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Participatory processes for strategic energy planning: A toolkit for national energy planners

Presenters:
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TUESDAY, 23th September 2025 14:00-14:30 CEST

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SPEAKERS

Nadeem Goussous
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Participatory Processes for Strategic Energy Planning

A toolkit for national energy planners

Nadeem Goussous, IRENA

IRENA Insights, 23 September 2025

Long-term Energy Scenarios (LTES) Network

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Current Membership

33 Country Members

14 Technical Partners

Knowledge gathering

Facilitation of dialogue

Regional Engagement

LAC (2021) | Africa (2021/22) | Asia (2023)

High level Engagement

- IRENA Assembly
- Clean Energy Ministerial
- G20
- COP

International LTES Forum and workshops

INTRODUCTION

The energy transition challenge

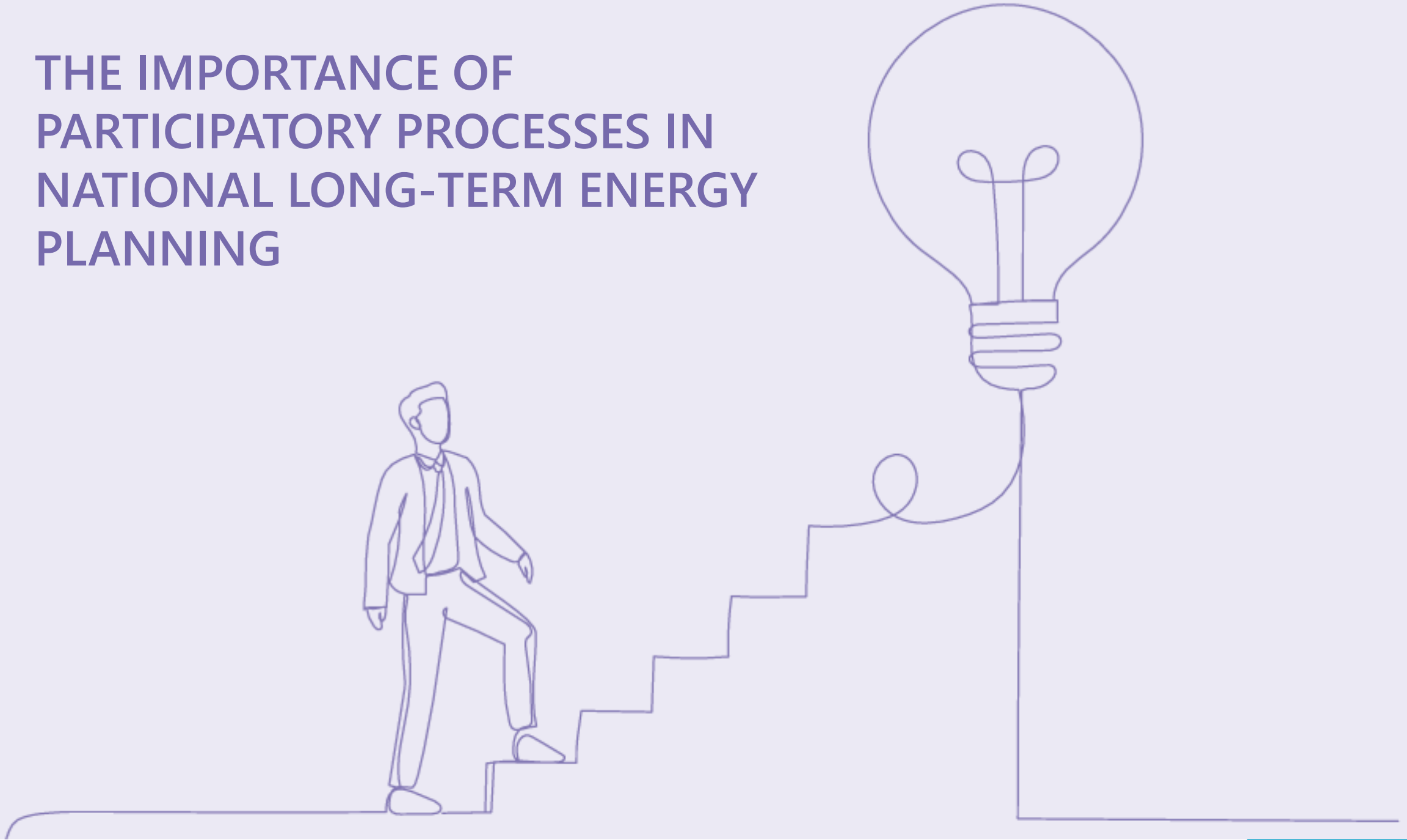
The energy transition requires unprecedented coordination across **all sectors** of society

New stakeholders have emerged as players beyond traditional utilities and energy companies:

