherlands Environmental Assessment Agency (PBL). Key aspects of ELEVATE that could prove vital for synergies with IAM COMPACT include: (a) the participation of E3M and UMD in both consortia; and (b) the ELEVATE Research Exchange Programme, and (c) the participation of Isabela Tagomori in the IAM COMPACT SAB.

2.1.2 DIAMOND

The [DIAMOND](#) project aims to contribute to the development of the next generation of integrated assessment models (IAMs), which will be fully open and sufficiently equipped to scientifically underpin and support an accelerated transition towards circular, resilient, desirable, and sustainable climate neutrality. The project aims to:

- produce iteratively updated, upgraded, open-source versions of six leading IAMs & further enhance IAM capabilities
- enable the systematic evaluation of interactions among climate change mitigation, adaptation, risks, physical impacts & validate IAMs enhanced capacity
- transparently open all modelling enhancements to the wider modelling community
- develop a transdisciplinary scientific approach

Key aspects of the DIAMOND project that could prove vital for synergies with IAM COMPACT include: (a) the upgrade of two IAMs and one modelling framework that are used in both projects (GCAM, PROMETHEUS, and CLEWs); (b) the shared use and expansion of the I²AM PARIS platform; (c) the participation of BC3, CICERO, and Imperial in both projects; and, critically, (d) its coordination by the same team at the Institute of Communications and Computer Systems (ICCS), an organic entity within NTUA (coordinating IAM COMPACT).

2.1.3 WorldTrans

The [WorldTrans](#) project focuses on fundamental limitations of advanced IAMs. These include the weak representation of social, human, and economic heterogeneity, the limited representation of feedback between the domains of nature and humans, and the lack of transparency concerning the inner workings of the models and the uptake of results and engagement of citizens and stakeholders. The project will address systemic, structural deficiencies in current IAMs, by applying system dynamics methods and modelling to deal transparently with multi-scale issues and policy response options. Specifically, the project aims to:

- address systemic, structural deficiencies in current IAMs rather than making incremental improvements
- sacrifice details of any particular sector or process, instead capturing the essences of their functions in order to focus on how those processes affect each other within and across domains
- use system dynamics methods and modelling to deal transparently with multiscale issues and policy response options
- “bridge gaps” between models, experts and user communities by developing attractive learning environments that allows for simulations of decision making processes and joint reflections of meaning and implication

WorldTrans is coordinated by Cecilie Mauritzen of the Norwegian Meteorological Institute and started in December 2022. Key aspects of the WorldTrans project that could prove vital for synergies with IAM COMPACT include: (a) its ambition to build new communities of integrated assessment models (IAM) experts and users (citizens and stakeholders alike), (b) its focus on IAM transparency and openness, and (c) the participation of IAM COMPACT’s project coordinator (Alexandros Nikas) in the WorldTrans SAB alongside the participation of Cecilie Mauritzen in the IAM COMPACT SAB.

2.1.4 PRISMA

The [PRISMA](#) project aims to bring models to the next level by focusing on four key areas of improvement, namely the representation of distributional justice and efficiency, innovation and finance, climate impacts and land-use implications, and lifestyle change and circularity. In these four key areas the project will improve existing large-scale IAMs and sectorial models and consider the linking of different models where applicable. Specifically, the project aims to:

- embed stakeholder engagement and co-production across the project.
- utilise a large suite of IAMs of different types and scopes to further develop, improve, and apply them for common policy analysis and Net-zero pathway development.
- focus on Europe and current (Fit for 55/European Green Deal) and planned climate and environmental policies.
- improve the spatial and temporal scales of modelling tools and consider in particular societal change in terms of behaviour, structural change in the economy.
- release the developed new modules along with transparent and accessible documentation and use it in capacity building activities.

The PRISMA project is coordinated by Cassinelli Mariaester of the Euro-Mediterranean Center on Climate Change (CMCC) and started in January 2023. Key aspects of the WorldTrans project that could prove vital for synergies with IAM COMPACT include: (a) the open modelling tools and databases created by the project which, can be used for capacity development and (b) the participation of E3M, Bruegel, and UNIGE in both projects.

2.1.5 CHOICE

The [CHOICE](#) project aims to address IAM gaps in demand-side measures by integrating them into the decision-making processes of consumers, producers, and stakeholders in the food, agriculture, and land use sectors. Using digital immersive tools, data storytelling, and gamification, the project seeks to encourage widespread engagement and promote green marketing campaigns. The objective is to develop new IAM models that accurately capture underlying heterogeneity and underscore the co-benefits associated with changes in behaviour or practices related to health, biodiversity, and food security. Specifically, the project aims to:

- mainstream IAMs, embedding them into the lifestyle choices and decision making process of consumers, producers and actors of the Food, Agriculture and Land Use sectors

- provide a more realistic representation of behaviour change and actor heterogeneity aspects in IAMs
- large-scale adoption of CHOICE digital immersive tools, data storytelling and gamification, whose design is underpinned by notions of emotional appeals and social incentives
- orchestrate large scale engagement and 'green marketing' campaigns, that have a wide geographical and societal dispersity

The CHOICE project is coordinated by Prof. Angelos Amditis of ICCS-NTUA and started in November 2023. A key aspect of the CHOICE project that could prove useful for synergies with IAM COMPACT is that, despite being coordinated by a team within ICCS, both are essentially run under the umbrella of NTUA, which has given both teams the opportunity to keep track of progress and activities of one another.

2.1.6 DISTENDER

DISTENDER will provide integrated strategies by building a methodological framework that guide the integration of climate change adaptation and mitigation strategies through participatory approaches in ways that respond to the impacts and risks of climate change, supported by quantitative and qualitative analysis that facilitates the understanding of interactions, synergies, and trade-offs. Holistic approaches to mitigation and adaptation must be tailored to the context-specific situation and this requires a flexible and participatory planning process to ensure legitimate and salient action, carried out by all important stakeholders. The project aims to develop:

- a set of multi-driver qualitative and quantitative socio-economic-climate scenarios through a facilitated participatory process that integrates bottom-up knowledge and locally relevant drivers with top-down information from the global European Shared Socioeconomic Pathways (SSPs) and downscaled Representative Concentration Pathways (RCPs) from IPCC.
- a cross-sectorial and multi-scale impact assessment modelling toolkit to analyse the complex interactions over multiple sectors, including an economic evaluation framework
- a Decision Support System (DSS) which will include guidelines, manuals, easy-to-use tools and experiences from the application of the cases studies.

