Energy Transitions Commission

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Commissioners Meeting
Summary Note
Thursday 28th October 2025

Thursday 30th October 2025, 8.40 – 17.30 UKT

Time	Topic
8.40 – 9.00	Welcome tea & coffee followed by seating
9.00 – 9.10	**Introduction**
9.10 – 11.00	**Key ETC insights ahead of COP30** • ETC at COP30 • COP28 energy efficiency target: opportunity to meet in next two decades • Tripling Renewables: focus on Sunbelt opportunity and optimizing grids • The role of Carbon Molecules in the Energy Transition
11.00 – 11.20	**Break**
11.20 –12.35	**Emerging insights on the role of nuclear and geothermal in clean power systems**
12.35 – 13.30	**Lunch**
13.30 – 15.30	**Towards a credible reset of global country and corporate decarbonisation targets** • Current Landscape: Key trends in national and corporate decarbonisation targets • How to credibly reset climate targets while sustaining high ambition • Guest Speaker: David Kennedy, CEO of the Science Based Targets Initiative (SBTi)
15.30 – 15.50	**Break**
15.50 – 16.50	**A look ahead to the 2026 Work programme and ETC strategy** • Shifting analytical priorities • Impact through engagement • Amplifying the ETC's voice in key debates
16.50 – 17.20	**Presentation from Octopus Centre for Net Zero: positive electrification case studies**
17.20 – 17.30	**Conclusion & Wrap-up**

Key discussion takeaways

The ETC would like to thank its Commissioners for their active participation at the meeting and the rich discussion. This note captures the main takeaways from the discussions and all materials from the meeting are available for viewing and download on the ETC Member portal here. Please note that these are internal documents not to be shared beyond your organisation.

1. Key ETC insights ahead of COP30

ETC at COP30

ETC had a strong presence in Belém this year with ETC Chair, Adair Turner, new Co-Chair, Jules

Kortenhorst, Vice Chair, Faustine Delasalle, Head of Low-Carbon Fuels, Andrea Bath and Head of Innovation, Maaike Witteveen on the ground. ETC officially participated in Action Agenda Axes 1) Energy, Industry & Transport, and Axes 3) Agriculture and food systems. ETC sought to bring optimism and positive signs of progress to COP, focusing on insights from recent report launches, in particular Power, Energy Productivity, and the Carbon in an Electrified Future.

ETC spoke at over 30 events throughout the two-week period, with key events highlighted on the member portal. ETC also conducted a round of media briefings and hosted several bilateral meetings with senior executives from ETC Members and high influence stakeholders.

COP28 energy efficiency target: opportunity to meet in next two decades

The ETC presented the final findings of its economy-wide energy productivity work *Energy productivity: Increasing efficiency in an expanded, electrified energy system,* published earlier in October. The analysis shows that energy services can grow by 2050, supporting a doubling of global GDP, while reducing final energy demand by 50% and primary energy demand by ~40% compared to a business-as-usual pathway. The analysis reaffirms that the COP28 target of 4% annual energy efficiency improvement is achievable over the next two decades, primarily due to the electrification potential. Importantly, this pathway would be cost effective for final consumers and reduce investment needs, land requirements for renewables, and reliance on energy imports.

Commissioners emphasised the importance of communicating the energy productivity story in ways that connect with lived experience. Several called for simpler, more engaging narratives, including analogies and non-technical framing, to make the story resonate with wider audiences. Others recommended a stronger focus on investment costs and who bears them, as well as the co-benefits for consumers and economies.

Looking ahead, ETC ran a targeted communications campaign with a strong focus on Brazil and COP30, including media outreach and stakeholder engagement. ETC is also briefing key efficiency groups and exploring opportunities to support national electrification and efficiency targets, engaging in discussions to help design efficiency indicators.

Tripling Renewables: focus on Sunbelt opportunity and optimizing grids

The ETC team positioned the COP28 renewable generation targets alongside insights from the report *Power Systems Transformation: Delivering Competitive, Resilient Electricity in High-Renewable Systems* to examine pathways for accelerating the global clean power transition. The session began by noting that the COP28 goals call for a tripling of renewable capacity from 3,400 GW in 2022 to 11,000 GW by 2030. The team acknowledged that solar deployment is broadly on track, although with some growing constraints on utility solar, while wind expansion remains off pace due to ongoing supply chain, permitting and policy constraints.

