

## 2025 work programme

### CONTEXT: ETC'S IMPACT IN AN EVOLVING ENERGY TRANSITION

The ETC was established in early 2016 with 16 founding members. Over the subsequent nine years, we have grown into a coalition of close to 60 high-ambition companies and organisations drawn from multiple sectors and countries. In that time, we have carved out a strong and distinctive voice in global climate debates and made a significant impact.

But over those nine years the nature of the global climate debate has changed very significantly. For the first six to seven years of our existence, the story was a favourable one of increasing political ambition and technological progress, but more recently there has been political pushback against ambitious action, and the blunt truth remains that emissions and global temperatures are still rising.

#### The upswing of ambition and confidence: 2016–23

At the beginning of 2016, in the immediate aftermath of the Paris climate agreement, no major country or company had made clear commitments to reach net-zero emissions by mid-century. Today close to 90% of all emissions are covered by some form of country net-zero commitment, and for almost all high-income countries the objective is zero by 2050.<sup>1</sup> In addition, a rapidly growing number of companies have registered science-based targets (over 6000) or net-zero commitments (over 3500).<sup>2</sup>

That increasing ambition reflects growing confidence that the technologies are now available to build net zero emission economies by mid-century at acceptable cost: and ambition in turn has stimulated the investments that drive technological development and cost reduction.

Renewable energy costs have fallen and solar PV spectacularly so: battery costs have collapsed and EVs are increasingly economic; and it is now recognised, as it was not in 2016, that it is possible to decarbonise even the so-called hard-to-abate heavy industry and long distance transport sectors of the economy.

The ETC has played a significant role in building that confidence and ambition:

- **Our 2018 [Mission Possible report](#)** played a significant role in convincing business leaders and policymakers that it is feasible to achieve net-zero emissions by mid-century even in the harder-to-abate sectors of the economy. It led to the creation of the Mission Possible Partnership (MPP)<sup>3</sup> which has developed detailed industry-backed pathways to net-zero for heavy industry, shipping and aviation.<sup>4</sup>
- **Our 2020 [Making Mission Possible report](#)** provided a comprehensive picture of the transformation of the energy system required by 2050. In 2021–22, we then published a series of reports on the four key technologies needed to achieve a net-zero economy - **Clean electrification, Hydrogen, Bio-resources and CCUS**.<sup>5</sup>
- Alongside our work on scaling up clean energy, in 2023, the ETC also launched new research, **[Committing to the phase-down of all fossil fuels](#)** contributing to an important agreement at COP28 on the phase-down of all fossil fuels.
- And as we have developed a clear vision of the technologies and investments required to achieve a zero carbon economy, we have increasingly influenced the global climate negotiation process. At the request of the UK COP 26 presidency in 2021 our **[Keeping 1.5°C Alive report](#)** helped focus the COP discussions on the biggest opportunities for emissions abatement pre-2030. And in 2024 our report on **[Credible](#)**

<sup>1</sup> From Net Zero Tracker 2024, available at <https://zerotracker.net/>.

<sup>2</sup> From SBTi 2024, available at: <https://sciencebasedtargets.org/>.

<sup>3</sup> As a joint venture between ETC, RMI, We Mean Business and WEF.

<sup>4</sup> These "sector transition strategies" are now being reflected in standard-setting guidelines, e.g. in the Science-Based Target Initiative.

<sup>5</sup> In addition, our 2022 *Mind the Gap* report described the need for large-scale carbon removals alongside deep, rapid cuts to emissions.



[Contributions: Bolder Plans for Higher Climate Ambition in the Next Round of NDCs](#)<sup>6</sup> has been welcomed by the UNFCCC as a major contribution to thinking through how to ensure that technological possibilities are reflected in increasing ambition.

More recently our work has also focused on specific implementation challenges.

- The ETC's [Streamlining planning and permitting to accelerate wind and solar deployment briefing \(2023\)](#) explained why slow planning and permitting is one of the biggest hurdles to the scale-up of wind and solar capacity.
- Our [Financing the Transition report \(2023\)](#) demonstrated that building a net-zero economy requires \$3.5 trillion of capital investment per year between now and 2050 and set out the actions required to ensure that funding is available at a reasonable cost of capital in developing countries.
- In our 2023 reports [Better, faster, cleaner: securing clean energy technology supply chains](#) and [Material and resource requirements for the energy transition](#) the ETC showed there are more than sufficient raw materials and no fundamental barriers at a global level to scaling clean energy supply over the medium-long term, but clear policies and significant investment are needed to ensure supply scales fast enough and sustainably.
- In 2024 we continued the series, with focused insights on [Overcoming Turbulence in the Offshore Wind Sector](#) and [Building Grids Faster: the Backbone of the Energy Transition.](#)

In addition, we have focused on specific regional challenges. Our work in **China and India** has played a significant role in building confidence that these emerging economies can also achieve zero emissions; and the **ETC's regional programmes in Europe, Australia, Canada, Japan, the USA and Sub-Saharan Africa** have delivered insights into the distinctive challenges those different countries/regions face.

## Growing challenges and pushback

But despite the post-Paris upswing of ambition and technological possibility, the world is not on track to avoid extremely harmful climate change, and the last two years have seen increasing challenges to the consensus in favour of rapid emissions reduction.

- Global emissions have not yet peaked, and global temperatures have continued to rise. On present policies, the world is on track to warm by around 2.4°C by 2100<sup>7</sup> and the chances of limiting global warming to 1.5°C continue to narrow. Increasingly the challenge is to ensure that any overshoot beyond 1.5°C is as small as possible.
- Social and political support for climate change action in many developed countries has weakened in the period of high energy prices and inflation which followed recovery from the Covid epidemic and Russia's invasion of Ukraine. Parties which oppose ambitious climate policies have grown support in recent national and EU wide elections, emphasising anxiety about the costs of the transition, and the impact on local jobs and competitiveness.
- Misinformation about climate change and technologies which could mitigate it is rife in many parts of the social media universe which pay little attention to careful analysis.
- And the return of President Donald Trump threatens to undermine global commitments to climate change action, slow US emission reductions, and weaken America's contribution to the investments and technology development required.

This changed context makes the work of the ETC even more essential but also creates major challenges for us. Our distinctive approach and strengths have combined:

- Analytical rigour combined with extensive member engagement, making the ETC a trusted source of industry-backed insights.
- A cross-system approach, drawing linkages between energy supply and demand, across sectors, and between the energy transition and wider climate-related issues.

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<sup>6</sup> Supplemented by a short briefing ahead of COP29 - NDCs, NCQG, and Financing the Transition: Unlocking Flows for a Net-Zero Future.  
<sup>7</sup> IEA (2024), *World Energy Outlook – Stated Policies Scenario*.



- A wide and growing membership in many sectors and regions that owns our conclusions and amplifies our work.
- Clear fact-based communication.

These strengths continue to be relevant and vital. But we must also contribute to winning arguments in a political and media environment where facts are often disputed and experts often derided. Our 2025 work programme therefore combines:

- An analytical programme to address remaining uncertainties about the shape of the energy transition and big implementation challenges. This will include a focus on the costs of the energy transition, in aggregate and for specific income groups, and how these must be managed to avoid political backlash.
- Extended ETC engagement in the global climate debate, building on our distinctive strengths as a provider of trusted analysis but recognising the need to also engage with a changing media environment and broader audience.
- Work in two key countries where we have not previously been engaged – Indonesia and Brazil – together with reinforcement of our already established regional programmes.
- Continued engagement with the COP process in the run up to COP 30 in Brazil.

This document describes each of these four building blocks and then sets out some key features of how we will work with:

- The Mission Possible Partnership and the Industrial Transition Accelerator to support harder-to-abate sector decarbonisation.
- Our Members to deliver the programme, highlighting new ways of working that we have developed over the last year.

As in prior years, some of these programmes will be delivered by the ETC core team and some through collaborations with ETC regional partners. Most of it will be funded by the ETC's member-funded core budget, but we will also seek external funding (including philanthropic) to progress specific issues (e.g., specific regional focuses) and additional priority areas.

Exhibit 1

## ETC 2025 work programme



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# 1 ANALYTICAL PROGRAMME: BUILDING THE CLEAN ENERGY SYSTEM FASTER

## A two year analytical work programme – progress in 2024

At the end of 2023, the ETC set out a two-year work programme, focused on key areas where the ETC had not previously focused attention (e.g., buildings, nuclear), as well as the fundamental challenge of building clean power systems fast enough to support rising electricity demand.

The work programme continues the ETC's focus on addressing both the shape of the new clean energy system and the implementation barriers – respectively the “what” and the “how” of the transition. Through this approach, the ETC aims to provide further clarity on technically and economically feasible pathways across the energy system, as well as clear evidence around some of the barriers to provide clear, actionable policy recommendations.