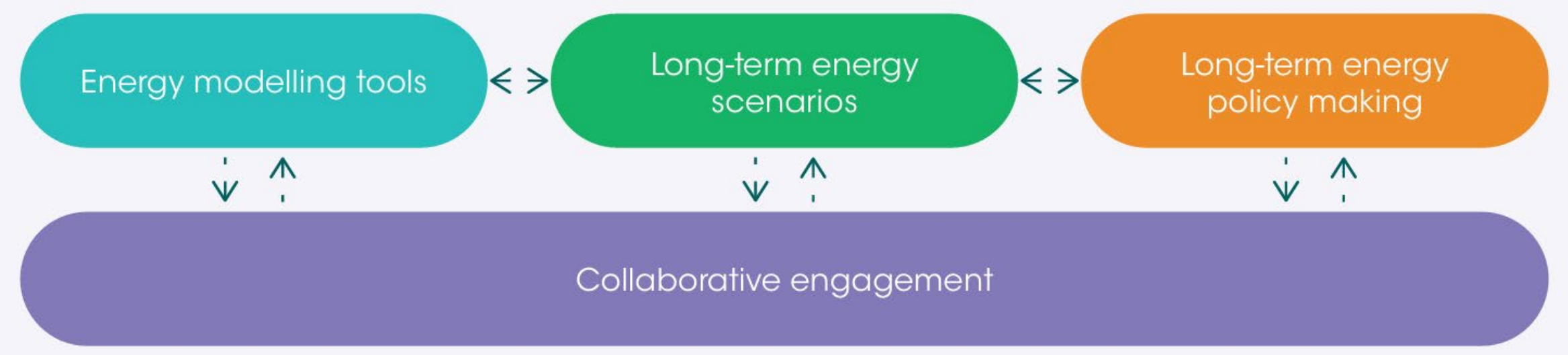
- Prosumers and energy cooperatives
- Local and indigenous communities
- Civil society organizations
- Businesses across all economic sectors

Energy planning now impacts daily lives more directly than ever before

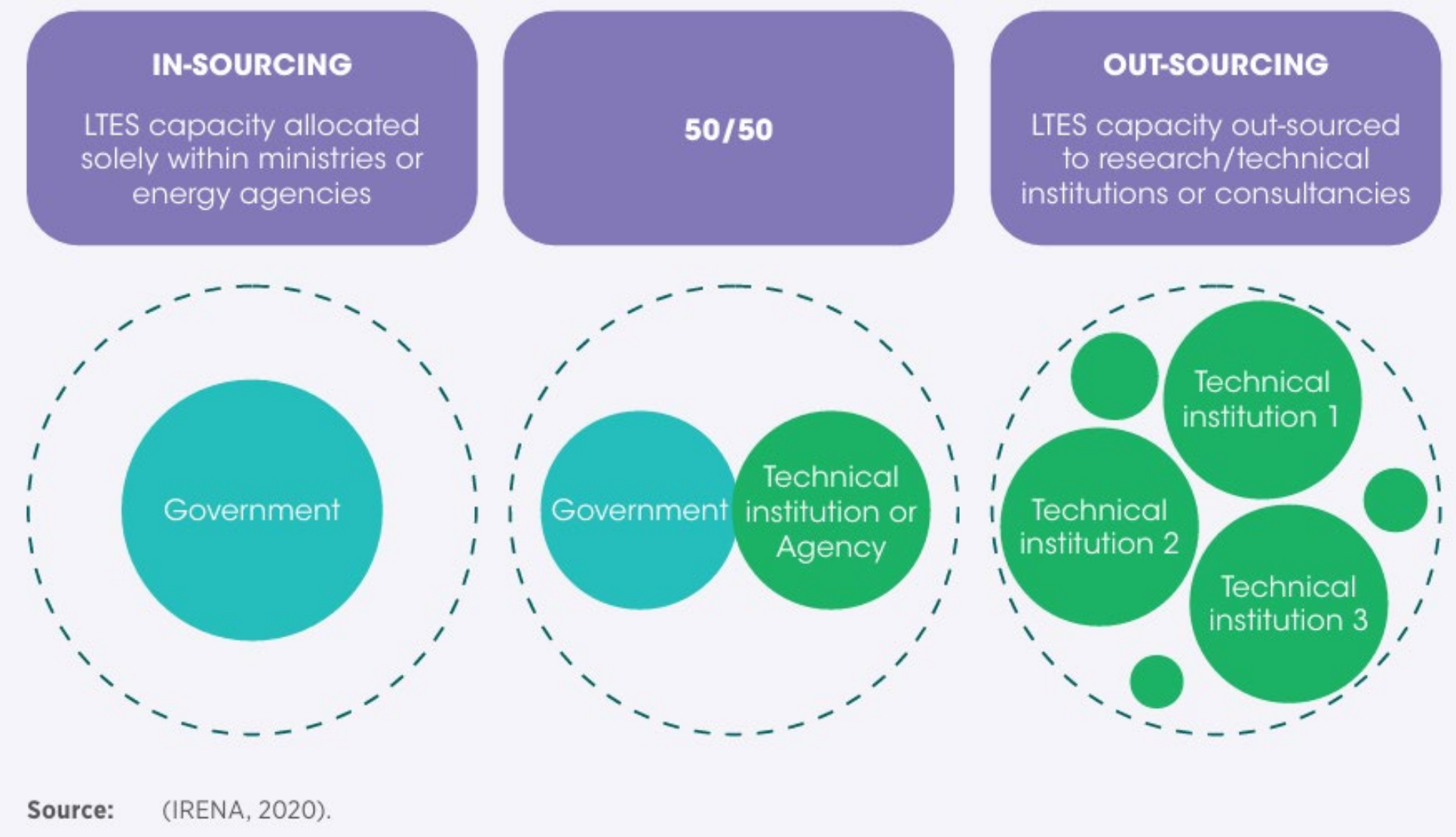
THE IMPORTANCE OF PARTICIPATORY PROCESSES IN NATIONAL LONG-TERM ENERGY PLANNING



The role of energy planning in policymaking



Where does energy planning capacity lie?



Source: (IRENA, 2020).

What do we mean by participatory planning processes?

