



**Technology Executive Committee**

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**Twenty-sixth meeting**

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## **Mapping of existing initiatives for transformative industry to identify areas where the TEC could add value**

### **Concept note**

#### **I. Introduction**

##### **A. Background**

1. As per activity C.3.1 of the TEC rolling workplan for 2023–2027, the TEC is to prepare a mapping of existing initiatives for transformative industry to identify areas where the TEC could add value.
2. The Chair and the Vice-Chair of the TEC, on behalf of the TEC, initiated engagement with potential partners, including the UNIDO, to seek potential collaboration on this activity.
3. At TEC 26, the secretariat will present a concept note, prepared in consultation with the UNIDO, on mapping of existing initiatives for transformative industry.

##### **B. Scope of the note**

4. The annex to this note contains a concept note on mapping of existing initiatives for transformative industry to identify areas where the TEC could add value.

##### **C. Possible action by the Technology Executive Committee**

5. The TEC will be invited to consider the presentation and provide guidance on further work on this matter.

## Annex

# Draft concept note for mapping of existing initiatives for transformative industry to identify areas where the TEC could add value

## I. Background

1. Technology planning tools, such as roadmap for transformative industry in achieving net zero emission target, form basic skeleton for minimizing the negative externalities by augmenting the potential for the deployment of climate technologies in energy intensive industries. This includes the integration of TEC planned Transformative Industry Roadmap (TIRM) in Parties technology needs assessments (TNAs), nationally determined contributions (NDCs), national adaptation plans (NAPs) and long-term low emission strategies (LT-LEDS) magnifying their own efforts in addressing climate change.
2. The Technology Executive Committee (TEC) in its rolling work programme for 2023–2027 under workstream 3, emphasized the need to promote transformative and innovative technological solutions and use them to help countries implement their NDCs and achieve goals of the Paris Agreement, and the sustainable development goals (SDGs).
3. The TEC recommended to map existing initiatives to identify areas where the TEC could add value, such as for example, innovation, enabling environments, sustainable purchasing commitments, and financing mechanisms in sustainable transformation of industries.

## II. Rationale of mapping transformative industry

4. Globally, industry represented 21.8% of GDP in 2021.<sup>1</sup> Within industry, manufacturing accounted for 77.7% of value added, while the remaining 23.3% originated in mining and utilities. Energy intensive industries are one of the key greenhouse gas emitters, accounting for about 25% of total CO<sub>2</sub> emissions globally and 66% of the industrial sector. Cement, iron and steel, and chemicals and petrochemicals industries are singled out as the most significant industrial CO<sub>2</sub> emitters.<sup>2</sup>
5. According to the UNIDO Industrial Statistics Yearbook 2022, implementing industrial energy efficiency measures could reduce emissions by around 2 billion tons of CO by 2030.<sup>3</sup> The yearbook also states that, low income economies produce 9.5 times the amount of CO per unit of Manufacturing Value Added (MVA) compared with high income economies. Considering that, diverse initiatives from public and private organizations have been created to tackle carbon intensive production and products, their mapping is instrumental to promote innovative technology practices and solutions in sustainable transformation of industry to support countries in the implementation of NDC in this sector.
6. As the TEC's rolling workplan 2023–2027 envisaged to bring transformative and innovative technological solutions to help countries implement their NDCs and achieve the goals of the Paris Agreement and the SDGs, this transformative industry roadmap is expected to map existing initiatives i.e. innovative technology practices and solutions related to hard-to-abate industrial sectors to support countries in the implementation of their NDCs in these sectors also identify areas where TEC could add value.

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<sup>1</sup> United Nations Industrial Development Organization. *International Year Book of Industrial Statistics 2022*. Available at: <https://stat.unido.org>. Vienna, 2022 (Cited on page 17).

<sup>2</sup> Technology Brief on Carbon Neutral Energy Intensive Industries by the United Nations Economic Commission for Europe (UNECE) and the Economic Commission for Western Asia (ECWA) presented at COP27.

<sup>3</sup> United Nations Industrial Development Organization. *International Year Book of Industrial Statistics 2022*. Available at <https://stat.unido.org>. Vienna, 2022 (Cited on page 59).