The DISTENDER project is coordinated by Roberto San José of Universidad Politécnica de Madrid (UPM) and started in June 2022. Key aspects of the DISTENDER project that could prove vital for synergies with IAM COMPACT include: (a) its participatory approaches through networks to promote and exchange the outputs of the project (b) its localised climate storylines through a downscaling framework that could inform regional analysis within IAM COMPACT.

2.1.7 KNOWING

KNOWING aims at developing a modelling framework to help understand and quantify the interactions between the impacts and risks of climate change, mitigation pathways and adaptation strategies. The framework will be used to assess the advancing climate science and further broadening and deepening the knowledge base is essential to inform the societal transition towards a climate-neutral and climate-resilient society by 2050, as well as towards a more ambitious greenhouse gas reduction target by 2030. The project develops knowledge and solutions that will help:

- authorities to know which measures and conditions for adaptation to set along climate mitigation pathways.
- businesses, production and service providers to know how to adapt to changing conditions and climate impacts.
- people to know how to adapt their lifestyles in the most sufficient way and why measures need to be set.

The project is coordinated by Alexandra Millionig of the Austrian Institute of Technology (AIT) and started in June 2022. A key aspect of the project that could prove vital for synergies with IAM COMPACT is its Impact Interaction

Knowledge Base comprising causal relations of climate and intervention impacts, rebound effects, and coping strategies, to inform the scientific community.

2.1.8 NEVERMORE

The [NEVERMORE](#) project, funded by the European Union's Horizon Europe programme, aims to develop integrated models and tools for simulating and assessing the impacts and risks of climate change, as well as to realise new interactive digital tools useful for citizens and policy-makers to learn about future scenarios and to make mitigation and adaptation policies more effective. Within this scenario, Stakeholder Councils at the local and transnational levels are established to ensure the active involvement of public and private actors in the co-design, co-creation and co-assessment of activities based on social innovation. The NEVERMORE approach:

- integrates information from physical modelling of impacts and risk analysis methodologies and aligns them across different scales: from national, EU and global scales (in the IAM) to local and regional scales via five case studies
- is embedded in a practical and user-friendly ICT toolkit, including decision-making tools, designed and developed with and for different stakeholders and end-users involved throughout the project via five Local and a Transnational Council of Stakeholders, by leveraging social innovation frameworks, participatory processes and co-design techniques.

The project is coordinated by Alessia Torre of Bruno Kessler Foundation, Trento, Italy and started in June 2026. Key aspects of the NEVERMORE project that could prove vital for synergies with IAM COMPACT include: (a) the participation of CARTIF in both IAM COMPACT and NEVERMORE; (b) its Stakeholder Council at the local (including Sitia island in Greece) and Transnational level, and (c) the participation of IAM COMPACT's project coordinator (Alexandros Nikas) in NEVERMORE SAB.

2.1.9 MAGICA

The [MAGICA](#) project will maximise the synergies between infrastructure investments and initiatives of climate change research and innovation (R&I) across the European Research Area (ERA) by building upon and further implementing the Mission of JPI Climate in support of the international and European climate agenda. The creation of a Joint Strategic Research and Innovation Agenda on climate change for ERA 2025-2034, a regular forum with the European Ministries of Research and Climate along with other funding bodies, as well as a multi-directional dialogue with different relevant social actors, will accelerate the development and exchange of knowledge from R&I. MAGICA will inform and support policy-making and climate actions, based on iterative interactions among the strategic, scientific and societal components of climate change R&I. The project aims to:

- maximize the synergies between infrastructure investments and initiatives of climate change research and innovation across the European Research Area (ERA) by building upon and further implementing the Mission of JPI Climate in support of the international and European climate agenda (including the European Green Deal and Adaptation Strategy).
- accelerate the development, provision and exchange of knowledge from research and innovation to inform and support policy-making and climate actions. It will do this via improved coordination of ongoing and future climate initiatives at transnational, national, regional and municipal levels and more efficient use of resources.

The project is coordinated by Giulia Galluccio of Euro-Mediterranean Center on Climate Change (CMCC) and started in June 2022. A key aspect of the project that could prove vital for synergies with IAM COMPACT is its scientific arena, created to enhance the debate and discussion within the scientific community on climate R&I priorities, and will be synthesised in a Joint Strategic Research and Innovation Agenda on climate change for ERA 2025-2034.

2.1.10 MAIA

The [MAIA](#) project aims to provide and implement a set of effective measures that facilitate a wider dissemination, communications, and interconnection of completed and ongoing EU climate change research projects. In particular, MAIA will enhance:

- the connectivity of existing communities (consolidation and activation of a Pan-European community of problem owners, solution providers, and enablers);
- the connectivity of knowledge and technological infrastructure (creation of the MAIA Portal); and
- the connectivity of the EU climate research (coordinating an EU climate change research Cluster).

The project is being coordinated by the Basque Centre for Climate Change (BC3). Key elements of MAIA that make it idea to help foster synergies with the broader scientific landscape revolve around its mission to reinforce communication and dissemination activities of EU climate change research projects, amplifying them by an active outreach campaign, aiming towards the democratisation of climate knowledge, as well as to develop a comprehensive cross-project exploitation-support programme, while addressing awareness raising, strengthening the science-policy and science-civil society interfaces, and supporting climate action and sustainable behaviours through several actions dealing with active dialogue.

2.2 Spaces for coordination and synergies

2.2.1 Coordination of research activities

The project manager of sister project ELEVATE (Dr. Isabela Schmidt Tagomori) participates in the Scientific Advisory Board (SAB) of IAM COMPACT while the project coordinator of IAM COMPACT (Alexandros Nikas) participates in the SAB of NEVERMORE and WorldTrans. The rationale is that participating in the steering committees of sister projects can be beneficial for the research activities and outcomes of the projects, as it encourages projects to directly exploit one another's results as well as to cover emerging knowledge/research gaps and unfold their activities in a complementary manner.