During 2024, the ETC has focused on the following analytical areas:

- **Residential and Commercial Buildings.** In 2024 we looked in depth at decarbonising the energy used to operate buildings (e.g., electrifying heating and decarbonising cooling and cooking, particularly important across the global North and South respectively), how to manage a significant new and peaky electricity demand (e.g., through insulation and more efficient heat pumps), and how to reduce “embodied carbon” by decarbonising the construction of new buildings (e.g., decarbonising steel and cement, and better building design). This work is now complete and the major report will be published in January 2025.
- **Power systems transformation.** Clean electrification is the backbone of net-zero energy systems; the ETC's latest scenarios estimate a tripling of global electricity use by 2050. Yet, there are still major uncertainties about how fast power systems can scale and meet new needs. Many countries are not developing grids fast enough. And while the ETC and other expert organisations have argued that it is possible to build electricity systems which are as much as 80%+ dependent on variable renewables, that vision is not yet accepted in many low- and middle-income countries. The ETC has therefore focused in depth analysis around power systems transformation, considering the challenges of: 1) building the new grids needed at scale, while simultaneously optimising existing and new grids for maximum efficiency, 2) balancing high variable renewable systems. In September 2024, we published an initial briefing document on the need to build new grids outlining key policy recommendations. In 2025, we will publish a major integrated report addressing all these elements, accompanied by standalone insight briefings on long distance interconnection and total power demand (covered in the 2025 work programme section below).
- **Offshore wind.** The ETC's briefing [Overcoming turbulence in the offshore wind sector](#) put recent headwinds around the offshore wind sector into perspective, as part of the *Barriers to Clean Electrification* series. The briefing clarified that recent increases in the cost of offshore wind will likely prove temporary in nature, as capex costs are set to decline in the near future, with strong future prospects for the sector. The ETC outlined actions to relaunch confidence and bring down costs, including auction/contract design and supply chain alignment.
- **Nationally Determined Contributions:** In [Credible Contributions: Bolder Plans for Higher Climate Ambition in the Next Round of NDCs](#) the ETC built on our previous COP work (see section 4) to outline how ambition, specificity and granularity can be improved in the next round of national climate plans to 2035. The UNFCCC recognised the importance of this work around its launch at the Bonn climate conference, and we continue to beat the drum on key messages as the deadline for NDCs 3.0 in Q1 2025 draws closer.
- **Climate finance:** In [NDCs, NCQG, and Financing the Transition: Unlocking Flows for a Net-Zero Future](#) we built on our [Credible Contributions](#) work and repackaged insights



from 2023's [Financing the Transition](#) to outline critical climate finance priorities ahead of key debates on this issue at COP29.

In addition, during 2024 we began our work on two other critical topics. Since much of the work will be undertaken, and the respective publications produced, in 2025 we cover the topics in detail with our 2025 work programme below. The two areas are:

- **Carbon molecules** – where and how to source carbon molecules in sustainable fashion.
- **Energy productivity improvement** – clarifying the granular potential.

## 2025 Analytical work programme

In 2025, we will have four major areas of focus: power system transformation, the role of carbon molecules in a low emissions energy system, energy productivity and economic & trade impacts of the transition. The focus areas within these topics are described in turn below:

1. Completing our work on **power** systems transformation.
2. Additional work on the **power** sector.
3. **Carbon molecules** within a low emission energy system (started in 2024).
4. An updated view on total **electricity** demand.
5. The potential for **energy productivity** improvement (started in 2024).
6. The **economic impacts** of the energy transition.
7. **Trade** of low carbon technologies – local vs. global supply chains

We will then cover how we will run the programme, including:

8. Deliverables and delivery model across the ETC's analytical work programme.
9. Responding opportunistically to current energy debates and funding opportunities.

### 1.1 Completing work on power systems transformation.

**Context:** As clean electrification scales, power systems will grow in size and complexity. Vast volumes of renewables will require increased grid buildout, optimisation, and system-level balancing. In 2024, the ETC focused on how to most efficiently and cost-effectively enable the flow of electrons in these systems, to increase confidence in full power system decarbonisation.

**Objectives & approach:** In developing insights in this space, the ETC explored several issues in significant depth. We have:

- Revisited the power system transformation trajectory across key markets, acknowledging that different stages of system decarbonisation have different priorities.
- Refining the size of the balancing challenge across key geographical archetypes. This involved an in-depth modelling exercise partnering with Systemiq's Analytiq team, leveraging 30 years of weather data.
- Conducted an in-depth review on the role of different routes to meet balancing needs, including energy storage, flexible running of fossil assets, demand-side flexibility, interconnection and long-distance transmission.
- Refined our view of total system costs for decarbonised power systems, including generation and grid costs, across key country archetypes.
- Assessed system needs around grid build and optimisation, looking at global grid build and investment requirements; the role of innovative grid technologies to increase efficiency on the transmission network.

In 2025, we will finalise the analytical work around the key enablers and market design required to deliver this transformation. These insights will be integrated into a major report alongside related briefs on long distance cross-border transmission, demand side flexibility, and overall power demand growth.



## 1.2 Additional work on the power sector.

**Objectives & approach:** Across global power sectors are several areas the ETC has not yet explored in depth, and where additional analysis can bring further clarity to the debate. We will prioritise three areas:

**Nuclear and geothermal generation as alternatives to variable renewables.** Globally, the ETC believes wind and solar are the cheapest way to generate most clean power, with sufficient resources in most areas. However, in some areas new demands for electricity (e.g., data centres / AI), land availability constraints, or high cost balancing options may drive demand for other forms of low-carbon generation, if available at low cost. In 2022, 8 GW of new nuclear was added globally, following limited additions between 2019–2021. The ETC will therefore explore the roles of nuclear and geothermal in variable renewable dominated systems.

The ETC has previously touched on nuclear energy in previous reports such as [Making Clean Electrification Possible](#), [Building Energy Security through Accelerated Energy Transition](#) and [Materials and Resource Requirements for the Energy Transition](#). The analysis implicitly assumed a scale-up of nuclear as a complement to wind and solar, potentially making up ~c.5–10% of electricity supply in 2050 – a 50–150% growth on today's levels. The new work will examine nuclear's role in renewable dominated systems – including ability to run flexibly, and role in countries which may face higher land constraints for variable renewables. It will outline latest types (incl. small modular reactors and new advanced reactors), technical characteristics (incl. ability to ramp), costs, and deployment speeds. It will also consider nuclear's broader environmental impact, including embodied carbon, water usage and waste disposal.

Geothermal energy represents a minor share of global power generation today, concentrated along major tectonic plate boundaries. Yet, it is expected to become more relevant through innovations which allow it to be cost-effectively deployed in a wider array of sub-surface contexts. The ETC proposes to assess: recent innovations (e.g., the potential of Enhanced Geothermal Systems (EGS) and Superhot Rock as novel technologies), costs of geothermal for power and heat relative to other low carbon technologies, ability to run flexibly, and geographic opportunities, risks and local environmental impacts.

Across both technologies we will aim to understand the value to the system of low-carbon baseload power, vs. other system balancing options.

**Consumer power market design.** A major insight of the ETC's power and buildings work is the importance of power market design for electricity pricing. A renewable-dominated power system should offer low generation costs to consumers, but market reform is often needed to deliver this. Today, despite increasing renewables penetration, gas or coal generation continues to set the marginal wholesale price of electricity for much of the time in many countries. The ETC proposes to analyse options to ensure that low generation costs from wind and solar are passed to industrial, commercial and residential consumers. This will build on 2024 total system cost estimates and previous ETC work on wholesale power market design (incl. optimal contract design).

**Regional collaborations focused on power system transformation.** In the 2024 work programme, we noted clear links between our Power work and our Regional work and this continues in 2025. As discussed in further detail in section 3, the collaboration with Indonesia's IESR will explore the system implications of a solar and battery-dominated power supply, using these conclusions to engage the government and influence policy debates in Indonesia and beyond. We will also partner with TERI in India to evaluate the opportunity for agri-photovoltaics (agri-PV) in India.

## 1.3 Carbon molecules within a low emission energy system (started in 2024).

**Context:** The ETC has laid out that direct electricity (the use of electrons at the point of final energy application), will play a dominant role within a zero carbon economy, with electricity's



share of final energy demand growing from 20% to 55–70% by mid-century. However, a significant share of final energy demand will still depend on molecules – either hydrogen or hydrogen derivatives (such as ammonia) or molecules containing both hydrogen and carbon atoms (e.g., carbon-based fuels - synfuels). The balance between direct electrification, hydrogen and carbon-based molecules will differ sector by sector. In some sectors (e.g. aviation), hydrocarbon fuels are advantaged due to higher gravimetric energy density compared to batteries and higher volumetric density compared to hydrogen. In other sectors (e.g., plastics) carbon atoms are essential building blocks of a material.

It is clear that carbon-based molecules will continue to play a significant role in both a decarbonised energy system and in the materials system. It is therefore essential to identify how to source these carbon atoms in an economically efficient and sustainable fashion. A prosperous economy will never be entirely decarbonised but must be de-fossilised. This will require using either fossil fuel sources combined with long duration carbon capture storage or utilisation (CCUS), bio energy sources, or direct air capture of CO<sub>2</sub>. Each of these sources faces challenges.<sup>8</sup>

**Objectives & approach:** This workstream, launched in September,<sup>9</sup> will revisit the “boundaries” for the use of electrons vs. molecules, by exploring in more depth some of the “breakthrough” technologies. It will explore potential for recycling and reusing carbon atoms in the energy and materials systems, and how carbon can be sourced in an economically optimal and sustainable fashion. It will do this via three steps:

**Step 1: How large a role can and should direct electrification, hydrogen and its derivatives play in a zero-emission economy?** The ETC will develop an “unconstrained” scenario identifying how much of the economy could in principle be electrified if zero carbon electricity were available at a very low cost and on the required scale. To do this, we have identified 5–10 key game-changing innovations across sectors which could lead to a greater reliance first on electrification (e.g., Molten Oxide Electrolysis (MOE) for steel making). Second, we will examine the role of hydrogen or its derivatives, considering how the ETC central scenarios might evolve based on recent cost trends and innovation in the hydrogen space. We will revise the relative roles between electrification, hydrogen and carbon based molecules, alongside a constrained view of electrification.

**Step 2: What is the potential to recycle and reuse carbon molecules?** The ETC will identify both the needs for carbon molecules required for combustion applications (based on the results from Step 1), as well as future demand for carbon inputs to produce key materials – such as plastics, pulp & paper, timber, and lubricants, paints and solvents. Our analysis will include assessment of the potential for product substitutions which might increase demand for carbon-based materials, e.g., using timber instead of steel/cement in construction, or plastics instead of steel to reduce vehicle weight.

We will also develop an “extreme” scenario to explore how close to total recycling of all carbon molecules it would be possible to get, and with what implications for the primary supply of new carbon still required to support a prosperous global economy. In assessing the potential for these different forms of recycling/reuse, we will consider the optimal balance between “circular” and “linear” approaches to material use. We will produce a range of less extreme plausible scenarios for carbon molecule recycling in a zero-emission economy.