The team then drew on findings from the Power Report to identify levers for accelerating renewables deployment. Discussion centred on the potential of the Sunbelt region, where low-cost solar and battery technologies could enable clean power grids at up to 40 percent lower cost than today's system. The Commissioners also highlighted Innovative Grid Technologies as a near-term route to expand system capacity through software and hardware solutions that optimise existing grid architecture. Commissioners underlined the scale of opportunity in the Sunbelt, particularly for Australia and India, which combine high solar irradiance with a comparatively low cost of capital to drive clean industrial growth. The conversation also explored the cost of capital challenge in emerging markets: several commissioners argued this was not the primary barrier, pointing instead to institutional capacity, technology demand, and policy clarity

as greater constraints.

On grid technologies, Commissioners cautioned against overestimating readiness, noting a growing disconnect between the physical condition of many national grids and the AI-enabled, fully digital systems envisioned by policymakers.

The role of Carbon Molecules in the Energy Transition

ETC has now published the "*Carbon in an electrified future: Technologies, trade-offs and pathways*", completing the final phase of the work. The analysis shows that even in a deeply decarbonised system 3 to 5 Gt of carbon will still be required by mid-century, with circular routes able to meet only up to one third of this demand. It also reviews sustainable primary sources such as biomass, DAC, and ocean-based capture, as well as end-of-life options including CCS and advanced landfilling. The main report and executive summary can be found here.

In the session, Commissioners emphasised that carbon-based pathways will be costly and should be treated as last-resort solutions after electrification and efficiency. They highlighted that progress on key supply routes remains limited and current options are not yet competitive, reinforcing the importance of strong policy frameworks built around carbon pricing, lifecycle carbon accounting, and clear long-term signals. Political economy factors featured in the discussion, including the likelihood that industries with high energy needs may shift to regions with cheaper clean energy. Participants also underlined the need to create reliable demand for low lifecycle-carbon products and raised questions on which specific policies policymakers should prioritise to accelerate action.

Next steps include continued engagement with policymakers and industry stakeholders as the ETC promotes the findings through sector-specific discussions and targeted briefings.

2. Emerging insights on the role of nuclear and geothermal in clean power systems

Nuclear

The presentation outlined the ETC's emerging conclusions from the first stage of the 'Firm Low-Carbon' workstream. It highlighted that nuclear currently provides around 9% of global electricity, and most long-term scenarios project it holding roughly this share in expanded 2050 power systems. ETC modelling showed that adding 10–20% nuclear to a high-renewables system results in similar total system costs to 100% renewables systems: although nuclear increases generation costs, it slightly reduces balancing needs, grid build-out, and ultra-long-duration storage requirements. Above 10-20% nuclear generation, however, overall system costs rise. The analysis also emphasised major cost differences between countries, with programmatic, standardised builders in Asia achieving far lower costs than recent Western projects. Near-term deployment is expected to rely mainly on large Gen III+ reactors, with advanced reactors and SMRs facing uncertainty due to low TRLs, fragmented designs, and immature fuel supply chains. Wider factors reviewed included waste management, water use, political will, and the risks of framing nuclear's value too heavily in terms of GVA or job creation metrics.

Commissioners stressed the need to emphasise geographic nuance (which will be the focus of the third stage of this workstream): nuclear's feasible share varies markedly by country depending on land constraints, institutional capacity, cost structures, and political conditions. Several highlighted fuel-supply-chain concentration risks, noting the global reliance on a small number of enrichment centres and the geopolitical implications of this. Others raised concerns about over-regulation and public perception, emphasising how some excessive safety standards, may have contributed

to cost escalation in Western builds. Social licence, particularly for SMRs sited closer to communities, was identified as a persistent challenge, compounded by the fact that no country has yet commissioned a long-term geological disposal facility for high-level waste.

A number of Commissioners warned that nuclear has become politically polarised in several countries, with narratives framing it as an alternative to renewables. The ETC's communication should therefore clearly reaffirm that renewables remain the backbone of net-zero systems and that nuclear, where competitive, plays a complementary, not substitutive, role. Commissioners also underscored the need to correct misleading claims that high-renewables systems cannot balance without baseload.