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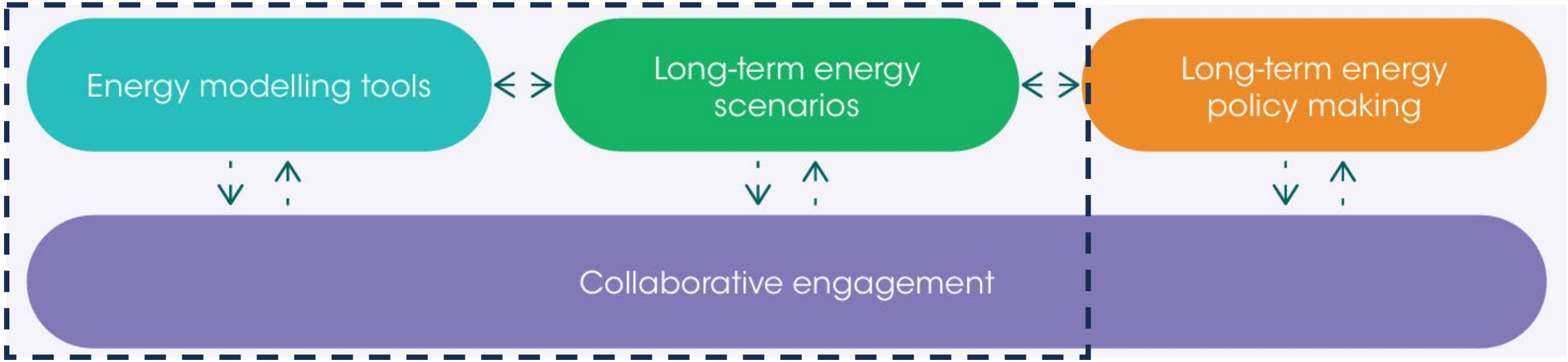
A set of activities designed to **define**, **design**, **influence**, and **validate** energy plans in a collaborative manner

What is energy planning?



Scenario development

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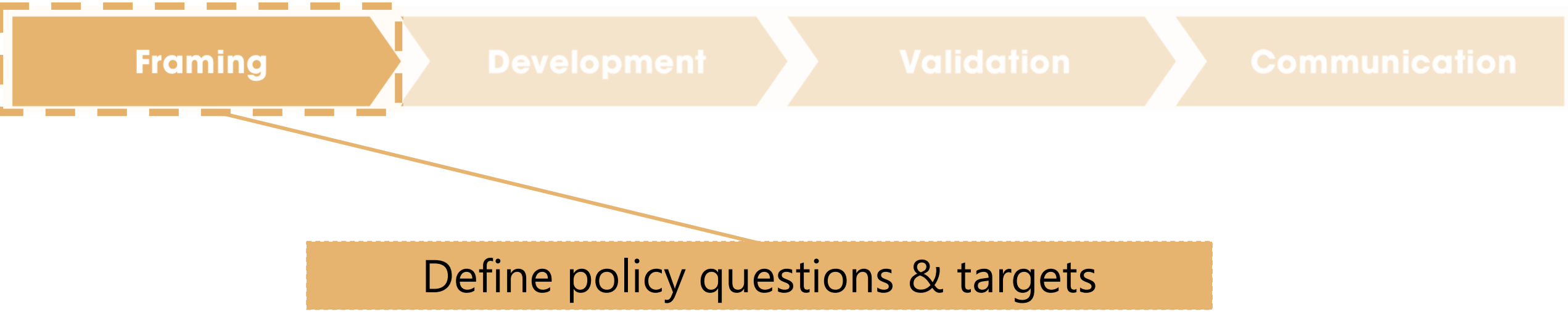
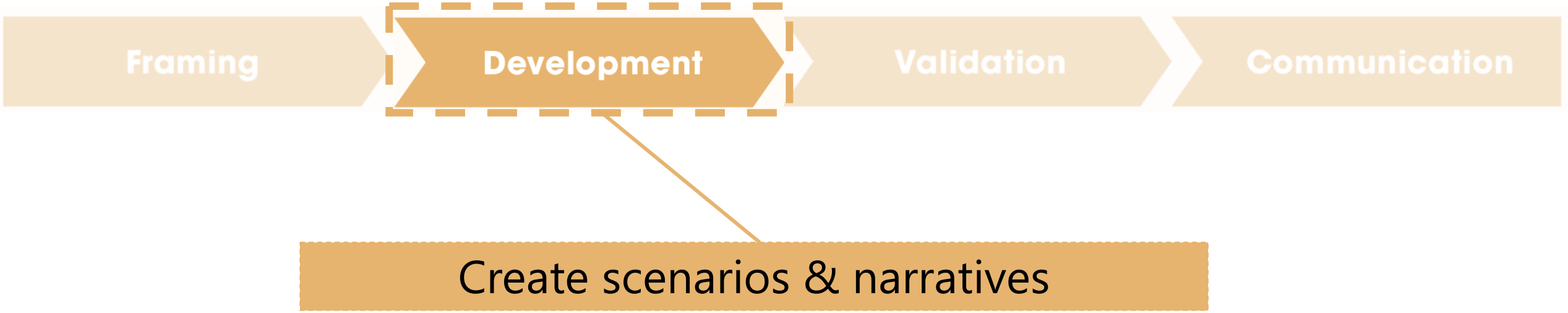
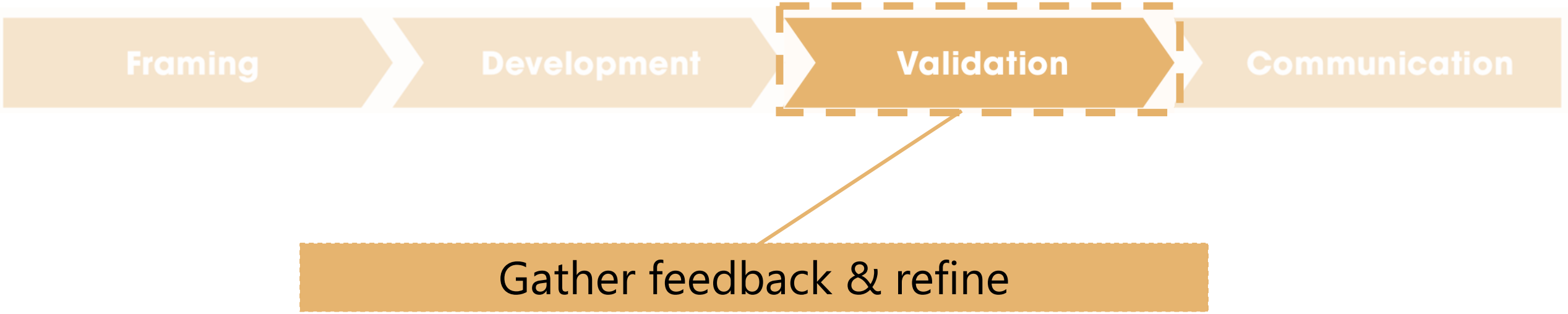
The energy transition challenge



