



Updated

ETIP SNET Terms of Reference

2026



ETIP SNET

European Technology and Innovation Platform
Smart Networks for Energy Transition

Updated

ETIP SNET Terms of Reference

INDEX

- 1. INTRODUCTION AND BACKGROUND4
- 2. MAIN OBJECTIVES5
- 3. THE MANAGEMENT AND GOVERNANCE STRUCTURE OF ETIP SNET.....6
 - 3.2 GOVERNING BOARD7
 - 3.1.1 ROLE AND RESPONSIBILITIES7
 - 3.1.2 RECURRENCE8
 - 3.1.3 VOTING RULES.....9
 - 3.3 EXECUTIVE COMMITTEE (EXCO) 11
 - 3.3.1 ROLE AND RESPONSIBILITIES 11
 - 3.3.2 MEMBERS..... 11
 - 3.3.3 RECURRENCE 11
 - 3.4 PERMANENT WORKING GROUPS AND AD-HOC TASK FORCES 11
 - 3.4.1 ROLE AND RESPONSIBILITIES 11
 - 3.4.2 MEMBERS..... 12
 - 3.4.3 RECURRENCE 12
 - 3.5 SECRETARIAT 12
 - 3.5.1 ROLE AND RESPONSIBILITIES 12
 - 3.6 ETIP SNET AMBASSADORS 13
- 4. CHAIRMANSHIPS..... 14
 - 4.1 ETIP SNET CHAIRMANSHIP 14
 - 4.2 WORKING GROUPS CHAIRMANSHIP..... 14
 - 4.2.1 WORKING GROUP CHAIRS: DURATION, ELECTION, AND RENEWAL PROCEDURE 15
 - 4.2.2 WORKING GROUP CO-CHAIRS: DURATION, ELECTION AND RENEWAL PROCEDURE..... 15
 - 4.3 WORKING GROUPS MEMBERSHIP 16
- 5. TERMS OF REFERENCE OF EACH WORKING GROUP 18
 - 5.1 INTRODUCTION 18
 - 5.2 MISSION OF THE ETIP SNET WORKING GROUPS..... 18
- 6. SPECIFIC OBJECTIVES PER WORKING GROUP 20
 - 6.1 WORKING GROUP 1: RELIABLE, ECONOMIC AND EFFICIENT ENERGY GRIDS WITH A SYSTEM VIEW 20
 - 6.2 WORKING GROUP 2: STORAGE TECHNOLOGIES AND SYSTEM FLEXIBILITIES 20
 - 6.3 WORKING GROUP 3: FLEXIBLE GENERATION 21
 - 6.4 WORKING GROUP 4: DIGITALISATION OF THE ELECTRICITY SYSTEM AND CUSTOMER PARTICIPATION 22
 - 6.5 WORKING GROUP 5 INNOVATION IMPLEMENTATION IN THE BUSINESS ENVIRONMENT 23



1. INTRODUCTION AND BACKGROUND

The European Technology & Innovation Platforms (ETIPs) have been created by the European Commission in the framework of the new Integrated Roadmap Strategic Energy Technology Plan (SET Plan) by bringing together a multitude of stakeholders and experts from the energy sector. Its role is to guide Research & Innovation (R&I) to support Europe's energy transition.

The European Technology Innovation Platform Smart Networks for Energy Transition (ETIP SNET) has become a very active and representative actor in the European Energy Research & Innovation (R&I) eco-system. Its main challenge for the coming years is to maintain and possibly increase this level of representativeness, provide the highest-quality guidance on R&I strategic needs, and turn them into key messages that are heard by policy makers and regulators at EU and National levels.

The ETIP SNET positions itself together with the smart grid at the centre of an energy system which is under transition towards a low carbon neutral energy. ETIP SNET will support the delivery of an EU R&I agenda that will enable the EU to deliver on its 2050 and the intermediate 2030 climate & energy targets in line with the EU 2030 and 2050 decarbonisation objectives, in which the share of electricity in the overall energy mix is expected to grow.



2. MAIN OBJECTIVES

The main objectives of ETIP SNET are to:

- Set-out a strategic agenda for research and innovation (SRIA) for Smart Networks for Energy Transition (SNET) and engage stakeholders in within this framework;
- Contribute to the elaboration of the Common Implementation and Investment Plans (CIIPs);
- Report on the implementation of R&I activities at European, national/regional and industrial levels;
- Provide input to the Strategic Energy Technology Plan (SET Plan);
- Identify innovation barriers, notably related to regulation and financing;
- Develop further enhanced knowledge-sharing mechanisms that help bringing R&I results to deployment;
- Prepare consolidated stakeholder views on Research and Innovation to European Energy Policy initiatives;
- Ensure the stakeholder community receives proper feedback;
- Coordinate with other initiatives at national (Members States), European and international level to reinforce the alignment of Strategic Agendas and R&I priorities and needs identifications.

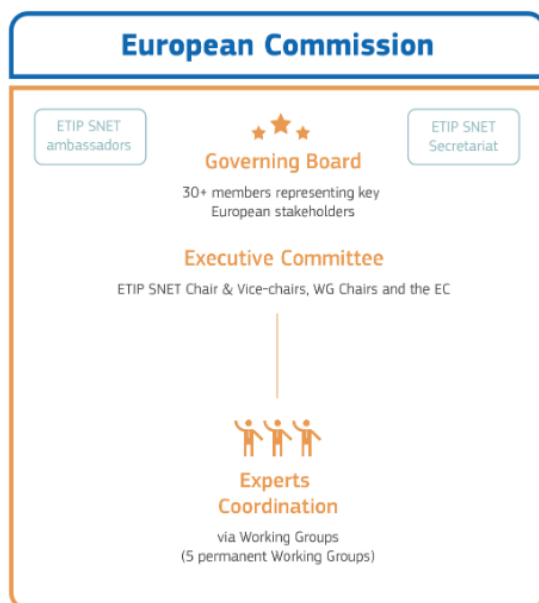
3. THE MANAGEMENT AND GOVERNANCE STRUCTURE OF ETIP SNET

With the entry into force of the Net Zero Industry Act (NZIA), proposed by the European Commission and subsequently adopted by the Council of European Union and the European Parliament, the previous governance, characterized by compartmentalized bodies operating under the SET Plan and limited mechanisms for coordination, has been updated to reflect the energy policy development and the SET Plan governance revision. The transition toward a unified governance model assigns a central role to the Implementation Working Groups (IWG4) in shaping the Union’s energy policy for the coming years: through the structured involvement of representatives from all twenty-seven Member States, the reform seeks to strengthen the decision-making capacity of national governments and ensure a more coherent and jointly steered strategic direction. As a direct consequence of this institutional reconfiguration, all ETIP SNET platforms and networks see their primary mandate redefined, focusing now on knowledge generation and relevant policy orientations strictly aligned with the strategic boundaries established by IWG4.

