Energy Transition Roadmaps for SDG7 in the Asia-Pacific

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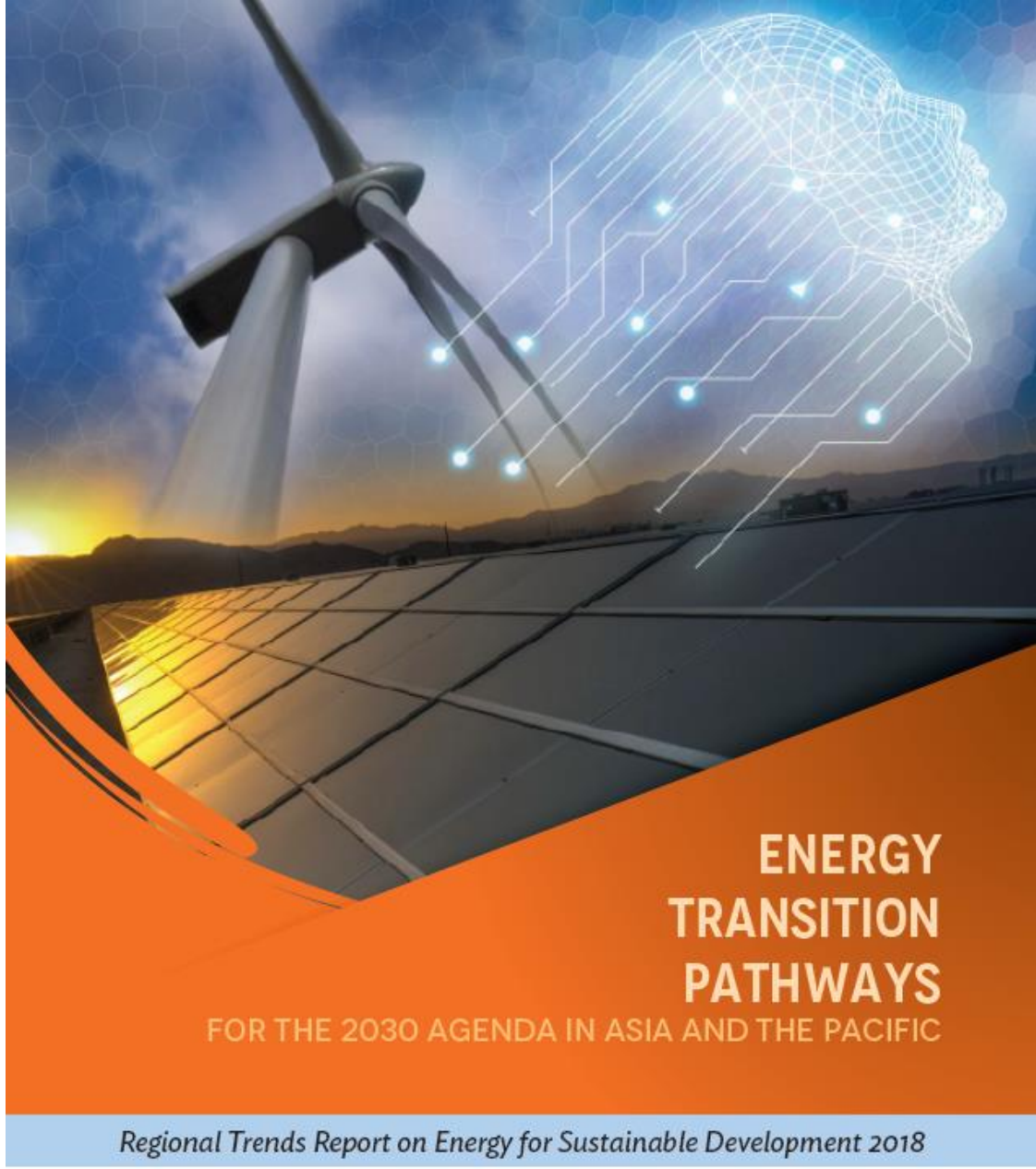


UNITED NATIONS ESCAP
Economic and Social Commission for Asia and the Pacific

2018 APEF THE ASIAN AND PACIFIC ENERGY FORUM

Drivers of the Energy Transition

2030 Agenda

SDGs (on Energy SDG7)

NDCs

- Universal access to affordable, reliable and modern energy
- Substantially increase the share of renewable energy (in TFEC)
- Double the rate of EE improvement
- Emission reduction commitment under the Paris Agreement

Why do we need an energy transition?

- Energy is the key enabler of all developments
  - GDP growth
  - Jobs and infrastructure
  - Improving quality of life
- Energy sector offers opportunities
  - changing technology landscape
  - falling renewable energy costs
  - fortuitous alignment of energy security, environment, affordability and climate security
  - offers viable decarbonization pathways at manageable cost

The big task ahead – transitioning to 2030

- Ministerial declaration from the second Asian Pacific Energy Forum (APEF) held in April 2018

> "support members and associate members in the implementation of the present Declaration by… assisting countries, upon request, in developing national road maps for the implementation of Sustainable Development Goal 7 and in mainstreaming the global targets related to energy into national policies, plans and strategies."