2.2.2 Geographical and thematic complementarities

IAM COMPACT has investigated complementarities with its projects, in terms of the envisaged modelling analyses, as regards the countries where case studies will be carried out. This includes coordination of national and regional analyses, to avoid duplicate research of specific aspects, policies, sectors, dimensions, etc. for countries/regions that will be analysed by both IAM COMPACT and at least one of the other projects.

2.2.3 Open access to the modelling platforms

A key objective of the IAM COMPACT project is to open the 'black box' of scientific inputs, processes, and outputs, by providing open access to the data and code produced, transparently mapping outputs onto assumptions, and exploiting/expanding the I²AM PARIS open exchange platform with open databases, briefs, papers, and policy support toolboxes for each exercise. The platform is already used and further expanded in the context of other Horizon Europe projects (DIAMOND, TRANSIENCE, EU-CHINA BRIDGE, ENTICE, ACCLIMATE) that (will) employ it as their model and workspace documentation platform. This encourages exploitation of the platform for model documentation, scenario harmonization, and outcome visualisation of other research activities, and reflects the established objective of the platform to evolve into a vessel for knowledge exchange for the wider modelling community and an authoritative source of modelling information for stakeholders. The same can be pursued for the project's research activities in other such platforms. This not only enhances the outreach of each project, but also traverses the project boundaries, by allowing for sharing common scenario frameworks among all projects as well as carrying out model inter-comparisons for countries/regions/the globe, where modelling analysis will be performed by several projects.

2.2.4 A stakeholder inter-network

Key objectives aside, albeit to a different extent, all sister projects highlight stakeholder engagement. Although the idea of stakeholder representation is to make sure that all stakeholder groups are adequately involved in the process, there are only so many people a project can have ties with or reach out to. IAM COMPACT has, therefore, explored the possibilities of joining forces with other projects to develop one large, cross-project stakeholder inter-network, acknowledging of course the limitations posed by the ethics requirements of each project and the European Commission.

2.2.5 Joint communication, dissemination and exploitation activities

2.2.5.1 Joint academic publications and conferences

One of the IAM COMPACT priorities is to foster sharing of knowledge and research results among peers and other potential users. The sister projects could join forces and disseminate results in joint papers or actively organise co-editing and/or submitting to joint special issues.

IAM COMPACT has already explored the potential of such a joint dissemination option. Twenty-eight scientific publications have been published jointly with the EU-funded projects (e.g., PRISMA, PARIS REINFORCE, 4C, CONSTRAIN, ENGAGE, ELEVATE, ESM2025, GENIE, PROVIDE, TRANSCIENCE) as well as fourteen conference paper including with NDC ASPECTS, ENCLUDE, and DIAMOND.

Publications

1. Alanazi, K., Mittal, S., Hawkes, A., & Shah, N. (2025). Renewable hydrogen trade in a global decarbonised energy system. *International Journal of Hydrogen Energy*, 101, 712-730. (Synergy: CCG)
2. Beath, H., Mittal, S., Few, S., Winchester, B., Sandwell, P., Markides, C. N., ... & Gambhir, A. (2024). Carbon pricing and system reliability impacts on pathways to universal electricity access in Africa. *Nature Communications*, 15(1), 4172. (Synergies: RENGA, SUNRISE, ATIP)
3. Boitier, B., Nikas, A., Gambhir, A., Koasidis, K., Elia, A., Al-Dabbas, K., Şirin, A., Campagnolo, L., Chiodi, A., Delpiazzi, E., Doukas, H., Fougereyrollas, A., Gargiulo, M., Le Mouël, P., Felix, N., Perdana, S., van de Ven, D.-J., Vielle, M., Zagamé, P., & Shivika, M. (2023). A multi-model analysis of the EU's path to net zero. *Joule*. (Synergy: DIAMOND, PARIS REINFORCE)
4. Calcaterra, M., Aleluia Reis, L., Fragkos, P., Briera, T., de Boer, H. S., Egli, F., ... & Tavoni, M. (2024). Reducing the cost of capital to finance the energy transition in developing countries. *Nature Energy*, 1-11. (Synergies: PRISMA, INNOPATHS, ELEVATE, DIAMOND, ECEMF)
5. Fragkos, P., Kanellou, E., Konstantopoulos, G., Nikas, A., Fragkiadakis, K., Filipidou, F., Fotiou, T., & Doukas, H. (2023). Energy Poverty and Just Transformation in Greece. In *Vulnerable Households in the Energy Transition: Energy Poverty, Demographics and Policies* (pp. 235-267). Cham: Springer International Publishing. (Synergies: ECEMF, NAVIGATE, PARIS REINFORCE, POWERPOOR)
6. Fragkos, P., Ven, D.-J. van de, Horowitz, R., & Zisarou, E. (2024). Analysing the Transformative Changes of Nationally Determined Contributions and Long-Term Targets. *Climate 2024*, 12(6), 87. (Synergies: NDC ASPECTS)
7. Gambhir, A., Nikas, A. (2023) Seven key principles for assessing emerging low-carbon technological opportunities for climate change mitigation action. *PLOS Clim* 2(7): e0000235. (Synergy: DIAMOND)
8. Gambhir, A., Mittal, S., Lamboll, R.D., Grant, N., Bernie, D., Gohar, L., Hawkes, A., Köberle, A., Rogelj, J., & Lowe, J.A. (2023). Adjusting 1.5 degree C climate change mitigation pathways in light of adverse new information. *Nature Communications*, 14, 5117. (Synergy: CCG)
9. Karamaneas, A., Koasidis, K., Frilingou, N., Xexakis, G., Nikas, A., & Doukas, H. (2023). A stakeholder-informed modelling study of Greece's energy transition amidst an energy crisis: the role of natural gas



