

Agenda item 5.a.v

# Identifying potential areas for future work of the TEC on emerging and transformational adaptation technologies

Technology Executive Committee, 26<sup>th</sup> meeting and TEC-CTCN Joint session  
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### Background

- TEC work on **emerging climate technologies** under rolling workplan for 2019–2022: **mapping** exercise and work on **mitigation** technologies (energy supply and transport sector)
- TEC rolling workplan for 2023–2027: Activity A.3.1 on **emerging and transformational technologies for adaptation** (e.g. early warning systems and disaster risk management) including the role of finance and the private sector in supporting their deployment, with a related knowledge product due 2024
- Scoping activity: **deep-dive discussion on early warning systems** at the 2023 Global Sustainable Technological and Innovation Community (GSTIC) conference, in collaboration with YOUNGO



## Summary of deep-dive discussion on early warning systems at G-STIC Rio

### Opportunities and recommended approaches in deploying transformative adaptation technologies for early warnings

- Standard operating procedures
- Fostering innovation
- Local-level awareness raising, training, education, and capacity-building
- Coordination and alliance building among actors
- Monitoring and evaluation of early warning systems
- Integrating nature-based solutions in disaster risk reduction

To ensure inclusiveness and human-centered design in early warning systems, **localization, inclusivity** and **actionability, accountability** and **cross-sector collaborations** are key.

## Looking ahead: potential focus areas for the TEC work on emerging and transformational adaptation technologies

### Option 1

Continuing the work on **early warning systems**, and narrowing down the focus based on:

#### Emerging technologies

- Artificial intelligence (AI)
- Remote-sensing and space technology
- Cell-broadcast and location-based SMS
- Internet of things (IoT)

#### Pillars of the 'early warning for all initiative' executive action plan

- Disaster risk knowledge
- Observations and forecasting
- Preparedness and response
- Communication of early warnings

#### Sectors

- Agriculture and forestry
- Water resources and coastal regions
- Cities and human settlements

#### Potential partners

**G-STIC**

**WMO** and other 'early warning for all' partners: **UNDRR**, **GSMA**, **ITU**

**Group on Earth Observation**

**WIPO**

**Adaptation Committee**

**FAO**



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### Option 2

Initiating work on examining emerging technologies in **climate services**, including those powered by **digital technologies**, narrowing down the focus based on type of technologies, e.g.

**Digital transformation technologies such as AI** for providing digital climate advisory products and services, and making them available to downstream applications e.g. local governments and communities

**Earth observation and space technologies including drones and satellites** for assessing and monitoring climate change impacts and adaptation in ecosystems e.g. in the context of NAPs

**Potential partners** **WMO, Group on Earth Observation**

### Option 3

Focusing on **nature-based and nature-inclusive solutions and systems** for transformational adaptation, narrowing down the focus based on sectors, e.g.

Exploring **agroecology and agroforestry** solutions with transformational adaptation impact

Exploring **innovative ocean solutions and nature-based technologies in the coastal zones**

Exploring **nature-based solutions and green and blue infrastructure in urban areas** with transformational impact for adaptation and resilience building

**Potential partners** **IUCN, Ocean Visions, Climate Resilient Food Systems Alliance**



## Additional information and consideration

- The interest expressed by the **GEF and GCF** on transformative **financing solutions** and accelerating adaptation innovation
- The interest expressed by other **UNFCCC bodies and processes** to the TEC, including suggestion by the **Adaptation Fund, PCCB** and **LCIPP FWG**
- Potential linkages to and alignment with relevant **UN initiatives and activities**, in particular the work the Technology Facilitation Mechanism (TFM)
- Potential linkages to other activities of the TEC rolling workplan, namely on **digital technologies** (A.4.1), **water-food-energy nexus** (C.1.1), and **innovative ocean solutions** (C.1.3)

*Thank you!*

