



More and better designed public support for energy technology Research and Innovation

ETIPs supporting the SET Plan in the Horizon Europe era

– The role that ETIPs and other stakeholder fora connected to SMARTSPEND see for themselves: their wishes and their support to the SET Plan



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Partners



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Abbreviations and acronyms

CBAM	Carbon Border Adjustment Mechanism
CEEDS	Common European Energy Data Space
CEP	Co-programmed European Partnership
CETP	Clean Energy Transition Partnership
DUTP	Driving Urban Transition Partnersip
EC	European Commission
ETIP	<p>European Technology and Innovation Platform, one of which exists for most forms for energy including</p> <p>DG – Deep Geothermal</p> <p>PV – Photovoltaics</p> <p>RHC – Renewable Heating and Cooling</p> <p>SNET – Smart Networks for Energy Transition</p> <p>Closely related are ETPs, European Technology Platforms</p>
ETS	European Emissions Trading Scheme
H Eu	Horizon Europe
IWG	Implementation Working Group, their precursor being a TWG - Temporary Working Group
MS	Member State
RD&I	Research, Development and Innovation
SET Plan	Strategic Energy Technology Plan
SRIA	Strategic Research and Innovation Agenda
TRL	Technology Readiness Level



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1. Background and context

European Technology Platforms, renamed to European Technology and Innovation Platforms 6 years ago, have assisted the European Commission with its RD&I policy for more than a decade. They have sought also to inform national funding agencies. In the second half of their existence they have broadened their role, tackling themes in their papers and conferences that relate to challenges or opportunities spied by their industries. Sometimes they have pointed to the non-RD&I regulatory measures needed to mitigate or seize those (while leaving that work mainly to the relevant European trade association).

Throughout, they have had a relationship to Member States and Associated Countries, first with Mirror Groups, then through representation bodies known as [European Industrial Initiatives \(EIs\)](#), then briefly with the SET Plan Steering Group directly, and finally in structures known as Temporary Working Group, later renamed to Implementation Working Groups. Initially the idea was that the countries in “Mirror Groups” take the ET(I)Ps’ views into their national funding programmes. Since the EI-era, the countries have rather pushed back their views into the ET(I)Ps’ R&I recommendations. Since the TWG-era, there has been ambiguity in whether the (T/I)WGs’ “Implementation Plans”, or ETIPs’ direct recommendations are the better guide to RD&I priorities.

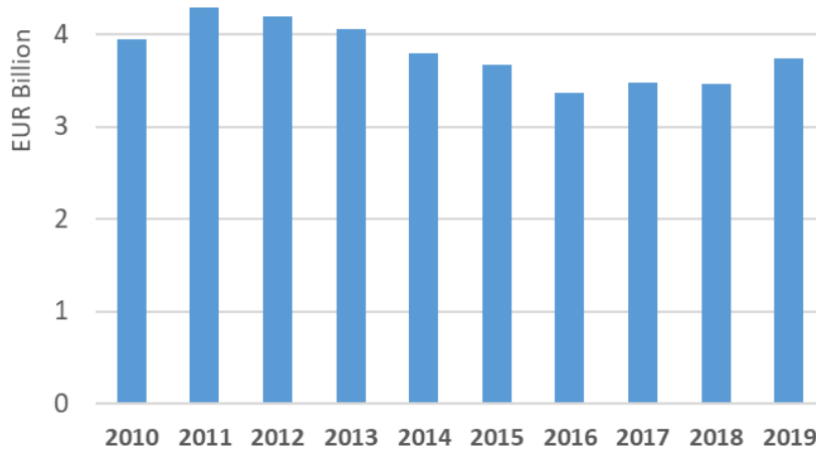
The expansion of ETIPs’ interests beyond R&I recommendations can be traced to:

Realism about the EU’s and Member States’ willingness to increase funding for renewables. A [2009 Communication](#), written with ETIPs’ input said, “The Commission believes that investment in the EU has to increase from the current €3 bn per year to around €8 bn per year [by 2020] to effectively move forward the SET-Plan actions.” The investment never appeared, either from the public sector or private sources. A few years later the Commission invited ETIPs (then known as ETPs) to write an “Integrated Roadmap” totalling several hundred pages¹. The impact of this time-consuming exercise on public funding for energy was undetectable. Nor did intergovernmental efforts have impact. Mission Innovation launched a year after the Integrated Roadmap, its signatories making the headline pledge of doubling their countries’ annual R&I spending between 2015 and 2020. Recent data from the EC suggest little change in the habits of Mission Innovation’s EU members in the period 2015-2019 (Figure 1).

¹ Few traces of this effort besides a [50-page summary](#) remain online, however the back of that summary refers to an Annex in five parts, [Part II of which](#) alone weighs in at 166 pages.

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Figure 1 Public investment in the Energy Union R&I priorities by EU Member States



Many of the EU's biggest RD&I spenders are in Mission Innovation. Energy Union R&I priorities do not precisely match up with Mission Innovation's priorities, but there is enough overlap for progress towards Mission Innovation's target, if happening, to be visible in the chart. Source: [COM\(2021\) 952 Progress on competitiveness of clean energy technologies](#) referencing work by JRC and IEA

Growth of the renewable energy industry and clean production more generally. Even before the EC mooted a "climate law" to achieve net-zero emissions by 2050, the cost of some renewable energy technologies had been falling fast and opening up new possibilities for using renewable energy. Decarbonising difficult sectors, like industry or aviation via hydrogen or e-fuels became a realistic prospect. Thus the challenge, for those technologies' ETIPs, was about industrial policy measures to scale up deployment. Demonstrating relevance to society (e.g. by showing progress on cost reduction), quality, sustainability, resource constraints and the stimulation of local manufacturing became hot themes that they turned their attention to.