- and climate ambition. *Renewable and Sustainable Energy Transition*, 3, 100049. (Synergy: PARIS REINFORCE)
10. Kikstra, J. S., Nicholls, Z. R., Smith, C. J., Lewis, J., Lamboll, R. D., Byers, E., Standstad, M., Meinshausen, M., Gidden, M.J., Rogelj, J., Kriegler, E., Peters, G.P., Fuglestvedt, J.S., Skeie, R.B., Samset, B.H., Wienpahl, L., van Vuuren, D., van der Wijst, K.-I., Kourdjajie, A., Forster, P.M., Reisinger, A., Schaeffer, R., & Riahi, K. (2022). The IPCC Sixth Assessment Report WGIII climate assessment of mitigation pathways: from emissions to global temperatures. *Geoscientific Model Development*, 15(24), 9075-9109. (Synergies: 4C, CONSTRAIN, ENGAG, ESM2025, GENIE)
 11. Koutsandreas, D., Trachanas, G., Pappis, I., Nikas, A., Doukas, H., & Psarras, J. (2023). A multicriteria modeling approach for evaluating power generation scenarios under uncertainty: the case of green hydrogen in Greece. *Energy Strategy Reviews*, 50. (Synergy: DIAMOND, PARIS REINFORCE)
 12. McGookin, C., Süsner, D., Xexakis, G., Trutnevyte, E., McDowall, W., Nikas, A., Koasidis, K., Few, S., Andersen, P. D., Demski, C., Fortes, P., Simoes, S. G., Bishop, C., Rogan, F., & Ó Gallachóir, B. (2024). Advancing participatory energy systems modelling. *Energy Strategy Reviews*, 52, 101319. (Synergies: DIAMOND, PARIS REINFORCE)
 13. Meinshausen, M., Schleussner, C. F., Beyer, K., Bodeker, G., Boucher, O., Canadell, J. G., ... & Nicholls, Z. (2024). A perspective on the next generation of Earth system model scenarios: towards representative emission pathways (REPs). *Geoscientific Model Development*, 17(11), 4533-4559. (Synergies: 4C, PROVIDE)
 14. Millot, A., Lubello, P., Tennyson, E. M., Mutembei, M., Akute, M., Mentis, D., ... & Sterl, S. (2024). The map behind the roadmap—Introducing a geospatial energy model for utility-scale solar and wind power buildout in Kenya. *Cell Reports Sustainability*, 1(10), 100222. (Synergies: CCG, RE-INTEGRATE)
 15. Minx, J. C., Hilaire, J., Müller-Hansen, F., Nemet, G., Diluiso, F., Andrew, R. M., ... & Wiseman, J. (2024). Coal transitions—part 2: phase-out dynamics in global long-term mitigation scenarios. *Environmental Research Letters*, 19(3), 033002. (Synergies: GENIE, PEGASOS, RESCUE)
 16. Moreno, J., Campagnolo, L., Boitier, B., Nikas, A., Koasidis, K., Gambhir, A., ... & Vielle, M. (2024). The impacts of decarbonization pathways on Sustainable Development Goals in the European Union. *Communications Earth & Environment*, 5(1), 136. (Synergies: DIAMOND, PARIS REINFORCE)
 17. Nikas, A., Gambhir, A., & Boitier, B. (2023). Promoting sustainable transitions across the globe requires scenario co-creation with key stakeholders. *Renewable and Sustainable Energy Transition*, 5, 100076. (Synergies: DIAMOND, PARIS REINFORCE)
 18. Nikas, A., Frilingou, N., Heussaff, C., Fragkos, P., Mittal, S., Sampedro, J., Giarola, S., Sasse, J.-P., Rinaldi, L., Doukas, H., Gambhir, A., Giannousakis, A., Golinucci, N., Koasidis, K., Rocco, M. V., Trutnevyte, E., Xexakis, G., Zachmann, G., Zisarou, E., ... van de Ven, D.-J. (2024). Three different directions in which the European Union could replace Russian natural gas. *Energy*, 290, 130254. (Synergies: DIAMOND, NDC ASPECTS, MANET)
 19. Nikas, A. (2024). Projecting progress in sustainable development goals vis-à-vis climate action in climate-economy models. *PLOS Clim*, 3(7), e0000449. (Synergies: DIAMOND, TRANSCIENCE)
 20. Perdana, S., Xexakis, G., Koasidis, K., Vielle, M., Nikas, A., Doukas, H., ... & Boitier, B. (2023). Expert perceptions of game-changing innovations towards net zero. *Energy Strategy Reviews*, 45, 101022. (Synergy: PARIS REINFORCE)
 21. Sampedro, J., van de Ven, D.-J., Horowitz, R., Rodés-Bachs, C., Frilingou, N., Nikas, A., Binsted, M., Iyer, G., & Yarlagaadda, B. (2024). Energy system analysis of cutting off Russian gas supply to the European Union. *Energy Strategy Reviews*, 54, 101450. (Synergies: DIAMOND, TRANSCIENCE)
 22. Sampedro, J., Waldhoff, S. T., Edmonds, J. A., Iyer, G., Msangi, S., Narayan, K. B., ... & Wise, M. (2024).