**Step 3: What are the key sources of primary carbon, their costs and sustainability?** Given the results of the two steps above we will then assess the relative attractiveness and availability of different sources of GHG emissions free carbon. The ETC will assess whether there is a case for

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<sup>8</sup> CCUS continues to develop more slowly and with less rapid cost reductions than past projections have suggested; sustainable bio resource is constrained by competing uses of land to produce food, to protect biodiversity, or to capture CO<sub>2</sub> in forests or soil; and projections of significant cost reduction for DAC, though in principle possible, are still unproven.

<sup>9</sup> With the generous support of QC.



increasing or decreasing our past estimates of potentially sustainable bioresource supply.<sup>10</sup> We will review the latest technology development and cost trends in point source capture and long duration storage / use (CCUS) and in direct air capture of CO<sub>2</sub> (DACCS). We will engage with Brazil's distinctive viewpoint on bioavailability via the ETI Brazil effort (see section 3).

Across this work, we will draw out implications for public policy and private investment priorities, and will focus on how technological innovation could change past assumptions. This work will lead to publication of major ETC report on the topic, as the key ETC report ahead of COP30.

## 1.4 An updated view on total electricity demand

As part of the work on carbon molecules and power systems transformation, the ETC will refresh the view of total electricity demand needs in 2050, including an update on both the role of industrial heat electrification, as well as the demand from data centres and AI. This work will build on the latest ETC scenarios published in the [Fossil Fuels in Transition](#) report, as well as electrification outlooks from the ETC's work in the [Making Mission Possible](#) series.

The ETC will produce a short c.5 page briefing note or blog that summarises the latest view on 2050 electricity demand in a net-zero system. The work will outline the rationale to updates to the ETC view since earlier reports. As both workstreams develop we will consider the need for additional stand alone publications on both i) AI / data centre power demand & their role in a decarbonising power system, 2) industrial heat decarbonisation, low, medium and high temperatures. If needed, we will pursue this work into 2026.

## 1.5 The potential for energy productivity improvement (started in 2024).

**Context:** In 2023 COP28 committed to doubling the rate of energy efficiency improvement by 2030, based on the IEA's Net Zero scenario which assumes energy intensity (i.e. GDP delivered per quantity of energy consumed) increases from 2% to 4% per annum by 2030. Numerous analyses have stressed the major role that this could play in decarbonisation, as a relatively cheap and immediately available lever.

Unlike renewable deployment, the practical implications of commitments to energy efficiency, intensity, or productivity improvement are unclear. We believe that to translate these broad commitments into specific actions, it is essential to understand sector-specific opportunities. Building on our 2024 work across buildings, transport, and industry, we will integrate insights from multiple sectors to form a comprehensive view of the realistic potential for energy productivity improvement and the key actions which can deliver this.

**Objectives & approach:** The ETC's integrated work on energy productivity will cover:

- **Buildings** – drawing on the work of our 2024 buildings work programme, this will cover electrification via heat pumps, multiple forms of appliance efficiency and opportunities from better building design/insulation.
- **Road transport** – where the key driver will be electrification, but there are also some opportunities for improvements in the energy process efficiency (km per kWh) of both ICE and electric vehicles (EVs), as well as service efficiency (e.g., reducing use of cars via modal shift) and improvements driven by the role of autonomous vehicles. In 2024, the ETC circulated a draft insights briefing on this topic.
- **Hard to abate industry and long distance transport** – building on the Mission Possible Partnership Sector Transition Pathways, in 2024 the ETC extracted energy efficiency improvement pathways for cement, aviation and shipping, steel and aluminium. In 2025,

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<sup>10</sup> ETC (2021), *Bioresources within a zero carbon economy* assessed that a prudent estimate for truly sustainable bioresource supply for energy and material production (i.e non-food) was unlikely to exceed 55-65 EJ, with the majority coming from waste and residues. By contrast the IEA's Net Zero scenario assumes that sustainable bioresources for energy could exceed 100 EJ.



we propose to extend this analysis to the chemicals sector and publish a short summary analysis of all sectors alongside our energy productivity report.

- **Other sectors** – the ETC will also consider opportunities in other sectors, such as within the electrification of low and medium temperature heat in other industrial sectors outside of heavy industry, and general motor efficiency improvements.

In 2025, we will produce a synthesis of the key areas of opportunity in different sectors. The synthesis report will identify the balance of different forms of energy productivity improvement – electrification, technical efficiency, changes in consumer behaviour (service efficiency), material use efficiency, explore the key actions by sector, and will provide an overall point of view of the key on the feasibility of the COP28 target and the actions required to deliver.

This synthesis will sit alongside the ETC's buildings report, a supplementary insights briefing on road transport and a short summary analysis of potential for energy productivity in heavy industry and mobility sectors.

## 1.6 The economic impacts of the energy transition.

**Context:** The Stern report of 2006 argued that the costs entailed in reducing emissions and thus limiting global climate change would be far lower than the costs to human welfare which unmitigated climate change would impose. ETC analysis in our [Making Mission Possible report](#) confirmed this conclusion. It estimated that the negative impact on conventionally measured future living standards of achieving net zero emissions would be less than 1 percent of GDP.<sup>11,12</sup>

This optimistic assessment reflects the fact that while there are some sectors where decarbonisation will impose a cost (e.g., using SAF will mean higher aviation ticket prices) there are others where future consumers will enjoy lower cost (e.g., for road transport services.)

However, as the debate around net-zero actions intensifies this issue is of increasing importance:

- The optimistic point of view remains contentious, political opposition to climate change policies is often based on the belief that they will impose significant costs to consumers.
- A focus solely on eventual future operating costs is not sufficient: investing to achieve lower future operating costs might well imply lower household consumption during the transition. Investing in heat pumps for instance, entails a significant upfront cost even if they deliver future operating costs reductions.
- The economic impact of the transition will also vary by specific household circumstance and may entail significant costs for some households even if in aggregate the costs are small or negative.
- It is often asserted that the energy transition will create more jobs than it destroys, but there is a danger that this case has been overstated or that it fails to focus adequately on specific regional or sectoral effects. Conversely, adverse jobs effects may in some cases be exaggerated.

It is therefore essential to assess the cost consequences of the transition in granular detail, identifying any adverse consequences and putting in place policies to manage them.

**Objectives & approach:** During 2025 we will therefore:

- Pull together an integrated assessment of the impact of the energy transition on economic growth, investment requirements and the implications for consumer living standards, drawing on the ETC's scenarios from [Fossil Fuels in Transition](#) and using insights on investment from our [Financing the Transition report](#).
- This will include an assessment of global investment needs, operating cost savings and investment funding costs (the cost of capital), noting how the impact might vary by

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<sup>11</sup> The Economics of Climate Change: The Stern Review (2006)

<sup>12</sup> See ETC (2020), [Making Mission Possible](#); ETC (2023) [Financing the transition](#); ETC (2023), [Fossil Fuels in Transition](#).



countries/regions at different stages of economic growth, and by different income levels within countries.

- Assess the potential employment impact of the transition both negative and positive and how this is likely to vary by country or sector.
- Complement the assessment of mitigation costs with a high-level literature review of possible adaptation costs facing different countries under different temperature scenarios: this will enable us to present a comprehensive assessment of the costs which different types of countries will face.

This will result in an ETC report to be published early 2026.

## 1.7 Trade of low carbon technologies – local vs. global supply chains.

**Context:** Recent technology improvements and cost reductions in key clean technologies like solar panels, batteries, and EVs should mean that the energy transition can go faster and cheaper than previously anticipated; and the ETC's [2023 report on supply chains](#) showed that there were no fundamental barriers to achieving this.

However, China has played the major role in driving these cost reductions and as a result dominates the production of several key technologies. In response there is a concern that this threatens local employment, growth opportunities and “economic security”; as a result there is a desire to develop domestic supply chains, deploying subsidies and tariffs to achieve this.

In addition the EU is introducing a Carbon Border Adjustment Mechanism (CBAM) to ensure that its EU-ETS carbon price results in decarbonisation of heavy industry within Europe, rather than relocation of high carbon intensity production to other countries. The ETC has strongly supported this policy, but many industry players believe it is still inadequately robust to achieve its objectives, while some developing countries still see it as protectionist.

The challenge is therefore to ensure as best possible that trade policies support a rapid energy transition rather than produce a tit for tat protectionism which undermines progress. As a global coalition with members in many different countries, the ETC is well placed to contribute to debates about these issues and we have therefore drafted a set of guiding principles for policy development which we discussed at the Commissioners' meeting in June 2024. These principles cover both.

- Optimal approaches to the development of local supply chains in clean technology.
- Optimal approaches (e.g., CBAMs) to prohibit competition on the basis of lower environmental standards.

In 2025 we plan to:

- Estimate the impact that restrictive trade policies, or restrictions on investment flows, could have on the cost and pace of the transition. Map clean technology value chains and identify areas more or less suitable for local supply chains.
- Assess whether the existing EU CBAM proposals, which are pioneering environmental tariffs for the world, are sufficient to support heavy industry decarbonisation within Europe.
- Assess the extent to which some heavy industry might relocate to developing countries with cheap and abundant renewable energy resource, even in a context where CBAMs prohibit unfair competition.
- Refine, discuss with members, and publish the ETC guiding principles.

The ETC has already engaged with the WTO around this initial framing and will continue to engage them and other relevant policymakers throughout the refining of these messages and supporting analyses.


This will result in the publication of ETC “Short”, to be published in Q2.



## 1.8 Deliverables and delivery model across the ETC's core analytical work programme.

Deliverables in the ETC analytical programme are summarised in Exhibit 2 below.

