European Commission

SET PLAN TASK FORCE RECOMMENDATIONS

Task Force 2: Research and Innovation for Societal Needs

Cross-cutting recommendations to better align SET Plan technological developments with societal needs

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ABBREVIATIONS

Abbreviation	Definition
C4T	Cohesion for Transitions
CEAH	Citizen Energy Advisory Hub
CETP	Clean Energy Transition Partnership
CIIP	Common Implementation and Investment Plan
CLR	Citizen-Led Renovation
EERA	European Energy Research Alliance
EPAH	Energy Poverty Advisory Hub
EPIU	Energy Poverty Intelligence Unit
EPOV	Energy Poverty Observatory
ETIP	European Technology and Innovation Platform
ETIP BAT	Batteries
ETIP BIO	Bioenergy
ETIP GEO	Geothermal
ETIP HYDRO	Hydropower
ETIP OCEAN	Ocean Energy
ETIP PV	Solar Photovoltaics
ETIP RHC	Renewable Heating and Cooling
ETIP SNET	Smart Networks for Energy Transition
ETIP SNETP	Sustainable Nuclear Energy Technology Platform
ETIP WIND	Wind energy
EU	European Union
EC	European Commission
IIC	Implementation and Investment Commitment
IWG	Implementation Working Group
IWG CCS-U	Carbon Capture, Storage, and Utilisation
IWG DCT	Direct Current Technologies
IWG EEB	Energy and Resource Efficiency in Buildings
IWG GEO	Geothermal Energy
IWG H2	Hydrogen
IWG ES	Energy Systems
IWG IND	Sustainable and Efficient Energy Use in Industry
IWG NS	Nuclear safety
IWG OCEAN	Ocean energy
IWG PEDs	Positive Energy Districts
IWG PV	Solar Photovoltaics

Abbreviation	Definition
IWG RFB	Renewable fuels and bioenergy
IWG CST	Concentrated Solar Thermal
IWG WIND	Wind energy
KPI	Key Performance Indicator
NGO	Non-Governmental Organisation
R&I	Research and Innovation
SET	Strategic Energy Technologies
SRIA	Strategic Research and Innovation Agenda
SRL	Societal Readiness Levels
SSH	Social Sciences and Humanities

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EXECUTIVE SUMMARY

The recommendations of the Task Force on 'Research and Innovation (R&I) for societal needs' aim to better align SET Plan technological developments with societal needs. Societal needs encompass diverse requirements, wishes and expectations of citizens and other societal stakeholders. Integrating societal needs into technological development is expected to positively affect societal readiness and adoption of SET Plan technologies. It might also contribute to accelerating SET Plan technology development and deployment in a just, inclusive, and co-beneficial way, and to advancing various wider EU objectives, such as a successful green transition, an innovation-friendly environment, and EU competitiveness.

The Task Force on 'R&I for societal needs' developed **five recommendations**. Recommendation 1 is overarching and mandatory, while recommendations 2 to 5 are thematic in nature. The recommendations were created based on Task Force meetings, written feedback and desk research. The Task Force included 15 Task Force members, 5 Independent Experts, the Task Force Leader and Facilitator, and European Commission Policy Officers (as observers).

The recommendations specify **why** action is needed, **what** solutions could address the identified challenges, and **how** they could be implemented. The full recommendations also indicate who the target audience is of the recommendation, **when** the recommendation should be implemented, and the **KPIs** that could be used to track progress.

The Task Force recommendations target key SET Plan stakeholders: primarily the Implementation Working Groups (**IWGs**), and the European Technology and Innovation Platforms (**ETIPs**), but also the European Energy Research Alliance (**EERA**), and the Clean Energy Transition Partnership (**CETP**). The recommendations can also be relevant to funding agencies of Member States.

The Task Force members, representing the IWGs, ETIPs, EERA and CETP, have expressed strong interest in implementing the recommendations. Implementation of the recommendations is encouraged to commence in 2026 and continue throughout 2027-2030, and progress can be monitored using the proposed KPIs.

Overall recommendation 1: Align SET Plan technological developments with societal needs

Why: Societal needs are, in various cases, still insufficiently integrated into the strategic planning of SET Plan technologies. Some groups have included Social Sciences and Humanities so far, but not all.

What: To address these challenges, core concepts such as societal needs, readiness, and adoption should be integrated in the work of the groups, and sufficient SSH expertise should be ensured.

How: IWGs, ETIPs, EERA and CETP are recommended to: (1) set up a sub-group or establish other means of collaboration to cover expertise and resource gaps on societal needs; (2) identify the most relevant societal needs and Task Force recommendations for the group and set overall objectives; and (3) include references to societal needs in the Thematic Visions, Strategic Research and Innovation Agendas (SRIAs), Implementation and Investment Commitments (IICs) and Common Implementation and Investment Plans (CIIPs).

Guiding questions that can support groups, for example, include: 'What gaps exist in your group's expertise or resources from a societal needs perspective?' and 'Which stakeholder groups are involved in. or affected by, your SET Plan technology area? What value does each group bring, and what level of power, interest, support do they have or require?' and 'Which existing or upcoming national or EU-level projects and programmes support, or could benefit from, a stronger focus on stakeholder communications and engagement?'.

Recommendation 2: Enhance communication with and engagement of citizens and other societal stakeholders throughout all stages of the energy R&I process

Why: Communication and engagement with citizens and societal stakeholders often remain inadequate in projects involving SET Plan technologies. This can negatively affect transparency, support, inclusiveness and trust in these technologies.

What: To address these challenges, well-designed stakeholder engagement processes, stakeholder mapping and inclusive communication should be widely mainstreamed.

How: IWGs, ETIPs, EERA and CETP are recommended to: (1) establish strategic priorities, collaborations and objectives for the implementation of the recommendation on stakeholder engagement and communication; and (2) make use of existing, or develop new publications, events and recommendations that support stakeholder engagement and communication for SET Plan technologies.

Guiding questions that can support groups, for example, include: 'Which stakeholder groups are involved in, or affected by, your SET plan technology area? What value does each group bring, and what level of power, interest, support do they have or require?' and 'Which existing or upcoming national or EU-level projects and programmes support, or could benefit from, a stronger focus on stakeholder communication and engagement?'.

Recommendation 3: Improve the affordability and accessibility of energy technologies and systems and enhance their contribution to the EU's resilience

Why: Energy affordability and accessibility of SET Plan technologies can remain challenging, especially for vulnerable groups, due to limited R&D support and crises amplifying affordability issues and lowering resilience.

What: To address these challenges, existing knowledge and initiatives on energy poverty, accessibility, affordability and resilience should be integrated in the development of SET Plan technologies.

How: IWGs, ETIPs, EERA, and CETP are recommended to: (1) establish strategic priorities and collaborations for the implementation of the recommendation on affordability, accessibility and resilience in line with existing EU policy frameworks; and (2) make use of existing, or develop new publications, events and recommendations that could support affordability, accessibility and resilience of SET Plan technologies.

Guiding questions that can support groups, for example, include: 'Which pillars of the Affordable Energy Action Plan, the Citizen Energy Package, and the European Affordable Housing Plan are linked to your technology area, and could be acted upon?' and 'Which existing resources related to affordability, accessibility and resilience are already available and could be taken up or leveraged by your group?'.

Recommendation 4: Encourage equitable distribution of costs and benefits, and alignment with just energy transition principles

Why: Inequitable distribution of costs and benefits, negative impacts on host communities and obstacles for energy communities can hinder fair energy deployment of SET Plan technologies.

What: To address these challenges, just transition principles and business models that promote equitable cost-benefit sharing should be integrated into SET plan technologies, and the creation and long-term operation of energy communities should be facilitated.

How: IWGs, ETIPs, EERA, and CETP are recommended to: (1) establish strategic priorities and collaborations for the implementation of the recommendation on equitable distribution and just transition; and (2) make use of existing, or develop, new publications, events and recommendations that could support the application of equitable distribution and just transition principles to SET Plan technologies.

Guiding questions that can support groups, for example, include: 'How are the costs and benefits of your SET Plan technology currently being shared among developers, host communities and other affected stakeholders?' and 'Which topics would benefit from stakeholder events and dialogue and which stakeholders would need to be brought together to make progress?'.

Recommendation 5: Maximise synergies between energy systems and other land uses and sectors to meet a variety of societal needs

Why: SET Plan technologies can negatively affect other land uses and sectors, such as environmental protection, agriculture, rural development, commerce and transport.

What: To address these challenges, biodiversity-friendly developments, hybrid installations, multi-use approaches, cross-departmental governmental collaboration and smart spatial planning should be encouraged.

How: IWGs, ETIPs, EERA, and CETP are recommended to: (1) establish strategic priorities and collaborations for the implementation of the recommendation on maximising synergies of energy systems with other land uses; and (2) make use of existing, or develop new publications, events and recommendations that could contribute to maximising synergies of energy systems with other land uses.

Guiding questions that can support groups, for example, include: 'What potential negative biodiversity and environmental impacts could arise from your technology area, and how could these be avoided, minimised or mitigated?' and 'Which resources would need to be developed to upscale hybrid SET Plan technologies?'.

1. INTRODUCTION

The Task Force on 'R&I for societal needs' developed five recommendations to better align SET Plan technologies with societal needs.

The recommendations include an introduction to the key concepts and call for action (Section 1), a list of the EU policies and initiatives linked to the Task Force (Section 2) and the five recommendations (Section 3). In the annexes, there is an overview of the Task Force participants (Annex 1), the Task Force methodology (Annex 2), and expressions of interest in the recommendations from all Task Force members (Annex 3 - internal).

KEY CONCEPTS

The key concepts of this Task Force include **societal needs, societal readiness, societal acceptance and adoption, and the integration of the Social Sciences and Humanities.**

Societal needs encompass diverse requirements, wishes and expectations of citizens and other societal stakeholders (e.g. landowners, NGOs, farmers). These needs differ across diverse groups (e.g. socio-economic situation, geography, vulnerability) and vary over time and across contexts, including geopolitical developments or technological progress in other fields. A non-exhaustive list of societal needs regarding energy systems includes: affordability, accessibility, stakeholder communication and engagement, social cohesion, inclusion, shock resilience, security and sovereignty, environmental sustainability, public health, safety and economic benefits. While some needs are easier to measure and agree upon (e.g. access to energy), others are more closely linked to values and worldviews (e.g. justice). Thus, considering societal needs is a reflexive and dynamic process.

