Strategic Priorities for Adoption of Emerging Technologies in the Energy Sector for Climate Change Mitigation

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BACKGROUND

Asia-Pacific is among the most vulnerable regions to climate change, with wide-ranging impacts across the countries. The region accounts for nearly half of global greenhouse gas (GHG) emissions. According to the ESCAP 2021 SDG progress report, it remains unlikely that the region will achieve the targets under SDG 13 (Climate Action) by 2030.[1] The energy sector is the central player in efforts to reduce emissions and mitigate climate change.[2] Scaling up the usage of clean and efficient technologies and adopting emerging technologies, particularly in the energy and power sector, contribute towards these efforts. Emerging technologies such as artificial intelligence, the Internet of Things, digital twins, robotics and Big Data, offer many innovative applications in the energy sector in terms of improvement of efficiency, reduction of emissions, enhancement of reliability and optimization of costs. Examples include AI-enabled smart meters, 5G-based smart grids, smart solar energy systems, intelligent DC motors and using Big Data to locate harmful emissions. There are also advanced technological options to reduce fossil fuel-based energy use and GHG emissions, use clean energy technologies and enhance carbon sinks. These technologies can be key enablers of sustainability and environmental resilience - offering important opportunities to help assess, mitigate and adapt to climate change.

With many emerging technologies already available, particularly in the Asia-Pacific, there are challenges and opportunities for their transfer and adoption in the region. It is therefore important for countries to explore viable policy and strategy options to facilitate cross-border transfer and diffusion of emerging technologies for improving efficiency and reducing emissions from the energy sector. The enabling regulatory environments, strategies and good practices for the development, transfer, diffusion and adoption of emerging technologies in the energy sector have been the topics of deliberation among policy makers and stakeholders in the region. This regional consultation aims to provide a platform for member States to further deliberate on the priorities and actions required for facilitating transfer and adoption of emerging technologies in the energy sector.

OBJECTIVES

- Identify regional priorities for transfer and diffusion of emerging technologies among member States
- Explore strategies to facilitate regional cooperation for cross-border sharing of emerging technologies in the energy sector

[1] https://www.unescap.org/sites/default/d8files/knowledgeproducts/ESCAP_Asia_and_the_Pacific_SDG_Progress_Report_2021.pdf

[2] https://www.iea.org/topics/climate-change