Strategies towards climate neutrality goals: How are LTES used to develop Long-term Low Emission Development Strategies (LT-LEDs)?

3rd International Forum on Long-term Energy Scenarios for the Clean Energy Transition
8-10 June 2021

Kenichi Kitamura, Mitigation Division
UNFCC secretariat
Scene setting presentation topic

• The Paris Agreement and LT-LEDS (Long-term Low greenhouse gas Emission Development Strategies)

• Common elements of LT-LEDS communicated by the governments

• How LTES can bring insights to create net-zero LT-LEDS?

• LTES toward ambitious net-zero LT-LEDS
The Paris Agreement and LT-LEDS

**LT-LEDS (Article 4.19)**

“All Parties should strive to formulate and communicate LT-LEDS, mindful of Article 2 taking into account their common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.”

**Collective goals (Article 2.1)**

a) Long-term temperature goal  
b) Climate resilience and low GHG emission development  
c) Consistent finance flow

**Collective efforts toward long-term temperature goal (Article 4.1)**

- Peeking emissions as soon as possible  
- Rapid reduction in accordance with best available science  
- Balance between emissions and removals in the second half of this century
LT-LEDs common elements

29 Parties have submitted their LT-LEDs (15 Parties since 2020)

- France (update), Switzerland, Denmark, Republic of Korea, Austria, Netherlands, Sweden, Belgium, Spain, Latvia, Norway, Finland, South Africa, Singapore, Slovakia, EU (since 2020)
- Germany, France, Benin, Canada, Mexico, USA (2016, 2017)

Common elements

- Quantitative target on emissions reduction
  - Net-zero emissions, Climate/Carbon neutrality ↑
    (14 LT-LEDs since 2020)

- Long-term scenarios emission trajectories
  - 19 Parties described scenarios in LT-LEDs

- Mitigation measures
  - Energy supply, Transport, Building, Industry, Waste, Agriculture, Land use and Forest, Cross-cutting

- Periodic review / update

- Economic impact assessment

- Guidance to NDCs
  (Nationally Determined Contributions)
How LTES can bring insights to create net-zero LT-LEDS?

- **Exploring pathways toward long-term net-zero emissions goal**
  - Multiple socioeconomic & technology trajectories
  - Speed & size of transformation for net-zero emissions by mid-century

- **Informing policy intervention**
  - Medium & short-term sectoral requirements (e.g. power planning)
  - Long-term implication of today’s decision
  - Synergies & trade-off between multiple policy objectives

- **Providing scenario and model methodology**
  - Assumption
    (e.g. technology diffusion timeline, energy demand, cost, sectors interaction)
  - Indicator
    (e.g. renewable energy deployment, end-use sector electrification, energy efficiency)
Net-zero carbon emissions in energy “well before 2050”

- IPCC Special Report on 1.5 °C (best available science) indicates model pathways to achieve 1.5 °C temperature goal require net-zero CO2 emissions by 2050 and decline 45% from 2010 levels by 2030

- Available CO2 removals may be offset by CO2 emissions from hard-to-abate sectors (e.g. steel, cement)

Interaction with policy implementation “governance”

- LTES with net-zero emissions goal pathways facilitates inter-Ministerial policy coordination & stakeholder consultation toward LT-LEDS

- Interaction between scenario modelling experts in different sectors & policy-makers

- Sector-level monitoring & reporting strengthen policy implementation accountability
Thank you

For any inquiries please contact: LT-LEDS@unfccc.int