Societal readiness, as integrated in Cluster 5 of the Horizon Europe and EURATOM Work Programme, refers to the co-evolution of technologies and society in line with societal needs. It promotes better alignment of innovation trajectories with society's desired and needed goals, builds inclusive, broad coalitions for change, and fosters understanding and adaptation to diverse concerns and interests. As a result, innovations developed in accordance with societal readiness are more likely to experience increased uptake and adoption.[1,2,3]

Societal Readiness Levels (SRLs) are counterparts to the technological readiness levels and are analysed through society's readiness to adopt a solution. While lower SRL levels indicate R&I teams' awareness of the importance of societal readiness and the identification of societal needs, medium levels indicate greater societal awareness and the inclusion of relevant stakeholders in technological developments. High SRL levels belong to the (pre-)market launch phase and include solutions that are proven in relevant societal environments and used by society.[4]

Societal acceptance and adoption are related concepts emphasising society's perceptions and behaviour. Societal acceptance refers to achieving positive socio-political perceptions and community and market support for clean energy. Societal adoption goes a step further and includes the behavioural outcome in which the technology is integrated in a widespread manner. [5,6]

Integration of the Social Sciences and Humanities (SSH) is closely linked to integrating societal needs into technology development. Social Sciences and Humanities encompass a variety of academic disciplines and diverse qualitative, quantitative, and theoretical research methods. Various domains and topics are linked to SSH, including societal actor engagement; public perception; justice and equity; employment dynamics; economic factors; behavioural aspects; ethical considerations; local vs. global dynamics; infrastructure and spatial planning; social innovation and community initiatives; gender perspectives; and user relevance.[7]

1 https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2026-2027/wp-8-climate-energy-and-mobility_horizon-2026-2027_en.pdf
2 https://thinkingtool.eu/
3 European Commission. (2023). Internal guidance for applicants – Societal readiness pilot in cluster 5.
4 https://ec.europa.eu/isa2/sites/default/files/technology_readiness_revisited_-_icegov2020.pdf
5 K. Moesker et al. (2024). Making sense of acceptance and acceptability: Mapping concept use in energy technologies research. Energy Research & Social Science, 115. https://doi.org/10.1016/j.erss.2024.103654
6 https://iris.uniroma1.it/handle/11573/1696340
7 Gaffuri G., Crowther A., Foulds C., Heidenreich S., Loewen B., Rohse M., Feudo, F., 2025. Strengthening the integration of Social Sciences and Humanities (SSH) in the SET Plan: Policy recommendations for SET Plan Implementation Plans. Cambridge: SSH CENTRE. https://doi.org/10.5281/zenodo.14747552

CALL FOR ACTION

The recommendations serve as a call to action: several challenges remain unresolved and addressing them could unlock significant benefits.

SET Plan innovation trajectories do not always meet societal needs or thoroughly assess the differential impacts of outcomes across segments of society. The Task Force recommendations explicitly aim to address **challenges** such as methodological uncertainty regarding societal needs, procedural or distributive injustices, inaccessibility or unaffordability of SET Plan technologies, and negative externalities affecting the environment and economic interests. These challenges may lead to the risk that technologies are not adopted or accepted by society[8]. There might also be **wider implications**, such as eroding trust in R&I institutions, fostering negative attitudes towards SET Plan technologies, boosting negative externalities, and using public and private resources inefficiently.

These challenges can be partly mitigated by integrating societal needs, readiness and adoption from the start by:

- understanding diverse apprehensions and interests;
- better aligning innovation trajectories with societal needs;
- building inclusive and multi-stakeholder coalitions for change and associated technologies;
- advancing in SRL levels; and
- overcoming undesired aspects of the proposed innovation.

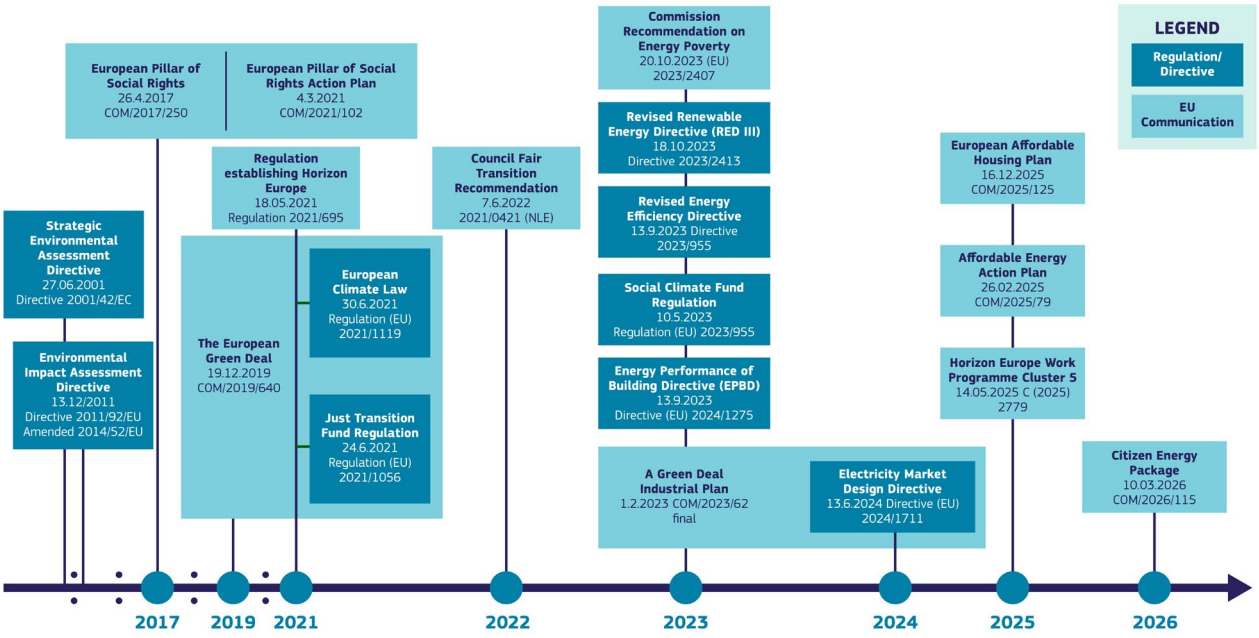
Improved integration of societal needs, readiness and adoption of SET Plan technologies is expected to contribute to boosting SET Plan technology development and deployment in a just, inclusive and co-beneficial way. It will also likely contribute to various EU priorities, including a successful green transition, an innovation-friendly environment and EU competitiveness.

8 European Commission. (2023). Internal guidance for applicants – Societal readiness pilot in cluster 5. .

2. KEY EU POLICIES AND INITIATIVES

Various EU initiatives are relevant to the Task Force. The five Task Force recommendations intersect with—and directly contribute to—the implementation of several binding and non-binding EU policies, plans and recommendations.[9] A chronological timeline and a thematic clustering is shown in the figure and text below.

Figure 2: EU Policy framework relevant to the Task Force



Recent EU policies and initiatives relevant to SET Plan groups include:

- **European Affordable Housing Plan (COM/2025/125)[10]:** Focuses, among others, on supporting energy efficiency, affordability and energy communities and on addressing energy poverty.
- **Work Programme Cluster 5 (C(2025) 2779)[11]:** Prioritises research that responds to the needs and concerns of societal actors, ensuring that EU-funded innovation remains socially relevant.
- **Affordable Energy Action Plan (COM/2025/79)[12]:** Focuses on lowering energy costs, being ready for energy crises, attracting investment, and completing the Energy Union. It primarily addresses the societal need for affordable, accessible and secure energy.
- **Citizen Energy Package (COM/2026/115)[13]:** Empowers consumers and communities to participate directly in the energy transition and supports progress toward the EU target of at least 42.5% renewable energy by 2030, with a 45% ambition. It is linked to the Task Force's emphasis on stakeholder engagement, the equitable distribution of costs and benefits, a just transition, and social cohesion.

EU policies and initiatives with a focus on stakeholder participation in energy:

- **Electricity Market Design Directive (Directive 2024/1711)[14]:** Places consumers at the centre of the clean energy transition, enabling their active participation. It also emphasises the role of stakeholder consultation and social dialogue in relation to technologies and activities.
- **REPowerEU Plan (COM/2022/230)[15]:** Aims to contribute to affordable, secure and sustainable energy for Europe. It also promotes active citizen participation in local renewable energy initiatives and supports the objective of establishing one energy community per municipality (over 10,000 inhabitants) by 2025.

9 Especially initiatives after 2021 have been included
10 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52025DC1025
11 https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2025/wp-8-climate-energy-and-mobility_horizon-2025_en.pdf
12 https://energy.ec.europa.eu/publications/action-plan-affordable-energy-unlocking-true-value-our-energy-union-secure-affordable-efficient-and_en
13 https://energy.ec.europa.eu/document/download/2d525b1f-5461-4dfe-9f8d-14f8c5259886_en?filename=Communication%20-%20Citizens%20Energy%20Package.pdf
14 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202401711
15 https://eur-lex.europa.eu/resource.html?uri=cellar:fc930f14-d7ae-11ec-a95f-01aa75ed71a1.0001.02/DOC_1&format=PDF

- **Trans-European Networks for Energy (TEN-E) Regulation (Regulation 2022/869)[16]:** Governs Projects of Common Interest across electricity, gas, hydrogen and CO_2 transport and requires early and effective public participation in permitting procedures.
- **Grid Action Plan (COM/2023/757)[17]:** Includes a 'Pact for Engagement' (2023)[18] and 'Ten Guiding Principles for Early Public Engagement for the Development of Energy Infrastructure Projects' (2024).[19]

EU policies and initiatives with a focus on social inclusion, rights and vulnerable groups:

- **European Pillar of Social Rights (COM/2017/0250) and Action Plan (COM/2021/102)[20]:** Advances a socially fair transition through stronger social dialogue, inclusive labour markets, and equitable access to green jobs.
- **Just Transition Fund (Regulation 2021/1056)[21]:** Guides Member States in managing social and economic impacts to ensure that no one is left behind.
- **Social Climate Fund (Regulation 2023/955)[22]:** Mitigates the social and economic impacts of the climate transition on vulnerable households and regions.
- **The Revised Energy Efficiency Directive (2023/1791)[23]:** Obliges Member States to prioritise vulnerable customers and social housing within the scope of their energy savings measures.

EU policies and initiatives underlying participatory and environmental standards:

- **Renewable Energy Directive II (RED II, Directive 2018/2001)[24]:** Strengthens the role of citizens and communities as renewable energy consumers and participants in renewable energy communities, while expanding sustainability criteria and ensuring participatory planning.
- **Renewable Energy Directive III (RED III, Directive 2023/2413) Articles 15d, 15e, and 27[25]:** Requires Member States public participation, encourages multiple land uses, and promotes biodiversity-sensitive deployment of renewables.
- **Nature Restoration Law (Regulation 2024/1991)[26]:** Requires Member States to prepare National Restoration Plans, which should be developed in alignment with and in coherence with the provisions of RED III.

