

ETSAP - Energy Technology Systems Analysis Programme

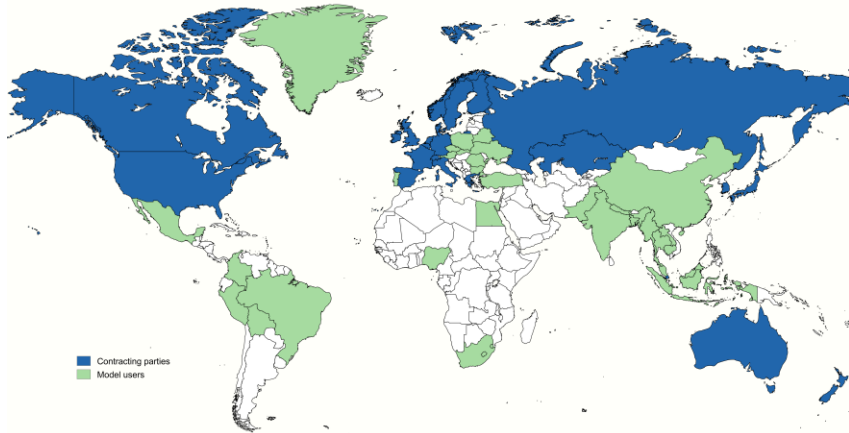
Annex XVII Energy Systems, Socio- Technical Systems and Structural Change

**A Technology Collaboration Programme (TCP) of the
International Energy Agency (IEA)**



IEA-ETSAP: An international modelling collaboration for 50 years

- Dedicated to the advancement of integrated energy system modelling platforms for 50 years.
- The main goal is to support the development and application of technical economic models at the global, regional, national and local levels.
- The Contracting Parties conduct joint research to advise their national governments at the highest levels.
- Twenty-one countries (contracting parties) form the Executive Committee of ETSAP.



A multilateral international agreement

Partners meet twice a year in **regular workshops** to share knowledge, discuss the research agenda and carry out a common program of work. Additional **thematic workshops** are also held on an ad hoc basis.

Open to all interested parties, these meetings often lead to collaborative model building projects with local experts and third party funds.

➤ **Any country can petition to become a contracting party of ETSAP!**



ETSAP Work Programmes

Annex	Timeframe	Title
XVII	2026-28	Energy Systems, Socio-Technical Systems and Structural Change
XVI	2023-25	Aligning energy security with zero emissions energy systems
XV	2020-22	Energy System and Sustainable Development Goals
XIV	2017-19	Facilitating Energy Transition to well below 2°C
XIII	2014-16	Tools for Analysis of a Future Energy Revolution
XII	2011-13	Policy Analyses Tools for Global Sustainability
XI	2008-11	JOint STudies for New & Mitigated Energy Systems
X	2006-07	Global Energy Systems and Common Analyses
IX	2004-05	Energy Models User's Group
VIII	2002-03	Exploring Energy Technology Perspectives
VII	1999-01	Contributing to the KYOTO Protocol
VI	1996-98	Dealing with uncertainty together
V	1993-95	Energy options for sustainable development
IV	1990-92	Greenhouse gases and national energy options
III	1987-89	International forum on energy environment studies
II	1984-86	Information exchange project
I	1981-83	Energy technology systems analysis programme
	1978-80	MARKAL Model generator development (BNL, KFA)
	1976-77	Analysis of tools for evaluating R&D strategies



Energy Systems, Socio-Technical Systems & Structural Change

1. Tools Maintenance, Improving and Capacity Building

- Increasing the transparency, openness and affordability of the TIMES model generator, associated software and data sets and advancing innovation in the modelling framework
- Exploring design development for new features and methodological enhancements that include near optimal solutions that better reflect the diversity and heterogeneity observed in real energy systems.
- Leverage AI to support TIMES development and capacity building on TIMES, including tools like helpdesks or chatbots

2. Collaborative Analysis Informing and Underpinning Energy Policy

- Collaborating with IEA, other TCPs TCP Coordinating Groups, IRENA, Clean Energy Ministerial Initiative on Long Term Energy Scenarios, Integrated Assessment Modelling Consortium (IAMC)

3. Collaborative Research and Innovation

- extend the capabilities in TIMES modelling tools and scenario analysis in the areas of infrastructure, investment, critical minerals, socio-economics, low-demand, energy sufficiency, social license and energy justice scenarios;
- include overshoot and net-negative emission pathways, integrate modelling of carbon markets, financial flows, and water–energy–food linkages.