Growing dominance of the ETS Innovation Fund in the EC's direct funding of energy technology, the annual budget of which will dwarf² that of the Climate, Energy and Mobility Cluster of Horizon Europe at today's carbon prices. The Innovation Fund is agnostic about eligible technologies, meaning that the prescriptive recommendations of entities like ETIPs are irrelevant to it. This policy could, in theory, change. DG CLIMA has indicated that the scope of later calls may widen or narrow depending on the technologies funded in earlier calls. Also, ETIPs could have a role in closely advising the EC and bidders on what may be innovative enough to score highly in the "degree of innovation" selection criterion.

Horizon Europe (hereafter 'H Eu') simplification agenda. The Framework Programme's "rules for participation" had been simplified as FP7 made way for Horizon 2020. Seven years later, the European Commission considered that it was the number and variety of constructions for its interaction with stakeholders that needed to be rationalised. ETPs (European Technology Platforms)

² Under EC proposals for CBAM, 200 M EUAs will be added to Innovation Fund, boosting its firepower to 47 bn EUR at current carbon prices – presentation by Maria Georgiadou at ETIP-Bioenergy SPM 10 18 Nov 2021 (68 €/tonne)



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were an example given in a speech by the Commissioner for Research, Science and Innovation Carlos Moedas³. The prospect of being simplified into oblivion was demoralising.

2. Getting the most from ETIPs

Close involvement in Work Programme definition

While ETIPs welcome the resources given to them by Framework Programmes past and present for non-RD&I recommendation-related work (e.g. annual conferences on a particular theme, national roundtables, dialogue with NGOs), their **bread-and-butter is steering transnational European RD&I funding**⁴.

Unlike for stakeholder groups represented in Co-programmed European Partnerships (formerly known as Contractual Public Private Partnerships), the EC makes no commitment to involve ETIPs in the preparation of Work Programmes. Close alignment of Work Programmes with ETIP recommendations from the start would ensure EU resources are allocated to the priorities with best value for money. **ETIPs would like as close as possible involvement in Work Programme preparation**, believing this would allow them to maximise their contribution to the SET Plan. The qualities they have always had and that qualify them to give such input remain relevant in the H Eu era:

- Membership made up of a mix of researchers from industry and from academia, doing research on technologies at high and low TRL.
- Conduct their business transparently and operate according to transparent rules
- Run by Steering Committees (or equivalent) that are technologically representative so that they are not captured by one sub-interest; and that strive for geographic representativity, too
- Free to join
- Consulting on recommendations publicly, then publishing them

If CEP-type access cannot be arranged, ETIPs feel they can give their best input through a mechanism for close dialogue with the deciders of EU energy RD&I strategy. They recall with satisfaction with the “Declarations of Intent” exercise of end-2015 and start-2016. It involved ETIPs distilling down their input to the Integrated Roadmap to 10 pages or less of technology performance targets, expressed quantitatively. Targets for 2020, 2025 and 2030 were specified.

The European Commission sent feedback on the targets and the stakeholders responded. Meetings were held between some stakeholders from particular technologies, technology specialists in the EC, and Member States, where in a big group the stakeholders defended their ideas. The MS

³ Feb 2018: [Speech by Commissioner Carlos Moedas at European Industry Day - A New Ecosystem for Science, Start-ups and Industry \(europa.eu\)](#)

⁴ The EC has tended to try to get them focused on ‘European funding’, addressing Member States’ funding in a general and all-encompassing. But stakeholders have other more effective channels to reach member states funding.



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representatives were SET Plan Steering Group members, who were often also Work Programme Committee members, i.e. had a mandate to shape both their national programmes and the EC's Work Programmes.

This was an invigorating experience, sadly not repeated. Contact to Member States was devolved to TWGs/IWGs, whose members may be remote from the H Eu 'Energy' comitology.

Close involvement in CETP and DUTP definition

The various energy-related ERA-NET-COFUNDS that operated in the Horizon 2020 era (and few since even earlier) have been consolidated into two Co-funded European Partnerships, Clean Energy Transition Partnership and Driving Urban Transition Partnership.

This consolidation gives perennity to transnational EU energy funding structures that combine EU-level and national money. Furthermore, it implies