Exhibit 2



<b>2025 analytical work programme</b>			2025	2026	
Major reports	3	Insights Briefings	c.4	Briefing notes / Blogs	c.5
<i>Typically, 100+ page reports based on in-depth analytical workstreams with multiple workshops</i>		<i>Typically, 20-50 page reports based on targeted analytical work (incl. separate publications annexed to major reports)</i>		<i>Typically, 5-10 page reports or dedicated blog posts aiming to highlight key areas of analysis, limited / no new analytical work</i>	
<b>Power systems transformation</b>	<ul style="list-style-type: none"> <li>Integrated report on power systems transformation (grids + balancing renewable dominated systems)</li> </ul>	<ul style="list-style-type: none"> <li>Potential of long-distance transmission</li> <li>Role of nuclear + geothermal</li> <li>Power market design for consumers (2026)</li> </ul>		<ul style="list-style-type: none"> <li>Demand side flexibility</li> <li>Power demand growth</li> </ul>	
<b>Energy productivity</b>	<ul style="list-style-type: none"> <li>Buildings</li> </ul>	<ul style="list-style-type: none"> <li>Role of energy productivity: how it all fits together</li> </ul> <p>Supported by 2 annexes:</p> <ul style="list-style-type: none"> <li>EP in road transport</li> <li>EP in HTA sectors</li> </ul>			
<b>Carbon molecules</b>	<ul style="list-style-type: none"> <li>Role of low-carbon molecules</li> </ul>				
<b>Economic impacts</b>		<ul style="list-style-type: none"> <li>Economic implications (investment needs, costs, impacts) (2026)</li> </ul>		<ul style="list-style-type: none"> <li>Trade in low-carbon technologies</li> </ul>	
<b>Other publications (Comms repackaging of existing insights)</b>				<ul style="list-style-type: none"> <li>Carbon credits: Role of scope 3 emissions</li> <li>Bio-resources in net-zero economy</li> <li>...</li> </ul>	

The majority of the ETC's analytical work programme will continue to be delivered by the core ETC team, funded by core membership fees and drawing on the ETC's membership deep expertise. This team will be supplemented by additional resources made possible via additional philanthropic resources:

- The Carbon Molecules work will be delivered by a joint ETC-Systemiq team, thanks to support from additional funding received from ETC member Quadrature Climate Foundation.
- Additional briefings on demand side flexibility and long distance transmission, developed as part of the power systems transformation workstream, have been made possible thanks to additional support from ETC member PIE and ECF respectively.

Additional philanthropic funding would likely allow the ETC to accelerate the delivery of some areas of its analytical work programme (for example, on consumer power market design, a separate briefing covering energy productivity levers in the heavy industry and transportation sectors, and on economic impacts of the transition). We are also exploring the possibility of some short global trade modelling analysis to supplement the work on economic impacts of the transition, for which additional funding may be required.

If funding challenges were to arise, workstreams on power and molecules would be prioritised.

## 1.9 Responding opportunistically to current energy debates and additional funding opportunities.

Beyond our core programme, priority focus areas continue to be reviewed in real time, which at times results in changes or additions to the ETC's core work programme. In 2024, we:

- Completed additional analysis on Critical Raw Materials in Europe, in partnership with Breakthrough Energy and Systemiq.



- Brought forward our work on low-carbon molecules into 2024, with support from Quadrature Climate Foundation.
- Produced an additional briefing note on climate finance ahead of COP29, as part of our work on repackaging.

In 2025 we will maintain the same approach and can already foresee opportunities for impact:

- Continuation of our work on Critical Raw Materials, in partnership with Breakthrough Energy and Systemiq.
- Analysis and an engagement campaign on the implications of a net-zero transition for global ports
- Potential work on the implications of the energy transition on demand for fossil fuels to 2030, alongside partners such as We Mean Business, Carbon Trust, and the Rocky Mountain Institute.

Finally, the ETC's analytical work will also feed into several other initiatives across the Communications and the Regional teams (e.g., work on power in India and Indonesia, and in bioenergy in Brazil), such as around the work to re-package some of the ETC's existing insights on carbon removals and voluntary carbon markets.



## 2 COMMUNICATIONS PROGRAMME: EXTENDING OUR ENGAGEMENT IN THE GLOBAL CLIMATE DEBATE

### 2.1 Context and work in 2024

Effectively communicating our analysis is essential to our influence, and our communications strategy has solidified our status as a prominent advocate for the global energy transition over the years. By promoting, highlighting and re-packaging our evidence-based insights the ETC has emerged as a credible and trusted source through showcasing a commitment to translating ambitious goals into tangible actions.

However, as the world transitions from ambition to action, the global climate debate has become increasingly politicised, polarised, and the target of mis- and disinformation campaigns. Therefore, the ETC's communications are becoming more responsive, using our evidence-based analysis to correct the debate by countering myths and misinformation, through our own communications work and with organisations and partners who can take our evidence-based perspective and tailor and target this to reach a more mainstream audience.

We are almost halfway into a two-year communications programme [Exhibit 3], spanning 2024–2025, which aims to build on our established presence with our traditional audience (policy, corporate and finance) and broaden our reach and impact by leaning into key debates and extending our engagement and communications work, through three key pillars:

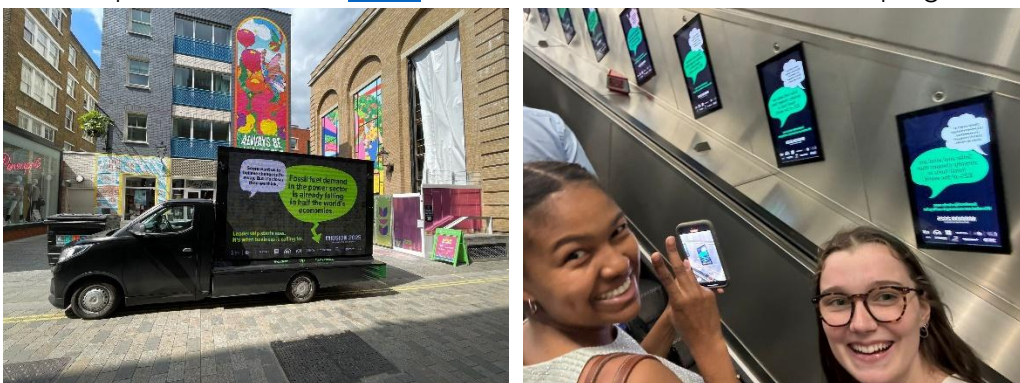
- Pillar 1: Disseminating ETC insights and recommendations – communicating major reports.
- Pillar 2: Leverage our knowledge for greater impact – repeating and repackaging existing ETC insights.
- Pillar 3: Informing the influencers and reaching a broader audience.

Exhibit 3



In 2024, we have continued to deliver on our strengths (pillar 1) and extended ourselves across new areas: repetition of key messages by repackaging our work (pillar 2) and using a broad range of communications channels and partnerships to engage with a broader audience (pillar 3).

- Continued to explain the energy transition through our repackaging programme including high impact media interviews and op-eds, video, infographics, and speaker events. Our recent briefing [NDCs, NCQG and Financing the Transition](#) repackaged existing ETC work and provided clarity to discussions around Climate Finance in advance of COP29.
- Worked more closely with communications partners such as Global Optimism, GSCC, Exponential Roadmap Initiative and members of the Ahead of the Curve community who have helped amplify and multiply our messages internationally throughout the year and at key events such as New York Climate Week and London Climate Action Week. For example, we helped inform Global Optimism's "Mission 2025" campaign, through their billboard campaign during London Climate Action Week, participating in their flagship event – a live recording of their [Outrage+Optimism podcast](#), and supporting their press release and [video](#) on climate finance and NDCs campaign ahead of COP29.



- In addition, we have increased our focus on direct engagement by bringing our work directly to key policy influencers at the Bonn Climate Change Conference – working directly with the UNFCCC to launch our NDC work - and the Clean Energy Ministerial in Brazil, where our partner Mission Innovation helped us deliver an impactful programme of high-level speaking opportunities and bilaterals at the Clean Energy Ministerial.
- We have expanded our communications reach across multiple channels and platforms.
  - ETC Matters (our external newsletter) now has 27,000 subscribers.
  - ETC has been referenced in almost 3,000 media articles and our spokespeople have taken part in interviews with international broadcast media including Al Jazeera, CGTN, CNBC, BBC, TRT World, Al Arabiya and France 24.
  - The ETC LinkedIn account continues to be the social media platform where we generate the highest engagement, now at over 15,000 followers, with a 20% increase from 2023. We've grown to around 20,000 impressions monthly, while also increasing the engagement rate to a steady 6% - up from 5.5% last year.<sup>13</sup>
  - We remain active on X/Twitter; the account following has grown steadily to over 5,200 followers.

## 2.2 Strategy for 2025

<sup>13</sup> A 6% engagement rate on LinkedIn is considered strong, as industry benchmarks for organic (non-paid) engagement typically range between 2% and 5%, depending on sector and audience size. Higher engagement rates indicate effective content that resonates with and activates the audience.



Our approach in 2025 continue the strategic focus from 2024, building on our work to amplify our evidence-based analysis and extend our communications to new audiences and increase engagement. In recognition of the increased focus on engagement and partnerships to deliver impact we have now re-scoped one of the roles in the ETC comms team to focus on this important element of our programme. The overall focus remains on three strategic areas:

### 1. Disseminating ETC insights and recommendations – communicating major reports

The ETC's major reports will each be supported and amplified by a carefully tailored communications plan. Our approach will combine:

- **Media Engagement:** We will aim to broaden our media presence by expanding upon established relationships with Tier 1 global media to engage non-English-speaking international media outlets, in order to conduct media briefings and in-depth explorations of specific topics.
- **Explainer Content:** Crafting concise, informative content in various forms, including short-form blogs, op-eds, and infographics.
- **Social Media campaigns:** Packaging insights for dissemination through social channels, actively engaging in selected real-time conversations, and developing digital friendly content formats (e.g., infographics, videos, explainer articles).
- **Event participation:** Maintaining a robust presence in prominent sectoral and regional events (e.g., Reuters, Bloomberg, FT, Economist) to actively contribute to those key forums hosting the cutting edge of energy transition debates.
- **Direct engagement:** Structured and targeted outreach to key influencers, experts and third parties to amplify the dissemination of our insights, utilising member and partner networks.
- **ETC Matters quarterly newsletter:** Continues to grow and is a valuable channel to inform and influence over 27,000 subscribers including journalists, climate activists, policymakers. We will continue to deliver share ETC news and analysis, such as conversations with experts from the ETC network, short features on new analysis and regional engagements, commentary on international climate moments (e.g., COP).