Specifically, in order to have a wide representation of stakeholders and offer agile and efficient operation, the Management and Governance structure of ETIP SNET is organised as follows:

- **Governing Board (GB)** currently composed of approximately 40 seats covered by representatives of European Associations that represent the stakeholder’s groups of ETIP SNET. It includes also the European Commission (DG ENER) representatives;
- **Executive Committee (ExCo)** composed by EC, Chair and Co-chairs of ETIP SNET and WGs Chairs and Co-Chairs, provides executive support to the Governing Board and acts as facilitator to drive the processes, executes the yearly WGs Action Plans approved by the GB and prepares decisions to be taken by the Governing Board;
- **Permanent Working Groups (WGs)** (and ad-hoc Task Forces upon need) opened to experts in any relevant sectors to provide their expertise to achieve the aim of ETIP SNET and giving technical input to EC and to the Governing Board;
- **Secretariat/Support Team** to support and manage ETIP SNET in its daily functioning, its production of publications and its mission of R&I strategic planning.
- **ETIP SNET Ambassadors** to present the ETIP SNET using all type of communication materials and info provided by the Secretariat and bring forward the messages approved by the ETIP SNET GB in the case of non-availability of the Chair and Co-chairs, Working Groups Chairs/Co-Chairs in order to ensure visibility for the ETIP SNET.

All members of the above-mentioned Governance bodies (except the Secretariat/Support team) will contribute to the joint activities on a voluntary basis, and no reimbursement of expenses is foreseen.





3.2 GOVERNING BOARD

3.1.1 ROLE AND RESPONSIBILITIES

The Governing Board is the final decision-making body of ETIP SNET. It steers ETIP SNET, launches initiatives, elaborates and approves the yearly work plan guiding the overall direction of the platform and signs off on the major deliverables.

The members of the Governing Board are expected to bring their expertise to the ETIP SNET and to represent the collective view of their stakeholder organisation and not exclusively their own Company/Research, Center/Universities strategies, interests and views.

The development and regular updating of a yearly work plan of ETIP SNET is performed through the compilation of an Annual Activity Report and Outlook.

The Governing Board Members will approve and endorse the candidates proposed for the ETIP SNET Chairmanship and for the WGs Chairmanships.

MEMBERS

ETIP SNET Governing Board members commit to bring their active contributions and devote enough time to the Governing Board Activities. GB members need to have sufficient insight into expected developments and R&I priorities to contribute to the ETIP's work. They should also be able to bring awareness and to make an impact on to the overall planning of Research & Innovation programmes.

Governing Board membership is **not subject to a fee or reimbursement of travel expenses**.

The Governing Board composition is as follows:

Stakeholder group	N. seats	Associations
TSOs	4	ENTSO-E (4 seats)
DSOs	4 ¹	E.DSO EURELECTRIC GEODE DSO Entity
Member States	3	On hold until the next communication from the SET PLAN committee
Research & Academia	3	EERA EUREC European Academy of Wind Energy
Storage (technology and services providers)	3	ESE (Energy Storage Europe)
Final Consumers including prosumers	2	smartEn REScoop
Market Operators: Traders (wholesale, retail, aggregators) and power exchange	2	Europex

¹There are currently five associations (CEDEC, E.DSO, EURELECTRIC, GEODE and DSO Entity) at EU level representing DSO interests. To avoid the creations of disequilibrium within the Governing Board membership, these associations are entitled to four seats and shall jointly appoint four candidates to cover the corresponding seats.

Stakeholder group	N. seats	Associations
Thermal Generation (flexible)	4	COGEN (1 seats) EUTurbines EUGINE EURO Heat and Power
ICT technology & network providers	3	ESMIG
Manufacturers equipment suppliers	4	CECIMO Orgalim (Europe’s Technology Industries) T&D Europe
Renewable Energy Sources	6	ETIP PV ETIP RHC ETIP WIND SolarPower Europe ETIP Hydropower Wind Europe
Interface to Other Energy Carriers (Heat, Transport, Gas, ...)	4	European Hydrogen Association (EHA) European Heat Pump Association Hydrogen Europe AVERE European Association for Electromobility
Regulators (including regulatory sandboxes)	1	To be identified if requested by the ETIP SNET Chairmanship or the Governing Board for specific workstreams of the initiative that might require their involvement.
Others	-	FutuRED Think SmartGrids
TOTAL	43	

Additional stakeholders may be invited to attend Governing Board meetings on an ad-hoc basis.

Each stakeholder representative organisation shall nominate one representative and up to one substitute (except ENTSO-E that have 4 seats and therefore shall nominate 4 representatives and up to 4 substitutes). Changes to the representative or the substitute is subject to informing the secretariat and the chairmanship at least one weeks before the first GB meeting to be attended by the new appointees. In case the representative or appointed substitute cannot attend due exceptional circumstances occurred after the week of notice, the Associations should try to appoint a new substitute, communicate it to the Secretariat and transmit all the info needed to attend the meeting and express a vote – if needed.

For the selection of new associations to represent the stakeholder’s groups in the Governance, covering pending seats and/or replacing existing one, the Secretariat – with the active support of Chair and Co-Chairs and all the other Governing Board members – will identify the candidates and will contact them for checking their interest. Once the interest of the candidates is confirmed, the official candidature/s will be presented to the Governing Board members for final approval or during the next Governing Board meeting or via email. In case of replacement, the outgoing member may recommend a new organisation to take its place. The secretariat will ask for written replacing reasons – and the new organisation/s will be presented to the Governing Board members for final approval or during the next Governing Board meeting or via email.

The Governing Board may decide to amend the composition and structure of the Governance upon needs.