- Residential energy demand, emissions, and expenditures at regional and income-decile level for alternative futures. *Environmental Research Letters*, 19(8), 084031. (Synergy: GRAPHICS)
23. Saltelli, A., Gigerenzer, G., Hulme, M., Katsikopoulos, K. v., Melsen, L. A., Peters, G. P., Pielke, Robertson, S., Stirling, A., Tavoni, M., & Puy, A. (2024). Bring digital twins back to Earth. *Wiley Interdisciplinary Reviews: Climate Change*, e915. (Synergy: i4Driving)
 24. Sognaes, I. (2022). What can we learn from probabilistic feasibility assessments?. *Joule*, 6(11), 2450-2452. (Synergy: PARIS REINFORCE)
 25. van de Ven, D.J., Fragkos, P., Filippidou, F., Hermwille, L., Obergassel, W., Clarke, L., Gambhir, A., Gonzalez-Eguino, M., Mittal, S., Nikas, A., Peters, G.P. & Sognaes, I. (2022). Tracing the transformation through a decade of mitigation scenarios. Fifteenth Annual Meeting of the Integrated Assessment Modeling Consortium (IAMC), November 29 - December 1, 2022, Maryland, USA. (Synergy: NDC ASPECTS)
 26. van de Ven, D. J., Mittal, S., Nikas, A., Xexakis, G., Gambhir, A., Hermwille, L., ... & Peters, G. P. (2025). Energy and socioeconomic system transformation through a decade of IPCC-assessed scenarios. *Nature Climate Change*, 1-9. (Synergies: NDC ASPECTS, DIAMOND)
 27. Wachsmuth, J., Warnke, P., Gambhir, A., Giarola, S., Koasidis, K., Mittal, S., Nikas, A., Vaillancourt, K., & Doukas, H. (2023). Co-creating socio-technical scenarios for net-zero emission pathways: comparison of five national case studies. *Renewable and Sustainable Energy Transition*, 4, 100064. (Synergy: PARIS REINFORCE)
 28. Zamanipour, B., & Keppo, I. (2025). What is important for consumers' energy-related decisions? A cross-sectoral systematic review and meta-analysis for the Nordic countries. *Energy Research & Social Science*, 119, 103861. (Synergy: FLAIRE)

Conferences

1. Van de Ven, D.J., Fragkos, P., Filippidou, F., Hermwille, L., Obergassel, W., Clarke, L., Gambhir, A., Gonzalez-Eguino, M., Mittal, S., Nikas, A., Peters, G.P. & Sognaes, I. (2022). Tracing the transformation through a decade of mitigation scenarios. Fifteenth Annual Meeting of the Integrated Assessment Modeling Consortium (IAMC), November 29 - December 1, 2022, Maryland, USA. (Synergy: NDC ASPECTS)
2. Van de Ven, D.J., Horowitz, R. & Sampedro, J. (2023). Current Policies scenario: Implementation in GCAM and open community effort. GCAM Community Modeling Meeting, June 6 - 8, 2023, virtually. (Synergy: NDC ASPECTS)
3. B. Boitier, A. Nikas, A. Gambhir, K. Koasidis, A. Elia, K. Al-Dabbas, S. Alibas, L. Campagnolo, A. Chiodi, E. Delpiazzi, H. Doukas, A. Fougereyrollas, M. Gargiulo, P. Le Mouël, F. Neuner, S. Perdana, D.-J. Van de Ven, M. Vielle, P. Zagamé, & S. Mittal. (2023). A multi-model assessment of the EU's path to net zero: aligning near-term action with long-term visions. European Climate and Energy Modelling Platform 2023 (ECEMP), October 5-6, 2023, Online. (Synergy: DIAMOND)
4. A. Nikas, N. Frilingou, C. Heussaff, P. Fragkos, S. Mittal, J. Sampedro, S. Giarola, J.-P. Sasse, L. Rinaldi, H. Doukas, A. Gambhir, A. Giannousakis, N. Golinucci, K. Koasidis, M.V. Rocco, E. Trutnevyte, G. Xexakis, G. Zachmann, M. Binsted, G. Iyer, B. Yarlagadda, & D.-J. Van de Ven (2023). Three corner options for replacing Russian gas imports in Europe: a multi-model analysis. Sixteenth Annual Meeting of the Integrated Assessment Modeling Consortium (IAMC), November 14 - 16, 2023, Venice, Italy. (Synergy: DIAMOND)
5. B. Boitier, A. Nikas, A. Gambhir, K. Koasidis, A. Elia, K. Al-Dabbas, S. Alibas, L. Campagnolo, A. Chiodi, E. Delpiazzi, H. Doukas, A. Fougereyrollas, M. Gargiulo, P. Le Mouël, F. Neuner, S. Perdana, D.-J. Van de Ven, M. Vielle, P. Zagamé, & S. Mittal. (2023). A multi-model analysis of the EU's path to net zero. Sixteenth

Annual Meeting of the Integrated Assessment Modeling Consortium (IAMC), November 14 - 16, 2023, Venice, Italy. (Synergy: DIAMOND)

6. Frilingou, N., van de Ven, D.-J., Mittal, S., Anastasios, K., Nikolakakis, T., Gardumi, F., Koasidis, K., and Nikas, A.: How do interest rates affect decarbonisation pathways? A stakeholder-driven multi-model analysis., EGU General Assembly 2024, Vienna, Austria, 14–19 Apr 2024, EGU24-17148, <https://doi.org/10.5194/egusphere-egu24-17148>, 2024. (Synergy: DIAMOND)
7. Van de Ven, D.-J. and Sampedro, J.: Passenger transport decarbonisation under different equity considerations, EGU General Assembly 2024, Vienna, Austria, 14–19 Apr 2024, EGU24-19615, <https://doi.org/10.5194/egusphere-egu24-19615>, 2024. (Synergy: DIAMOND)
8. Frilingou, N., Van de Ven, D.-J., Mittal, S., Koasidis, K., Platias, C., Doukas, H., Nikas, A., How do interest rates affect decarbonisation pathways? A stakeholder-driven modelling analysis, Seventeenth Annual Meeting of the Integrated Assessment Modeling Consortium (IAMC), November 4 - 6, 2024, Seoul, South Korea. (Synergy: DIAMOND)
9. Koasidis, K., Frilingou, N., Van de Ven, D.-J., Xexakis, G., Sampedro, J., Rodés Bachs, C., Rouhette, T., Horowitz, R., Petkidis, C., Platias, C., Nikas, A., "A new approach to optimising progress in non-climate sustainability indicators associated with varying sectoral mitigation efforts for different carbon budgets, Seventeenth Annual Meeting of the Integrated Assessment Modeling Consortium (IAMC), November 4 - 6, 2024, Seoul, South Korea. (Synergy: DIAMOND)
10. van de Ven, D.J., Sampedro, J., Rodés Bachs, C., Rouhette, T., Horowitz, R., Koasidis, K., Frilingou, N., Nikas, A., Optimising sectoral contributions for Paris-compatible emission budgets over multiple SDG trade-offs, Seventeenth Annual Meeting of the Integrated Assessment Modeling Consortium (IAMC), November 4 - 6, 2024, Seoul, South Korea. (Synergy: NDC ASPECTS)
11. van den Berg, N. J., Kleanthis, N., Fotopoulos, D., Stavrakas, V., van Vuuren, D. P., Decarbonisation Pathways of Energy Citizenship: How can citizens contribute to the energy system in different ways and their impacts, Seventeenth Annual Meeting of the Integrated Assessment Modeling Consortium (IAMC), November 4 - 6, 2024, Seoul, South Korea. (Synergy: ENCLUDE)
12. Stavrakas, V., Kleanthis, N., Papantonis, D., Flamos, A., Green transition reforms in Greece: Evaluating the effectiveness of the National Recovery and Resilience Plan towards the achievement of national determined contributions and net-zero targets, Seventeenth Annual Meeting of the Integrated Assessment Modeling Consortium (IAMC), November 4 - 6, 2024, Seoul, South Korea. (Synergy: ENCLUDE)
13. Kleanthis, N., Stavrakas, V., van den Berg, N. J., Fotopoulos, D., Pearce, B. J., van Vuuren, D. P., & Flamos, A., Combining "people-centred" storylines based on social innovations of energy citizenship with narratives of potential "future-world" evolutions towards transformative scenario design, Seventeenth Annual Meeting of the Integrated Assessment Modeling Consortium (IAMC), November 4 - 6, 2024, Seoul, South Korea. (Synergy: ENCLUDE)
14. Fragkos, P., Hermwille, L., Fragkiadakis, K., Fragkiadakis, D., Baka, M., Economic and Environmental Effects of Industrial Policy Nationalism, Seventeenth Annual Meeting of the Integrated Assessment Modeling Consortium (IAMC), November 4 - 6, 2024, Seoul, South Korea. (Synergy: NDC ASPECTS)