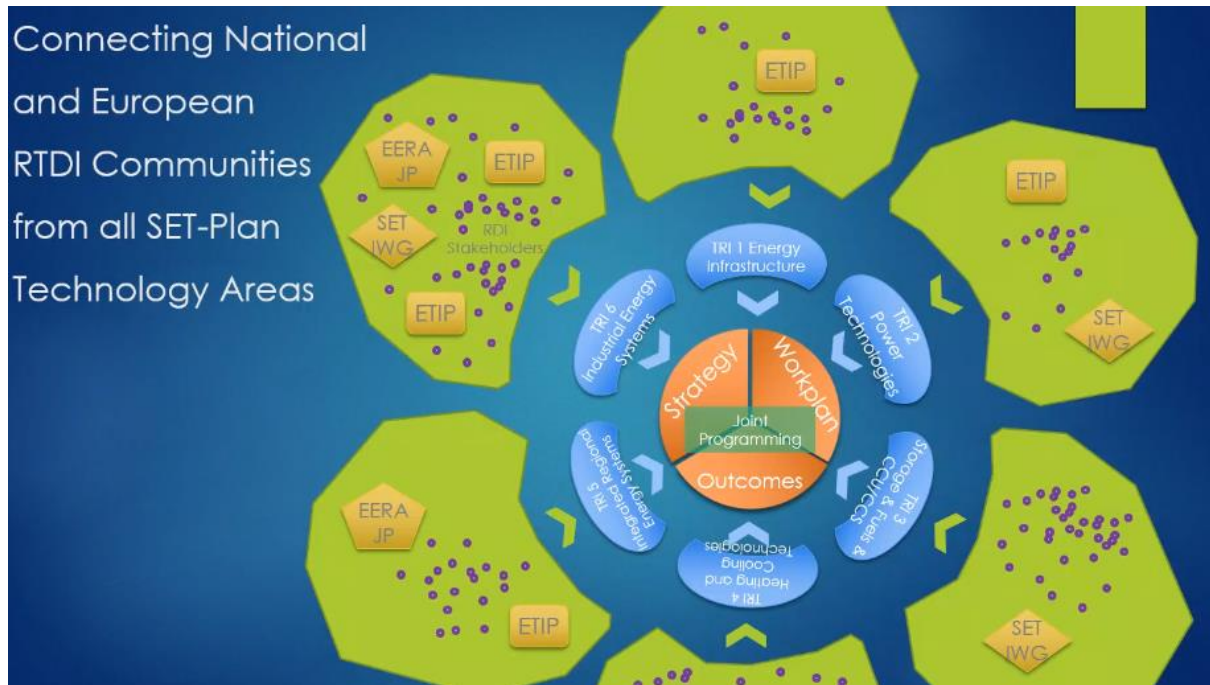
- i) a single entry point to such funding regardless of energy technology
- ii) more possibility to fund cross-cutting projects
- iii) the possibility for better coordination across technologies to eliminate unintentional duplication or repetition of funding in cross-cutting areas
- iv) more consistency in the rules for proposal submission and evaluation across technologies

These changes make it easier for ETIPs to access people with decision-making power over transnational co-funding (thanks in particular to the perennity of the structure and the fact that there will be committees that steer the Co-funded Partnerships as a whole) and for ETIPs' ideas to be taken up (thanks to the Co-funded Partnerships' better capacity to handle cross-cutting work).

ETIPs' input should be indispensable for supporting the work and activities of these partnerships and at least CETP intends to take input from them (Figure 2).

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Figure 2 Visualisation of CETP’s intention to use ETIPs and other sources of input for its six Transition Initiatives (technology priorities; numbered TRI x). Presented by [Michael Hübner, BMK](#) on 25 Jan 2022 to ETIP-SNET Governing Board



EERA and its Joint Programmes have been helpful in setting their initial agendas, but as the launch of the first calls approaches in late 2022 ETIPs’ SRIAs are also sources of ideas. ETIPs would be happy to contribute to co-funded partnerships’ consultations (at least one has already – Box 1). If the partnerships indicate how much money they intend to make available to different technologies, and when, ETIPs could tailor their input to fit those constraints. The benefit for the partnerships of listening to ETIPs that their programmes will be aligned with research agendas co-created by public- and private-sector researchers from across Europe.

ETIP-SNET has ensured IWG 4’s Implementation Flagship 1 aligns fully with [ETIP-SNET’s Roadmap](#) and [Implementation Plan](#). Implementation Flagship 1 was used to draft CETP’s initial scope of work.P

Box 1 ETIP-SNET’s route to input to CETP.

Advice on industrial policy

ETIPs have members from the private sector, often industry, and from public research organisation (universities, national laboratories or similar). This equips them to comment on industry policy, particularly to give recommendations for an industry policy based on the development of advanced technology. Examples are given in Boxes 2-5.



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2021: Report with Wind Europe [Getting fit for 55 and set for 2050](#) containing industrial policy recommendations; [June 2021 event](#) and [Sept 2021 event](#) on this topic

Box 2 Examples of ETIP-Wind's work on industry policy

2021: [Strategic report on implementation of R&I priorities](#); [event](#) to present report

Box 4 Examples of RHC-ETIP's work on industry policy

2019: [Report on competitiveness of the deep geothermal industry](#)

Box 5 Examples of ETIP-Deep Geothermal support for industry policy

Annual public conferences with industry's prospects directly in the title, e.g.

2019: "Readying for the TW era"

2017: "PV Manufacturing in Europe"

2014: "New dawn for large-scale PV manufacturing in Europe: reality or pipe dream?"

Factsheets, e.g.:

2020: [PV the cheapest electricity source almost anywhere](#)

Own- or 3rd party- initiatives or letters, e.g.:

2020: [Solar Manufacturing Accelerator](#)

2017: [Letter reacting to demise of Solarworld](#)

Box 3 Examples of ETIP-PV's output on industry policy

In SMARTSPEND, ETIPs have held three conferences on Access to Risk Finance. The lack of financing instruments for scaling up unproven technology is an obstacle that many ETIPs have identified. Many would like to continue the series post-SMARTSPEND. The ARF conference branding will be kept and made available to ETIP(s) wishing to organise such events in future.

The conference could be put on as an ETIP 'joint activity' (within the meaning of the [call text D3-02-15](#)). ETIPs also envisage as joint activity holding events at or around the annual EU Industry Days, as well as other EU conferences.