### 2. Leveraging our knowledge for greater impact – repeating and repackaging existing ETC insights

We aim to identify existing content that is highly relevant to ongoing debates (such as our recent NCQG and finance report in advance of COP29), where we believe our insights can help inform and explain: dispelling myths, correcting misinformation, and explaining and re-explaining complex ideas by condensing complex insights into shorter, more digestible forms. In 2025, alongside the analytical priorities which are outlined above (see section 2), we will:

- Develop new briefing notes / blogs targeting current debates through refreshing and repackaging existing insights. As in 2024, we will remain flexible and will may pivot this programme to respond to emerging debates. Topics likely to include bioenergy and carbon credits.
- Generate short-form materials, including briefings, blog posts, factsheets, and infographics linked to our broader analytical work programme.

### 3. Informing the influencers and broadening the audience

We are increasingly called to inform and explain ongoing debates related to the energy transition – speaking directly to broader audiences, including those unconvinced or unaware of the need to transition energy systems.<sup>14</sup> We will continue to explore targeted opportunities to influence wider audiences beyond our past focus and evolve outreach and channel strategy

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<sup>14</sup> For example, we are currently working with a broadcast production company on a new series for Amazon Prime which aims to explain the key challenges and opportunities of a sustainable future.



which builds on our current work and aims to “inform the influencers” across diverse channels – media, social, events, direct outreach. This will involve:

- **Developing broadcast opportunities** – We will continue to deploy our media-trained experts to build on recent successes in broadcast – ranging from drive-time consumer media (BBC-Radio 5 Live), magazine style feature programming (Beyond 1.5 degrees, TRT World) and podcasts (The Economist – Money Talks) – responding to both proactive and reactive opportunities.
- **Expanding our digital storytelling** through work with the We Don't Have Time platform, exploring TED Talks opportunities and developing short form videos (e.g., talking heads explainer videos).
- **Strategically leveraging our network on social media** in addition to continuing to produce and amplify content on ETC social channels, we would like to harness the power of our network and provide content that can be adapted by our members and partners. In addition, we will continue to target social media influencers within the energy sector.
- **Developing audience-specific explainer content** and engagement campaigns on social media.
- **Collaboration with communication partners** to develop, test and amplify campaigns, incl. GSCC, We Mean Business Coalition, and Global Optimism.
- **Explore and test direct outreach to reach high-impact “interest groups”** by developing relationships with organisations that use our insights to educate broader business or consumer audiences, including, but not limited to, business education (Sustainability Unlocked), professional bodies (International Advertising Association) and Count Us In (mainstream non-activist climate campaigning).
- **Continue to work closely with our growing network of regional partners and initiatives** (see section 4), supporting their ongoing communications campaigns. We will also explore specific opportunities to enhance and expand country campaigns where we believe ETC messages tailored to local contexts could accelerate the energy transition. With Brazil set to host COP30 and ETC aiming to launch an Energy Transitions Initiative (ETI – see Section 3.1), we will look to provide strategic and amplification support to this initiative in the same way we have supported ETI Australia since 2019, subject to project funding.

**Delivery model:** This programme will be delivered by the ETC Core Team. Over the last few years, we have worked with communications contractors for report production, video and broadcast media and hope to do so at the same level again in 2025, subject to budget availability.

We will explore whether philanthropic funding is available to enable us to devote more resources to communications campaigns in particular regions, or targeted at particular groups (e.g., NGOs), than the core budget could support. In 2025 we are already considering:

- Partnering with the Pooled Fund for International Energy (PIE) to promote the role of demand-side flexibility in the power sector.
- Working with the Institute for Strategic Dialogue on climate mis- and disinformation.

We are keen to work with ETC members who can help us amplify our work internationally, to broader audiences, via social media, and digital storytelling campaigns. The “ETC Comms Club” provides a forum for ETC communications specialists to share best practice and advise on forthcoming activity, and this will continue in 2025. We also welcome bilaterals with member comms teams. In addition, we will work with partner communications teams to amplify our key messages both across sectors and geographies.



### 3 REGIONAL PROGRAMMES: EXPANDING AND ENHANCING REGIONAL PRIORITIES

**Context:** While the ETC has developed a global vision for achieving net-zero, meaningful progress will ultimately be driven through action in individual countries and regions. Since resources, energy demand, and policy landscapes vary across regions, net-zero pathways and resulting action will need to be tailored to reflect these local nuances. It is only by developing these localised pathways and understanding regional transitions that key stakeholders in a region can take meaningful action to drive transformation on the ground.

The ETC's Regional Programme works to bridge the global with the local. By partnering with local organisations that are deeply involved in their energy transition, we develop tailored pathways and insights to engage key stakeholders. These partnerships simultaneously drive change and enrich the ETC's understanding, allowing us to test and refine our perspectives in diverse contexts, while broadening the diversity and expertise of the global commission.

The ETC now has ten regional partnerships across five continents. While many saw political change in 2024, each continued to advance the transition through robust analysis and stakeholder engagement. Our ETC team was able to partake in some of these, including:

- **India:** TERI hosted their annual World Sustainable Development Conference (WSDS) in February 2024, where ETC Chairman Adair Turner participated in a leadership panel. They also released their report **India's Electricity Transitions Pathways to 2050**, which examines the power system flexibility with high penetration of renewables, providing insights into technical and operating interventions.
- **Canada:** In May 2024, the Transition Accelerator hosted the **Canada Net-Zero Forum**, gathering industry, government, academic, Indigenous, and civil society leaders to present a strategic, integrated, whole-of-society view of potential net-zero solutions. Attendees were first guided through an education journey to fully understand the various energy solutions available before being asked to derive and discuss their own conclusions, ultimately driving stakeholder buy-in through a bottom-up approach.
- **China:** The ETC was able to partake in two climate dialogues organised by our partners in China. **Acting on Climate Change: Technology and Financing Options** took place in April at the Global Issues Dialogue Centre in Cambridge, done in collaboration with the ETC and Tsinghua University's ICCSD. In October, the CICC Global Institute (CGI), Energy Foundation China (EFC), and the Institute for Sustainable Development and International Relations (IDDRI) jointly held the CICC Global Institute 4Q24 Macro Forum in Paris with the theme **Emerging Mission of Green and Low-carbon Transitions: Aligning Green Industrialization with the Climate Agenda**. Both forums demonstrated the importance of cultivating trust and fostering collaboration between countries in a time when geopolitics is clashing with global environmental goals.
- **EU:** In February, the ETC worked with longtime ETC Ambassador, Sandrine Dixon-Declève, to host an EU Strategy Session for ETC members to align on how to best engage in the debate around EU Climate Policy. This resulted in the publishing of the **EU Factsheets** in May,<sup>15</sup> which took insights from key ETC reports and tailored them for the EU context. Following the election, the ETC published the **EU Whitepaper** with recommendations to shape the next 5-year agenda for the new European Commission, highlighting the importance to continue pushing the energy transition.

**Our proposed efforts for 2025** fall into four key focus areas across our ten regional programmes [Exhibit 4]:

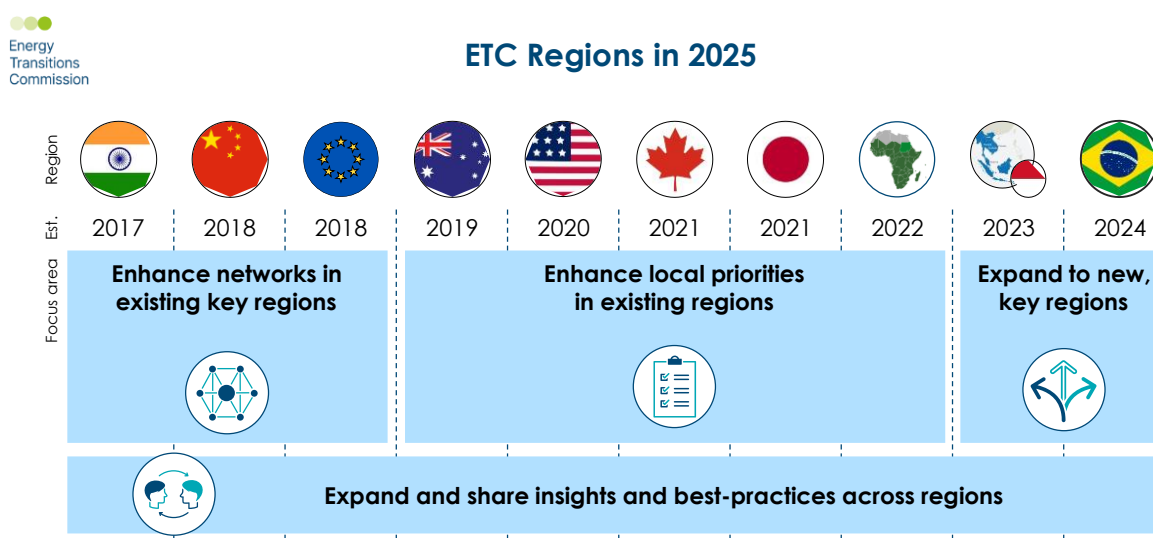
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<sup>15</sup> ETC (2024), *Energy Security in the EU*; ETC (2023), *Phasing Down Fossil Fuels in the EU*; ETC (2024), *Scaling up Carbon Capture, Utilisation, and Storage (CCUS) in the EU*; ETC (2024), *Financing the Energy Transition in the EU*.