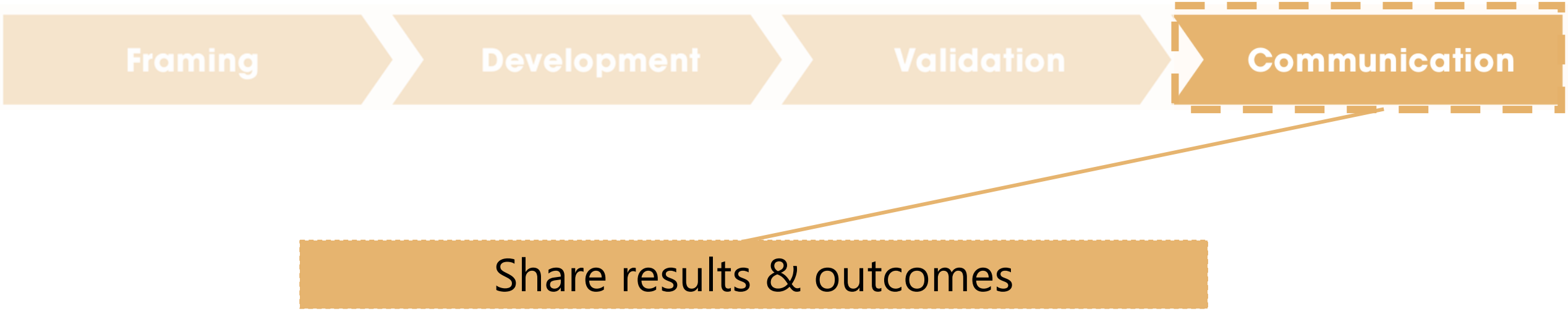
The energy transition challenge



The energy transition challenge



The energy transition challenge



Why engage stakeholders?

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Legitimacy, trust and buy-in

Implementable and context-appropriate scenarios

Robust inputs and identifying blind spots

Enhanced understanding and energy literacy

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STAKEHOLDERS IN THE NATIONAL SCENARIO DEVELOPMENT PROCESS

Stakeholders in the national scenario development process

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Who are they?

What is the benefit for them?

What is the benefit of engaging them?

What are the challenges in engaging them?

What are some good practices for engaging them?

3.4 GENERAL PUBLIC AND LOCAL COMMUNITIES

Who are they? The general public, or sometimes leaders or representatives of communities based on locality, identity (*e.g.* indigenous groups) or other means of demographic classification (*e.g.* age group or income level), who usually represent their group's interest.

Why engage them? Planning for a just energy transition requires a collective effort that is led by the public while also paying attention to the most vulnerable in society. Social acceptance by communities, for instance, is vital for renewables and accompanying infrastructure project development. Energy efficiency, technology adoption and change in consumer behaviour patterns are also key to reaching sectoral targets in the residential and transport sectors. The transition will also have effects that must be communicated to citizens, such as price changes and other policy shifts. They may also be voters who can indirectly or directly affect policy decisions.

What is the benefit for them? Local communities and the public at large can help shape a just transition that considers citizens' needs and concerns, allowing them to learn about their role in facilitating this transition.

Challenges in engaging with this stakeholder

- **Generating interest:** Scenario development processes are unfamiliar to the public and inviting participants requires a clear framing of the objectives of such projects.
- **Knowledge gaps:** Technical concepts found in energy system analysis might not be familiar to most, and such gaps might affect the quality of participation in the process.
- **Time constraints:** Jobs, childcare and other responsibilities may limit the time that members of the public can afford for these processes, especially affecting the most vulnerable.
- **Ensuring inclusivity:** Certain members of the public (*e.g.* those with more time available) might be more likely to join, creating an unbalanced snapshot of societal perspectives.

Good practices collected

- Starting discussions from perceived existing issues and concerns, as opposed to simply attempting to visualise a perfectly just scenario.
- Leveraging existing engagement platforms (local town halls or community spaces) to secure stakeholder participation in a familiar environment.
- Identifying and training members of planning staff from local communities to act as focal points to enable continuous dialogue and address community concerns.
- Keeping registries to maintain communication with interested participants and monitor inclusivity and the diversity of representatives.
- Including decentralised actors, such as community energy projects, in the public engagement.
- Publishing plans online to broaden consultation possibilities for the general public.
- Allocating the necessary time to ensure effective engagement with local communities.
- Offering online and in-person options to participate in participatory activities.