### III. Objective of mapping existing initiatives related to hard-to-abate industrial sectors

7. To map existing initiatives to identify areas where the TEC could add value.
8. The map will also serve as basis to prepare later expected outputs/deliverables in the Rolling workplan of the Technology Executive Committee for 2023–2027, scheduled for 2024, 2025 and 2026.<sup>4</sup>

### IV. Scope of the map of existing initiatives related to hard-to-abate industrial sectors

9. Map relevant global studies and roadmaps on carbon/energy intensive industries, sectoral emission, sectoral climate technologies.
10. Analyze IPCC reports to explore existing records on transformative Industry, also to cross match the findings with global study reports.
11. Explore the availability of new technologies i.e., practices and solutions with energy intensive industries, that have been successfully implemented.
12. Cross match the global industrial emission data with the available climate technologies for sustainable transformation of the industries to net zero emission goal. This will create a baseline which might be helpful in prioritizing technologies.
13. Analyze existing gaps in innovative technology implementation in transformative industry.
14. Identify success stories and lessons learned that are underpinning for scaling up low- or zero emission growth.
15. Establish linkages to the TNAs, NDCs, and LT-LEDS.
16. Based on the above findings prepare recommendations.

### V. Guiding elements and issues for TEC consideration

17. Initial discussion on possible guiding elements and issues for further consideration for transformative industry sector:
  - (a) Currently available roadmaps, sectoral plans and initiatives with target to climate change, prepared by Parties and international organizations i.e. UNIDO,<sup>5</sup> maybe bring into consideration for learning success stories, also challenges and trends transforming industries, as well as barriers to tackle carbon intensive production and products (e.g. steel, cement) and the implementation of sustainability in industry;
  - (b) Mapping available publications, energy intensive industries (i.e. cement, responsible for 7% of global emission; steel, responsible for 8% of global emission; chemical, responsible for 4% of global emission);
  - (c) Analyze existing gaps in innovative technology implementation in transformative industry. From analyzing above mentioned roadmaps and success stories, analyze existing gaps (i.e.-innovation, finance, governance, technology, international collaboration gaps) maybe outlined which are inhibiting or deaccelerating progress toward the transformation;
  - (d) Success stories of GEF, GCF and other multilateral development financier in the field of low or zero emission technology, low or zero emission production, circular economy may be considered to infiltrate best performing technologies in aspect of low or zero emission growth for

<sup>4</sup> [https://unfccc.int/ttclear/misc/\\_StaticFiles/gnwoerk\\_static/TEC\\_key\\_doc/69e5143f37834a8c8e0550534a3f0f5a/7f63a0ef1c3d481ba27efb21834c02e1.pdf](https://unfccc.int/ttclear/misc/_StaticFiles/gnwoerk_static/TEC_key_doc/69e5143f37834a8c8e0550534a3f0f5a/7f63a0ef1c3d481ba27efb21834c02e1.pdf).

<sup>5</sup> For instance, the [Clean Energy Ministerial Industrial Deep Decarbonisation Initiative \(IDDI\)](https://www.unido.org/IDDI). <https://www.unido.org/IDDI>.

replication and scaling up. This may help to understand where the world is, in achieving sustainability in industry sector, and where we need to go for achieving goals;

(e) Explore possible enablers and policy intervention to minimize or reduce the gaps may also be recommended to reach sustainability in transformative industry;

(f) Integration of industries appropriate business model with technology for transformation to sustainable industry may be considered in the roadmap as good business model has significant impact on sustainability;

(g) The results of the mapping process may include policy recommendations for the Parties to, for example, promote innovation and related start up to audit sectoral carbon footprint, to rank industries, by the competent government agencies, for providing incentives to best performing industries;

(h) Such an approach could create an ecosystem in the industry sector for upholding or even growing their net zero initiatives. Such an ecosystem may also help the industry to adopt low- or zero emission technologies which could be magnified if, for example, proper financing is established from public and private sources to provide an incentive to enhance transformation to sustainable industry.

## **VI. Next steps**

18. This draft concept note will be considered by TEC 26 to seek further guidance from the TEC on the scope and focus on mapping of existing initiatives related to hard-to-abate industrial sectors. Following guidance from TEC 26, the mapping could be prepared inter-sessionally for consideration at TEC 27.

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