Geothermal
This session outlined the full technology spectrum, from shallow ground-source heat pumps and conventional hydrothermal systems to next-generation approaches such as enhanced geothermal systems, closed-loop geothermal systems, and ultra-deep super-hot rock concepts. Although geothermal currently provides less than 1% of global energy, its technical potential is large. Conventional geothermal shows competitive levelised cost of energy (~50–100 USD/MWh) in favourable regions, while next-generation technologies could expand the resource base substantially if upfront costs fall from today's high levels over the next decade. The team highlighted risks and uncertainties around drilling costs, induced seismicity, groundwater impacts, and long project timelines, while noting growing industry and government interest, especially in the US and high-resource quality volcanic regions. Heat and combined heat-and-power applications were presented as potentially more robust near-term opportunities than electricity alone.

Commissioners emphasised that conventional geothermal is constrained by the presence of naturally permeable reservoirs rather than depth alone, and that improved subsurface imaging could expand viable sites. Several suggested analysing historical fracking cost declines to understand which components of drilling and completion costs might (or might not) translate to next-generation geothermal. It was noted that deep drilling in oil and gas is already highly optimised, implying future cost reductions may come more from surface-facility design, execution efficiency, and standardisation than from drilling breakthroughs. It was also highlighted that the emerging product-market fit with large data centres, which have high price tolerance and may offer long-term offtake certainty. Environmental and social-licence risks, including seismicity, groundwater protection, and construction disturbance, were raised as key gating factors. Commissioners also highlighted the need for clear comparisons of the levelised cost of energy and heat with electrification alternatives, and detailed mapping of depth, temperature, and pressure resources.

Overall, geothermal's long-term was viewed potential as significant but cautioned that scaling next-generation technologies hinges on demonstrated cost declines, clear regulation, and strong environmental risk management.

3. Towards a credible reset of global country and corporate decarbonisation targets

This session explored whether and how global climate targets should evolve in light of the persistent gap between current trajectories and the 1.5°C goal. ETC opened the session by outlining the rationale for considering a more credible reset of both country and corporate targets, not as a retreat from ambition, but as a way to reinforce action with realism and restore trust. The discussion revealed a wide range of views across ETC Commissioners. While several Commissioners reaffirmed the importance of 1.5°C as a scientific and moral benchmark, others stressed the risks of maintaining politically unfeasible goals that may undermine institutional credibility and investment confidence. Overall, most agreed that any shift should focus on implementation, strengthening accountability,

and linking targets more closely to investment signals and public engagement, rather than simply updating long-term temperature goals.

SBTi presentation

David Kennedy, CEO of the Science Based Targets initiative (SBTi) joined the session to provide an update on its evolving approach to corporate target setting. SBTi confirmed it will continue to pursue net zero by mid-century as the core commitment. It plans to strengthen sectoral guidance, address feasibility concerns, and allow for more nuanced pathways across geographies and industries. SBTi also noted the importance of minimising overshoot and enhancing accountability through robust emissions tracking and transition planning frameworks.

4. A look ahead to the 2026 Work programme and ETC strategy

The secretariat presented evolving thinking on the 2026 work programme, a previous version of which was tested with Representatives in the September meeting. Feedback from both of these meetings is being taken on board and will be addressed in a written document which will be circulated to members in early December.

The team took stock of ETC's journey so far, the changing nature of discussions on the energy transition and reflected on the ETC's contribution vs those of others such as the IEA and Ember.

The 2026 work programme proposed to respond to the changing nature of the debate by reducing the overall volume of new analysis in favour of additional engagements. Analysis will of course continue to be core to the ETC's work, but will increasingly explore a variety of output formats, and rely on repeating and repackaging messages from existing ETC work alongside select new analyses. The ETC secretariat proposed a list of analyses to be taken forward in 2026, alongside a list of areas where ETC was unlikely to develop new work, to test with members.

With engagement as a more explicit work programme, the ETC secretariat recognises the need to confirm impact priorities with members and proposes to return with further detail by Spring 2026. The ETC's regional programme will also continue to be active, with priorities including EU, India and Indonesia in 2026.

Members commented on the need to ensure the ETC's work programme continues to play to the ETC's recognised strengths: techno-economic analysis on the energy transition, which speaks to policy-makers and is backed by the ETC's corporate membership. The renewed focus on repackaging was appreciated and a shift to more diverse output formats was encouraged. Members also noted the need for increased regional focuses within the global analytical programme, noting how conclusions will differ across regions in the economics of transition work including the impacts of an already changing climate. Several members noted the importance of defending the foundations of EU policy within this work, including the CBAM. Although agriculture was discussed as a potential topic, most member sentiment was for ETC to leave this to others who may be better placed to tackle this.