ED statement on Energy Storage TCP

Accelerating energy technology innovation is essential to building a more secure, affordable and sustainable energy system that enables people and economies to thrive. But innovation takes time, and it takes everyone – relying on engagement from governments, industry, academia, non-governmental organisations and civil society. Bringing all these stakeholders together turns shared expertise into faster progress.

For this reason, international cooperation on technology has been a foundational pillar of the IEA from its creation in 1974. Since 1975, the IEA's Technology Collaboration Programmes, or TCPs, have provided countries and experts with a unique framework for enabling collaboration that advances energy technologies. The Energy Storage TCP, launched in 1975, was among the first to be established, and 50 years later, it is more relevant than ever.

The technology landscape for energy storage has transformed dramatically since 1975, especially in recent years. Until this decade, pumped storage hydropower was practically the only form of large-scale energy storage, and it was not feasible in all geographies. Yet since 2020, grid-scale battery storage capacity has surged by around 70% annually – more than twice the growth rate of solar PV. It is now the fastest growing energy technology in the electricity sector, and it is expected to surpass pumped hydro in terms of capacity this year.

Other options, including thermal storage and mechanical systems, are also advancing quickly. Major projects for new systems – including underground heat storage, compressed carbon dioxide and sand-based thermal systems – are attracting investment for the first time. These offer promising pathways to long-duration storage at a lower cost, while also helping to reduce reliance on the critical minerals that are needed for batteries.

Looking ahead, achieving a secure and reliable energy system with high shares of renewables and the ability to meet growing electricity demand will hinge on competitive storage solutions. The flexibility they offer can reduce the cost of energy systems and strengthen their resilience to shocks. For many countries, they also open new opportunities to manufacture cutting-edge equipment and build industrial capacity. Yet delivering on these ambitions will require further innovation still.

International cooperation can speed up this process and amplify the efforts of individual governments and businesses, which will be insufficient if they act alone. With five decades of experience, the Energy Storage TCP is an unmatched venue for facilitating this. By bringing policy makers, industry and researchers together, it will continue to fast-track global work to scale up and commercialise promising storage solutions – essential to tackling some of the biggest energy challenges today.