3.1.2 RECURRENCE

The Governing Board meetings will take place minimum 3 times per year (regular GB meetings). Additional Governing Board meetings can be organised upon request of the European Commission, 1/3 of the GB members and ExCo Committee and the Secretariat, when presentation, discussion and approval of specific issues and topics, mainly related to Implementation Plans and Roadmap – are needed (extraordinary GB Meeting).

The dates of the 3 yearly Governing Board meetings will be proposed and approved by the Governing Board members during



the last GB meeting of the preceding year, or alternatively upon voting via proper tools (i.e., EUSurvey) upon a proposal (pre-approved by the ETIP SNET Chairmanship and DG ENER) and process coordination of the ETIP SNET Secretariat.

All GB meetings – if physical - will be held in Brussels (with approximately between 30 and 45 participants). Exceptionally, in case of force majeure or proposed and agreed by the Governing Board members the GB meetings can be held via web-conference and when requested, voting can be conducted via a polling tool.

The persons who can attend the Governing Board meetings are the European Commission representatives (DG ENER and CINEA), ETIP SNET Governing Board members, the ETIP SNET Working Group Chairs and Co-Chairs the members of the ETIP SNET Secretariat. Guests can be invited for dedicated sessions upon approval of the ETIP SNET Chairmanship and DG ENER.

3.1.3 VOTING RULES

Governing Board decisions are subject to a QUORUM of 50% of stakeholder representative organisations based on the total assigned seats.

Governing Board decisions are taken by **CONSENSUS**, whenever possible and unless is explicitly requested a formal vote. Consensus is reached when all Members agree on a decision and on a text, but it does not mean that they all agree on every element of the decision or draft document. The opinion/s against a decision or a part of a documents will be recorded in the minutes of the meeting.

The Secretariat will send the decision points to all the Governing Board members ten days before each GB meetings. All Governing Board Members can request a formal vote on decisions whenever they feel a consensus cannot be reached. When a formal vote is requested, the secretariat shall put in writing the proposed decision prior to the vote.

Each stakeholders' representative who is present at the meeting shall have one vote. A decision shall be deemed accepted if at least two thirds of all votes cast and at least one of the votes cast by stakeholder representative organisations in the "Electricity network" category is in favour.

Electronic vote will be carried out for approving main ETIP SNET documents, new Working Group, or Task Forces creation or on express request received by the Secretariat with the modality detailed above. Physical and remotely participation with electronic votes will be allowed.

If the consensus is not reached or it is not possible to reach, the **MAJORITY** (2/3 of the number of votes casted) will be applied, and the votes will be weighted as indicated in the table below to guarantee the balance of stakeholders.

Stakeholder Group	No. Votes	Associations	Weight of vote per association
TSOs	4	ENTSO-E	4
DSOs	4	E.DSO	1
		EURELECTRIC	1
		GEODE	1
		DSO Entity	1
Member States (TBD upon SET Plan restructuring)	3	-	-
Research & Academia	3	EERA	1
		EUREC	1
		European Academy of Wind Energy	1
Storage (technology and services providers)	3	ESE	1
Final Consumers including prosumers	2	smartEn	1
		REScoop	1
Market Operators: Traders (wholesale, retail, aggregators) and power exchanges	2	Europex	1

Stakeholder Group	No. Votes	Associations	Weight of vote per association
			1
Thermal Generation (flexible)	4	COGEN Europe	1
		EUGINE	1
		EURO Heat and Power	1
		EUTurbines	1
ICT technology & network providers	3	ESMIG	1
Manufacturers equipment suppliers	3	Europacable	1
		Orgalim	1
		T&D Europe	1
Renewable Energy Sources	6	ETIP PV	1
		ETIP RHC	1
		ETIP WIND	1
		SolarPower Europe	1
		ETIP Hydropower	1
		WIND Europe	1
Interface to Other Energy Carriers (Heat, Transport, Gas, ...)	4	European Hydrogen Association (EHA)	1
		European Heat Pump Association	1
		Hydrogen Europe	1
		AVERE European Association for Electromobility	1
Regulators (including regulatory sandboxes)	-	To be identified if requested by the ETIP SNET Chairmanship or the Governing Board for specific workstreams of the initiative that might require their involvement.	
Others	2	FutuRED	1
		Think SmartGrids	1



3.3 EXECUTIVE COMMITTEE (EXCO)

3.3.1 ROLE AND RESPONSIBILITIES

The Executive Committee (ExCo) acts as facilitator to drive the processes, executes the yearly WGs Action Plans approved by the GB and prepares decisions to be taken by the Governing Board. The ExCo provides executive support to the Governing Board Members.

3.3.2 MEMBERS

The Members of the ExCo are the EC, Chair and Co-chairs of ETIP SNET together with the Chairs and Co-Chairs of the Permanent Working Groups.

The ExCo Members need to commit to bring their active contribution, demonstrate a high degree of dedication, and devote enough time to the ExCo Activities. WG chairs may be replaced or supported by a WG co-chair or a WG member leading a specific Task.

3.3.3 RECURRENCE

The Executive Committee will meet via web-conference at least 8 times per year (regular ExCo calls). Additional exceptional Executive Committee web-conference calls or email exchanges can be organised upon request of the European Commission and/or the Secretariat when needed to discuss specific issues and topics (extraordinary ExCo calls).

The participants invited to the ExCo are the representative of DG ENER, ETIP SNET Chair and Co-Chairs, ETIP SNET Working Group Chairs and Co-Chairs, and selected members of the Secretariat.

The dates of the monthly ExCo calls are proposed and approved during the first ExCo of each year, or alternatively upon voting via proper tools (i.e., EUSurvey) upon a proposal (pre-approved by the ETIP SNET Chairmanship and DG ENER) and process coordination of the ETIP SNET Secretariat.

3.4 PERMANENT WORKING GROUPS AND AD-HOC TASK FORCES

3.4.1 ROLE AND RESPONSIBILITIES

Permanent Working Groups and Ad-Hoc Task Forces are established by the Governing Board which mandates the ExCo to supervise their day-to-day activities.

New Working Groups can be proposed by all the GB and ExCo members via email to the Secretariat and they will be discussed at the following ExCo conference call. The proposals and feedback of the ExCo will be presented, discussed and approved or rejected during the following Governing Board or via email if the following Governing Board meeting is more than 1 months and half ahead.

The final decision of the Governing Board members of the creation of new Working Groups will be done through Consensus. The electronic vote will be allowed.