16 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R0869
17 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2023%3A757%3AFIN&qid=1701167355682
18 https://energy.ec.europa.eu/document/download/65ffb0ca-928e-4746-adac-74c8f918c7f3_en?filename=Pact%20for%20Engagement%202023.pdf
19 https://circabc.europa.eu/ui/group/8f5f9424-a7ef-4dbf-b914-1af1d12ff5d2/library/dc9c2172-1bc4-460d-b609-b1b5d4588a1a/details
20 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:102:FIN
21 https://eur-lex.europa.eu/eli/reg/2021/1056/oj/eng
22 https://employment-social-affairs.ec.europa.eu/policies-and-activities/funding/social-climate-fund_en
23 https://energy.ec.europa.eu/topics/energy-efficiency/energy-performance-buildings/energy-performance-buildings-directive_en
https://eur-lex.europa.eu/eli/dir/2023/1791/oj/eng
24 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L2001
25 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202302413
26 https://eur-lex.europa.eu/eli/reg/2024/1991/oj/eng

3. RECOMMENDATIONS

The Task Force 'R&I for Societal Needs' developed **five recommendations**. Recommendation 1 is overarching and mandatory, while recommendations 2 to 5 are thematic in nature.

Figure 2: The Societal Needs Task Force Recommendations

The Task Force recommendations target key **SET Plan stakeholders:** primarily the IWGs and the ETIPs, but also EERA and CETP. The recommendations can also be relevant to funding agencies of Member States.

All recommendations include the following elements:

- **Summary** of the key insights
- **Why** action is needed
- **What** solutions are out there to help resolve challenges
- **Who** is interested in implementing the recommendation
- **How** the recommendation can be implemented through various actions
- **When** it is recommended to implement the recommendation
- **Which KPIs** could help track implementation progress

The Task Force included 15 Task Force members, 5 Independent Experts, the Task Force Leader and Facilitator, and European Commission Policy Officers (as observers) (see participants list in Annex 1). The recommendations were created based on Task Force meetings, written feedback and desk research (see methodology in Annex 2).

OVERALL RECOMMENDATION 1. ALIGN THE SET PLAN TECHNOLOGICAL DEVELOPMENTS WITH SOCIETAL NEEDS

Recommendation summary:

In various cases, societal needs are still insufficiently integrated into the strategic planning for SET Plan technologies. Some groups have included Social Sciences and Humanities (SSH) so far, but not all.

To address these challenges, core concepts such as societal needs, readiness, and adoption should be integrated into the work of SET Plan groups, and sufficient SSH expertise should be ensured.

IWGs, ETIPs, EERA and CETP are recommended to: (1) set up a sub-group or establish other means of collaboration to cover expertise and resource gaps on societal needs; (2) identify the most relevant societal needs and Task Force recommendations for the group and set overall objectives; and (3) include references to societal needs in the Thematic Visions, Strategic Research and Innovation Agendas (SRIAs), Implementation and Investment Commitments (IICs) and Common Implementation and Investment Plans (CIIPs).

Guiding questions that can support groups, for example, include: 'What gaps exist in your group's expertise or resources from a societal needs perspective?' and 'Which overarching studies on societal needs would need to be undertaken to develop a better overview of the most relevant societal needs for your technology area?'.

WHY

Challenges identified by TF members and the literature

- **Lack of established procedures to identify societal needs:** Societal needs integration is rarely a common practice, neither in academia nor in EU policies. Clear procedures for identifying, assessing, monitoring, or integrating societal needs into SET Plan technologies appear to be limited. In addition, data on societal needs and impacts can be fragmented, and robust indicators for systematic integration into energy R&I are rarely used.
- **Limited integration of SSH expertise:** The involvement of SSH experts in societal needs occurred in some SET Plan groups, but remained limited. The publication 'Strengthening the integration of Social Sciences and Humanities (SSH)' includes some of the pain points across SET Plan groups.[27]
- **Wider negative implications:** Neglecting societal needs can potentially weaken economic viability and resilience when innovations fail to align with citizens' priorities and real-world challenges. It could also foster negative attitudes towards SET Plan technologies, boost negative externalities, and lead to inefficient use of public and private resources.

Expected outcomes and contribution to EU priorities

Implementation of the recommendation is expected to contribute to achieving better alignment between SET Plan technological developments and societal needs, readiness and adoption, and SSH perspectives.

The recommendation is aligned with the EU policies outlined in Section 2 and has the potential to contribute to the achievement of related EU priorities.

27 Gaffuri G., Crowther A., Foulds C., Heidenreich S., Loewen B., Rohse M., Feudo, F., 2025. Strengthening the integration of Social Sciences and Humanities (SSH) in the SET Plan: Policy recommendations for SET Plan Implementation Plans. Cambridge: SSH CENTRE. https://doi.org/10.5281/zenodo.14747552

WHAT

SET Plan groups could support the following solutions to address the identified challenges:

1. **Integrate insights on societal readiness, building on Horizon Europe:** The Societal Readiness Pilots in Horizon Europe's pilot projects in climate, energy, and mobility can inform work within the SET Plan. These pilots propose criteria and requirements tailored to different technological fields, guiding projects in responding more effectively to societal needs. [28]

2. **Support the development of a framework which assesses societal impacts:** An impact framework could provide a structured approach to evaluate societal impacts and values ex-ante and post-hoc, ensuring societal considerations become a core design principle.

3. **Enhance SSH integration by following the SSH centre recommendations:** The publication 'Strengthening the integration of Social Sciences and Humanities (SSH)' includes recommendations tailored to SET Plan groups on how to enhance SSH integration.[29,30]

WHO

Groups who expressed interest in implementing the actions under this recommendation are: IWG NS, IWG CST, IWG EEB, IWG RFB, IWG IND, IWG PED, ETIP SNETP, ETIP SNET, ETIP HYDRO, ETIP PV, ETIP GEO, ETIP WIND, ETIP BAT, ETIP RHC, CETP and EERA. Their expressions of interest in the recommendation are outlined in the internal Annex 3.

HOW

Action Point 1.1: Set up a sub-group or other collaborations to cover expertise and resource gaps, and ensure a continuous focus on societal needs.

Reflect on the following guiding questions:

- What gaps exist in the expertise or resources of your group from a societal needs perspective?
- What would be the best way for your group to consolidate knowledge on societal needs: A sub-group with existing members, engagement with experts or NGOs, collaborations with other SET Plan groups, or alternative options?
- How and when should the societal needs sub-groups or collaborations best take place (continuous or at specific points in time)?
- With which other SET Plan groups would it make sense to continue working together, and how can you ensure a shared knowledge base?

Take into account the following reflections:

- **Initiate the establishment of a sub-group on societal needs and SSH:** These bodies can take on the role to assess existing competencies, identify gaps and strengthen expertise through targeted capacity building. In the past, some SET Plan groups had SSH sub-groups, such as the ETIP GEO, ETIP BAT, ETIP RHC, ETIP-SNETP, EERA and CETP. These groups could serve as a starting point.
- **Maintain structured dialogue with other SET Plan groups to ensure synergies and avoid overlaps:** These dialogues could focus on co-developing practical tools, frameworks, and studies that help integrate societal needs into planning and implementation.
- **Use the Societal Readiness Thinking Tool:** The Societal Readiness Thinking Tool includes guiding questions across 4 project stages on societal trends and Responsible Research and Innovation.[31] Also, responsible research innovation principles could provide guiding questions and principles.[32]
- **Adapt collaborations and expertise mapping throughout the process.** Expertise gaps in SSH disciplines and societal needs may emerge throughout the process and may need to be addressed on an ad hoc basis.

28 https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2025/wp-8-climate-energy-and-mobility_horizon-2025_en.pdf
29 https://research-and-innovation.ec.europa.eu/research-area/social-sciences-and-humanities/ssh-integration_en
30 Gaffuri G., Crowther A., Foulds C., Heidenreich S., Loewen B., Rohse M., Feudo, F., 2025. Strengthening the integration of Social Sciences and Humanities (SSH) in the SET Plan: Policy recommendations for SET Plan Implementation Plans. Cambridge: SSH CENTRE. https://doi.org/10.5281/zenodo.14747552
31 https://thinkingtool.eu/#:~:text=The%20thinking%20tool%20offers%20practical,with%20societal%20needs%20and%20expectations
32 https://www.era-learn.eu/support-for-partnerships/governance-administration-legal-base/responsible-research-innovation

Action Point 1.2: Identify the most relevant societal needs and Task Force recommendations for your group, and set overall objectives for integrating them.

Reflect on the following guiding questions:

- What criteria or framework will you use to prioritise societal needs and the Task Force recommendations?
- What are the key societal needs and recommendations most relevant to your technology area? How can a focus on societal needs contribute to your group's overall strategic goals and objectives?
- How can you adopt a societal needs perspective for technologies with lower SRL?
- Which overall studies on societal needs might need to be developed to create a better overview for your technology area?
- How will you monitor actions committed to? What quantitative and qualitative indicators could be used to track your commitments? Which metrics could be used and developed to track advancements in societal needs within your technology area?

Take into account the following reflections:

- **Develop a prioritisation grid for societal needs:** By defining the selection criteria that are essential for the prioritisation of societal needs, a more methodological approach to prioritisation could be enabled. The expressions of interest (Annex 3 – internal) could also inform the prioritisation.
- **Consider structured research methods and projects to get data-driven inputs on societal needs:** Structured perception surveys could, for example, be incorporated as part of the societal needs identification and monitoring framework. Beyond capturing general attitudes, well-designed surveys can help systematically assess levels of trust in institutions and market actors, as well as perceived local benefits. When implemented longitudinally, such instruments would strengthen the evidence base for prioritising societal needs, enable more consistent monitoring of societal readiness over time, and support a more robust and data-informed integration of societal factors into R&I planning and technology deployment strategies.
- **Develop a knowledge base with relevant resources and new overall strategic resources on societal needs:** Develop resources (e.g. publications, white papers, position papers, and studies) to gain a more detailed technology-specific understanding of societal needs and capture the specifics of the importance and impact of societal needs.
- **Initiate the development of a more advanced framework to assess the societal impact of the relevant SET Plan technology areas:** This framework would provide concrete tools and metrics to assess societal impacts and integrate societal goals into the design of R&I priorities. The framework could include criteria for assessing societal readiness specifically for SET Plan activities and incorporate the use of Societal Readiness Tools.
- **Develop a monitoring framework:** To ensure staying on track with the committed actions on societal needs, KPIs could be identified, and an internal monitoring framework could be created.