Industry policy and research policy are intertwined. Research is publicly funded in the hope of creating industrial opportunity that creates wealth and increases welfare. Member States' detail the incentives they offer for innovation in National Energy and Climate Plans, next up for review in 2023. ETIPs should have the job of scrutinising draft NECPs and guiding the Member States concerned and the Commission towards appropriate revisions.

Engaging with "Europe fit for a Digital Age" agenda

The EU's digital agenda is one part (an important one) of the EU's industry policy. This policy intersects with energy in the Common European Energy Data Space concept introduced in the 2020 Data Strategy for Europe. The idea will be [developed in a likely four Horizon Europe projects](#). ETIPs could approach the winning proposals for a seat in their Advisory Boards.

In the first half 2022 the EC's Action Plan for the Digitalisation of the Energy System is expected to be published. ETIPs could input to it in the run-up to its publication or react to it afterwards (ETIP-SNET is responding to the [public consultation](#)). A touchy issue, but one that needs to be revisited



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constantly, is the extent to which industry is willing to share data with other industry or with third party researchers. The arguments or procedures that can convince in one industry could be transferred to another.

Use their European reach

Because ETIP members come from across Europe, they are a forum where best practice from different countries can be shared and from which it can be spread. An EU level strategy or approach proposed by the ETIP or coming from the EC can be explained to national stakeholders, and country-specific views fed up from the ETIP and on to the EU policy makers. This is the approach taken in RHC ETIP which organises National Roundtables (Box 6).

Major changes in the job market could be on their way this decade. Energy system transformation will create big local impacts, e.g. as coal mines are closed. COVID-19 and the rising of cost producing goods in the Far East (and shipping them) are shortening supply chains. Digitalisation will keep Europe's industries competitive with those of other continents but to make the most of digitalisation, European workers will need to learn new skills and keep learning throughout their careers.

The sectors represented by ETIPs will be job creators. ETIPs in collaboration with their respective sectoral associations should inform policymakers of the skills they need in their workforce to address the huge deployment of renewables expected this decade. Events could be held in conjunction with the Just Transition Platform or other relevant initiatives to present the opportunity to coal regions.

Scientist members = credibility

ETIP members naturally believe in their technology, but they are scientists (often), not salesmen. ETIPs are therefore organisations that provide fact-based evidence, or at least are clear about when they are expressing opinion rather than fact, which typically happens in the medium- to long-term "Visions" for their technology prepared in advance of SRIAs.

The EC is right to give ETIPs the role of anticipating or challenging "technology pushback" (i.e. hostile attitudes to new tech in society). Examples of work being done now in ETIPs (or ETIP-like structures) is given in Box 7.

RHC-ETIP has since 2019 organised a cycle of 'National Roundtables', events where RHC-ETIP members exchange with stakeholders in their country who are not ETIP members, sharing views and experience:

- 2021: Spain, Slovenia, Portugal, Greece, Sweden, Czech Republic
- 2020: Ireland, Finland, Lithuania
- 2019: the Netherlands, Finland, Estonia

ETIP-Bioenergy offers factsheets on the status of bioenergy in individual countries, e.g. recently Ukraine, Sweden, France and Finland.

Box 6 Engagement with national stakeholders

Hydropower Europe [sat down with NGOs](#) in Jan 2021 to discuss hydro's sustainability and invited NGOs to the [roundtable](#) it organised during 2021 Green Week

Box 7 ETIPs / ETIP-like structures engaging with stakeholders on sensitive topics



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Matchmaking

ETIPs can offer member-facing services introducing companies to each other. ETIP-Deep Geothermal organises such events to help its members find project partners and learn about funding opportunities. So, too, do [“JA-2” projects \(i.e. funded in the wave that supported IWGs\)](#): PV Impact, which every few months organises online speed-dating-style events where companies and research centres bring ideas on a particular topic to a closed-door meeting and discuss it one-to-one in successive short conversations, exploring opportunities for collaboration with the participant opposite them; and SET4Bio, which with its [Innovation Challenge](#) does a similar thing for the bioenergy sector. This formula could be used by ETIPs more widely to create contact with potential new customers (Power-to-X, renewable heat) or to stimulate hybrid projects (see “Joint actions”, next section).

Video conferencing is now very familiar to many. Holding matchmaking events online increases the pool of potential participants. The time saved by not having to travel compensates the lack of face-to-face interaction. The events are relatively cheap to organise.

Co-programmed European partnerships also offer matchmaking. Matchmaking is not something ETIPs are uniquely able or qualified to organise.

Joint actions to build consensus, reach robust conclusions and maximise impact

ETIPs are technology-specific, and they couldn't exist if they weren't. Some of their goals could however best be met by working in concert with each other.

They have discussed these with each other and concluded that the following topics are ripe for collaboration by some or all ETIPs.

Energy system integration

All energy technologies have in common that ultimately the energy they have produced is sent somewhere and used. The choice to consume one kind in one amount impacts the need for another kind in another amount. An example of this is a White Paper on system integration in preparation between RHC-ETIP and ETIP-SNET – to arrive at a **common understanding of the potential for sector integration**, building on the [EC's strategy of 2020](#). This may be broken down into the topics of:

Industrial heat

With near-total decarbonisation of industry a must for 2050 climate neutrality, renewables are lining up to meet low- and high-temperature industrial heat demand. Combinations of technologies, using electricity to different extents, may be needed. The options and costs needed to be clearly communicated to potential future customers.