The main objective and scope of the Working Groups are to provide expertise along all the energy system chain to the EC and the ETIP SNET to overall achieve their aims giving technical and valuable input to documents and publications requested and needed from the EC and from the Stakeholders.

Dedicated Working Groups Terms of References (ToR) will be reviewed by each WG Chair and Co-Chairs and presented to the Governing Board members for approval every 3 years.

The election and renewals procedures for WGs Chairmanships and Experts Memberships will be set up and explained in detail in the section 4.2 of these Terms of References.

The WGs shall plan their activities according to a workplan approved by ExCo and shall internally organise their execution in the most efficient way considering the expected deliverables, the deadlines and the available resources. Each WG can set up internal Task Forces for efficiently achieving the planned targets and leveraging on the expertise of specific WG experts.



3.4.2 MEMBERS

A Working Group and/or Ad-Hoc Task Force is composed of high-level experts who participate to the WGs activities on a voluntary base, bringing their personal expertise and acting following their own company/research centre/universities strategies, interests and view.

3.4.3 RECURRENCE

The Working Groups will decide and agree about the regularly meetings that can be held physically or virtually (giving preference to the virtual options when possible). Additional exceptional WGs web-conference calls or email exchanges can be organised upon request of the European Commission and/or the Secretariat when needed to discuss specific issues and topics (exceptional WGs calls).

The Working Groups should meet physically or via web-conference on a regular basis.

The participants invited and strongly expected to attend to the WGs calls are: the Chair, Co-chairs and all WG Members; an EC representative and the WG Supporting Manager from the Secretariat who will be in charge of organising, inviting, attending, managing alle the logistic aspects of the physical/virtual meetings, taking minutes, monitoring and following-up actions.

The dates of the regular WG are proposed and decided by each WG according to their workplan and deadlines, aiming at maximising members' attendance.

3.5 SECRETARIAT

3.5.1 ROLE AND RESPONSIBILITIES

All the organisational and technical support to the activities and expected outcomes of ETIP SNET Governance and its different bodies will be provided by a Secretariat (funded by the EC for a determined time).

In particular, the Secretariat Coordinator will manage contacts and relations with the Governing Board members, the Executive Committee members, the Working Groups Chairs and Co-chairs and their Working Group experts/members. It will also ensure and actively drive a stable and continuous collaboration with other ETIPs, with BRIDGE Initiative activities, as well as with external partnerships, organisations and associations if and when relevant to pursue ETIP SNET targets.

The Secretariat will be also in charge of supporting ETIP SNET Governing Board in developing, drafting and regularly updating the yearly work plan of ETIP SNET through the compilation of an Annual Activity Report and Outlook.

The overall objective of the Secretariat is to make sure that the needs of the European Commission on one side and the stakeholders involved in the ETIP SNET on the other, are achieved with the common aim to achieve the energy transition towards a low-carbon, secure, reliable, resilient, accessible, cost-efficient, and market-based pan-European integrated energy system.

The specific tasks of the Secretariat to support the ETIP SNET Governance are the following:

- To ensure the necessary organisational support to the governance structure of the ETIP SNET
 - Governing Board (GB)
 - Executive Committee (ExCo)
 - Working Groups (WGs)
- To enhance the relationship and collaboration with the BRIDGE initiative;
- To foster the organisation of joint events with others EU relevant stakeholder groups/associations and ETIPs involved in the energy transition;
- To ensure the collaboration with Horizon Europe Partnerships and Missions;
- To enforce the active involvement of ETIP SNET in international activities;
- To organise and manage dissemination initiatives, including workshops, to enhance visibility and influence of ETIP SNET deliverables;
- To organise the editing, formatting and publication (web and print-out) of ETIP SNET deliverables.

Finally, the Secretariat sets up a technical expert support team that will ensure the drafting and finalisation of ETIP SNET Strategic Research and Innovation Agenda and other relevant publications.



3.6 ETIP SNET AMBASSADORS

One of the tasks of the ETIP SNET is to make visible its objectives and activities, foster cooperation and look for synergies throughout the energy sector.

In order to do this, participation to several events, initiatives, advisory groups and more will be arranged by the ExCo with support from the Secretariat, bringing forward principles and statements agreed by the Governing Board and the Executive Committee.

Given their position, the Chair and Co-chairs will be the persons firstly invited to represent the ETIP SNET externally. If they are not available, the Working Group Chairs/Co-Chairs will be asked to cover this representative role. However, in the case of non-availability of the above representatives and in order to ensure visibility for the ETIP SNET, the **ETIP SNET Ambassador role** is defined. The main Ambassador/s function will be to present ETIP SNET using and building on presentations, messages and info provided by the Secretariat or the ExCo. In line with this function of representing important ETIP SNET messages and publications, an Ambassador may also be invited by the ExCo to comment on the consistency of ETIP SNET publications with each other and with the overall strategy. This Ambassador role is intended as an honorary role and no remuneration is foreseen.

The **ETIP SNET Ambassador** is not a limited role and can be covered by one or more people – in accordance with needs and circumstances. The Ambassadors will have the mandate to participate on behalf of the ETIP SNET in conferences and other public events, as well as in other ETIPS or Partnerships, in joint activities and relevant initiatives to present the ETIP SNET work. As the new role of the ETIP SNET Ambassador is not limited to only one person but can be covered by several people, preference will be given to Ambassadors who had a strong historical relation with the ETIP SNET (e.g. former Chairs, Co-chairs, WG board members, etc...).

The nomination of Ambassadors will be done ad-hoc according to the needs of the ETIP SNET. The duration of the mandate will be 12 months and it will be renewable, upon evaluation and approval of the GB case by case according to the needs and the tasks to be performed. The Ambassadors name/s will be proposed to the ExCo members and once agreed, they will be proposed to the Governing Board Members via email (or during the planned GB meetings) for comments and official endorsement.



4. CHAIRMANSHIPS

4.1 ETIP SNET CHAIRMANSHIP

The ETIP SNET is chaired by:

- 1 Chair
 - 3 Co-Chairs
1. The **Chair** and one **Co-Chair** must represent parties having the system view of the electricity system: TSOs and DSOs.
 2. The **second** Co-Chair must represent the system and the energy storage view in his or her professional expertise.
 3. The **third** Co-Chair shall represent the industry perspective (EU associations representing the following categories: Manufacturers; ICT providers and Non-ICT technologies providers, preferably with exposure to the entire electricity value chain).