- **Expand to new, key regions** where the energy transition is ramping up and whose trajectories could impact global pathways.
- **Enhance networks in existing key regions** where the energy transition is already well underway and where it is crucial to understand the range of insights being produced by different organizations working in the space.
- **Enhance local priorities in existing regions** where the transition is underway but where local partners are still pushing for insights to be widely accepted.
- **Expand and share insights and best-practices across all regions** to understand how insights from one region may apply to another or to capture best practices around advancing the transition with key stakeholders.

Exhibit 4



### 3.1 Expand to new, key regions

#### 3.1.1 Brazil

**Context:** As Brazil prepares to host COP30, multiple ministries are working on separate but parallel efforts to shape Brazil's Net Zero pathway. Notably, the Ministry of Environment has worked with the COPPE graduate school at Universidade Federal do Rio de Janeiro (EFRJ) to create a land-use model, which will be used to shape Brazil's next round of NDCs but which uses a scenario that has not been socialised with stakeholders. Historically, Brazilian Net-Zero scenarios rely heavily on biofuels and negative emissions from land-use to reach net-zero, which reflects Brazil's amazing bioresources but fails to acknowledge the incredible solar and wind potential. Additionally, Brazil is positioned in a standalone context, meaning the potential for Brazil to become a global supplier of sustainable fuels is not considered. This means that unlike most global and other national pathways biofuels dominate in road transport and industry; there is little electrification or hydrogen demand; and ultimately there is limited scale up of solar and wind generation even if many of these things may be cost-effective.

**2025 priorities:** 2024 saw multiple efforts being undertaken in Brazil by both Systemiq and MPP: Systemiq supported the Ministry of Finance with their Ecological Transition Plan (ETP) and the Ministry of Industry with their Industry Decarbonisation Strategy, while Brazil was announced as the first country partner of MPP's Industrial Transition Accelerator. Through this engagement with industry stakeholders, the ETC was asked to intercede with the Ministry of Environment to both bridge the gap in stakeholder engagement and to challenge the underlying assumptions of the model. To do this, we will launch an Energy Transitions Initiative (ETI) for Brazil, led by the Systemiq



Brazil office and working with local organisations (e.g., COPPE/UFRJ, iCS, and Instituto E+) and global experts (e.g., ETC member Carbon Direct). The ETI Brazil will: identify critical sensitivities of the model; ensure these reflect latest costs and technology specifications; understand the implications of renewable dominated generation on Brazil's grid; look at the full suite of decarbonisation technology options by sectors; and consider the potential for Brazil to become a global supplier of green products (e.g., SAF, steel). Early backing from Brazilian stakeholders and successful efforts from our sister organisations give strong indication for a successful ETI Brazil launch in 2025.

### 3.1.2 Indonesia and Southeast Asia

**Context:** ETC member, the Institute for Essential Services Reform (IESR), has set out a clear and compelling vision for Indonesia's clean energy future. At the core of that vision is a recognition of Indonesia's immense solar potential, which combined with batteries and other storage mechanisms could generate over 85% of the electricity Indonesia will need to power a deeply electrified economy. IESR analysis has previously shown that this solar-dominated system is both technically possible and economically preferable to a fossil fuel-based system. Since IESR conducted their initial analysis in 2021, costs of both solar PV modules and storage batteries have continued to fall, making the economics even more compelling. While past attempts to engage the government in this discussion were unsuccessful, the newly elected government's pledge to phase out coal power in 15 years offers a new opportunity to re-engage this debate.

**2025 priorities:** Working in collaboration with IESR, we will produce an updated energy transition pathway for Indonesia (assuming higher levels of electrification across demand sectors) and an updated power dispatch model to demonstrate how the individual Indonesian power systems operate when supply is dominated by solar + energy storage systems (ESS). This will leverage and compliment the Power Systems Transformation work being done by the ETC analytical team, with a specific focus on: analysing the potential to electrify the various sectors in Indonesia; modifying the power system dispatch model to consider the individual power systems in Indonesia (rather than considering them as a single system); assessing the ability of these systems to operate when demand is met with a solar-dominant power supply; re-emphasise that this system is both technically feasible and economically optimal; using these conclusions to engage the government and influence policy debate; and show how this can be applied to countries with similar supply and demand characteristics.

In addition to this programme of work, further efforts will be made to expand to the wider work being done in Southeast Asia, most notably, ETC Chairman Adair Turner will attend the 2025 Energy Asia event on "Delivering Asia's Energy Transition." This trip will be used to visit ETC partners and members, as well as engage potential ETC members, in the wider region.

## 3.2 Enhance networks in existing key regions

Regions where the energy transition is well underway tend to have many organisations actively working in the space. At times, the insights produced by these organisations complement or reinforce each other, while in other cases, they may present competing perspectives. It is crucial for us to understand who is working on which aspects of the transition, the insights they are generating, and the ways these insights affect not only the local pathway to net-zero but also their broader implications for the global transition. Building a strong multistakeholder network in these regions allows us to stay informed about ongoing work, gain access to emerging insights, and secure a position in the discussions shaping these conclusions, which is vital for effectively supporting the energy transition.

### 3.2.1 India

**Context:** India is currently the world's third-largest energy producer—a status expected to continue until 2050—and ranks as the fourth-largest emitter of carbon dioxide. To address this, the government has set ambitious renewable energy targets, aiming for 500 GW of renewable



capacity by 2030, including 280 GW of solar and 140 GW of wind. As part of this strategy, India is prioritising domestic manufacturing of solar panels rather than relying on imports from China. The government has pledged billions of dollars to develop domestic green technology manufacturing, aiming to meet these targets while positioning the country as a global leader in the renewable energy market. However, given ongoing geopolitical tensions with China, it remains uncertain how this shift toward domestic production will affect the pace and cost of India's energy transition. Furthermore, as power demand continues to exceed the current rate of renewable capacity installation, new coal plants are expected to come online until at least 2030 to meet immediate energy needs.

**2025 priorities:** The Energy and Resources Institute (TERI) has been our long-term partner in India. In 2025 we hope to partner with TERI to assess the potential for AgriPV in India, refining estimates developed by the GIZ based on the outcomes of 25+ pilot projects TERI has been supporting.

Along side this we will continue to connect with the energy teams of other key organisations involved in India's energy transition, including the Council on Energy, Environment and Water (CEEW), IIT Delhi (working with Princeton's Net Zero Lab), WRI India, and RMI India. Our discussions cover a range of critical topics, from driving electrification across sectors to projecting total power system demand to exploring the potential solutions for how India could maximise its solar potential given existing land-area constraints. Moving forward, we will continue to work these organisations to understand the different pathways being proposed and the trade-offs associated with each.

### 3.2.2 China

**Context:** China leads the energy transition, excelling in both manufacturing and deploying crucial technologies. China is already the world's most electrified major economy and is currently on track to reach 1,200 GW of installed wind and solar capacity by the end of 2024, six years ahead of the government's target. Moreover, China has made EVs more accessible, with EV sales accounting for over 50% of the market. China has also become the clean technology manufacturer for the world – with majority market shares in key areas such as solar PV (85%), EV batteries (76%), EVs (54%), and critical mineral processing (85%). The current geopolitical climate is seeing global environmental goals clash with local and regional industrial policy. While we are certain that certain Chinese technologies (e.g., solar panels, EVs) will continue to dominate the global markets, a question remains around where those technologies will be manufactured and if there is a role for collaboration between Chinese companies and incumbents in other regions. At the same time, China's domestic investment strategy is shifting away from their longstanding focus on real estate, which will impact their domestic economy as well as their emissions. And although China outpaces the rest of world combined when it comes to solar capacity build-out, trends in coal power generation in China may still have implications for global peak emissions – a critical issue for ETC to monitor.

**2025 priorities:** The ETC will continue to maintain close relationships with our Chinese partners, notably ICCSD from Tsinghua University, Energy Foundation China, and RMI Beijing. We will also continue to work with the Global Issues Dialogue Centre out of Jesus College Cambridge and the CICC Global Institute to help facilitate dialogue between China and other major economies.

### 3.2.3 European Union

**Context:** The recent elections saw a slew of misinformation around the energy transition, blaming environmental policies for increased energy prices and stagnant industrial growth. While the Parliament has shifted slightly to the right, it remains to be seen how this will impact policy moving forward. Some parliament members have indicated that there will be a continued focus on sustainability and the Green Deal, while others point to a shift in priorities



around security and economic concerns. What is clear is that the EU must find a way for environmental policy to strengthen European competitiveness.

**2025 priorities:** Over the summer, the ETC used the [EU Factsheets](#) to connect with other key players in the energy transition discussion, both at the EU level and within individual Member States, including organisations like the CEO Alliance, I4CE, and Forum Energii. Following the elections, the ETC developed an EU Whitepaper, advocating for the continued prioritisation of environmental policies and outlining key recommendations to set the agenda for the next five years. The ETC has used this whitepaper to engage the European Commission and reiterate our core messages around the energy transition; and seek to identify future engagement opportunities with the secretariat of the Commission. In 2025, the ETC will continue working with likeminded organisations across the EU to build support for the energy transition, while actively advocating for the Commission to develop policies that drive Europe's decarbonization and strengthen industrial competitiveness.

### 3.3 Enhance local priorities in existing regions

We will continue to support on-going efforts in other geographies: Maintain strong relationships with local partners via regular check-ins, collaboration on events, influencing and in-person visits, and generally staying abreast of current work and/or major events.