Action Point 1.3: Include references to societal needs in the Thematic Visions, SRIAs, IICs, and CIIPs.

Reflect on the following guiding questions:

- How and where do you want to integrate societal needs, the Task Force recommendations and actions in upcoming strategic documents?
- What steps and action points need to be executed to include relevant references to societal needs in these strategic documents?

Take into account the following inputs:

Include the following content on societal needs in your strategic documents:

- The importance of societal needs integration for the group
- The key societal needs the group should address
- Specific actions to be taken
- Expected impacts and implications, including possible indicators
- Societal groups to be integrated
- Open questions and gaps identified
- KPIs and monitoring indications
- Relevant linkages to policy initiatives

Use examples of how groups included SSH in the past: The IWG Wind has, for example, in the past included a chapter on 'Social Sciences and Humanities in Offshore Wind R&I'[33] and emphasised the priority of continuing to improve its impact on society and the environment.

WHEN

- The implementation of the recommendation should be commenced in the short term (2026-2027) and continue into the medium term (2027-2030) and long term (by 2030).
- Action point 1.3 has fixed deadlines. The Thematic Visions of the IWGs should be ready by May 2026, and the SRIAs by November 2026. Action points 1.1 and 1.2 can precede that step, but can also be continued afterwards.

KEY PERFORMANCE INDICATORS (KPIS)

- # of IWGs/ETIPs integrating topics of this recommendation in their Thematic Visions, SRIAs, IICs and CIIPs
- # of IWGs/ETIPs setting up sub-groups or collaborations with experts on societal needs and SSH
- # of resources developed, such as publications, white papers, or policy briefs that outline societal needs and integration methods

33 https://setipwind.eu/wp-content/uploads/files/2nd-SET-Plan-Implementation-Plan-for-Offshore-Wind_2022.pdf

RECOMMENDATION 2. ENHANCE COMMUNICATION WITH AND ENGAGEMENT OF CITIZENS AND OTHER SOCIETAL STAKEHOLDERS THROUGHOUT ALL STAGES OF THE R&I PROCESS

Recommendation summary:

Communication and engagement with citizens and societal stakeholders often remain inadequate in projects involving SET Plan technologies. This can negatively affect transparency, support, inclusiveness and trust in these technologies.

To address these challenges, well-designed stakeholder engagement processes, stakeholder mapping and inclusive communication should be widely mainstreamed.

IWGs, ETIPs, EERA and CETP are recommended to: (1) establish strategic priorities, collaborations and objectives for the implementation of the recommendation on stakeholder engagement and communication; and (2) make use of existing, or develop new publications, events and recommendations that support stakeholder engagement and communication for SET Plan technologies.

Guiding questions that can support groups, for example, include: 'Which stakeholder groups are involved in, or affected by, your SET Plan technology area? What value does each group bring, and what level of power, interest, support do they have or require?' and 'Which existing or upcoming national or EU-level projects and programmes support, or could benefit from, a stronger focus on stakeholder communication and engagement?'.

WHY

Challenges identified by TF members and the literature

- **Lack of awareness and accessible information:** In some cases, there is limited awareness and easily accessible public information about SET Plan technologies, which hinders adequate understanding of the functioning, benefits and implications of SET Plan technologies.
- **Insufficient communication and expertise:** Complex technical jargon and limited expertise among public bodies hinder effective communication with the public.
- **Limited understanding of societal needs and the role of citizens:** Technology developers and policy makers often lack sufficient understanding of citizens' and stakeholders' needs, concerns, and preferences.[34] This is partly due to insufficient capacity, resources and organisational structures and workings.
- **Inadequate involvement levels:** Citizens and other societal stakeholders are sometimes seen as passive users rather than active participants.[35] The intensity of involvement also does not always correspond to the wishes and capacities of the stakeholders.
- **Inadequate enabling factors for engagement:** Various SET Plan technologies lack regulatory frameworks that budget for stakeholder engagement costs. There can be a lack of transparent communication about how societal needs will (or will not) be responded to.
- **Hindered public engagement and trust:** Constructive public engagement is sometimes hindered by past negative experiences with the energy sector, a lack of trust in technology promoters and public bodies[36], and the presence of misinformation.[37]

34 Argenti, N., & Knight, D. M. (2015). Sun, Wind, and the Rebirth of Extractive Economies: Renewable Energy Investment and Metanarratives of Crisis in Greece. Journal of the Royal Anthropological Institute 21 (4): 781–802. https://doi.org/10.1111/1467-9655.12287

35 Gaffuri G., Crowther A., Foulds C., Heidenreich S., Loewen B., Rohse M., Feudo, F., 2025. Strengthening the integration of Social Sciences and Humanities (SSH) in the SET Plan: Policy recommendations for SET Plan Implementation Plans. Cambridge: SSH CENTRE. https://doi.org/10.5281/zenodo.14747552

36 Otto, D., Chilvers, J., & Trdlicova, K. (2023). A synthetic review of the trust-participation nexus: Towards a relational concept of trust in energy system transformations to net zero. Energy Research and Social Science, 10, 103140. https://doi.org/10.1016/j.erss.2023.103140

37 Carmi, E., Yates, S. J., Lockley, E., & Pawluczuk, A. (2020). Data citizenship: Rethinking data literacy in the age of disinformation, misinformation, and malinformation. Internet Policy Review, 9(2), 1–22.

Expected outcomes and contribution to EU priorities

Implementation of the recommendation is expected to increase public awareness of SET Plan technologies, enhance their social legitimacy and acceptability, and ensure the incorporation of societal stakeholders' knowledge and perspectives into technological development and deployment. This will also likely contribute to better societal readiness and adoption of SET Plan technologies.

The recommendation aligns with several EU policies outlined in Section 2 (e.g. the Grid Action Plan and the Renewable Energy Directive III). It also has the potential to contribute to achieving related EU priorities.

WHAT

SET Plan groups could support the following solutions to address the identified challenges:

1. **Develop well-designed stakeholder engagement processes:** Stakeholder engagement should be intrinsically anchored within the development, manufacturing and deployment of SET Plan technologies. The objectives of stakeholder engagement should be clearly defined, and the right involvement levels should be identified (e.g. sharing information, consulting, involving, collaborating and empowering[38,39]).
2. **Map relevant citizens, communities and other societal stakeholders:** Relevant stakeholders should be identified and classified through a diligent mapping process.
3. **Follow the principle of multi-scalarity:** Sub-national engagement and connections among stakeholders and levels should be understood and engaged to build multidirectional trust and to follow the principles of transparency and inclusiveness.[40]
4. **Facilitate inclusive communication design and implementation:** This includes the preparation of culturally appropriate materials in relevant languages, while avoiding over-technical and expert jargon. Communication should also be well-adapted to the defined target groups, and engagement tools shall be designed in an accessible and inclusive way, addressing the needs of vulnerable citizens and those with low digital literacy.

WHO

Groups who expressed interest in implementing the actions under this recommendation are: IWG NS, IWG CST, IWG EEB, IWG RFB, IWG IND, IWG PED, ETIP WIND, ETIP SNETP, ETIP HYDRO, ETIP PV, ETIP GEO, ETIP SNET, ETIP BAT, ETIP RHC, CETP and EERA. Their expressions of interest in the recommendation are outlined in the internal Annex 3.

HOW

Action Point 2.1: Establish strategic priorities, collaborations, and objectives for implementing the recommendation on stakeholder engagement and communication.

Reflect on the following questions:

- Who are the stakeholder groups involved in or affected by your SET Plan technology area? What value do each of them bring, and how much power/interest/support do they have or need?
- How can you best identify the societal needs of relevant stakeholders? When and how is it best to engage with them, avoiding a 'ticking-box' exercise but also considering stakeholders' limited resources and potential fatigue?
- What are the key mis- and disinformation narratives linked to your technology area? In which societal groups do they take place, and what are their causes? Which actions could be taken to advance on this?
- Which SET Plan groups, EU initiatives or experts can support your group in improving your understanding of stakeholder communication and engagement?

38 https://i2insights.org/2022/08/30/learning-from-arnsteins-ladder-and-iap2-spectrum/

39 Devaney, L., Torney, D., Brereton, P., Coleman, M. (2020). Ireland's citizens' assembly on climate change: lessons for deliberative public engagement and communication. Environ Commun 14(2):141–146 https://doi.org/10.1080/17524032.2019.1708429

40 Gaffuri G., Crowther A., Foulds C., Heidenreich S., Loewen B., Rohse M., Feudo, F., 2025. Strengthening the integration of Social Sciences and Humanities (SSH) in the SET Plan: Policy recommendations for SET Plan Implementation Plans. Cambridge: SSH CENTRE. https://doi.org/10.5281/zenodo.14747552

Take into account the following inputs:

- **Specify strategic priorities and include them in your strategic documents:** In line with recommendation 1, priorities relevant to the recommendation should be identified, and included in the Thematic Visions, SRIAs, IICs and CIIPs.
- **Emphasise the need for budgets, training and capacity-building activities on stakeholder engagement:** To improve stakeholder engagement and communication on the ground, the right resources and support need to be ensured and SET Plan groups could encourage this.
- **Collaborate with EU initiatives, including:**
  - The BRIDGE initiative, which has a working group on consumer and citizens engagement and strategies of engagement or collaboration between SET Plan technologies[41]
  - The European Commission's unit responsible for facilitating stakeholders' meetings under the Pact for Engagement[42]
  - The Scenarios Stakeholder Reference Group, which accompanies the European energy system planning process[43]
  - The EERA Joint Programme 'Clean Energy Transition for Sustainable Society' (e3s)[44]
  - Or other relevant initiatives: HorizonEU project Open Knowledge Platform, the Cities Mission, the Climate City Contracts, the EPIU-Getafe, and the C4T Community of Practice
- **Collaborate with other SET Plan groups:** Collaborations with frontrunning SET Plan groups on stakeholder engagement and communication could be established. ETIP SNETP, for example, has worked with the European Industrial Alliance on public engagement and societal dialogue.

Action Point 2.2 Use existing or create new publications, events and recommendations that support stakeholder engagement and communication for SET Plan technologies.

Reflect on the following guiding questions:

- What are the research gaps related to stakeholder engagement for your SET Plan technology area? What are the exact issues on that topic which have not been covered by existing research? What are the most relevant formats to share these findings?
- What resources and supports are needed for those developing SET Plan technologies to engage with citizens and other societal stakeholders meaningfully?
- Which kind of topics would benefit from an event and discussions among stakeholders? Which stakeholders need to be brought together in events to make progress?
- Which existing or upcoming national or EU-level projects and programmes support or could benefit from more focus on stakeholder communication and engagement?
- How and when can you engage with these projects and programmes to share your group's inputs on stakeholder communication and engagement?