The candidates for these positions will be jointly selected by the EU-based Associations, part of the Governing Board, representing the TSOs, DSOs, the energy storage sector and industrial sectors

The candidates will be presented to the European Commission (EC) for a first endorsement.

After the EC endorsement, the Curricula Vitae of the three candidates selected will be sent to the Governing Board members for their evaluation not later than fifteen days before the Governing Board when will be asked the official approval.

Any comment or objections to the candidate's proposal needs to be sent to the Secretariat at least 10 days after having received the CVs with written explanation.

The feedback will be evaluated and discussed one week before the Governing Board meeting and bilateral meetings with Governing Board members will be organised upon needs.

After all the detailed consultation process, the results will be presented during the Governing Board meeting and official endorsement, and approval will be finalised with majority vote. The Chair and Co-Chairs shall be endorsed by the Governing Board.

The ETIP SNET Chair and Co-Chairs are serving for a period of two years. The ETIP SNET Chair and Co-Chairs persons are subject to a maximum of two mandates.

A third consecutive mandate for the same person as ETIP SNET Chair or Co-Chair is permitted only as an exception, where the individual's association confirms that no other more suitable candidate is available.

Non-consecutive mandates as Chair / co-Chair are possible without restrictions.

In order to ensure at same time continuity and ample stakeholders' representation:

- the Chair rotates every two years among the parties having the system view of the electricity/energy system (TSOs and DSOs).
- at least one new person in the Chairmanship is appointed every mandate.

4.2 WORKING GROUPS CHAIRMANSHIP



Each Working Group Chairmanship is composed of:

- 1 Chair
- 2 Co-Chairs

Past Chairs can remain as Honorary Co-Chairs if proposed by the new Chairmanship.

4.2.2 WORKING GROUP CHAIRS: DURATION, ELECTION, AND RENEWAL PROCEDURE

The Chair of the Working Group covers this role for 2 years.

When the WG chair term expires:

- A call for a WG Chair is launched by the Secretariat among WG Co-chairs and all WG members;
- Any Co-Chairs and any WG members will be able to apply for this position.
- Current Co-Chairs will have an automatic recommendation unless the outgoing WG-Chair objects to that explicitly;
- The applications will be examined by an **Evaluation Committee** composed of:
 - EC Representative (DG ENER)
 - ETIP SNET Chair
 - ETIP SNET Co-Chairs
- The Evaluation Committee will have the rights to propose additions and removals of proposed persons and make final recommendations to the ETIP SNET GB for decisions;
- If no suitable candidate presented their applications, the Secretariat will launch a Call for Working Group Chair to all the ETIP SNET members. If no member applies for the position, the Secretariat will extend the call to external stakeholders not involved within the Working Group;
- Once the Evaluation Committee expressed their preference, the results of this voting, the reasoning behind the votes and the CVs of the candidates will be transferred to the Governing Board members not latest than 10 days before the GB meeting. In case of a decision among several candidates this will include the reasons for the decision;
- If there are objections to the Evaluation Committee's selection or against some of the candidates, they need to be sent to the Secretariat not later than three days before the GB meeting;
- The results of all the voting and consultation prove will be reported and discussed during the GB meeting;
- The Final Approval of the proposed person by the Evaluation Committee (after GB members consultation) will be taken by the Governing Board Members during the first Governing Board meeting of each year;
- The decision will be taken with Majority vote. If Majority vote is not achieved, the position will be opened again.

Any extension of the mandate of a Working Group Chair beyond the end of the term shall be granted only on an exceptional basis, where the procedures described above do not result in any candidature within ETIP SNET, following a first iteration within the relevant Working Group and a second iteration at the level of the wider ETIP SNET community

The Chair and Co-Chair positions are subject to a maximum of two consecutive mandates. No restrictions apply for non-consecutive mandates.

4.2.3 WORKING GROUP CO-CHAIRS: DURATION, ELECTION AND RENEWAL PROCEDURE

The Co-Chairs of the Working Group cover this role for 2 years When the WG Co-Chair term expires:

- A call for WG Co-Chair will be launched by the Secretariat among all WG members.
- Any WG members (of the WG in question) will be able to apply for this position.
- The applications will be examined by an **Evaluation Committee** composed of:
 - EC Representative
 - ETIP SNET Chair
 - ETIP SNET Co-Chairs
 - ETIP SNET rotating Co-Chairs
- The Evaluation Committee will have the rights to propose additions and removals of proposed persons and make final recommendations to the ETIP SNET GB for decisions.
- If no suitable candidates presented their application, the Secretariat will launch a Call for Working Group Co-Chair to all the ETIP SNET members. If no member applies for the position, the Secretariat will extend the call to external



stakeholders represented in the GB.

- Once the Evaluation Committee expressed their preference, the results of this voting, the reasoning behind the votes and the CVs of the candidates will be transferred to the Governing Board members not later than 10 days before the GB meeting. In case of a decision among several candidates this will include the reasons for the decision.
- If there are objections to the Evaluation Committee’s selection or against some of the candidates, they need to be sent to the Secretariat not later than three days before the GB meeting.
- The results of all the voting and consultation process will be reported and discussed during the GB meeting.
- The Final Approval of the proposed person by the Evaluation Committee (after GB members consultation) will be taken by the Governing Board Members during the first Governing Board meeting of each year.
- The decision will be taken with Majority vote. If Majority vote is not achieved, the position will be opened again.

Any extension of the mandate of a Working Group Co-Chair beyond the end of the term shall be granted only on an exceptional basis, where the procedures described above do not result in any candidature from within ETIP SNET, following a first iteration within the relevant Working Group and a second iteration at the level of the wider ETIP SNET community.

The Chair and Co-Chair positions are subject to a maximum of two consecutive mandates. No restrictions apply for non-consecutive mandates.

Former WG Chairs and Co-Chairs can apply for the positions of Honorary Co-Chairs. Within this role, proven their commitment to the activities of the working group, they can act as advisors for the WG leadership by supporting the strategical guidance of the team.

4.3 WORKING GROUPS MEMBERSHIP

The working groups are composed by Experts from companies/research centers/universities that act on behalf of their companies/research centers/universities and personal expertise.