Moreover, IAM COMPACT has communicated directly with its sister project and other relevant projects to further raise their interest and highlight the joint benefit from submission of manuscripts for publication.

2.2.5.2 Joint policy publications

IAM COMPACT envisages the production of a series of policy publications. Starting from November 2022, with the Policy Brief on "Stakeholder Inclusion in Climate and Energy Policy Modelling – The IAM COOMPACT Policy

Response Mechanism”, IAM COMPACT provided stakeholders with an overview of the envisaged modelling process of the IAM COMPACT project and explain the stakeholder engagement strategy that will form a core part of this process. Furthermore, IAM COMPACT produced a second policy brief on “Three Responses to the energy crisis – the co-benefits of energy efficiency” in April 2023 aiming to provide insights into the trade-offs between the different approaches to replacing Russian gas and their implications for energy sustainability, affordability, and emissions (this brief was submitted to the EC’s 2040 target planning process). The first and second PRM cycle of IAM COMPACT will produce a total of minimum 10 policy briefs transparently and concisely discussing outcomes and policy implications, future action pledges, and long-term decarbonisation pathways for the EU and for other major emitting and non-high-income countries. The first modelling cycle has produced five such policy briefs (to be released in March 2025), on three themes: Optimal Transition, Industry & Innovation, and Global Effects. We have also produced four [infographics](#) highlighting our country-level modelling work and analyses of transformation drivers, challenges, and policy options in four key sectors (energy, transport, industry, land use) in Ethiopia, Kenya, Sri Lanka, and Ukraine to provide concrete recommendations for strengthening climate policies. One possibility to be explored is the production of a bigger joint publication encompassing the results of the modelling runs and results of all sister projects.

2.2.6 Joint policy events

IAM COMPACT has sought to engage beneficiaries of similar projects to policy events, the aims of which include co-creation of research with stakeholders. IAM COMPACT partners have also sought participation in policy events of other projects. Researchers from other projects have been and will be invited to join the Policy Response Mechanism as well as to our policy events, i.e., policy steering and capacity development workshops and the final conference.

Stakeholder engagement is a core part of IAM COMPACT and revolves around the policy response mechanism, a process that has facilitated constructive dialogue and knowledge sharing between stakeholders and modellers, with the aim of generating policy-relevant insights for and from the IAM COMPACT research agenda. The core objectives of stakeholder engagement within IAM COMPACT are:

- To achieve successful and ambitious science co-creation through the inclusion of non-scientists in the modelling process.
- To ensure policy relevance of research activity through the structured involvement of stakeholders.
- To facilitate knowledge exchange among scientists, policymakers, business, and civil society actors.

In a series of stakeholders’ interactions within the Mechanism, core working groups consisting of technical policymakers, industry representatives, and civil society actors have been invited to several meetings/workshops to further refine the research questions and collaborate in the scenario building. The aim has been to ensure the research questions and scenarios are realistic from a broader social perspective; this is where synergies with other projects are sought most actively. At the end of each PRM step, policy recommendations in the form of briefs are being produced and disseminated to key stakeholders from the stakeholder pool from countries or themes of interest, along with a project report documenting each stage.

Apart from joint activities, such as the ‘Feedback to policy (F2P) for climate science projects’ event organised by MAIA and the European Commission as well as a side-event at COP28 with DIAMOND, IAM COMPACT participated in a series of events for fostering collaboration with other such initiatives, including but not limited to the Global Change Analysis Model (GCAM) Annual Meeting in 2023, the 2023 Summer School on Integrated Assessment Models organised by ENGAGE and NAVIGATE, the 2023 ICTP Joint Summer School on Modelling Tools for Sustainable Development, the Massive Open On-line Course (MOOC) organised by LOCOMOTION, the European Climate and Energy Modelling Platform (ECEMP) conference (in the 2023 edition of which IAM COMPACT also chaired the session on ‘Multi-Model Comparisons for robust policy insights’), the Energy Modelling Platform – Joint Global Training School 2024, the Grantham Institute Climate Research Showcase 2025, etc.