Take into account the following considerations:

- **Develop ideal stakeholder engagement pathways specific to your SET Plan technology area:** The development of actionable guidelines and checklists for developing stakeholder projects with well-designed stakeholder engagement could support mainstreaming good practices across projects. This could, for example, also be taken up by national governments and influence procurement criteria.
- **Link with Horizon Europe research projects on stakeholder engagement and communication:** Relevant Horizon Europe projects, for example, include HORIZON-CL5-2025-02-D3-03 (geothermal) on inclusive, early and continuous societal engagement[45] and HORIZON-CL5-2026-02-D3-22 (thermal energy storage) on inclusive societal engagement which is sensitive to the technical specificities and social challenges[46].
- **Develop R&I activities on stakeholder engagement and communication:** The ETIP Wind SRIA, for example, includes a scope of actions to 'increase public engagement of citizens and coexistence with other sectors'.[47]

41 https://bridge-smart-grid-storage-systems-digital-projects.ec.europa.eu/
42 https://energy.ec.europa.eu/topics/infrastructure/public-acceptance-and-stakeholder-engagement_en
43 https://www.entsos-tyndp-scenarios.eu/stakeholder-reference-group/
44 https://www.eera-e3s.eu
45 https://cordis.europa.eu/programme/id/HORIZON_HORIZON-CL5-2025-02-D3-03
46 https://cordis.europa.eu/programme/id/HORIZON_HORIZON-CL5-2025-02-D3-03
47 https://etipwind.eu/files/file/agendas/231205-ETIPWind-SRIA.pdf

- **Develop public policy studies:** These could, for example, focus on measures that support or hinder stakeholder and public engagement for specific SET Plan technologies; the transferability of public engagement strategies; the effectiveness measurement of public engagement activities; public involvement in the energy innovation space; or education and public engagement over the life span of energy technologies.
- **Consider promoting innovative instruments:** These could, for example, include citizen assemblies to analyse social demands, and tripartite dialogues (government, companies, citizens) with creative methods.
- **Develop case studies:** These studies could, for example, focus on dis- and misinformation narratives, communication around novel energy technology developments, engagement methods that work across diverse technologies, or cross-fertilising solutions and approaches.

WHEN

The implementation of the recommendation should commence in the short term (2026-2027), continue into the medium term (2027-2030), and continue into the long term (by 2030).

KEY PERFORMANCE INDICATORS (KPIS)

- # of IWGs/ETIPs integrating topics of this recommendation in their Thematic Visions, SRIAs, IICs and CIIPs
- # of resources and events connected to this recommendation
- # of meetings taking place between stakeholders, dedicated to the recommendation

RECOMMENDATION 3. IMPROVE THE AFFORDABILITY AND ACCESSIBILITY OF ENERGY TECHNOLOGIES AND SYSTEMS, AND ENHANCE THEIR CONTRIBUTION TO THE EU'S RESILIENCE

Recommendation summary:

Energy affordability and accessibility of SET Plan technologies can remain challenging, especially for vulnerable groups, due to limited R&I support and external crises that amplify affordability issues and reduce resilience.

To address these challenges, existing knowledge and initiatives on energy poverty, accessibility, affordability and resilience should be integrated into the development of SET Plan technologies.

IWGs, ETIPs, EERA, and CETP are recommended to: (1) establish strategic priorities and collaborations for the implementation of the recommendation on affordability, accessibility and resilience in line with existing EU policy frameworks; and (2) make use of existing, or develop new publications, events and recommendations that could support affordability, accessibility and resilience of SET Plan technologies.

Guiding questions that can support groups, for example, include: 'Which pillars of the Affordable Energy Action Plan, the Citizen Energy Package, and the European Affordable Housing Plan are linked to your technology area, and could be acted upon?' and 'Which existing resources related to affordability, accessibility and resilience are already available and could be taken up or leveraged by your group?'.

WHY

Challenges identified by TF members and the literature

- **Lack of cost reduction and affordability considerations:** Despite progress with some SET Plan technologies, cost reductions are still needed to enable widespread diffusion and compete against other energy sources.[48,49] Energy bills are high due to a variety of factors, including energy supply costs linked to the overall level of consumption, network costs, excise levies and taxation. Other related challenges include a lack of full integration in the electricity system, challenges with grid infrastructure and lengthy permitting procedures of SET Plan technologies.[50]
- **Energy poverty remains an intersectional challenge:** Energy poverty is an intersectional and geographically specific problem that SET Plan technologies have often not highlighted yet in their work. Energy poverty affects more than 46 million Europeans and has a disproportionate impact on vulnerable groups.[51,52]
- **Insufficient R&I and financial support:** Some SET Plan technologies face limited R&I support, insufficient long-term investment, and inadequate regulation. High upfront and maintenance costs, limited markets, and support measures that do not account for context and differences between solutions hinder affordability and accessibility.
- **Shocks threatening energy resilience, security and sovereignty:** Europe's reliance on imported fossil fuels and fragmented supply chains threatens energy resilience and security.[53] SET Plan technologies have so far often had a limited comprehensive strategy or communication on how they contribute or address energy security (i.e protection of infrastructure and reliable supply) and energy sovereignty (i.e. reduced external dependencies and greater control over strategic resources).

Expected outcomes and contribution to EU priorities

Implementation of the recommendation is expected to contribute to SET Plan technologies which are more affordable, accessible, and resilient to future shocks. This will also likely contribute to better societal readiness and adoption of SET Plan technologies.

The recommendation is aligned with several EU policies outlined in Section 2 (e.g. Affordable Energy Action Plan and European Affordable Housing Plan) and has the potential to contribute to the achievement of related EU priorities.

48 IEA (2024), World Energy Outlook 2024, IEA, Paris https://www.iea.org/reports/world-energy-outlook-2024, Licence: CC BY 4.0 (report); CC BY NC SA 4.0 (Annex A)
49 Alkemade, F., de Bruin, B., El-Feiaz, A., Pasimeni, F., Niamir, L., & Wade, R. (2024). Social tipping dynamics in the energy system. Earth System Dynamics, 15(2), 485-500.
50 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52025DC0079
51 https://energy-poverty.ec.europa.eu/epah-indicators?indicator-inability+tkphmdqt+warm-eurostat+households-total+bynts+region-nuts+2-country-all+indicators-2025
52 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52025DC0079
53 https://commission.europa.eu/news-and-media/news/boosting-eus-energy-independence-and-lowering-costs-2026-03-10_en

WHAT

SET Plan groups could support the following solutions to address the identified challenges:

1. **Utilise research on the affordability challenges:** Various existing initiatives can be consulted like the Energy Poverty Advisory Hub (EPAH) and the Energy Poverty Action: Agenda Co-Creation and Knowledge Innovation (ENGAGER 2017-2021).

2. **Contribute to the agenda of the Affordable Energy Action Plan:** Alignment can be facilitated with the following pillars:

   - Lower energy costs (Pillar 1) by making electricity bills more affordable, bringing down the cost of electricity supply, and upscaling measures on energy efficiency.
   - Complete the Energy Union (Pillar 2) by aligning with the coordination happening with Member States via the SET Plan Steering Group established by the Net-Zero Industry Act.
   - Attract investment and ensure delivery (Pillar 3) by contributing and aligning to the tripartite contract for affordable energy for Europe's industry.
   - Being ready for potential energy crises (Pillar 4) by ensuring security of supply for price stability and price crises preparedness.

3. **Contribute to the agenda of the Citizens Energy Package:** The package sets out concrete action to: (i) lower energy bills for households; (ii) protect and empower consumers; (iii) tackle energy poverty; and (iv) implement the existing EU laws effectively.[54] These can be used as an inspiration for SET Plan groups.

4. **Boost EU's energy independence and security by accelerating the development, deployment and responsible sourcing of SET Plan technologies:** Strategies that can help include supporting diversification of supply chains, strengthening domestic innovation and manufacturing capacities, and fostering strategic cooperation among Member States. This should reduce dependencies on external energy sources and critical materials while enhancing the resilience and stability of the European energy system.[55]

5. **Create responsible value chains and ethical investments in energy:** SET Plan technologies can support hotspots in which different components of the value chain (from extraction to decommissioning) are concentrated in the same region. This also has the potential to foster cross-sectoral collaboration and knowledge sharing and to support independence from foreign energy. In addition, traceability and transparency for the materials and components used in SET Plan technologies could be improved.

6. **Ensure early and consistent engagement and inclusive local production of clean energy:** Well-designed stakeholder engagement can ensure that stakeholders' concerns and values are reflected in decision-making processes (see also recommendation 1).[56] Stakeholder engagement should be inclusive to the energy vulnerable (including women, single parents, ethnic and racial minorities, low socioeconomic background and rural areas). In addition, local and neighbourhood approaches can boost affordability, accessibility and resilience[57,58,59] (see also recommendation 3).

WHO

Groups who expressed interest in implementing the actions under this recommendation are: IWG NS, IWG CST, IWG EEB, IWG RFB, IWG IND, IWG PED, ETIP WIND, ETIP SNETP, ETIP HYDRO, ETIP PV, ETIP GEO, ETIP SNET, ETIP BAT, ETIP PED, ETIP RHC, CETP and EERA. Their expressions of interest in the recommendation are outlined in the internal Annex 3.

54 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52026DC0115
55 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52025DC0484
56 Crowther, Ami; Foulds, Chris; Robison, Rosie; Gladkykh, Ganna (Hg.) (2024): Strengthening European Energy Policy. Cham: Springer Nature Switzerland.
57 Wade, R., Pasimeni, F., Loomans, N., & Alkemade, F. (2025). Energy Community Surplus Sharing: Solidarity Strategies for Energy Commons Governance. International Journal of the Commons, 19(1)
58 Bauwens, T. (2017). Polycentric governance approaches for a low-carbon transition: the roles of community-based energy initiatives in enhancing the resilience of future energy systems. In Complex systems and social practices in energy transitions: Framing energy sustainability in the time of renewables (pp. 119-145). Cham: Springer International Publishing.
59 Richardson, K., Renda, A., Alkemade, F., Walz, R., Simonsson, J., Grabbe, H., ... & Castaño Marin, M. (2024). Why Europe needs a systemic R&I policy: redefining competitiveness for long-term sustainability.

HOW

Action Point 3.1: Establish strategic priorities and collaborations to implement the recommendation on affordability, accessibility, and resilience.