Also self-employed experts representing their own companies or experts that do not want to be affiliated to any company/research centre/university but want to bring their own personal expertise are accepted as members of Working Groups.

The application and selection procedure will follow the steps described below:

- Anybody can apply to become Working Group members replying to the Open call accessible via the ETIP SNET website, filing in the following form [ETIP-SNET WG members application form](#) and send it to secretariat@etip-snet.eu.
- The applications will be handled by the Secretariat and sent to WG chairs and Co-Chairs that will evaluate the application.
- The decision on the new candidates will be taken by Consensus among WG Chair and Co-Chairs and:
 - Presented every 2 months to the ExCo
 - Communicated to the Governing Board during the next Governing Board

For the replacement of one WG members by a colleague from the same company/research centre/ university, the replacement person needs to send an application form to the Secretariat and it will be submitted to the WG Chair and Co-Chairs.

If a WG member changes the company but wants to remain member in one or more of the WGs, detailed info about the new company and the time available to support the WG’s activities needs to be communicated to the Secretariat who will transmit to the WGs Chairs and Co-Chairs.

There is no limit to the number Working groups to which the same person can apply and be member of as long as s/he declares to have time and competence to dedicate to all the WGs activities to which s/he is applying for.

WG membership has no fixed pre-determined duration. However, the WG Chair and Co-Chairs will evaluate each WG member as “active” or “passive” concerning attendance and contribution to WG activities with the support of the Secretariat at the beginning of each year.



This assessment will be carried out through an annual survey circulated to all ETIP SNET members, inviting them to confirm whether they wish to continue their engagement in ETIP SNET activities and Working Groups. Members' responses to the survey will be used as the primary basis for determining their level of activity and continued participation within the WG.

Dismissal of any WG member is possible at any time by proposal of the WG chair and/or the WG-co-chairs/s or ETIP SNET Chair and/or Co-chairs.

- The final decision of a Dismissal proposal should be taken by the WG Chairmanship and presented to the ExCo.
- The decision will be taken with Majority vote.

Finally, for applications coming from experts representing companies/research centers/universities and from self-employed from non-EU countries, a "case by case" approach has been adopted starting from 2021, when non-EU members participation would be evaluated for the expected value, and the "no right to vote" principle for non-EU participants is reinforced. In selecting the countries, the criteria adopted is the connection that EU has with the related countries in terms of R&D in energy fields, with a preference for countries associated within the Horizon Europe programme. The criteria that will be taken into account is the European footprint of the company/research centre/university that represents the central point of interest and in consideration of relevant collaboration agreements in place, if any and the overall adherence to the EU "Acquis Communautaire" in particular for EU industrial & environmental targets and policies.

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5. TERMS OF REFERENCE OF EACH WORKING GROUP

5.1 INTRODUCTION

In September 2015, the European Commission issued the SET-Plan Communication, addressing innovation in the context of the strategy of the Energy Union. Among the priorities highlighted, of particular interest for the energy networks community is the priority "Number 4 – Increase the resilience, security, smartness of the energy system".

The European Technology and Innovation Platform for Smart Networks for the Energy Transition (ETIP SNET) was set-up to reflect the increasing need to consider the smart grids as an integral part of the energy system. The mission of the Platform is to guide research and innovation activities to support Europe's energy transition. The ETIP SNET elaborated a Vision 2050 and a two Roadmaps for R&I activities (and the associated Implementation Plans) for smart networks, storage and other sources of flexibility, and integrated energy systems, engaging all stakeholders. It will also look at customer participation and the impact of digitisation. It will identify innovation barriers, notably related to market design, regulation and financing.

Five permanent Working Groups have been set up as Governance Bodies of ETIP SNET to ensure the involvement and contribution of all the stakeholders of the energy system as a whole, providing vision, inputs, guidance and continuous feedback for the development of the integrated R&I Roadmap. The Working Groups are set up to ensure the most adequate balance between the effectiveness of their work on the planned deliverables and the openness towards new subjects and new issues which may appear. The following Working Groups are established:

- WG1: Reliable, economic and efficient energy system
- WG2: Storage technologies and system flexibilities
- WG3: Flexible Generation
- WG4: Digitalisation of the electricity system and Customer participation
- WG5: Innovation implementation in the business environment

WG1 to WG4 are dedicated to the different aspects of development of the energy system along its different main development paths, while **WG5** is horizontal, being more focused on technology transfer, application and market uptake.

5.2 MISSION OF THE ETIP SNET WORKING GROUPS

Experts acting in the Working Groups ("WG Members") will aim at providing strategic guidance about RD&I priorities and activities, ensuring the interaction and involvement of the entire expertise needs raised by the integration issues of the electricity system into the wider European energy system.

The Working Groups (WG) will also exchange with the other ETIPs (roadmap and implementation plans) and the other European or International R&I coordination activities (e.g. ERA-Net SG+, GSGF, CEM initiatives, Mission Innovation, IEA TCPs such as ISGAN, Cigre, DSM, HTS, 4E etc.).

The Working Groups are set-up on the principle of avoiding overlaps among their goals and activities carried out.

- **WG1** focuses on both technological and market solutions for the European electricity networks as well as on the integration of generation, consumption, storage, and interfaces to other energy networks. This integration should make the power system sustainable, reliable, secure and affordable.
- **WGs 2, 3 and 4** focus on providing the main different technological and market solutions to ensure the flexibility of the power system. Through this focus on system integration and flexibility to meet system needs, they complement the system approach in WG1 and of the entire ETIP SNET.
- **WG 5** adopts a helicopter view of the activities carried out in the projects within the perimeter of the ETIP about the energy transition in order to build homogeneity in the analysis of projects, work done and lessons learned. They create a common platform for analysing the progress made with technologies through-out the EU and facilitate their scalability; WG5 is building a methodology to judge system needs in the energy transition capable of identifying tangible needs for building on progress made and give feedback to the other WGs for populating their R&I needs in the years ahead. Finally, they review the relevant BRIDGE reports that identify the economic, social, technical, legal, etc.



barriers which may slow down business model deployment; to search for innovative solutions that will maximise the benefits of the innovation process that EU achieves through R&I activities in the area of Energy.