Power to X

Electricity-producing technologies, particularly those whose output is variable can produce heat or fuels when direct end-use of electricity is uneconomic.



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Buildings

Many renewable energy technologies can directly reduce the emissions caused by buildings but may require buildings to be built in a certain way for this to be possible. That is an opportunity for collaboration.

Heat storage

In the built environment there are many sources of heat higher than 40°C. Large-scale storage facilities would allow for utilisation of this heat for sustainable heating purposes. A set of research priorities and action plan to develop technologies for successful application of storage and recovery of heat is needed.

Digitalisation

Not for nothing are digital technologies labelled “key enabling technologies”. They enable technology, including renewables, to be produced and used more efficiently. Applied to energy system integration, digitalisation exploits margins for flexibility in the precise composition of generators and loads with known characteristics connected to energy grids at any moment.

Topics beyond energy system integration

Multipurpose structures

[PV deployed on reservoirs](#) (or other inland bodies of water) can reduce evaporative loss from the reservoir. Fields, awnings, noise barriers, car bodies... there are multiple construction industries that are opening up commercial opportunities to PV, explored in a [recent conference](#).

Skills shortages

ETIPs are interested in addressing the lack of people with suitable skills for building Europe’s carbon-neutral energy system, with particular attention to job creation in coal region. Starting point: [2019 report by JRC](#).

Combined renewables power plants

Various renewable energy technologies can be combined in the same plant to give the plant greater dispatchability. ETIPs can provide occasions for their members to learn about specific projects. They could also write guidance on how to qualify hybrid projects the ETS Innovation Fund’s degree of innovation selection criterion or Member States’ Innovation Tenders, e.g. [Germany’s](#).

500 GW offshore renewables by 2050

The EC’s Offshore Renewable Energy Strategy tentatively suggests an EU target of 340 GW of offshore energy by 2050, and that a further 160 GW could be installed by non-EU European countries. That aspiration is a multiple of today’s deployment. ETIP Wind, ETIP-Ocean, IWG HVDC and organisations in the Power-to-X field could co-author a strategy.

Lithium for batteries

Lithium is an essential component of the lithium-ion batteries at the heart of electric vehicles and quick-response electricity storage. It is often found in geothermal brines. An obvious synergy exists between ETIP Batteries and ETIP Deep Geothermal.



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3. ETIPs still supporting the SET Plan in 2025?

Since 2018, typically grants of around 1 M EUR for three years are paying for a secretariat to manage their work and deliver part of it, though one ETIP receives substantially more per year (ETIP-SNET) and another soon will (ETIP supported by topic [HORIZON-CL5-2021-D2-01-07](#)). 2015-2018, the EC offered 0.6 M EUR for three-year projects

Lots may change between now and the middle of the decade: the SET Plan will be “revised” in 2021-22⁵, the carbon price might move significantly which would speed up or slow down the commercialisation of climate-protecting technology, and the EC will decide whether it will continue to offer CSA contracts to support ETIPs. The signs are that it won’t. From ETIPs’ point of view, this is far from ideal. They think their current role and characteristics, which derive from the form and amount of funding currently provided to them by the EC, are valuable, bring a unique perspective to R&I energy policymaking and should be maintained.

Implications of financial independence from the EC

If the EC won’t fund ETIPs, then they will have to secure the money from another source or downscale their activities. Conclusions emerging from ETIPs so far on pathways to financial independence include the following:

- The replacement funding is presumed to come from membership fees or at least from a private source. CETP or DUT, it must be assumed, will follow the EC’s thinking and not provide funding.
- ETIP members (in most ETIPs) have not had to pay a fee so far in the 10-15 years that ETIPs have existed. There needs to be a clear value proposition behind the membership fee or they will leave. The future ETIP will follow the wishes and strategy of its paying members and not of any wider community unless the community’s and paying members’ interests happen to concord.
- Whatever activities ETIPs offer must not reproduce what is being done in other stakeholder groups (industry associations, EERA). The extent to which existing stakeholder groups will perceive the repurposed and financial independent ETIPs as a threat is unclear.
- The activities will need to relate to research and innovation in some way.
- Phasing in a model during the current contract will be awkward, but a leap from one system to another may be even more disruptive. During the phase-in period, the ETIP will have to find a way to offer more services to the members that pay fees without driving away the non-paying members.

⁵ 2021 was stated in the Sept 2020 assessment of NECPs, but as clarified by the EC at the SET Plan conference 25-26 Nov 2021, the revision will continue for much of 2022.



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- Many ETIPs support projects have a grant of about 300 k EUR per year from the EC (and some much more). It is highly improbable that anything like that amount can be found from private sources.
- If an ETIP fails to find a path to financial sustainability, its members will either a) remain homeless b) join an industry association c) join a research association. Energy research policy will be back to pre-2005 era of “Academic researchers in this corner, please. And researchers in industry over here.”

Options compatible with the above constraints are given below.

Option 1: Become a Co-programmed European Partnership (CEP)

Memoranda of Understanding setting up CEPs for Horizon Europe have been signed between the European Commission and a body (legal entity) representing the CEP’s industry. [11 have been signed so far](#), with the EC signalling that more may come during H Eu. They typically give the industry partners a role in programming a [few hundred million euros of Horizon Europe spending](#) over the 7 years of the programme. A typical requirement on industry is to produce an annual report stating industry’s own spending on RD&I in the same area, with the aim often to discover an amount equal to the EC Framework Programme commitment.

