

Agenda item 4.a.ii

# Future work of the TEC on emerging climate technologies in the energy supply sector

TEC/2021/22/5

Technology Executive Committee, 22<sup>nd</sup> meeting

Virtual meeting, 20-23 April and 26 April 2021 (TEC-CTCN Joint meeting)



**Suil Kang, TEC member**  
TEC innovation task force

## Background

- TEC 21 considered a **mapping of key emerging climate technologies** and examples of mappings of emerging climate technologies produced by other organizations.
- TEC21 provided guidance on this matter, including on **social acceptability** of emerging technologies and **possible overlapping with the work of KCI**.
- TEC 21 requested the task force on innovation to **elaborate a proposal** for future work of the TEC on emerging climate technologies for consideration at TEC 22.
- The secretariat verified that the work of the TEC on emerging climate technologies will **not overlap or duplicate the KCI work**.

## Emerging climate technologies in the energy supply sector

### ➤ Objective of the work

**Analyze** key emerging climate technologies in the energy supply sector and elaborate on **elements that may affect their successful deployment, commercialization and long-term sustainability**.

Provide **policymakers** with a set of information that may **help their decision making when defining national and/or regional strategies** for accelerating the scale-up and diffusion of these technologies

➤ **Scope of the work**

**1. Technology development stage:**

- Focus on emerging climate technologies that have the potential to exert a considerable and long-lasting impact on climate change;
- Technologies from TRL 4 (early prototype, proven in test conditions) to TRL 8 (first of a kind commercial, commercial demonstration)

➤ Scope of the work (continued)

## 2. Technology sector:

- In 2010, the energy supply sector was responsible for approximately 35% of total anthropogenic GHG emissions (IPCC);
- The energy supply sector offers a wide range of emerging decarbonization technologies with high potential for **climate change mitigation**;
- Its relevance to multiple social and environmental co-benefits of such technologies would allow consideration on **climate change adaptation** as well;
- The work will look at both **generation and enabling emerging technologies** in the energy supply sector.

➤ **Scope of the work (continued)**

**3. Specific focus:**

- **Access to new markets:** factors that influence market penetration of new technologies;
- **Social, institutional, economic and business preconditions:** interplay between technological, institutional, economic, business and social factors that affect development and deployment of emerging technologies;
- **Social acceptability:** social acceptance is a major driver of the success of climate technologies.

➤ **Deliverables**

**1. Technical paper:**

- a) Provide an overview of the technologies, their state of play, and potential climate change mitigation and adaptation impacts;
- b) Analyze social, institutional, economic and business challenges and solutions related to their development and effective deployment, including access to new markets and social acceptability;
- c) Identify innovative options for policymakers to effectively support the deployment of emerging climate technologies, based on the abovementioned analysis.

(See technical paper outline in the annex to the concept note)

➤ **Deliverables** (continued)

**2. Thematic dialogue(s):**

To gather **global and regional experts** to discuss and exchange views on policy options for further enhancing the development and transfer of emerging decarbonization technologies in the energy supply sector.

Held in conjunction with the regional climate weeks in 2021.

**3. Key messages and recommendations for COP and CMA:**

Produced based on the findings of the technical paper and outcomes of the thematic dialogue(s).



➤ **Timeline**

#	Deliverables	Timeline
1	<b>Technical paper</b> <i>Outline for consideration by TEC 22 (April)</i> <i>Intersessional work of Innovation task force (May-August) 2021</i> <i>Final draft for consideration by TEC 23 in September</i> <i>Finalization immediately after TEC 23</i>	April – September 2021
2	<b>Thematic dialogue(s)</b> <i>Organized in conjunction with a regional climate week(s)</i>	May-July 2021
3	<b>Policy recommendations</b> <i>Draft for consideration by TEC 24</i>	March 2022

## TEC consideration

- The TEC is invited to:
  - Consider the concept note and agree on future work of the TEC on emerging climate technologies in the energy supply sector

*Thank you!*