2.2.6.1 Capacity development activities

A key pillar of IAM COMPACT has been to engage with governments and local modelling teams in pilot counties (Ethiopia, Kenya, Sri Lanka, Ukraine) and to carry out capacity development activities to capture local specificities and create ownership of the science-based policy support process. Activities aimed at enhancing modelling capacity and creating new tools for policy and decision support (especially in these and other non-high-income countries) have been made fully open on the platform and project website. This includes new national models in countries involved for capacity development, thereby boosting ownership of models—a key pillar of strategic energy and climate planning. A series of capacity development workshops have been organised for each case study country. This includes high-level introductory workshops to concepts behind the modelling tools used to support policy, as well as comprehensive hands-on training to the modelling tools. During this training, participants were guided through the creation of multi-sector and multi-resource country models and applications to investigate planning issues of relevance to the countries and to their NDC preparation.

The project's African partners (TUM in Kenya and AAiT in Ethiopia) participated in the Energy Modelling Platform for Africa (EMP-A) 2023, which took place in 11-28 April 2023, hosted by the University of Namibia, and have hosted an extensive training workshop to help them develop a local modelling team.

Other such activities have included:

- The Summer School on Integrated Assessment Models: The NAVIGATE and ENGAGE projects, funded by Horizon 2020, are launching a Summer School aimed at providing advanced training for young international scholars, advanced PhD students and early postdoc fellows, working on integrated assessment models. The Summer School will be organised by the RFF-CMCC European Institute on Economics and the Environment (EIEE) and will take place at Lake Como, Villa del Grumello, from 3 to 7 July 2023. The objective of the school is to create a community of young scholars from a broad range of disciplines (climate, ecology, economy, energy, political science) actively working on modelling human activities and the earth system in an integrated framework commonly referred to as Integrated Assessment Modeling. Our partner BC3 participated in the Summer School, while E3M is part of the school's organisation.
- The Joint Summer School on Modelling Tools for Sustainable Development (2023 & 2024): Hosted by the International Centre for Theoretical Physics (ICTP), the school provides free training, access to discussion forums, and coaching skills in energy planning models and tools. Three of our models are taught in the school: OSeMOSYS, CLEWs and DyNERIO/MARIO and our partners from pilot counties have been encouraged to apply.
- Advanced Energy Systems Analysis on the EnergyPLAN model: Hosted by our partner Aalborg university in March 2024, the course gives an introduction to advanced energy system analysis using the EnergyPLAN model.

2.3 Joint communication activities

IAM COMPACT fosters collaboration with other projects by:

- Following the other projects' social media accounts
- Inviting other projects (and project consortium members) to follow the IAM COMPACT social media accounts
- Examining the possibility for joint press releases and articles
- Examining the possibility for specific joint social media campaigns to improve the visibility of the results of the projects
- Inviting other projects to have a specific session in IAM COMPACT workshops and final conference
- Requesting from other projects a specific session in their conferences/workshops and other public events



- Investigating the possibility for a joint public event
- Publishing articles, publications, and news on the websites of other projects and publishing news about and research outputs of other projects on the IAM COMPACT website
- Investigating the possibility for joint participation in other meetings and events, possibly upon suggestion of the Project Advisor, to promote the visibility and outputs of the projects. Suggestions that have been considered are the global climate change meetings, such as the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC).
- Invitation to other relevant consortia and/or stakeholders to join our (final) events.

3 Other projects and initiatives for consideration

This section refers to projects and initiatives that have been or may be considered for synergies and coordination, outside the spectrum of the CL5-2021-D1-01 programme. This includes research projects and efforts that provide the space for joining scientific forces to promote science and/or broadening outreach to promote inclusiveness and stakeholder participation, whether IAM COMPACT consortium members participate(d) in these efforts or not.

Table 1: List of Horizon Europe, H2020, and other projects considered for synergies

Project (abbr.)	Full name	Website	Duration	Consortium leader	Focus/scope	Potential joint action(s)
4C	Climate-Carbon Interactions in the Current Century	https://4c-carbon.eu/	06/2019 – 11/2023	University of Exeter, UK	New more accurate models of how carbon affects climate change	Data on carbon emissions and climate projections
4I-TRACTION	Innovation, Investment, Infrastructure and sector Integration: TRAnsformative policies for a ClimaTe-neutral European UnION	https://www.4i-traction.eu/	06/2021 – 05/2024	Ecologic Institute, Germany	Taking stock of the current mix of EU climate policies	Transformative innovative pathways and policy avenues.
ATIP	Application Targeted and Integrated Photovoltaics - Enhancing UK Capability in Solar	https://gtr.ukri.org/projects?ref=EP/T028513/1	06/2020 – 06/2025	Swansea University, Wales	Advancement of next generation photovoltaics	Early stage technologies insights
CINTRAN	Carbon Intensive Regions in Transition - Unravelling the Challenges of Structural Change	https://coaltransitions.org/projects/cintran/	05/2020 – 04/2024	WI, Germany	Studying the dynamics of decarbonisation	Regional level insights and recommendations
CCG	Climate Compatible Growth	https://climatecompatiblegrowth.com/	01/2021 – 01/2030	UK	Support LMICs government departments to develop their plans and strategies.	Capacity development and local ownership
CONSTRAIN	Constraining uncertainty of multi decadal climate projections	https://constrain-eu.org/	07/2019 – 06/2023	University of Leeds, UK	Making multi-decadal climate change predictions	Data for Carbon Budget; online tools for climate emulation
ECMF	European Climate and Energy Modelling Forum	https://www.ecemf.eu/	05/2021 – 04/2025	KTH, Sweden	Launch of the European Climate and Energy Modelling Forum, a focal point for European climate and energy policymakers and researchers.	Participation in the forum; conference as part of ECMF event for policy steering interactions.
ESM2025	Earth system models for the future	https://www.esm2025.eu/	06/2021 – 05/2025	Météo-France, France	Earth system modelling and climate research in support of the Paris Agreement	Open-source data and codes; linking framework with IAMs