- **Australia** is in the process of producing their next NDCs, and while the power system is going well, more work needs to be done around industrial decarbonisation to push key technologies to their tipping points. Climateworks will therefore continue to focus on industrial decarbonisation, while looking to engage a wider audience in Southeast Asia.
- **US** environmental policy remains unclear following the recent elections, though it is likely that the next administration will actively seek to undo or actively push against climate efforts. Thus, Energy Pathways USA will focus on advancing policies that can be framed in the context of industrial strategy or energy security (e.g., white hydrogen potential).
- **Canada** will have its federal election in October 2025 and with a climate similar to that in the US, the outcome is highly uncertain. In the lead up to this, the Transition Accelerator will use its upcoming paper, **Household Energy Affordability in a Net-Zero Future**, to educate Canadian organisations, government, and individuals ahead of their election.
- **Japan** continues to focus on their own environmental policies, with the debate in Japan being differing significantly from the rest of the world (e.g., limited solar and wind expansion, focus on hydrogen road transportation, blending of ammonia in coal power etc.). ETI-GCG will revise their 2050 Net Zero pathways with additional focus on the chemicals sector, heavy duty vehicles, and power sector decarbonisation.
- **Sub-Saharan Africa** continues to see fractured progress in the energy transition. We will continue to work with our partners at World Resources Institute Africa and explore additional opportunities related to specific financing needs to accelerate energy transitions in Sub-Saharan African countries.

### 3.4 Expand and share insights and best-practices across all regions

Regular knowledge sharing between the ETC core team and local partner teams, especially where we are working on similar topics, will continue to enable the ETC to pressure test our global insights and analysis, while complimenting it with new insights coming from regional work. The ETC team will continue to review and comment on regional reports and analysis where relevant, ensuring alignment across the network. The ETC will also proactively identify areas for collaboration across regions, organising knowledge-sharing sessions, promoting events, and increasing networking to strengthen the network.



**2025 priorities:** The ETC will look for an opportunity to bring members from our regional partners together to share best practices around engaging industry sectors, influencing policy, and gaining stakeholder buy-in. Elections in 2024 have shown the importance of complimenting top-down influencing with bottom-up education, to ensure voters elect policymakers who are willing to support the energy transition. The ETC will primarily work with our Canadian partners, the Transition Accelerator, to understand how best to do this.

**Delivery Model:** Our regional work will continue to be primarily undertaken by our local partners in each region. The central ETC team will continue to play a coordinating and convening role, strengthening collaboration with the central team and between regions. Where we seek to develop substantive new work (e.g., Indonesia, Brazil, India) we will seek to identify additional philanthropic funding.

## 4 DELIVERING ACTION THROUGH FUTURE COPS

**Context:** Section 2 described the ETC's overall planned engagement approach, and the supporting communications strategy. With this approach, we will aim to influence public attitudes and policies as well as company and financial institution strategies in many countries/regions. In addition, we believe that our engagement with the COP process and with each COP Presidency has and can be a major opportunity to influence the global debate.

We have been actively engaged with COP process over the past 4 years. In particular, we have:

- **Supported the UK Presidency at COP26**, and at the Presidency's request, outlined key categories of action which could be taken in the 2020s to reduce 2030 emissions levels to the amount required to stay on track for a maximum of 1.5°C of global warming.<sup>16</sup> ETC Chair Adair Turner provided a Week 1 commitment "stock take" on the COP26 main stage.
- **Supported the Egyptian Presidency at COP27** by publishing [Degree of Urgency](#) ahead of COP27, assessing progress since COP26 and outlining the priority areas for accelerated action at and beyond COP27.
- **Supported the UAE Presidency at COP28** across three substantive areas:
  - Our **Fossil Fuels in Transition** report was welcomed by COP28 President as a major contribution to the debate on how quickly fossil fuel use can and must decline.
  - The COP28 presidency asked us to repeat the analysis which we conducted for COP26, again presenting a main-stage "stock take" on Day 8.
  - ITA launched at COP28, with the ETC's daughter organisation MPP hosting the ITA secretariat led by CEO Faustine Delasalle (also ETC Vice-Chair). ETC Chair Adair Turner sits on the ITA leadership council.
- **Supported the Azerbaijan Presidency at COP29:**
  - We engaged in the Climate Finance and NCQG conversation ahead of the conference. Collaborating with the Blended Finance Taskforce and IHLEG<sup>17</sup> for Climate Finance to make recommendations on the NCQG, supported by ETC's analysis on Financing the Transition and NDCs.
  - We also collaborated with the Industrial Transition Accelerator on its policy playbook and led the launch event at COP29, representing both MPP and ETC in panel discussions and events on heavy industry decarbonisation.

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<sup>16</sup> We published this in *Keeping 1.5°C alive*, then worked closely with the Presidency team to assess the potential impact of the new commitments made at Glasgow.

<sup>17</sup> International High Level Expert Group on climate finance.



**Objectives & approach:** Our work over the last 4 years gives us a strong position to be involved in and help shape the future COP process, building a close ongoing relationship with the UNFCCC and with future Presidencies.

- With Brazil (COP30 in 2025), we will work via an “ETC Brazil” programme to build our partnership and understand potential to impact (see section 4). The conference is also expected to focus on delivering “NDCs 3.0” (Nationally Determined Contributions), due to be submitted by February 2025. We will continue to advocate for the delivery of ambitious NDCs supported by strong policy as part of our ongoing campaign from our 2024 [Credible Contributions report](#).
- With Australia & the Pacific Island nations (likely host of COP31 in 2026), we will work with Climate Works and the Mission Possible Partnership to accelerate successful industrial hubs & provide a template for climate leadership to be replicated globally.

Across each of these partnerships, we plan five ongoing dimensions of sustained involvement over the next two COPs:

- **Delivering and increasing the COP28 commitments to triple renewables capacity by 2030.** This will be informed by the work we have already done on barriers to clean electrification in 2022 –2024 and the integrated programme of work on power system development which continues into 2025.
- **Providing clarity around the global goal to double energy efficiency improvements** through our analytical work and communications campaigns on energy productivity in 2025.
- **Further progressing the global debate about moving beyond fossil fuels**, seeking to gain increasingly strong and specific commitments to the rapid phase-down described in our [Fossil Fuels in Transition report](#).
- **Developing more ambitious and comparable NDCs** in the next NDC ratchet due by COP30 in 2025, as outlined in our Credible Contributions report published this year. We will contribute to efforts to raise ambition and define clear pathways for delivering on targets in the next round of NDCs – ensuring they reflect sufficient ambition levels as well as specificity.
- **Supporting the work of the ITA**, a multi-COP initiative. This will be primarily driven by MPP but with the ETC continuing to ensure that the implications for the wider energy transition (e.g., the scale of clean electricity or hydrogen production required) are identified and acted upon (see section 5).

**Delivery model:** This workstream will be delivered by the ETC's core team working in collaboration with our regional programmes and future COP presidencies. If significant new analysis (rather than the synthesis of existing analysis) is required, we may explore whether philanthropic funding can be available to enable us to devote more resources than the core budget could support.

## 5 SUPPORTING THE MISSION POSSIBLE PARTNERSHIP (MPP) AND INDUSTRIAL TRANSITION ACCELERATOR (ITA)

**Context:** ETC's 2018 [Mission Possible report](#) demonstrated that even the so-called harder-to-abate sectors—such as heavy industry and heavy-duty transport—could achieve net-zero emissions by 2050. This foundational analysis led to the establishment of the WEF-ETC Mission Possible Platform and, in 2021, to the creation of the Mission Possible Partnership (MPP), which became an independent organisation in early 2022.

In 2023, Faustine Delasalle, ETC Vice-Chair and former Director, was appointed CEO of the MPP with a focus on catalysing corporate leadership to drive decarbonisation across seven high-emitting sectors: steel, cement, chemicals, aluminium, shipping, aviation, and trucking. By mobilising the full value chain—including industry leaders, energy suppliers, technology



providers, buyers, financial institutions, and governments—MPP creates an enabling environment for investment in low-carbon solutions.

MPP has developed industry-backed *Sector Transition Strategies* for these seven sectors, setting ambitious decarbonisation pathways, which have informed critical emissions reduction standards such as the Science-Based Target Initiative (SBTi), financial portfolio management through GFANZ and the RMI Center for Climate-Aligned Finance, and demand-side initiatives like the First Movers Coalition.

MPP also hosts the secretariat of the Industrial Transition Accelerator (ITA) established at COP28 and ETC Chair Turner led ITA's engagement at COP29. ITA focuses on the critical challenges that are holding up projects reaching final investment decision including:

- **Cross-sectoral shared challenges:** Availability & cost of decarbonisation solutions, ability to bridge the green premium, need for a supportive policy environment and availability of finance.
- **Sector-specific “tipping points”:** Each heavy-emitting sector has specific challenges that should be addressed to unlock investment decisions for projects.

**In 2024** the ETC supported the MPP by shaping and amplifying the Industrial Transition Accelerator Playbook and Open Letter, which urged the governments to implement critical policies to accelerate the development of markets for green commodities and by, through ETC Chair Adair Turner and Director Ita Kettleborough, leading discussions for MPP/ITA at COP29.

**In 2025**, the ETC will deepen its collaboration with the Mission Possible Partnership (MPP) by focusing on the following key areas:

- **Integrating sectoral insights on energy productivity:** Continuing to build on the sector transition strategies, the ETC will incorporate sectoral insights into its energy productivity work, ensuring alignment between the MPP's findings and the ETC's broader analyses. We will also aim to produce an additional supplementary analysis focusing on MPP sectors.
- **Exploring cross-sectoral implications:** Working alongside the MPP to highlight the cross-sectoral impacts of the energy transition, such as the scale of clean electricity or hydrogen required. This may include a joint publication to address these needs and their implications.
- **Supporting Early Project Development:** Contributing to first-of-a-kind project discussions and integrate learnings from the MPP's initial green industrial hub projects to inform the ETC's work on the state of the transition.
- **Advancing ITA objectives:** Actively support the Industrial Transition Accelerator (ITA) by:
  - Helping the MPP accelerate the development of critical hydrogen and carbon capture and storage (CCS) infrastructure.
  - Advocating for necessary policy measures—such as regulations and carbon pricing—that enable scaling beyond first-of-a-kind projects.