The typical business model of a CEP is as follows:

- Main offer to industry: pay an association (the legal entity mentioned above) a fee to get close involvement in the definition of the Work Programme
- Fee: low- to mid- single digit thousand euros / year
- Total paying members of the association: aim for 100. The typical annual budget of energy-related CEPs in the H2020 era was in the low hundreds of thousands of euros / year. For context, 150-200 k EUR is about the amount needed to employ two people full-time and keep a small office in Brussels.

The CEP model depends on finding many willing to pay a small-ish fee. It also depends on the amount of money the EC is willing to let the CEP co-control. If this amount is too low, then too little would be at stake for the CEP to be viable because there will be too few companies willing to spend enough money to cover the cost of running the legal entity’s office.

While CINEA, the European Commission’s executive agency handling collaborative projects in energy had allocated 3.8 bn EUR to its projects by the end of H2020, the amounts going to areas covered by specific ETIPs were of course much less (Figure 3). The amounts at stake for the various categories of clean energy technology individually (possibly except for “grids & storage, energy systems”) are less than the amounts handled by H2020’s cPPP/CEPs – see Table 1.

Table 1 Funding committed to selected Horizon Europe co-programmed European Partnerships connected with energy and to their homologues from the Horizon 2020 era, where they exist



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Area	Horizon 2020 era 2014-2020		Horizon Europe era 2021-2027	
	Horizon 2020 name	Co-programmed budget / M EUR	Horizon Europe name	Co-programmed budget / M EUR
Energy- and resource-efficient industry	SPIRE	900	Process for Planet	1300
Factory technology	Factories of the Future	1150	Made in Europe	900
Energy-efficient buildings	E2B	600	Built for People	380
Green road transport	EGVI	750	2ZERO	615
Green waterway transport			European Partnership for zero-emission waterborne transport	530
Low-carbon steelmaking			Clean Steel	1000
Batteries			Batt4EU	925

CINEA-managed H2020 Energy Portfolio

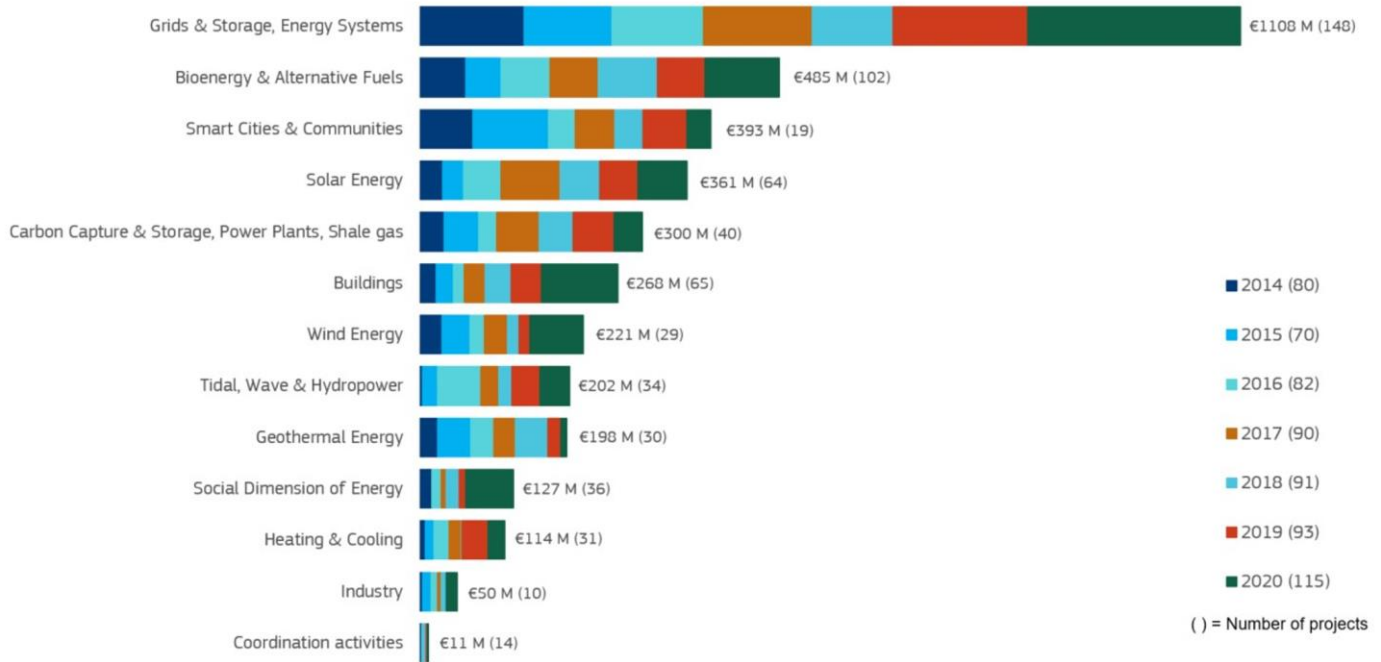


Figure 3 Data provided by European Climate, Infrastructure and Environment Executive Agency (CINEA) on 10 Nov 2021. CINEA manages European Commission-funded collaborative projects in energy. Contractual PPPs aka Co-programmed European Partnership are concerned with this kind of project.

At the mid-point of Horizon Europe, around 2-3 years from now, when the next round of ETIP CSA project funding will end and when the EC might launch more CEPs, it is again expected that H Eu will have remaining amounts of 50-350 M EUR to spend per ETIP technology.