Common challenges across stakeholders

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- Knowledge and communication gaps
- Resource and time constraints
- Diverse and conflicting interests
- Trust and political concerns
- Representation and inclusivity issues
- Misaligned planning horizons

Good practices across different groups

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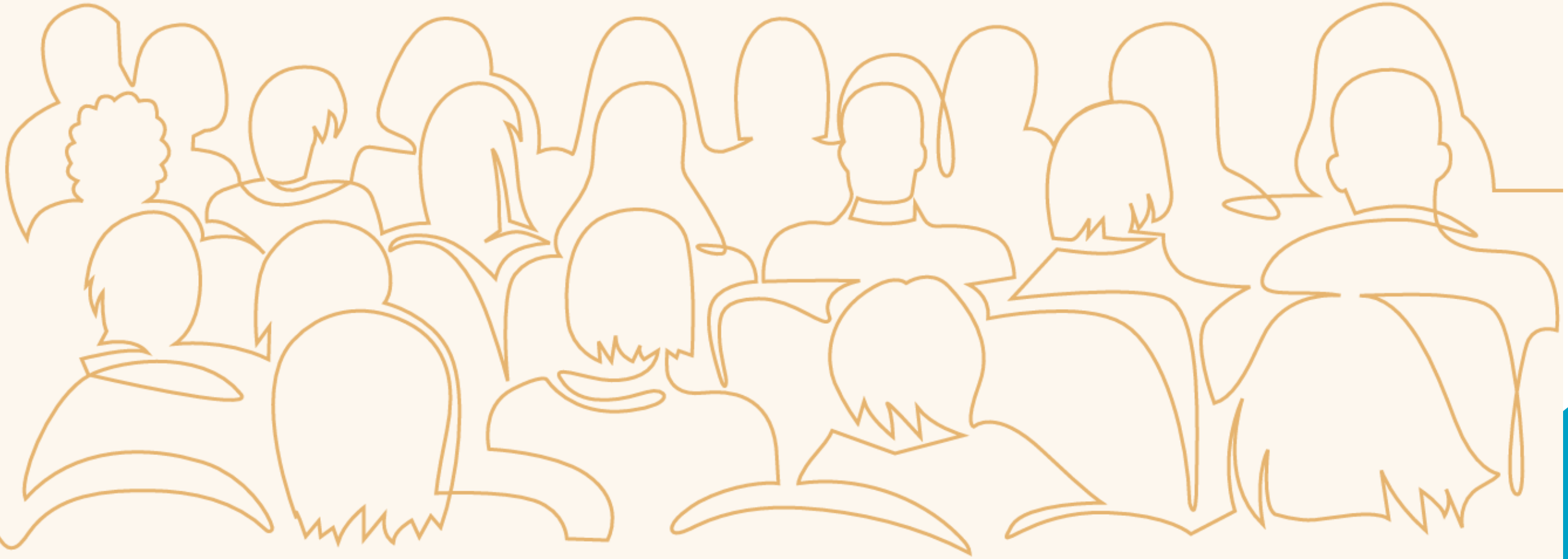
- Early and continuous engagement
- Build trust through transparency
- Use systematic mapping
- Create dedicated platforms
- Tailor communication approaches
- Leverage intermediaries
- Align with existing processes

ENGAGEMENT TOOLS AND ACTIVITIES



Categories of tools and activities

KNOWLEDGE GATHERING

- Workshops
- Interviews
- Surveys and public consultations

CO-CREATION

- Transdisciplinary and inter-institutional committees and working groups
- Networks and hubs

DISSEMINATION

- Public presentations, reports and hearing
- Visualisation tools, simulations and games

Categories of tools and activities

Each type serves distinct but complementary roles in the participatory planning process, moving from information collection to **collaborative development** to **effective communication**

4.1 KNOWLEDGE GATHERING

4.1.1 WORKSHOPS

Workshops provide structured environments for energy planners to facilitate engagement with many different types of stakeholders, to share information, foster discussions and collect feedback. Workshops help identify and map divergences and convergences between stakeholder groups. For example, Brazil used virtual debates to identify key disagreements and develop scenarios that reflected different perspectives. Finland used workshops to foster collaboration and transparency in their carbon neutrality scenarios. Brazil also held workshops to present their National Energy Plan 2050, while Cyprus used workshops to communicate scenario results to policy makers.

Implementation stage

Framing	Development	Validation	Communication
Co-define policy questions and targets	Co-develop narratives and define assumptions	Present preliminary results and encourage feedback for reiteration	Present results and communicate policy outcomes

Resource requirements and prerequisites

Workshops require dedicated, skilled facilitators with expertise in energy scenario development. Adequate financial resources are also needed to cover logistics for stakeholder gatherings, including location, technology, facilitation and possibly funding for attendance and related *per diem* payments. Access to technology may also be necessary, depending on the format of the workshop. As demonstrated in the case studies, the ideal format varies by setting. In some cases, physical meetings may be the most effective way to facilitate participatory processes, fostering transparency and building trust in the process, as was the case for developing the Ghanaian National Energy Plan. Other instances, like Chile's long-term energy planning , made use of a variety of online tools and platforms to engage stakeholders at different stages of the energy planning process. In some instances, countries like Brazil employed a hybrid approach, utilising both online and in-person workshops.

In all cases, it is important to map the required stakeholders depending on the workshop's objectives, and determine the format most appropriate for the stakeholders invited and the desired outcomes. Ensuring confidentiality when necessary is also vital for building trust in the process. A preliminary engagement phase may be useful for non-expert audiences, to build foundational knowledge and enhance participant involvement through courses, tutorials, interviews or a combination of them. This also informs workshop design and potential sources of tension.

Practical considerations

Strengths: Workshops are adaptable and flexible, allowing for diverse formats to meet specific needs. Their interactive nature encourages active participation and may foster social acceptance. They engage a wide range of stakeholders and promote social learning. In-person workshops can also foster informal exchanges and relationships between participants, adding potential value for possible collaborations.

Limitations: It might be difficult to translate qualitative discussions into quantitative inputs for scenario development, risking the loss of key data that shape the produced scenarios. Expert participation can be limited by time and availability, while resource constraints can also pose challenges.