The Working Groups will focus on:

- Delivering a vision (overarching goals and constraints) for the European energy system and respectively of the contribution of various technologies to this system by 2030, 2050 and beyond, guiding the preparation and update of the Strategic Research and Innovation Agenda (SRIA) in the direction of the specific priorities of the European Energy Union addressed;
- Reviewing the monitoring reports of the implementation of RD&I activities at European, national/regional and industrial levels, produced by on-going research and demonstration activities with the goal to establish the state of the art (e.g.: analysis of recent success stories / innovation actions in the area of expertise of the working group, analysis of the results from the outstanding project's demonstrators, analysis of the potential of scaling up and replication, analysis of the coverage of each functional objective within the scope of the WG by past and ongoing R&I project achievements);
- Reviewing and link to the relevant BRIDGE reports that identify the economic, social, technical, legal, etc. barriers which may slow down business model deployment (impacting scaling, replication, deployment) avoiding overlapping or duplication of resources;
- Providing inputs to and reviewing output of the knowledge sharing activities at pan-European level organised by a) The Secretariat through inputs to regional workshops or the production/review of contents for the Knowledge Sharing Platform (KSP) and for EIRIE Platform and b) by ERA-NET SG PLUS by its Knowledge Community.
- Preparing consolidated stakeholder views about the Research and Innovation activities to meet both European and National/Regional Energy Policy orientations, also contributing to the process of development, review and validation of a common RD&I roadmap;
- Contributing to validate, integrate and prioritise the Research and Innovation activities in the updated SRIA and the related yearly implementation plans;
- Identifying the long-term challenges, disruptive technologies, solutions to be addressed by the future R&I activities and the innovation barriers to be removed to favour the deployment of new knowledge in their area of expertise;
- Estimating the financial resources need to carry out the proposed RD&I activities and potential financing mechanisms to be used (EU, National / Regional Funding, financial contributions by project participants).
- Contribute or lead discussion / analysis on specific themes in their area of expertise that are of wider interest and call for the support of stakeholders in identifying steps forward.

6. SPECIFIC OBJECTIVES PER WORKING GROUP

6.1 WORKING GROUP 1: RELIABLE, ECONOMIC AND EFFICIENT ENERGY GRIDS WITH A SYSTEM VIEW

WG1 addresses the mid and long-term business and technology trends contributing to the overall energy system optimisation at affordable investment and operation costs, with particular reference to system development scenarios, network planning, operation, observability and control, asset management, flexibility as seen from the system aspects and resilience. WG1 will focus on power grids and system aspects, addressing the main functionalities, quality and efficiency of the electricity system as such and considering the benefits of its integration with the other energy vectors.

The flexibility options that are investigated in WG1 are new transmission and distribution technologies (power electronics for instance), the interfaces to be set-up with storage, demand response, flexible generation and the use of synergies with other energy networks, i.e. how to couple the electricity networks with the gas and heat networks.

In particular, WG1 follows on:

- Set Plan Action 4: Grid smartening in the sense of **grid observability and controllability**, which bring to the system improved forecasting and operation, tools for managing the **variability and uncertainty** of operational conditions at several timescales and **increased grid hosting capacity**. The economic efficiency of the system through the use of ICT (Information and Communication Technology) equipment's as well as through the implementation of appropriate market design.

Key targets and performances Indicators:

1. Hold regularly the web calls of the Working Group with the detailed agenda and minutes.
2. Keep an updated membership register while ensuring continued geographical, sectoral and professional balance; conduct the annual review concerning the members level of engagement in activities and overall feedback.
3. Collaborate with project consortia on webinars and events related to the white papers and WG deliverables.
4. Define and implement rolling action plans with clearly identified deliverables and commitments, and ensure their delivery
5. Contribute to the build-up of the SRIA, Implementation Plans, Road Map and other common deliverables as mandated by ETIP-SNET (top-down activities).
6. Form and conduct the relevant work of the internal TFs as per Work Program bottom-up activities (white papers).
7. Promote interfacing on concrete deliverables and then cooperating at specific goals with relevant external organisations including CIGRE, CIRED, ISGAN, BRIDGE, H2, HEAT, Mobility and others.

6.2 WORKING GROUP 2: STORAGE TECHNOLOGIES AND SYSTEM FLEXIBILITIES

WG2 addresses the technological and market developments related to energy storage solutions intended as one of the outstanding tools to ensure the required level of flexibility for the transmission and distribution of electricity. WG2 will consider all the different energy storage options, including the power-to-power, hydro and marine storage, CAES, thermal mass of buildings, hot water storage, etc., and their direct or indirect interface and interaction to the power networks.

WG2 covers the entire value chain of all energy storage options, starting from the development and demonstration

of new materials, technologies and solutions, and addressing their integration into the overall energy system, the evaluation of their impact on flexibility and the related costs/benefits. Standardisation is addressed to ensure a multivendor and open approach, while regulation and market developments issues are considered to identify barriers and elaborate options for their solution an overall system optimisation approach.

WG2 covers also the other flexibility means needed to operate the power system with high-RES penetration, like demand response.

Key targets and performances Indicators:

1. Hold regularly the web calls of the Working Group with the detailed agenda and minutes.
2. Keep an updated membership register while ensuring continued geographical, sectoral and professional balance; conduct the annual review concerning the members level of engagement in activities and overall feedback.
3. Collaborate with project consortia on webinars and events related to the white papers and WG deliverables.
4. Define and implement rolling action plans with clearly identified deliverables and commitments, and ensure their delivery
5. Contribute to the build-up of the SRIA, Implementation Plans, Road Map and other common deliverables as mandated by ETIP-SNET (top-down activities).
6. Define at least 1 deliverable per year

6.3 WORKING GROUP 3: FLEXIBLE GENERATION

WG3 addresses the business and technology trends of generation considering the contribution of flexibility from thermal power plants (bulk and distributed), and of innovative technologies and solutions in thermal-based generation systems (e.g. micro-CHP, industrial co-generation), heat distribution (e.g. district heating), storage and optimization of the RES generation technologies to contribute to reach a secure, clean and reliable energy system to address the needs for flexibility in the framework of an integrated energy system.

Shifting the management of thermal power plants from base load with low and limited flexible capability to flexible power generation poses a number of challenges which need to be addressed in terms of efficiency, reliability, life expectancy, operational costs, as well as environmental performances. Several solutions can be envisaged but need to be validated and demonstrated, ranging from bulk to distributed generation.