On their own, those amounts seem too small to make a CEP worthwhile, however they could be increased:

- The EC could give a strong signal that a new MoU on similar terms could be signed in the following Framework Programme. Drawback: any signalling would have to be without prejudice to the position of the legislator on H Eu's successor programme, and therefore may be impossible for the EC. Recall that in early H Eu positioning, the Council adopted eye-catching hostile Conclusions on partnerships⁶, saying in effect that they should all be "phased out".

⁶ Council Conclusions 1 Dec 2017 "From Interim Evaluation of Horizon 2020 towards the ninth Framework Programme" [15320/17](#) (para 19)



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- The rules of ETS Innovation Fund could be changed to allocate specific amounts to ETIP technologies. ETS IF today run calls broadly on the basis of open competition between all eligible sectors, with no budget pre-allocated to defined areas. But its budget is huge, and if it a) changed that policy and b) diverted some of its funding to collaborative projects c) allowed a CEP to co-programme that budget then enough may be at stake to make a CEP viable. Drawback: a substantial rewrite of ETS IF's rules would be necessary, most probably a new Commission Decision on the Innovation Fund, and likely even an amendment to the ETS Directive.

These considerations explain the result of SMARTSPEND's consultation of ETIPs in late 2019-and H1 2020: ETIPs wanted to remain as ETIPs and not to become cPPPs⁷. Statements of their position are given in the [Annex](#).

Option 2 "Research association"

In this model, the ETIP becomes an organisation like Germany's *Forschungsvereinigungen* ('research associations'). Research associations are funded by industry members. Their fees are pooled to pay for a programme of research outsourced to trusted third parties, like small university teams. In return, industry members get shared access to and ownership of the results of the research, which are kept within the association. At least one similar initiative has been attempted in the renewable energy business (Box 9).

The members of an ETIP might be found in a research association, but if so, then it would be for different reasons than the ones that drove them to be in the original ETIP. Research associations are inward-looking: they do not need to reach out to policymakers or win favour from a community to perform their primary function. An ETIP that takes this form would support the SET Plan in the narrow sense that it increases private RD&I funding, and the efficiency of that spending through the sharing of results.

The EC could support research associations financially by offering to match private sector contributions to joint research similarly to the way it matched Member States' commitments to ERA-NET-COFUNDS in the 2010s.

Like CEPs, a critical mass of industry members is needed to launch such collaborations.

In the late 2000s, the research centre IMEC wanted to extend its successful microelectronics Industrial Affiliation Programme (IIAP) to solar PV.

A [press release from 2009](#) says, "The program will bring together silicon solar cell manufacturers, equipment and material suppliers and is based on a sharing of intellectual property, talent, risk and cost."

The solar PV IIAP didn't survive the shake-out of EU manufacturers a couple of years later.

Box 9 Forschungsvereinigung-type approach in the renewable energy field (PV). Here a single research lab offered to cater to all the industry members' research needs.

⁷ Position of ETIP-Wind is unknown



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Option 3 “Data sharing club”

The potential of Big Data is becoming apparent. Companies with access to vast datasets can mine it to discover profitable optimisations. The biggest companies with the biggest datasets will be at a permanent advantage over smaller companies with smaller datasets. That imbalance can be addressed by the smaller companies if they share their data.

Data sharing is a subset of knowledge sharing. A handful of renewable energy companies are getting familiar with knowledge sharing thanks to the conditions of their NER300 awards and many more will soon join them as ETS Innovation Fund awardees. Both instruments require the exchange of information between similar projects behind closed doors, but not the sharing of datasets at a resolution relevant to AI⁸. That could change. Furthermore, H Eu projects could be made to / invited to join these clubs. Datasets from condition monitoring on any renewable energy installation or building energy management system could potentially be contributed to a data pool if a compelling case exists for doing so.

A body needs to create that case or at least the framework for such a case to emerge. Enter initiatives like the EC-led Common European Energy Data Space mentioned earlier, or the private initiative in wind, [wedowind](#) (featured in recent ETIP-Wind conferences).

The CEEDS will be fleshed out in H Eu proposals expected to start this year. The projects could have ETIPs’ input via an advisory board. If they are closely involved from the start, ETIPs could potentially be in a position to take forward implementation of the Data Space in respect of their technology as a private activity once H Eu funding ends.

ETIPs could be the gatekeeper to the Data Space service, creating and building the community of users, managing the process by which rules are agreed and updated, ensuring the technical reliability of the service and covering its costs through a fee, perhaps collected as percentage on paid-for datasets or services. The question is, what’s more efficient: one gatekeeper per technology or a single gatekeeper for all technologies but sensitive to the particular needs and traditions in each energy sector?

⁸ In the field of grid-flexibility, initiatives like [BRIDGE](#) enable knowledge-sharing between EU projects.



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4. Annex: ETIPs' or SMARTSPEND partners' statements on their attitudes towards becoming European Co-programmed partnerships

ETIP-PV

Statement arising from Steering Committee 22 Jan 2020:

The Co-programmed European Partnership idea is attractive, but it is too soon for the PV sector. Given it takes about 100 companies paying 5-10 k€ each to animate the Partnership, this is unaffordable for the industry for now. There are too few shoulders to share the burden.

Once the fortunes of EU-based PV manufacturers have revived, the question should be revisited. They are directly concerned by RD&I funding because they work in a high-tech part of the PV business.

An ETIP-PV cPPP would take responsibility for RD&I agenda setting away from ETIP-PV, but the Working Groups and ETIP-PV have many further activities to justify an ETIP.