**Delivery model:** The ETC will undertake below efforts will strengthen contribution to the MPP's mission, ensuring that insights and actions are aligned to accelerate the energy transition across key sectors:

- **Governance and leadership:** The ETC will continue to hold its founder seat on the MPP governing board and remain actively involved in MPP leadership. We will also continue to support MPP / ITA communications and outreach at key global events.
- **Knowledge management:** As the entity responsible for knowledge management of the seven *Sector Transition Strategies* (developed in partnership with other organisations), the ETC will support their ongoing promotion and refinement.
- **Dedicated energy team support:** The ETC's global energy team will continue to allocate time to ensure seamless two-way information exchange and effective collaboration with MPP's initiatives



## 6 WORKING WITH THE ETC MEMBERS

In 2024, the ETC continued to grow its membership base, bringing in new members from diverse sectors and regions. This was accompanied by a plethora of engagement opportunities and active participation in ETC member events, including more than 15 workshops, five webinars, two EU-focused strategy sessions, a COP29 member briefing and COP29 member drinks. ETC meetings continue to see high participation and vibrant discussions, with four hybrid ETC meetings (two each for Commissioners and Representatives), followed by in-person dinners in London, as well as one virtual Representatives meeting to facilitate broader accessibility.

A significant development in 2024 was the launch of the ETC member portal, a central resource hub containing all relevant ETC publications, upcoming events, and engagement opportunities. The portal allows members to share and promote their own events, fostering a collaborative platform within the network. These initiatives reflect the ETC's commitment to deepening connections within its membership, enhancing knowledge-sharing, and creating impactful engagement opportunities.

In 2025, the ETC aims to amplify its influence by deepening collaboration with existing members and leveraging its network to attract new ones and will continue supporting members to utilise ETC insights and messaging to more effectively influence decision-makers, driving greater awareness and impact in the global energy transition. To achieve these objectives, the ETC will:

### 1. ETC governance and progress review.

The secretariat will continue a similar frequency of ETC meetings. The scheduling of these will take into consideration – whenever possible - the different time zones of ETC members.

#### Commissioners meetings:

- ETC Commissioner meetings are high-level meetings structured around key debates introduced by internal and external speakers.
- In 2025, three Commissioners meetings will be organised: one half-day virtual, and two full-day hybrid followed by in-person dinners in London.

#### Representatives meetings:

- Representatives meetings are dedicated to a review of progress and detailed discussions of ongoing analyses as well as any upcoming feedback/input requests that the ETC secretariat will send to its membership.
- In 2025, three Representatives meetings will be organised: one half-day virtual, and two full-day hybrid followed by in-person dinners in London.

### 2. Knowledge building.

To leverage and expand the collective expertise of all members in shaping our insights on the energy transition, we will:

- **Host expert workshops:** Organise 1–3 expert workshops for each analytical workstream, enabling knowledge exchange and in-depth exploration of key topics.
- **Facilitate bilateral consultations:** Continue to offer bilateral meetings with ETC members to gather additional perspectives and inputs.
- **Engage external experts:** Invite non-member external experts to contribute insights on specific workstreams, ensuring diverse and robust analysis.
- **Rigorous report review processes:** Maintain our member review and endorsement process for all major reports to uphold quality and consensus.

### 3. Advocacy and outreach.

In 2025, the ETC will continue to build on its efforts to disseminate both existing and new research, aiming to influence key decision-makers in driving the energy transition. To support this, we will:

- **Convene member communications leads through the comms club** thrice a year to align on ETC's communications, including testing key messages and coordinating social



media initiatives. These sessions will bring in guest experts to share best practices for communicating energy transition topics and impactful engagement at key events.

- **Deliver tailored thematic webinars:** Organise 4–5 webinars to share insights from previous ETC publications, tailoring content to key themes (e.g., power) and/or specific sectors (e.g., buildings). Webinars will be accessible to *all staff* within member organisations, recorded, and made available on the ETC member portal for ongoing use.
- **Enhance onboarding with communication support:** Provide new ETC members with a communication package, including draft social media messages and press releases, to help them effectively announce their membership and engagement with the ETC.
- **Collaborate with members around key events:** Work with members to identify and maximise opportunities at major events, leveraging collective resources to amplify ETC's influence. This includes speaking opportunities for the ETC Commissioners, and supporting joint advocacy efforts to ensure impactful engagement at these events.

**4. Raising the ambition of ETC members.** To strengthen the alignment and ambition of ETC members in driving the energy transition, the ETC will:

- **Engage with ETC members' board and executive management.** Continue supporting members by presenting ETC findings and messages at internal leadership forums, including board meetings, executive committees, and management conferences, tailoring discussions to each organisation's context.
- **Expand Influence Through Member Networks:** Leverage the growing geographical presence of the ETC by collaborating with existing members to recruit and engage additional companies, organisations, business associations, and initiatives.
- **Due diligence.** The ETC will continue to review the alignment of current and potential members with the key recommendations highlighted in its publications and engage in bilateral discussions in case of divergent objectives.

In support of these objectives, the ETC will build on existing approach and explore new tools to deepen member engagement:

- **Maximising engagement through the ETC member portal:** Following its launch in September 2024, the member portal will be the central resource for accessing past and current ETC analyses, reports, and updates as well as upcoming events. It also empowers members to share information with one another, fostering collaboration and strengthening connections across the network.
- **Facilitating informal member gatherings:** Exploring opportunities for informal networking among ETC members at key global conferences, such as COP and New York Climate Week, to strengthen connections and collaboration.
- **Supporting onboarding for new members:** Onboarding briefings for new ETC Commissioners and Representatives to help them understand their roles and align their interests with the ETC's annual work programme.
- **Expanding regional-level engagement:** Regional ETC secretariats will provide regular updates on insights and work programmes during Commissioner and Representatives meetings. Additional engagement focused on specific regions will be organised as needed to support local collaboration.
- **Member Newsletter, ETC Insider:** The monthly *ETC Insider* newsletter will continue to deliver exclusive insights, updates, and news from the ETC. Each issue will highlight key activities, upcoming events, and fresh perspectives from the ETC's energy programme and broader network.



## 7 TIMELINE OF WORK

A timeline for the key outputs of the ETC's 2025 work programme that are described above is presented in Exhibit 5 below. As we have done in prior years, we will assess and if necessary adapt the global analytical work programme over the course of the year to ensure a timely response to emerging global events that may challenge the energy transition. This may result in some additional publications not shown on the timeline in Exhibit 5. Our member engagement schedule is outlined in Exhibit 6.

Exhibit 5

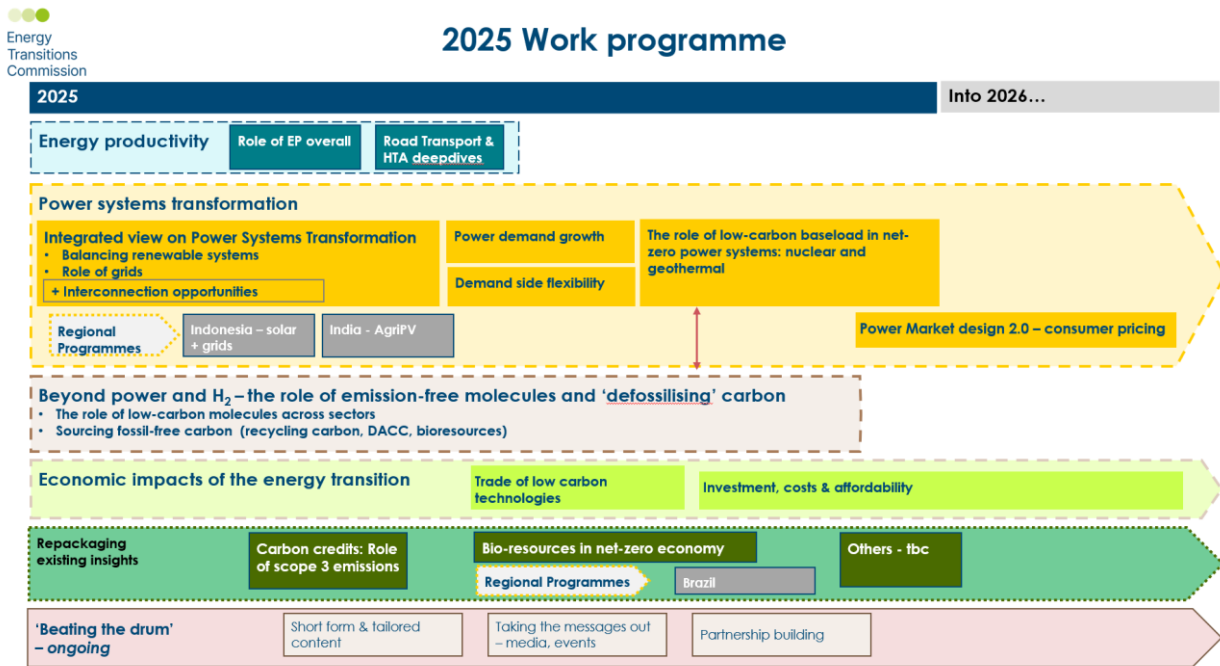


Exhibit 6

**2025 Member engagement schedule**

	Commissioners meetings	Representative Meeting	Webinar	Comms club	Analytical input	Select external events
January						Davos 20-24 Jan
February		½ day Representative Meeting – virtual	Webinar			
March	½ day Commissioners Meeting – virtual			Comms club		
April			Webinar			
May		Representatives Meeting – hybrid				
June	Commissioners Meeting – hybrid			Comms club	Expert workshops & report review line with analytical work programme	London Climate Week 21-29 June
July			Webinar		(Dates to be shared early 2025 & ongoing)	
August						
September		Representatives Meeting – hybrid				NYC Climate Week 21-28 Sept
October	Commissioners Meeting – hybrid		Webinar	Comms club		
November			Webinar			COP30 10-21-Nov
December						G20 Summit 22-23 Nov