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ENGAGE	Exploring National and Global Actions to reduce Greenhouse gas Emissions	http://www.engage-climate.org/	09/2019 – 08/2023	IIASA, Austria	New models to carve decarbonisation pathways	Scenario explorer and open-source tools on pathways feasibility; participation in seminars; SAB member Dr. Isabela Schmidt Tagomori is also part of ENGAGE.
FLAIRE	Solutions for transition: Fair, flexible and socially resilient energy systems	Link	01/2023 – 01/2029	University of Oulu, Finland	Demand side management solutions and their potential to decarbonise	
GENIE	GeoEngineering and Negative Emissions pathways in Europe	https://github.com/ie-erc	05/2021 – 04/2027	Aarhus, Denmark	Sociotechnical pathways for a zero-emissions future	Dimensions of GHG removal and solar radiation management
GoNEXUS	Innovative tools and solutions for governing the water-energy-food-ecosystems NEXUS under global change	https://gonexus.eu/	06/2021 – 05/2025	UPV, Spain	Tools and solutions to jointly address water, energy, food, and ecosystem challenges	Nexus research-improved policy support
GRAPHICS	Integrated analysis of air pollution, human health and income inequality for alternative climate change scenarios	https://cordis.europa.eu/project/id/101060679	06/2023 – 05/2025	BC3, Spain	Health impacts attributable to long-term exposure to ambient air pollution	Alternative socioeconomic narratives
i4Driving	Integrated 4D driver modelling under uncertainty	https://i4driving.eu/	10/2022 – 03/2026	Panteia, Netherlands	Virtual assessment of Connected, Cooperative and Automated Mobility (CCAM) systems.	Industry insights for AVs
INNOPATHS	Innovation pathways, strategies and policies for the Low-Carbon Transition in Europe	https://cordis.europa.eu/project/id/730403	12/2016 – 07/2021	UCL, UK	Quantify uncertainties and outline feasible low-carbon pathways for the EU	Data for modelling low-carbon pathways (e.g., cost of capital empirical data)
LOCOMOTION	Low-carbon society: an enhanced modelling tool for the transition to sustainability	https://www.locomotion-h2020.eu/	06/2019 – 11/2023	UVa, Spain	A comprehensive, integrated tool for sustainability modelling	User-friendly applications and open-source tools.
MANET	Climate economic policies: assessing values and costs of uncertainty in energy scenarios	https://cordis.europa.eu/project/id/101033173	07/2022 – 06/2024	POLIMI, Italy	Define the sources of uncertainty in IAMs	Agent-based modelling

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NAVIGATE	Next generation of AdVanced InteGrated Assessment modelling to support climaTE policy making	https://www.navigate-h2020.eu/	09/2019 – 08/2023	PIK, Germany	Improved models for informing and evaluating climate policies	Treatment of transformative structural and technological change in IAMs; datasets, modules, and tools developed (diagnostics, scenario analysis); participation in seminars
NDC ASPECTS	Assessing Sectoral Perspectives on Climate Transitions to support the Global Stocktake and subsequent NDCs	https://ndc-aspects.eu/	05/2021 – 04/2024	WI, Germany	Climate change mitigation - nationally determined contributions for the post 2030 period	Joint events; Enhancement of I ² AM PARIS platform.
PathFinder	Towards an Integrated Consistent European LULUCF Monitoring and Policy Pathway Assessment Framework	https://www.nibio.no/en/projects/pathfinder	09/2022 – 08/2026	NIBIO, Norway	Why forest monitoring matters	Data maps and forest attributes for Europe
PARIS REINFORCE	Delivering on the Paris Agreement: A demand-driven, integrated assessment modelling approach	https://paris-reinforce.eu/	07/2019 – 11/2022	National Technical University of Athens, Greece	A framework to reinforce the science-policy interface of the Paris Agreement.	Modelling inputs; stakeholder engagement; I ² AM PARIS platform
POWERPOOR	Empowering Energy Poor Citizens through Joint Energy Initiatives	https://powerpoor.eu/	09/2020 – 31/08/2023	National Technical University of Athens, Greece	Support programmes to empower energy poor citizens	Energy poverty insights
PRISMA	Net zero pathway research through integrated assessment model advancements	https://www.net0prisma.eu/	01/2023 – 12/2026	CMCC, Italy	IAM improvements on four key areas: the representation of distributional justice and efficiency, innovation and finance, climate impacts and land-use implications	Improvement of IAMs in support of climate policies
PROVIDE	Paris Agreement Overshooting – Reversibility, Climate Impacts and Adaptation Needs	https://www.provide-h2020.eu/	09/2021 – 31/12/2024	Humboldt University, Germany	Linking global emission pathways to regional sectoral impacts and urban	Climate impacts

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					climate risk projections.	
RE-INTEGRATE	RE-thinking of approaches and toolkits for transdisciplinary INTEGRATED assessment of climate-compatible energy strategies from the African Union through to the European Union	https://cordis.europa.eu/project/id/101118217	09/2023 – 02/2027	KTH, Sweden	Establish an inclusive environment for knowledge-sharing and context-specific modelling toolkits	Modelling tools; stakeholder engagement; capacity development
RENGA	Resilient Electricity Networks for a productive Grid Architecture	https://gtr.ukri.org/projects?ref=EP/R030235/1	04/2018 – 04/2022	Imperial, UK	Bringing electricity to low-income areas in the developing world	Insights into the development of expertise in the target LMIC countries.
RESCUE	Response of the Earth System to overshoot, Climate neutrality and negative Emissions	https://rescue-climate.eu/	09/2022 – 08/2026	BSC-CNS, Spain	Potential response of the Earth system to implementing carbon dioxide removal (CDR) technologies	Climate projection scenarios with representation of CDR portfolios
SUNRISE	Strategic University Network to Revolutionise Indian Solar Energy	https://gtr.ukri.org/projects?ref=EP/P032591/1	09/2017 – 03/2022	Swansea University, Wales	Accelerate and prove low cost printed PV and tandem solar cells for use in off grid Indian communities	Insights into building research capacity and delivery capability
TRANSIENCE	TRANSitioning towards an Efficient, carbon-Neutral Circular European industry	https://www.transience.eu/	01/2024 – 12/2027	ICCS, Greece	Assessing circularity principles and measures for the decarbonisation of European industries	Industrial decarbonisation pathways