Reflect on the following guiding questions:

- What are the potential negative externalities of your technology area on energy affordability, accessibility and resilience? How could these externalities be better mitigated?
- Can your technology area contribute to improved energy affordability, accessibility and resilience? What would be the most effective ways? With which other technology areas would collaboration be needed?
- Which pillars of the Affordable Energy Action Plan, the Citizen Energy Package, and the European Affordable Housing Plan are linked to your technology area?
- How do dynamics and effects differ on the micro-, meso- or macro-level?
- How can we monitor and anticipate energy poverty, affordability, accessibility and resilience in relation to this technology?
- What is needed to enhance European sovereignty in relation to this technology area?
- What are the characteristics of socio-technical energy system configurations that foster energy accessibility, affordability and community resilience in relation to this technology?

Take into account the following inputs:

- **Specify strategic priorities and include them in your strategic documents:** In line with recommendation 1, priorities relevant to the recommendation should be identified, and included in the Thematic Visions, SRIAs, IICs and CIIPs.
- **Develop R&I activities on affordability, accessibility and resilience in line with relevant policies and support:** The R&I activities could be linked to the Affordable Energy Action Plan, the Citizen Energy Package, and the European Affordable Housing Plan.
- **Make use of capacity-building support for EU and national policymakers, local authorities, industry, and civil society on accessibility and affordability of SET Plan technologies:** Capacity-building support already exists at the EU level through Cohesion Policy, Next GEN EU, and the RECAST EPBD mandates that MS set up technical assistance facilities under Article 18(1) Implementation. Further usage and scaling must be participatory, place-based, and tailored to reduce energy inequalities and foster public trust. Groups could also spread the word on the technical assistance of, among others, the Citizen Energy Package.
- **Collaborate with other SET Plan groups, EU initiatives or SSH experts:** Initiatives that focus on affordability, accessibility and resilience include The Energy Poverty Advisory Hub (EPAH)[60], Energy Poverty Action: Agenda Co-Creation and Knowledge Innovation (ENGAGER 2017-2021)[61], EU Energy Poverty Observatory (EPOV)[62]. Also, close cooperation with stakeholders from the building renovation sector on the availability of space for SET Plan technologies is recommended.

60 https://energy-poverty.ec.europa.eu/
61 https://www.engager-energy.net/
62 https://energy-poverty.ec.europa.eu/observatory

Action Point 3.2: Use existing publications and create new ones, and organise events and recommendations that could support the affordability, accessibility, and resilience of SET Plan technologies.

- Reflect on the following guiding questions:
  - What are the research gaps related to affordability, accessibility and resilience for your SET Plan technology area?
  - Which resources are already out there on the topic of affordability, accessibility and resilience that your group could take up?
  - Which kind of topics would benefit from an event and discussions among stakeholders? Which stakeholders need to be brought together in events to make progress?
  - Which existing or upcoming national or EU-level projects and programmes could benefit from more focus or be an inspiration on the topics of affordability, accessibility and resilience?
  - How and when can you engage with these projects and programmes to share your group's inputs on affordability, accessibility and resilience?
- Take into account the following inputs:
  - **Use existing publications from the Energy Poverty Advisory Hub:** The Hub developed handbooks on understanding energy poverty, energy poverty diagnosis, and planning and implementation of energy poverty mitigation actions.[63]
  - **Develop policy briefs on affordability:** These briefs could contribute to the Affordable Energy Action Plan and Citizen Energy Package, and collect and promote research on the technological, behavioural and financial challenges. Collective efforts between SET Plan groups could ensure that synergies between technologies come into existence and duplications are avoided.
  - **Use materials already created by SET Plan groups:** The white paper of the IWG Energy Efficient Buildings on affordable energy transition and building renovation could be used as an inspiration.[64]
  - **Use the overview pages of the European Commission to get a regulatory and project ecosystem overview:** The webpages give a good overview of the useful projects and resources on energy poverty[65], protecting and empowering energy consumers[66], energy performance of buildings [67], and the energy behaviour forum[68].
  - **Link with projects under Horizon Europe and other implementation instruments:** These could, for example, include CETP, national R&I funding programs and contributions from research and partner organisations.

WHEN

The implementation of the recommendation should commence in the short term (2026-2027), continue into the medium term (2027-2030), and continue into the long term (by 2030).

KEY PERFORMANCE INDICATORS (KPIS)

- # of IWGs/ETIPs integrating topics of this recommendation in their Thematic Visions, SRIAs, IICs and CIIPs
- # of resources developed, such as publications, white papers, policy briefs or events, which include the topics of this recommendation
- # of collaborative initiatives launched on the topics of this recommendation

63 https://energy-poverty.ec.europa.eu/our-work/epah-methodology
64 https://www.iwg5-buildings.eu/wp-content/uploads/2025/03/WhitePaper_JustTransition-IWG5-TF5_DEF.pdf
65 https://energy.ec.europa.eu/topics/markets-and-consumers/energy-consumers-and-prosumers/energy-poverty_en
66 https://energy.ec.europa.eu/topics/markets-and-consumers/energy-consumers-and-prosumers/protecting-and-empowering-energy-consumers_en
67 https://energy.ec.europa.eu/topics/energy-efficiency/energy-performance-buildings_en
68 https://energy-behaviour-forum.ec.europa.eu/

RECOMMENDATION 4. ENCOURAGE EQUITABLE DISTRIBUTION OF COSTS AND BENEFITS, AND ALIGNMENT WITH JUST ENERGY TRANSITION PRINCIPLES

Recommendation summary:

Inequitable distribution of costs and benefits, negative impacts on host communities, and obstacles for energy communities can hinder the fair deployment of SET Plan technologies.

To address these challenges, Just Transition principles and business models that promote equitable cost-benefit sharing should be integrated into SET Plan technologies, and the creation and long-term operation of energy communities should be facilitated.

IWGs, ETIPs, EERA, and CETP are recommended to: (1) establish strategic priorities and collaborations for the implementation of the recommendation on equitable distribution and just transition; and (2) make use of existing, or develop, new publications, events and recommendations that could support the application of equitable distribution and just transition principles to SET Plan technologies.

Guiding questions that can support groups, for example, include: 'How are the costs and benefits of your SET Plan technology currently being shared among developers, host communities and other affected stakeholders?', and 'Which topics would benefit from stakeholder events and dialogue and which stakeholders would need to be brought together to make progress?'.

WHY

Challenges identified by TF members and the literature

- **Negative impacts on host communities:** Impacts on host communities from SET Plan technologies are sometimes not outweighed by benefits. This also includes challenges for areas reliant on traditional fossil fuel industries or those involved in supply chains for minerals and raw materials used in SET Plan technologies.[69]
- **Inequitable distribution of benefits:** If advantages flow to private companies and large corporations, this may lead to uneven distributional effects. This disparity is sometimes greater in regions historically dependent on carbon-intensive industries that do not benefit from green growth. However, this challenge is not always explicitly addressed in SET Plan activities.
- **Insufficient understanding of the distribution of economic benefits:** There is sometimes limited insight into how economic benefits from SET Plan projects are shared among investors, citizens, and local communities, especially in relation to the management of public goods.[70]
- **Barriers for energy communities:** Communities experience various regulatory, organisational and administrative challenges.
- **Unintended consequences of deployment:** Large-scale, top-down deployment of SET Plan technologies may lead to impacts on public goods and commons, such as land use, environmental harm, and disruption to ecosystems, property values, and community well-being (see also Recommendation 5). [71]

Expected outcomes and contribution to EU priorities

Implementation of the recommendation is expected to contribute to a more democratic, socio-ecologically just and equitable energy transition, responsible supply chain approaches, and ethical investments in energy. This will also likely contribute to better societal readiness and adoption of SET Plan technologies.

The recommendation aligns with several EU policies outlined in Section 2 (e.g. the Just Transition Fund and the Social Climate Fund). It has the potential to contribute to achieving related EU priorities.

69 Canelas, J., & Carvalho, A. (2023). The dark side of the energy transition: Extractivist violence, energy (in) justice and lithium mining in Portugal. Energy Research & Social Science, 100, 103096
70 Bauwens, T., Wade, R., & Burke, M. (2024). The energy commons: A systematic review, paradoxes, and ways forward. Energy Research & Social Science, 118, 103776
71 Bauwens, T., Wade, R., & Burke, M. (2024). The energy commons: A systematic review, paradoxes, and ways forward. Energy Research & Social Science, 118, 103776.

WHAT

SET Plan groups could support the following solutions to address challenges:

1. **Support the creation of communities and places in line with the just transition principles of a coal transition by**[72]:

- Providing tools to small and medium-sized enterprises to support for training, re-skilling, and the integration of former fossil industry workers and communities into green jobs and the economy.
- Enabling social dialogue and collective negotiations with trade unions.
- Developing measures to regenerate ecosystems from past polluting fossil-fuel industrial activities.
- Ensuring a transparent, inclusive and accountable transition governance mechanism.
- Avoiding exacerbating existing social injustices faced by vulnerable groups and empowering them to benefit from transition opportunities.
- Prioritising environmental rehabilitation and land repurposing that attract new opportunities, mitigate safety and health risks, and benefit the local community.

2. **Reflect and act on the three tenets of energy justice:** Procedural justice includes ensuring fair, transparent, and inclusive decision-making processes. Recognitional justice would include respecting the values, culture, and history of host communities. Distributional justice is outcomes-oriented and focuses on the distribution of goods and bads between different groups of people.[73] Including these three tenets of justice could help overcome the sometimes negative legacy of prior energy technology deployments while integrating intergenerational considerations.

3. **Increase the accuracy, transparency and trustworthiness of projects:** SET Plan technologies can map the socio-economic impacts and the socio-ecological footprint of the deployment of large-scale energy generation and associated infrastructures and industries. These mappings should include all lifecycles, from the extraction of materials for components to the decommissioning.

4. **Favour governance and business models that allow a more equitable distribution of the costs and benefits:** Deployment of SET Plan technologies should go beyond simple financial compensation for hosting infrastructure. Co-ownership can also be encouraged by making providers reinvest in the community, such as in social services or infrastructure (e.g. health services, schools, cultural services, good public transport), by providing direct financial incentives, and by allowing community co-investment.

WHO

Groups who expressed interest in implementing the actions under this recommendation are: IWG NS, IWG CST, IWG EEB, IWG RFB, IWG IND, IWG PED, ETIP HYDRO, ETIP PV, ETIP GEO, ETIP SNET, ETIP SNETP, ETIP WIND, ETIP BAT, ETIP RHC, CETP and EERA. Their expressions of interest in the recommendation are outlined in the internal Annex 3.