Challenges: Workshops may risk allowing misinformation, manipulation or reinforcement of biases (echo chambers). Public settings might discourage marginalised voices from speaking up. Addressing these challenges requires careful facilitation and inclusivity.

Implementation evidence

Numerous case studies illustrate how workshops have been used in participatory processes for energy planning. These workshops varied in format, attendees and content. In Finland, VTT's workshops focused on vision and storyline development, using creative methods and formats. Participants, including national industrial federations, contributed low-carbon sectoral roadmaps that fed into the national energy strategy. Canada's Energy Modelling Hub hosted workshops for energy modellers, policy makers, regulators and system operators to facilitate discussions on planning for clean energy policies. In Colombia, multisector dialogue forums were held that effectively brought together various departments under a regional context. The World Energy Council held global scenario-weaving workshops, gathering stakeholders from academia, government, industry and start-ups to co-create socio-political narratives for global energy scenarios. Similarly, the Paris Agreement Compatible (PAC) project organised several workshops with CSOs, technical experts and TSOs to develop a Paris-compatible energy scenario for Europe, but also to facilitate exchange of knowledge, discuss methodologies and data, and compare the results of different modelling exercises.

Some workshops addressed specific thematic areas, such as the Cyprus case, where academia, financial institutions and the Ministry of Energy collaborated to prepare sector-specific policy briefs, including on the job impacts of the energy transition. In the Chilean case, regional workshops and seminars engaged with a wide range of stakeholders to discuss the outcomes of the national energy planning process. In one project in Ireland, the researcher-led Deliberative Futures Workshops employed creative exercises like community mapping and storyboarding, paired with expert-led presentations on climate issues, to foster informed discussions and scenario creation over two weekends (LTES Network, 2022; Revez *et al.*, 2021).

Box 1 Ideas for interactive workshops

World Café: Participants discuss topics at rotating café-style tables, with hosts summarising previous conversations. This process fosters diverse insights, collaboration and the identification of effective actions.

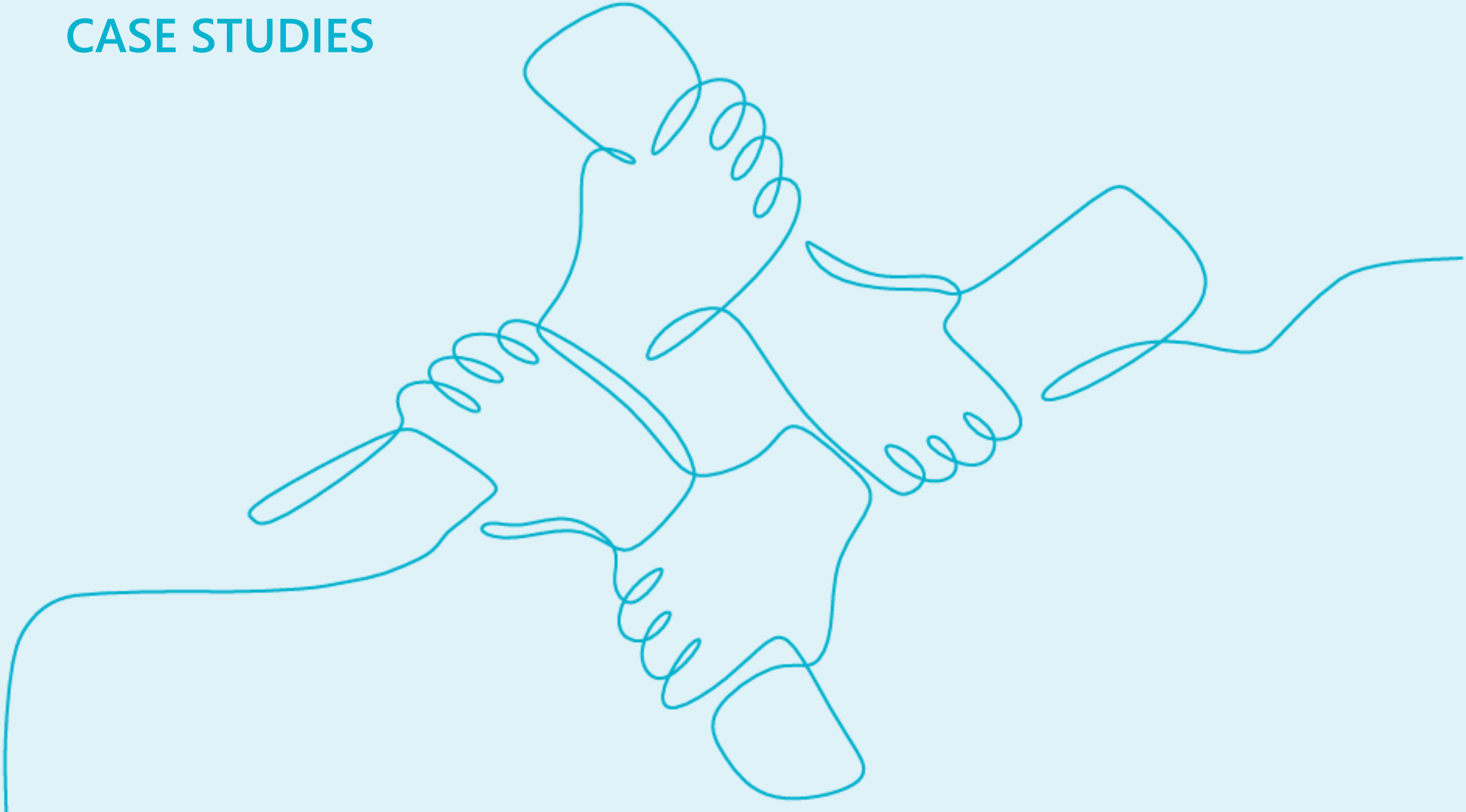
Futures Wheel: Ideal for complex issues, this involves critical analysis, envisioning potential futures and assessing the practicality of ideas. It promotes social learning and helps drive change, as seen in Finland's energy transition workshops.