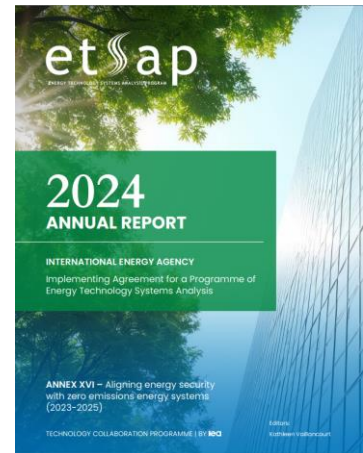
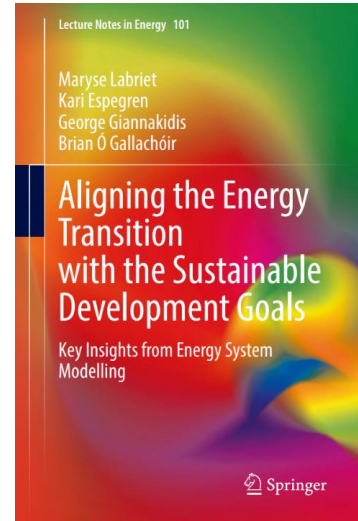
Added Value of ETSAP

- **remains most advanced energy system model generator** globally now with improved representation of flexibility
- **plays a key role in training and capacity building** of energy professionals, researchers, and policymakers globally.
- **fosters collaboration** among ETSAP participants, with IEA, other IEA TCPs, CEM Long-Term Energy Scenarios (LTES) Initiative and the Energy Modelling Forum (EMF) in North America.
- **promotes openness and transparency** in energy modelling negative emissions technologies (NETs / CDR) have a **crucial role**
- **underpins policy development** including energy and climate plans, energy planning and renewable integration, policy evaluation for carbon neutrality, and the quantification of carbon budgets



ETSAP Key Achievements 2020-2025

- **supported energy transition in >60 countries** despite challenges of Covid and conflicts.
- played a pivotal role in guiding policymakers with **evidence-based analyses of energy security** and achieving low-carbon energy systems.
- **open access ETSAP book** *Aligning the Energy Transition with the Sustainable Development Goals* (Published by Springer) – **89,000 downloads!**
- advanced TIMES model generator, in **ancillary services markets, demand-response mechanisms, and energy storage** technologies
- increased **transparency** of TIMES model generator (**CC 4.0**) and TIMES models
- built **significant additional energy modelling capacity globally** via 10 workshops, 16 training sessions and 11 webinars





A new Website for ETSAP

We launched a completely redesigned website in January 2026. This new platform brings together up-to-date content, modern navigation, and clearer storytelling, while fully preserving the rich history and scientific depth built by the ETSAP community over five decades.

What's new?

- Fresh content reflecting the latest ETSAP tools and policy work.
- Easier access to modelling resources, reports, trainings, and case studies.
- Clearer pathways for newcomers, modellers, and policymakers.

What remains at the core?

- The legacy and evolution of the TIMES model, one of the world's most widely used energy system optimisation frameworks.
- A strong emphasis on transparency, scientific rigour, and collaboration.
- The collective expertise of a global community shaping evidence-based energy and climate decisions.

 [Rediscover ETSAP !](#)