72 https://thedocs.worldbank.org/en/doc/4170363805a08d5eaca17fbd62db45d2-0340012024/original/World-Bank-Just-Transition-Taxonomy-2024.pdf

73 Wijsman, K. and Berbés- Blázquez, M. (2022). What do we mean by justice in sustainability pathways. Environmental Science & Policy, 136. https://doi.org/10.1016/j.envsci.2022.06.018

HOW

Action Point 4.1: Establish strategic priorities and collaborations to implement the recommendation on equitable distribution and just transition.

Reflect on the following guiding questions:

- How are the costs and benefits of your SET Plan technology being shared between the developers, the host communities and other affected stakeholders? What is needed to ensure a more equitable distribution of costs and benefits?
- How can the responsibility and transparency of the current value chain for your technology area be evaluated? How could it be improved?
- Are the technologies contributing to reproduce or accrue already existing socio-economic and environmental harms and marginalisation generated by existing energy-related and other industrialisation processes in the region? How can economic benefits for all be enhanced?
- Which just transition principles are especially relevant to your technology area? How can further actions be encouraged? How can you support just transition communities more? Which measures and mechanisms can be used to support training for lower-carbon energy jobs, facilitate the transition between fossil- and renewable-energy industries, and engage local communities in that transition?
- How can your technology area foster decentralisation of energy systems and support energy communities?

Take into account the following inputs:

- **Specify strategic priorities and include them in your strategic documents:** In line with recommendation 1, priorities relevant to the recommendation should be identified, and included in the Thematic Visions, SRIAs, IICs and CIIPs.
- **Use the overview pages of the European Commission to get a regulatory and project ecosystem overview:** These webpages give a good overview of useful projects and resources on energy communities[74] and citizens' energy forums[75] and the energy behaviour forum[76].
- **Collaborate with other SET Plan groups, EU initiatives or SSH experts on equitable distribution and just transition principles:** These include the Citizens Energy Advisory Hub[77], the Just Transition Platform[78], the EU Coal Regions in Transition[79] and the Social Climate Plans[80], Citizen Energy Advisory Hub (CEAH)[81], European Energy Communities Facility[82] and the Citizen-Led Renovation (CLR) service[83].
- **Utilise a reflexive and inclusive approach:** Equitable distribution is stimulated well-designed stakeholder engagement (see recommendation 2).

Action Point 4.2: Use existing publications and create new ones, and organise events and recommendations that could support the application of equitable distribution and just transition principles to SET Plan technologies.

Reflect on the following questions:

- What are the research gaps related to equitable distribution and transition for your SET Plan technology area?
- Which resources are already available on the topic of equitable distribution and just transition that your group could take up?
- Which kind of topics would benefit from an event and discussions among stakeholders? Which stakeholders need to be brought together in events to make progress?
- Which Just Transition Plans or Social Climate Plans could your group contribute to or use? Which other existing or upcoming national or EU-level projects could your programmes contribute to?
- How and when can you engage with these projects and programmes to share your group's inputs on equitable distribution and just transition principles?

74 https://energy.ec.europa.eu/topics/markets-and-consumers/energy-consumers-and-prosumers/energy-communities_en
75 https://energy.ec.europa.eu/topics/markets-and-consumers/energy-consumers-and-prosumers/citizens-energy-forums_en
76 https://energy-behaviour-forum.ec.europa.eu/
77 https://citizens-energy.ec.europa.eu/index_en
78 https://ec.europa.eu/regional_policy/funding/just-transition-fund/just-transition-platform_en
79 https://energy.ec.europa.eu/topics/clean-energy-transition/eu-coal-regions-transition_en
80 https://employment-social-affairs.ec.europa.eu/policies-and-activities/funding/social-climate-fund/social-climate-fund-national-plans_en
81 https://citizens-energy.ec.europa.eu/index_en
82 https://energycommunitiesfacility.eu/
83 https://citizen-led-renovation.ec.europa.eu/index_en

Take into account the following inputs:

- **Use just transition tools and resources available:** These, for example, include the Just Transition Planning Toolbox[84], the Bolster Toolkit[85] and the publication hub of the EU Coal Regions in Transition[86].
- **Use and promote energy community tools available:** Tools, for example, include the Energy Community platform resource hub[87], and the national one-stop shops[88].
- **Link with projects under other implementation instruments:** These could include the CETP, national R&I funding programs, national laws based on RED II and III, and contributions from research and partner organisations and Horizon Europe projects (e.g. HORIZON-CL5-2025-06-D1-06 Fostering Equity and Justice in Climate Policies - Societal Readiness Pilot[89] and HORIZON-CL5-2025-02-D4-04 Innovative approaches for the deployment of Positive Energy Districts[90]).
- **Develop white papers and best practices:** These outputs could, for example, be focused on globally responsible supply chain approaches, the development of just transition communities, and social and ecological inequalities that may emerge as a result of deploying these technologies.

WHEN

The implementation of the recommendation should commence in the short term (2026-2027), continue into the medium term (2027-2030), and continue into the long term (by 2030).

KEY PERFORMANCE INDICATORS (KPIS)

- # of IWGs/ETIPs integrating topics of this recommendation in their Thematic Visions, SRIAs, IICs and CIIPs
- # of resources developed, such as publications, white papers, policy briefs or events, which include the topics of this recommendation
- # of collaborative initiatives launched on the topics of this recommendation

84 https://www.cif.org/just-transition-toolbox/region/europe
85 https://bolster-horizon.eu/toolkit/?doing_wp_cron=1773403906.5273940563201904296875
86 https://energy.ec.europa.eu/topics/clean-energy-transition-initiatives/eu-coal-regions-transition/publications_en
87 https://energycommunityplatform.eu/resources/
88 https://energycommunitiesfacility.eu/resources/one-stop-shop
89 https://cordis.europa.eu/programme/id/HORIZON_HORIZON-CL5-2025-06-D1-06
90 https://cordis.europa.eu/programme/id/HORIZON_HORIZON-CL5-2026-02-D4-04

RECOMMENDATION 5. MAXIMISE SYNERGIES BETWEEN ENERGY SYSTEMS AND OTHER LAND USES AND SECTORS TO MEET A VARIETY OF SOCIETAL NEEDS

Recommendation summary:

SET Plan technologies can adversely affect other land uses and sectors, including environmental protection, agriculture, rural development, commerce, and transport.

To address these challenges, biodiversity-friendly developments, hybrid installations, multi-use approaches, cross-departmental governmental collaboration and smart spatial planning should be encouraged.

IWGs, ETIPs, EERA, and CETP are recommended to: (1) establish strategic priorities and collaborations for the implementation of the recommendation on maximising synergies of energy systems with other land uses; and (2) make use of existing, or develop new publications, events and recommendations that could contribute to maximising synergies of energy systems with other land uses.

Guiding questions that can support groups, for example, include: 'What potential negative biodiversity and environmental impacts could arise from your technology area, and how could these be avoided, minimised or mitigated?' and 'Which resources would need to be developed to upscale hybrid SET Plan technologies?'.

WHY

Challenges identified by TF members and literature review

- **Pressure on the environment and biodiversity:** SET Plan technologies can cause biodiversity impacts that extend well beyond the land or sea area directly occupied, through habitat fragmentation, disturbance, and cumulative ecological effects. Without biodiversity-sensitive siting and mitigation measures, large-scale deployment risks undermining conservation objectives and ecosystem services. [91,92]
- **Conflicts with other sectors and land uses:** SET Plan technologies frequently compete with agriculture, fisheries, transport, and nature conservation, especially where planning is conducted in sectoral silos.
- **Limited collaboration between governmental units:** SET Plan technologies require approval from multiple authorities across different administrative levels, often operating with limited coordination.
- **Insufficient leverage of potential co-benefits and synergies:** There is often a limited explicit focus on achieving co-benefits such as enhanced energy security and resilience, local economic gains, and increased societal engagement in the energy transition.

Expected outcomes and contribution to EU priorities

Implementation of the recommendation is expected to contribute to societal needs for a clean environment, biodiversity protection, economic welfare and co-beneficial, space-efficient SET Plan technologies. This will likely also contribute to better societal readiness and adoption of SET Plan technologies.

The recommendation aligns with several EU policies outlined in Section 2 (e.g. the Renewable Energy Directive III and the Nature Restoration Law). It has the potential to contribute to achieving related EU priorities.

91 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202302413
92 https://www.oecd.org/en/publications/mainstreaming-biodiversity-into-renewable-power-infrastructure_357ac474-en.html

WHAT

SET Plan groups could support the following solutions to address the identified challenges:

1. **Explore co-benefits with other sectors:** By sharing space with other sectors (e.g. agriculture, tourism, and defence), SET Plan technologies can encourage co-benefits, avoid space inefficiencies and overlaps, and strengthen the economy to enhance fulfilment of societal needs beyond the energy sector. Examples include agrivoltaics, solar highways, offshore wind, fisheries, tourism and aquaculture farms.[93,94]

2. **Prioritise positive interaction with biodiversity and the environment:** SET Plan technologies can avoid and mitigate environmental harm and contribute net positively to the environment. Examples include nature-inclusive design, fish bypasses in hydropower, integrated vegetation management alongside electricity line corridors, environmental assessments, and monitoring through project phases.[95,96,97,98,99]

3. **Favour hybrid installations by using the same space for multiple SET Plan technologies:** Multi-use approaches can increase space efficiency, speed up processes and increase stabilisation of the energy system. Examples include floating PV on a hydropower dam, and combined wind, solar and storage sites.

4. **Transform degraded or unused land:** Efficient space use of SET Plan technologies can be ensured by using grey and brown fields for SET Plan technologies. Examples also include repurposing old oil and gas exploration and military sites for geothermal drilling.

5. **Encourage collaboration between governmental departments:** Establishing single contact points and promoting coordinated decision-making can help to overcome fragmented governance of SET Plan technology development and deployment on the ground.

WHO

Groups who expressed interest in implementing the actions under this recommendation are: IWG NS, IWG CST, IWG RFB, IWG PED, IWG EEB, ETIP HYDRO, ETIP PV, ETIP GEO, ETIP BAT, ETIP RHC, CETP and EERA. Their expressions of interest in the recommendation are outlined in the internal Annex 3.

HOW

Action Point 5.1: Establish strategic priorities and collaborations to implement the recommendation to maximise the synergies between energy systems and other land uses and sectors.

Reflect on the following questions:

- What potential conflicts exist between the land needed for your SET Plan technology area and other land uses? How can these conflicts be assessed, mitigated, or transformed into synergies?
- What specific co-benefits can be achieved by integrating energy systems with other sectors, and how can these benefits contribute to energy security, economic growth, and environmental protection?
- What additional research, data, or processes are needed to monitor and evaluate synergies, co-benefits, and unintended consequences effectively?
- How can planning and permitting processes be improved to align energy deployment with national climate, energy, and biodiversity targets while streamlining approvals for hybrid or multi-use installations?
- Which governmental departments are involved and affected by SET Plan energy installations, and how could collaboration be smoothed?