Transition simulator: Groups simulate different stakeholders and propose actions in response to various scenarios. Used by the World Energy Council, it helps stakeholders plan actions to meet targets, such as net zero, while balancing their own interests.

Narrative workshop: A foresight lab blending scientific, artistic and social elements, this workshop uses storytelling to reimagine energy futures, encouraging participants to integrate personal stories into scenario planning.

Me-We-Us: This method starts with individual work, moves to group discussions, and ends with a collective conversation, promoting equal participation and improving engagement, as shown in Finland's case study.

CASE STUDIES



Case studies

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13 case studies of participatory planning processes

10 country cases

3 non-government cases

- KCERT 2050 (Kenya Carbon Emission Reduction Tool)
- World Energy Council – World Energy Scenarios
- PAC Scenarios consortium

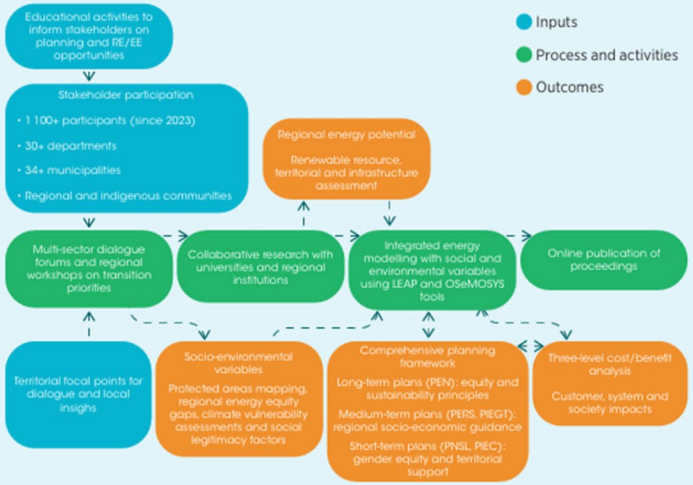
5.5 COLOMBIA

Shifting from national to territorial focus: how Colombia's energy planning incorporates social dialogue and intersectional approaches to drive a just energy transition

Colombia's energy sector is in transition, moving from a focus primarily on energy reliability and maximising revenue from coal and oil, to addressing climate goals while ensuring development across all regions of the country. The Unidad de Planeación Minero Energética (Mining Energy Planning Unit) (UPME) leads this transformation with a participatory approach to planning that emphasises territorial inclusion, particularly for previously marginalised regions and indigenous communities.

Governance	Planning workshops are led by UPME, with multi-sector involvement across government ministries, regional authorities and communities. Framed on the territorial strategy of the Ministry of Mining and Energy.
Scope	Geographical: National with regional and territorial disaggregation. Sector: Energy sector, with linkages to mining, climate action and social development.
Objectives	To shift from a centralised planning model to a territorial framework that incorporates social dialogue and local participation, ensuring that energy planning contributes to the socio-economic development of all regions while promoting climate action and a just energy transition.
Engagement activities	• Multi-sectoral dialogue forums and workshops engaging citizens across departments and municipalities. • Educational and training activities about energy planning processes. • Active community involvement in plan development and validation. • Collaborative research with universities and regional institutions. • Deployment of focal points in key territories for the energy transition.
Key outcomes	Since 2023, UPME has engaged over 1100 participants across 30 departments and 34 municipalities in its participatory processes. The process has integrated social and environmental variables into energy planning models and shifted from cost minimisation to a more holistic approach that considers regional socio-economic benefits.
Resources	UPME allocates dedicated staff for regional engagement, with focal points strategically positioned in key territories.

Process



Notes: EE = energy efficiency; LEAP = Low Emissions Analysis Platform; OSeMOSYS = open source energy modelling system; PEN = Plan Energético Nacional; PIEGT = Planeamiento Integrado de la Expansión en Generación y Transmisión; PNSL = Plan Nacional de Sustitución de Leña; PIEC = Plan Indicativo de Expansión de Cobertura Energética; RE = renewable energy.

Highlight

Colombia's innovative "focal points" strategy places UPME staff members directly within communities across the country, creating continuous channels of communication that build trust and strengthen engagement. These focal points belong to the communities they serve, which enables UPME to maintain ongoing dialogue with regions that were previously underrepresented in energy planning processes.

Lessons learnt

1. Shifting from a purely technical approach to an integrated territorial framework requires multi-sectoral dialogue and strategic deployment of focal points living within communities to facilitate ongoing engagement.
2. Incorporating socio-environmental variables into energy planning models is essential for a just and sustainable transition, particularly in a country with high renewable energy potential but significant developmental disparities.
3. A skilled moderator is vital to ensure that engagements with communities – which are usually limited in time – are efficient, gather useful insights and priorities, and do not veer off-topic.
4. Continuity of focal points is still challenging. The territorial framework must be constantly revised for improvement and to ensure continuity and stability.

Case studies

Youth engagement through interactive calculators (28,000+ students)

Virtual debates to identify divergences and develop technology pathways

Energy Modelling Hub connecting experts and policymakers

Comprehensive consultation registry system for tracking participation

Territorial approach with regional focal points for local engagement

Case studies

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Targeted policy briefs for efficient communication with policymakers

Long-standing dialogue tradition with consistent stakeholder participation

In-person workshops building trust and transparency in planning

Extensive consultation process (15,000 hours) for energy democratisation

Bottom-up & top-down dual approach integrating utility and industry plans

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Case studies

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KCERT 2050 (Kenya)

Interactive calculator tools for different audiences (visual, gamified, spreadsheet)

PAC Consortium (Europe)

Civil society coalition developing Paris-compatible scenarios

World Energy Council (Global)

Socio-political frameworks and regional deep dives for global scenarios

HOW CAN YOU USE THIS TOOLKIT?