ETIP-Deep Geothermal

Statement arising from stakeholder event 5 Feb 2020, updated in November 2021:

The current status of ETIP and future targets on research and innovation were discussed. ETIP-DG stakeholders (ca. 400 members) are happy to stay as they are as a European Technology and Innovation Platform on Deep Geothermal. Since its initiation back in 2016, ETIP DG has proven to be an effective tool that brought together representatives from industry, academia, research centres and sectoral associations covering the entire value chain of deep geothermal from exploration via production to generation. It is recognised as a key partner in the IWG on DG. In the first three years 2016-2019, it has strengthened cooperation between them and made the sector visible all over Europe with an EC financial support of 0.6 €million to its secretariat. Members of ETIP-DG believe it is a great tool for cooperation and they choose to stay as it is - an ETIP DG.

Since July 2019, the secretariat is 100% financed by EGEC. The activities are reduced but they remain public and open to EGEC non members.



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ETIP Batteries

Editor's note: unusually, an ETIP in batteries exists alongside a Co-programmed European Partnership. The ETIP (co-funded by the EC) writes a SRIA (Strategic Research and Innovation Agenda). The Partnership (not funded by the EC) puts industry in the driving seat and lets it prioritise what has been defined in the SRIA.

Summary of statement supplied by EASE on behalf of ETIP Batteries 23 March 2020:

ETIP Batteries Europe was created as the main coordinating body for all battery related activities for the European stakeholders, and through its National and Regional Stakeholder group also established the link to the national R&I activities.

ETIP Batteries Europe is designed as an open coordination platform with the main objective to promote research and innovation on all aspects of battery value chain: from raw materials, sourcing, advanced materials, cell design and manufacturing, applications and integration of batteries to recycling and for all TRL levels. It identifies and prioritises the main research and innovation needs for the whole battery value chain in Europe through its members representing industry, associations and academia.

The budget allocation of 1M euro for 3 years is somewhat insufficient to realise the full ambition of the ETIP. 3M euro as is in the case of some other ETIPs would be more realistic.

The statement also contains ETIP-Batteries' view on the Co-programmed European Partnership of the batteries sector, official name "European Partnership for Batteries: Towards a competitive European industrial battery value chain":

The PPP on Batteries builds upon and complements the activities of ETIP Batteries Europe. Based on the input from ETIP Batteries Europe and other relevant ETIP's and ETP's it will recommend R&I activities for the next Horizon Europe work programme, across all TRL levels – but for a more selective part of the battery value chain. The PPP furthermore will oversee the portfolio of projects funded under the work programme by monitoring the execution phase of the funded R&I actions and participates to the sharing of information on research project results.

The stakeholders of ETIP Batteries Europe are as such able to shape the long- medium vision for R&I activities on a European and National level, whereas members of the Batteries PPP will actively participate to the preparation of the future calls for R&I proposals.



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Whereas ETIP Batteries Europe is an open platform for all stakeholders, the PPP requires membership. The network of ETIP Batteries Europe is also more extensive with respect to scope and national and regional representatives active in the National and Regional Stakeholder Group.

Going forward it is important to clearly describe the different tasks of the ETIP Batteries Europe and the PPP in order to make those two initiatives truly complementary and avoid duplication of efforts for the still small European battery stakeholder community.

ETIP-SNET

Statements supplied 10 March 2020 from a Governing Board 31 Jan 2020

ETIP SNET has decided to remain an ETIP and not to push to become a Partnership. It was also clear from all our exchanges with the EC that there is no space for new candidates for partnership at least not for this first wave in 2021/2022.

ETIP SNET is closely following the Clean Energy Partnership and 2Zero partnership. In the latter we are contributing to the draft of scope and mission mainly in the aspect to connection to the grid and to the charging infrastructure.

ETIP-Bioenergy

Summary of statement provided on 13 July 2020:

ETIP Bioenergy has existed since 2006 (if the earlier phase of its existence as EBTP is included). The current organisation is informal, i.e. ETIP Bioenergy has no legal status on its own and the formal element is added by the official recognition by the European Commission, DG RTD. There are no membership fees and all activities, except the support provided by the ETIP-B-SABS 2 project, take place on a voluntary basis as in-kind contribution. This has two main consequences: The entry barriers for stakeholders to engage in ETIP Bioenergy are low. At the same time, the financial clout is limited and could be enhanced by other organisation formats. However, industrial and research stakeholders are already engaged in a number of networks and partnerships related to research and innovation in the area of advanced biofuels and bioenergy:

- EERA Bioenergy JP (for research organisations);
- SET-Plan IWG 8 Renewable Fuels and Bioenergy (industry, research organisations and Member State technical experts);
- BBI-JU (industrial stakeholders) and its successor under Horizon Europe;
- The forthcoming Clean Energy Transition Partnership (via IWG 8 and EERA).

This makes it questionable if there is appetite for a new organisation format, which requires significant financial commitments and which would overlap with the networks described above.



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RHC-ETIP

The idea of pursuing the Co-programmed European Partnership model was discussed in a RHC Board meeting on 3 March 2020. A Board member commented that it was interesting and that more research into the administrative constraints is needed before a firm answer may be given. A further extraordinary Board Meeting looked at the topic on 10 Dec 2021, with presentations from members connected to two Co-programmed European Partnerships, Built for People and Process for Planet. The incoming Chair's view was that continuing as an ETIP was preferable to changing to a CEP. The Board was opposed to a new fee-collecting entity that would duplicate work by associations.