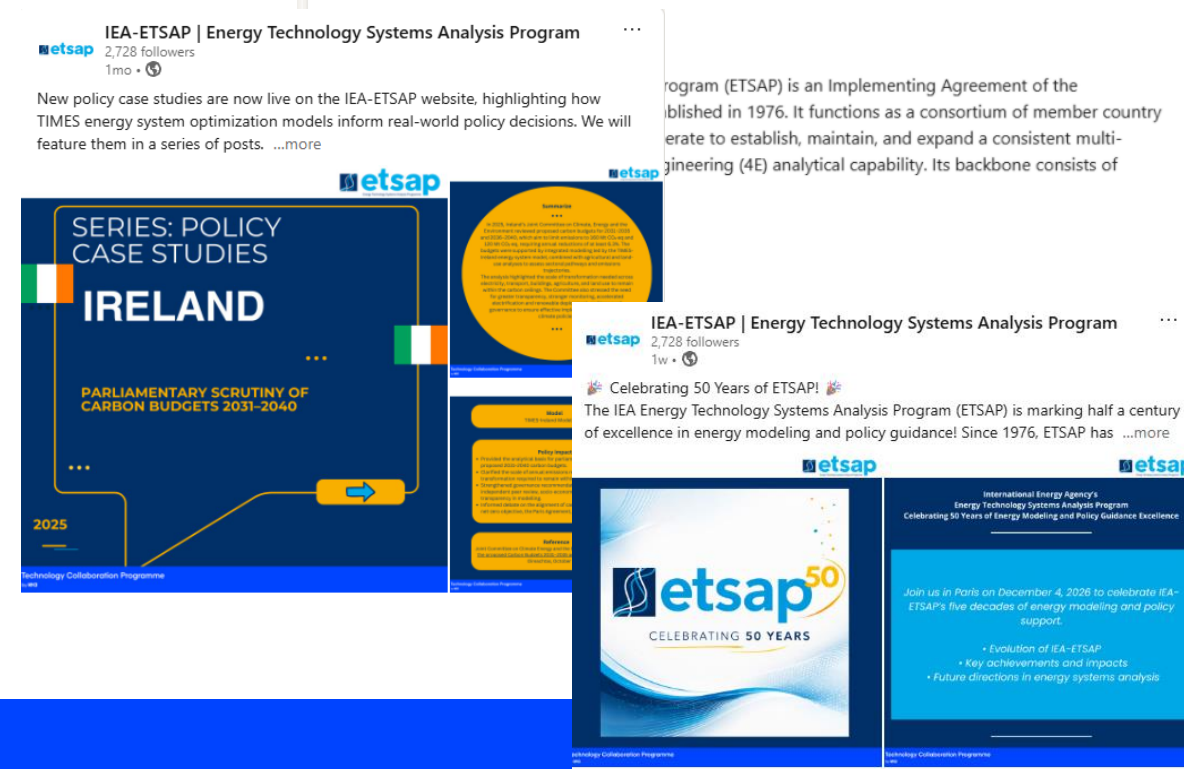
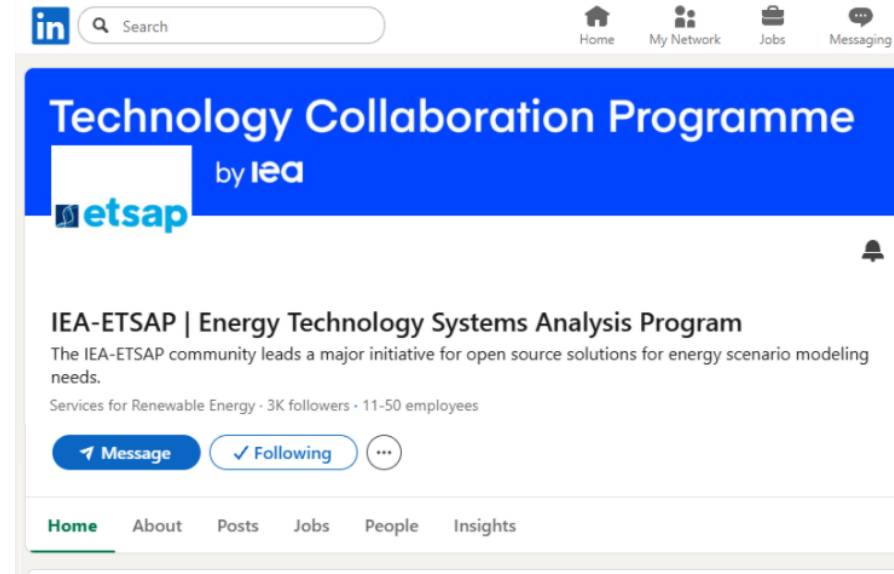
ETSAP on Social Media

We revitalized the ETSAP LinkedIn page in January 2024. The goal was to create a more active space for sharing insights, projects, publications, and developments from the global ETSAP community.

From 200 to +2700 followers!

- Regular updates highlighting ETSAP activities & tools.
- Increased visibility for policy case studies.
- Stronger communication about trainings, workshops & webinars.
- Promotion of international collaborations.
- Visibility for career opportunities.
- **Stronger outreach to modellers, researchers, and policymakers?**

👉 [Visit ETSAP !](#)



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