How to use the toolkit

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Step 1: Identify Your Context

- Review case studies for similar challenges
- Map critical stakeholder groups
- Assess available resources and capacity

Online surveys
Targeted policy briefs
Virtual meetings

Regional workshops
Steering committees
Interactive tools

Nationwide consultations
Long-term hubs

How to use the toolkit

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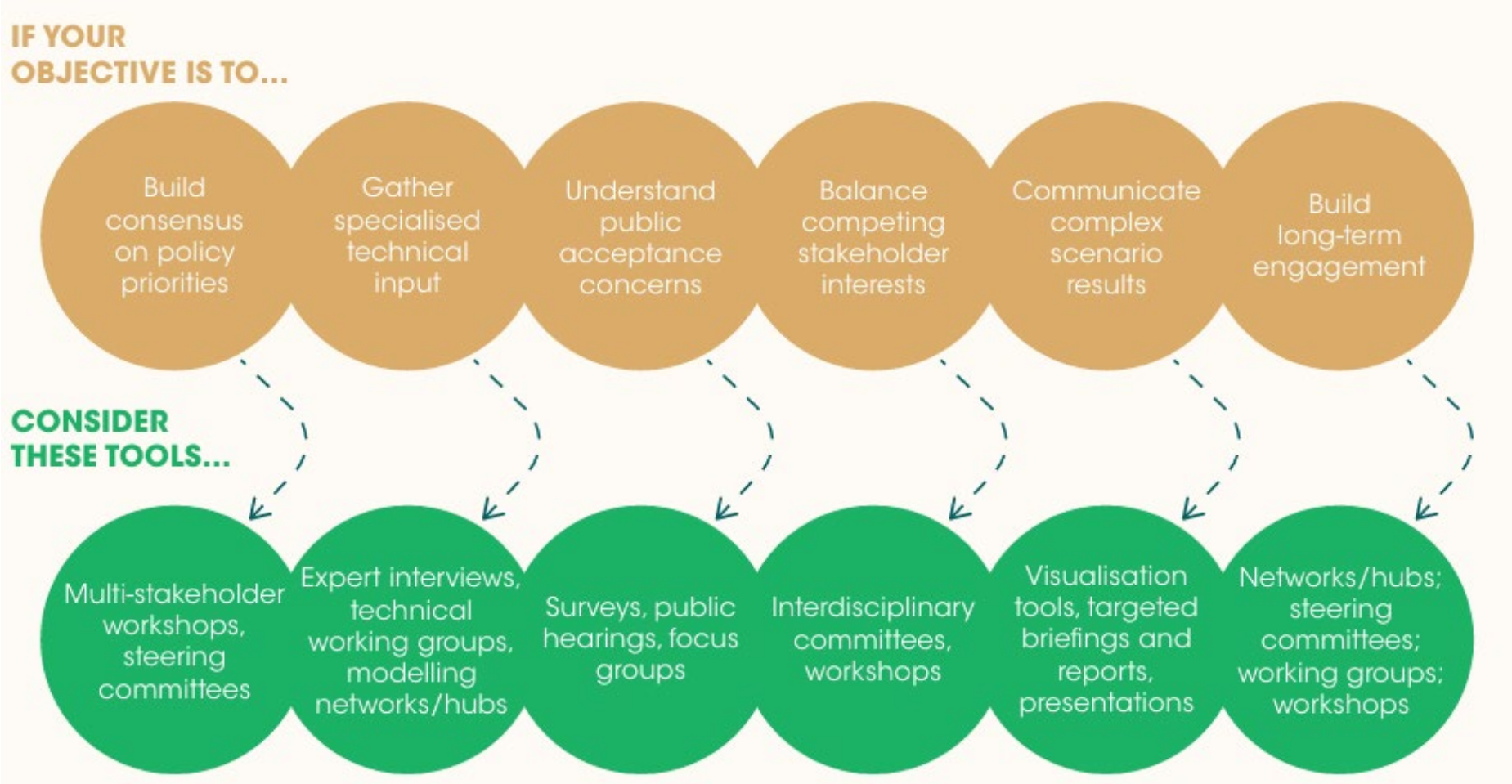
Step 2: Design Your Strategy

- Define which benefits align with your objectives (from tools and stakeholders)
- Develop targeted engagement approaches
- Select appropriate tools for each planning stage

The energy transition challenge



How to use the toolkit

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Step 3: Implement Effectively

- Learn from case study challenges and key learnings
- Adapt approaches to your institutional context
- Use additional resources for detailed guidance (chapter 7)

Challenges

Feedback mechanisms: Limited systems to inform stakeholders how their input influenced final planning outcomes

"Box-Ticking" risk: Stakeholder engagement sometimes treated as compliance rather than genuine participation

Technical complexity: Balancing technical accuracy with accessibility for non-expert stakeholders

Measurement challenges: Evaluating the true impact and benefits of participatory processes vs. traditional planning

Final thoughts

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Essential for success

Participatory processes are essential for achieving ambitious energy and climate goals while ensuring a just transition.

Resource flexibility

Effective participation is possible at all resource levels, from simple online consultations to comprehensive multi-year programs.

Start with what you have

The toolkit offers versatile resources that can be adapted to different contexts, and elements could be combined to achieve the desired objective.

Building trust and sustained engagement takes time!

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Toolkit link:

Thank you!

Email:
LTES@irena.org

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Q & A
5 min

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