The future European energy scenario with very high shares of renewables in the energy mix (up to 100%), system support functions that are provided today by synchronous generation will need to be provided by renewable generation or procured from third parties. RES should significantly contribute to a more stable operation of the future energy system, allowing growing percentage of renewable sources. WG3 addresses the different technologies and solutions of flexible generation (including thermal power plants operated with synthetic green fuels, embedded storage and/or fuel cells) and RES optimisation from a technological, environmental, economic, regulatory and acceptance points of view.

WG3 addresses integrated solutions based on variable renewable energies (solar PV, wind energy, ...) and dispatchable renewable energies (e.g. hydro) + energy storage devices + smart technologies focused on the large integration of renewable energies in the network (both, transmission and distribution grids) in a secure and reliable mode. The details of the items addressed are only partly included in the present roadmap (see Annex 2 of the Roadmap). New clusters and functional objectives need to be included to address these specific subjects.

Key targets and performance Indicators:

1. Hold regularly the web calls of the Working Group with the detailed agenda and minutes.
2. Keep an updated membership register while ensuring continued geographical, sectoral and professional balance; conduct the annual review concerning the members level of engagement in activities and overall

feedback.

3. Collaborate with project consortia on webinars and events related to the white papers and WG deliverables.
4. Define and implement rolling action plans with clearly identified deliverables and commitments, and ensure their delivery
5. Contribute to the build-up of the SRIA, Implementation Plans, Road Map and other common deliverables as mandated by ETIP-SNET (top-down activities).
6. Create strong footprint of Flexible Generation in all ETIP SNET activities, in particular the ETIP SNET SRIA;
7. Intensify collaboration with other related ETIP's and organisations;
8. Attend all regional workshops of ETIP SNET in support of project consortia in building their innovation roadmap in line with their key exploitable results.

6.4 WORKING GROUP 4: DIGITALISATION OF THE ELECTRICITY SYSTEM AND CUSTOMER PARTICIPATION

WG4 addresses the use and impact of the Information and Communication technologies as a pervasive tool along the entire value chain of the power generation, transportation and use.

The communication layer is one of the pillars of the smart energy system, enabling system observability, monitoring, control and protection and specifically enabling a radical change in the relation between the final user and the energy system: advanced meters and modern appliances trigger the potential of active demand- response and enable new services for the energy user of the future. Customer participation in all stages of the development and expansion of the energy system is also favoured by digital tools ranging from Participative geographical systems to web portals or social networks. Internet of Things (IoT) and the related data analysis and computation tools (data mining, big data etc.) applied to the energy system can be disruptive for the development and management of the energy system, thus changing its planning and operation and transforming the energy market. The widespread use of digital technologies however needs to be accompanied by suitable measures for data and information protection from malicious intrusions and attacks (cybersecurity) and from uncontrolled use of customers data (data privacy).

In particular, WG4 follows on:

- The full digitalisation of the energy networks with new ICT infrastructures and their associated software layers;
- Cybersecurity issues Use of big data, IoT and High Performances Computing to manage the entire value chain along the energy system;
- ICT infrastructures and technologies that will allow the involvement of the end customers and the retail market players providing new energy services, defining the interactions (market and regulations) between the different market players and the network and flexibility operators;
- The retail electricity markets empowering customers (favourable environment to choose energy suppliers and to better control consumptions through new services provided by new market players);
- The Improvement of public awareness of long-term energy challenges and the need to build and protect transmission infrastructure to increase the social benefit of energy use.

Key targets and performances Indicators

1. Hold regularly the web calls of the Working Group with the detailed agenda and minutes.
2. Keep an updated membership register while ensuring continued geographical, sectoral and professional balance; conduct the annual review concerning the members level of engagement in activities and overall feedback.
3. Collaborate with project consortia on webinars and events related to the white papers and WG deliverables.
4. Define and implement rolling action plans with clearly identified deliverables and commitments, and ensure their

delivery

5. Contribute to the build-up of the SRIA, Implementation Plans, Road Map and other common deliverables as mandated by ETIP-SNET (top-down activities).
6. Keep active the Working Group and the convenient Task Forces, especially the Use Case task force (including the Lighthouse Project use case);
7. Attend and actively contribute (also in terms of moderation) to ETIP SNET Regional workshops concerning the key digitalisation topic and support of project consortia and innovation roadmaps;
8. Communicate regularly about the activities of the WG4;
9. Present ETIP SNET in external events and create synergies with other initiatives dealing with energy system's digitalisation;

6.5 WORKING GROUP 5 INNOVATION IMPLEMENTATION IN THE BUSINESS ENVIRONMENT

WG5 (adopts a helicopter view of the activities carried out in the projects within the perimeter of the ETIP about the energy transition in order to:

- Build homogeneity in the analysis of projects, work done and lessons learned so as to ascertain common tools and methods in shaping a universal and consensual approach, comparable and trustworthy;
- Create a common platform for analysing developments in technologies, judging results, qualifying and quantifying progress made with technologies, systems and solutions;
- Build a methodology to judge system needs in the energy transition capable of identifying tangible needs for building on progress made and give feedback to the other WGs for populating their R&I needs in the years ahead;
- Create a platform for identifying progress with means of being supportive for deployment throughout the European Union aiming scalability and replicability to the highest degree possible. This platform should be capable of analysing results from projects throughout EU irrespective of who has financed them and limited only with confidentially bound information;
- Review the relevant BRIDGE reports that identify the economic, social, technical, legal, etc. barriers which may slow down business model deployment (impacting scaling, replication, deployment);
- Search for innovative solutions that will maximise the benefits of the innovation process (evolution of the industry with a stronger presence in the world economy, improve efficiencies in all spheres of the economy, enrich the options of end users in managing their energy needs, strengthen the solutions that lead to a carbon free economy etc) that EU achieves through R&I activities in the area of Energy.

Key targets and performances Indicators:

1. Hold regularly the web calls of the Working Group with the detailed agenda and minutes.
2. Keep an updated membership register while ensuring continued geographical, sectoral and professional balance; conduct the annual review concerning the members level of engagement in activities and overall feedback.
3. Collaborate with project consortia on webinars and events related to the white papers and WG deliverables.
4. Define and implement rolling action plans with clearly identified deliverables and commitments, and ensure their delivery
5. Contribute to the build-up of the SRIA, Implementation Plans, Road Map and other common deliverables as mandated by ETIP-SNET (top-down activities).