93 https://ember-energy.org/app/uploads/2024/09/Empowering-farmers-in-Central-Europe-1.pdf
94 https://renewables-grid.eu/app/uploads/2025/09/2023_MPAs_Report_Stephenson.pdf
95 https://wwfint.awsassets.panda.org/downloads/cleanaction_nature_safe_energy_report.pdf
96 OECD (2024), Mainstreaming Biodiversity into Renewable Power Infrastructure, OECD Publishing, Paris, https://doi.org/10.1787/357ac474-en
97 https://offshore-coalition.eu/wp-content/uploads/2024/06/NID_Infographic_Ocean_2024.pdf
98 https://renewables-grid.eu/app/uploads/2025/08/202409_RGI_IVM_Guide.pdf
99 https://offshore-coalition.eu/wp-content/uploads/2024/10/OCEaN-Avoidance-and-Minimisation-of-Environmental-Impacts-Report.pdf

Take into account the following inputs:

- **Specify strategic priorities and include them in your strategic documents:** In line with recommendation 1, priorities relevant to the recommendation should be identified, and included in the Thematic Visions, SRIAs, IICs and CIIPs.
- **Develop R&I actions in strategic documents:** The IWG PV (2023)[100], for example, included R&I Activity No.3 'New Applications Through Integration of Photovoltaics'. It focused on co-benefits with other sectors and multi-use approaches (e.g. RE hybrid installations).
- **Collaborate with other SET Plan groups, EU initiatives or SSH experts:** These collaborations could focus on maximising synergies between energy systems and other land uses, including intensified collaboration and delivering concrete work on hybrid RE installations (e.g. energy systems, batteries, solar PV, wind), and possibly other multi-use approaches. In addition, collaborations could be made with EU initiatives at a more local level, such as the Mission Cities.

Action Point 5.2: Use existing or create new publications, events and recommendations that could contribute to maximising synergies of SET Plan technologies with other energy systems and land uses.

Reflect on the following questions:

- Which resources are already available on the topic of synergies among different land uses and sectors that your group could take up?
- What are the research gaps related to conflicts and synergies among different land uses for your SET Plan technology area?
- Which kind of topics would benefit from an event and discussions among stakeholders? Which stakeholders need to be brought together in events to make progress?
- Which existing or upcoming national or EU-level projects and programmes could benefit from more focus or be an inspiration for the creation of synergies between SET Plan technologies and land uses and sectors?
- How and when can you engage with these projects and programmes to share your group's inputs on stakeholder communication and engagement?

Take into account the following inputs:

- **Provide input on maximising synergies of SET Plan technologies with other energy systems and land uses:** These inputs could be relevant for Horizon Europe, national programmes and other implementation instruments with relevant national networks and European Commission representatives, including 'Advanced manufacturing of Integrated PV: HORIZON-CL5-2022-D3-01-03'[101] and the 'Novel Agro-Photovoltaic systems: HORIZON-CL5-2022-D3-01-06'[102].
- **Include the topic of co-benefits in conferences, webinars, and strategic meetings:** An example includes the 'Webinar: Opportunities and Challenges for Hybridisation of Geothermal with Biomass and Concentrated Solar Thermal'.[103]
- **Develop technology-specific resources:** These could focus on monitoring of co-benefits, avoiding unintended consequences, and providing best practices for planning and permitting procedures that enable the swift implementation of multiple technologies.

WHEN

The implementation of the recommendation should commence in the short term (2026-2027), continue into the medium term (2027-2030), and continue into the long term (by 2030).

KEY PERFORMANCE INDICATORS (KPIS)

- # of IWGs/ETIPs integrating topics of this recommendation in their Thematic Visions, SRIAs, IICs and CIIPs
- # of resources developed, such as publications, white papers, policy briefs or events, which include the topics of this recommendation
- # of collaborative initiatives launched on the topics of this recommendation

100 https://setis.ec.europa.eu/document/download/0a889aae-03fb-4e9b-92be a36a0fc7556b_en?filename=20230907_IWG_PV_IP_2023_final_draft_new_layout.pdf
101 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl5-2022-d3-01-03
102 https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl5-2022-d3-01-06
103 https://old.etipbioenergy.eu/webinar-opportunities-and-challenges-for-hybridization-of-geothermal-with-biomass-and-concentrated-solar-thermal

ANNEXES

ANNEX 1: PARTICIPANTS OF THE TASK FORCE

The table below lists those who participated in the Task Force and contributed to developing the recommendations.

Table 3: Participants of the Task Force

Name (Role/Organisation)
Support Office (including experts)
• Elodie Salle (Task Force Leader) • Isa Laurent (Task Force Facilitator) • Elisabeth Dütschke (Lead Expert) • Andrzej Ceglarz (Support Expert) • Niall Dunphy (Support Expert) • Susana Batel (Support Expert) • Floor Alkemade (Support Expert)
TF members
• Abderrahim Al Mazouzi (ETIP SNETP) • Anton Schleiss (ETIP HYDRO) • Catherine Grandclément (ETIP PV) • Ernesto Petteruti (ETIP GEO) • Francesco Basile (CETP) • Lubor Žežula (IWG NS) • Luca Cioccolanti (ETIP RHC) • Marco Calderoni (IWG CST) • Alessandro Sciullo (EERA) • Gabriele Gaffuri (EERA) • María Teresa Cuerdo Vilches (IWG EEB) • Mariagiovanna Gaglione (IWG IND) • Michele de Nigris (ETIP SNET) • Paola Clerici Maestosi (IWG PED) • Valentina Coccia (IWG RFB) • Viera Pechancová (ETIP BAT) • Helena Solman (ETIP WIND)
European Commission (Observers)
• Bence Marmarosi (Lead Policy Officer, DG RTD) • Paul Grandeau, Mathieu Fromentin (Support Policy Officers, DG RTD) • Drilona Shtjefni, Teodor Kuzov (Support Policy Officers, JRC)
Contributing organisations
• SSH Centre: Melanie Rohse, Chris Foulds, Amy Crowther, Gabriele Gaffuri

ANNEX 2: METHODOLOGY OF THE TASK FORCE

The sections below describe the main elements of the approach for developing recommendations within a Task Force:

1. Nomination of Task Force members
2. Task Force Meetings (3x)
3. Literature review
4. Consultation with wider SET Plan community (2x)
5. Written comments

1. Nomination of Task Force members

The following 'stakeholder groups' of the SET Plan were invited to nominate representatives to participate in the Task Forces:

- Implementation Working Groups (IWGs);
- European Technology and Innovation Platforms (ETIPs);
- European Energy Research Alliance (EERA);
- Clean Energy Transition (CET) Partnership;
- Driving Urban Transition (DUT) Partnership.

Each SET Plan stakeholder group (i.e., a specific ETIP or IWG) was able to nominate one primary representative for each cross-cutting Task Force. A call for expressions of interest was launched in Q3 2024 to gather nominations and establish the members of each Task Force.

There were specific roles within the Task Force that facilitated the co-creation of recommendations. These are described in the table below.

Table 4: Overview of roles for each Task Force

Role	Description
Support Office (7+)	The Support Office operated the Task Forces and was made up of: • Coordination team overseeing the operation of the five Task Forces. • 1 Task Force Lead and 1 Task Force Facilitator to coordinate the meetings (incl. logistics and minutes) and outputs of the Task Forces. • 5 Independent Experts who provide knowledge and guidance in their specialised fields and write up (specific aspects of) the recommendations. They are 'independent' in the sense that they were not previously involved in the SET Plan.
Members of the Task Forces (10 – 20)	Representatives were nominated by the SET Plan stakeholder groups (ETIPs, IWGs, etc.). Specific responsibilities for Task Force members included: • Attend all meetings of the Task Force (3 online meetings took place in 2025 and 2026); • In between meetings: Gather feedback from the SET Plan stakeholder group they represent and provide written inputs; • During meetings: Make verbal contributions (e.g. rank and decide on priorities and solutions).

European Commission (2+)	• European Commission Policy Officers had an observer role in the recommendation development process.
	• 'Lead' Policy Officers: Ensured that the work of the Task Force was aligned with the policy priorities of the Commission.
	  • They reviewed and approved recommendations from the Task Force.
	  • They did not directly influence the process of the recommendations.
	• 'Other' Policy Officers: Provided oral and written inputs on an as-needed basis (e.g. for a specific policy area).

Overall, the Support Office served as a facilitator, drawing on the knowledge of the SET Plan stakeholder groups. With the help of the Independent Experts, the Support Office structured discussions and helped identify gaps and challenges for Task Force members.

Figure 5: Roles of the Task Force and Support Office

2. Task Force meetings and workshop

The following meetings were held to facilitate the development of the recommendations:

- 1st Task Force meeting (March 2025): The top priorities and related barriers/gaps were discussed and refined. Within the TF, priorities for future work were agreed upon.
- 2nd Task Force meeting (June 2025): Preliminary concepts for recommendations were discussed.
- 3rd Task Force meeting (February 2026): Finalisation of the action points.
- Several meetings with the Task Force Lead, Facilitator, and Independent Experts took place to discuss input, develop the recommendations and support preparation for Task Force meetings.

Initially also a Cluster Workshop took place (in November 2024), which brought together the Secretariats of the Implementation Working Groups (IWGs) and the European Technology & Innovation Platforms (ETIPs) of the SET Plan. The objective of the workshop was to identify their priorities across five cross-cutting topics to inform the future work of the respective Task Forces.

3. Literature review

Between October 2024 and April 2026, literature was reviewed by the Support Office and the Independent Experts. The literature review serves as a supporting evidence.

4. Consultation with the wider SET Plan community

Following the development of the draft recommendations, a consultation was launched to collect feedback from the IWG and ETIP Secretariats and (Co-)Chairs; European Commission members; and Steering Group members. The consultation took place between the 25th of August and the 12th of September 2025. A second consultation round took place between the 9th of February and the beginning of March. Feedback from the consultation was included in the finalisation of the recommendations on cross-cutting topics to be addressed by/within the SET Plan.

5. Written comments

On several occasions, Task Force members, European Commission and Independent Experts were able to include input comments on the Recommendations and update their expressions of Interest accordingly. These also informed the finalisation of the recommendations.

ANNEX 3 (INTERNAL): EXPRESSIONS OF INTEREST ON THE RECOMMENDATIONS

Annex 3 is an internal, separate attachment that includes the Task Force members' expressions of interest for each recommendation.