What does a national roadmap achieve?

Assists **policymakers** make **informed policy decisions** to help achieve the **SDG7 targets** and the objectives of the **Paris Agreement**.

SDG7 at a glance

GOAL

TARGETS

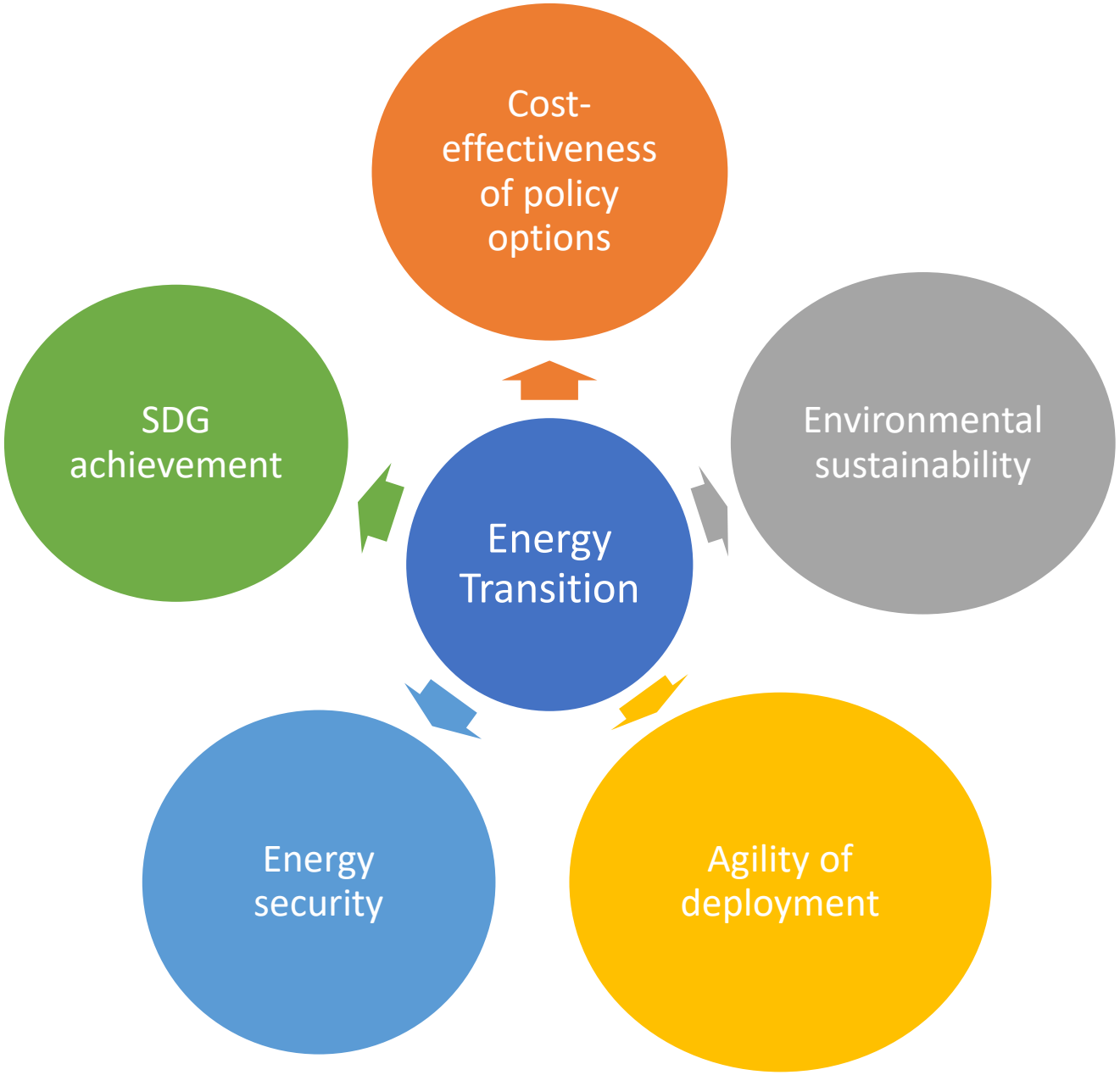
7.1 ensure universal access to affordable, reliable and modern energy services

7.2 increase substantially the share of renewable energy in the global energy mix

7.3 double the global rate of improvement in energy efficiency

INDICATORS

- Proportion of population with access to electricity
- Proportion of population with primary reliance on clean fuels and technology
- Renewable energy share in the total final energy consumption
- Energy intensity measured in terms of primary energy and GDP



ENERGY TRANSITION

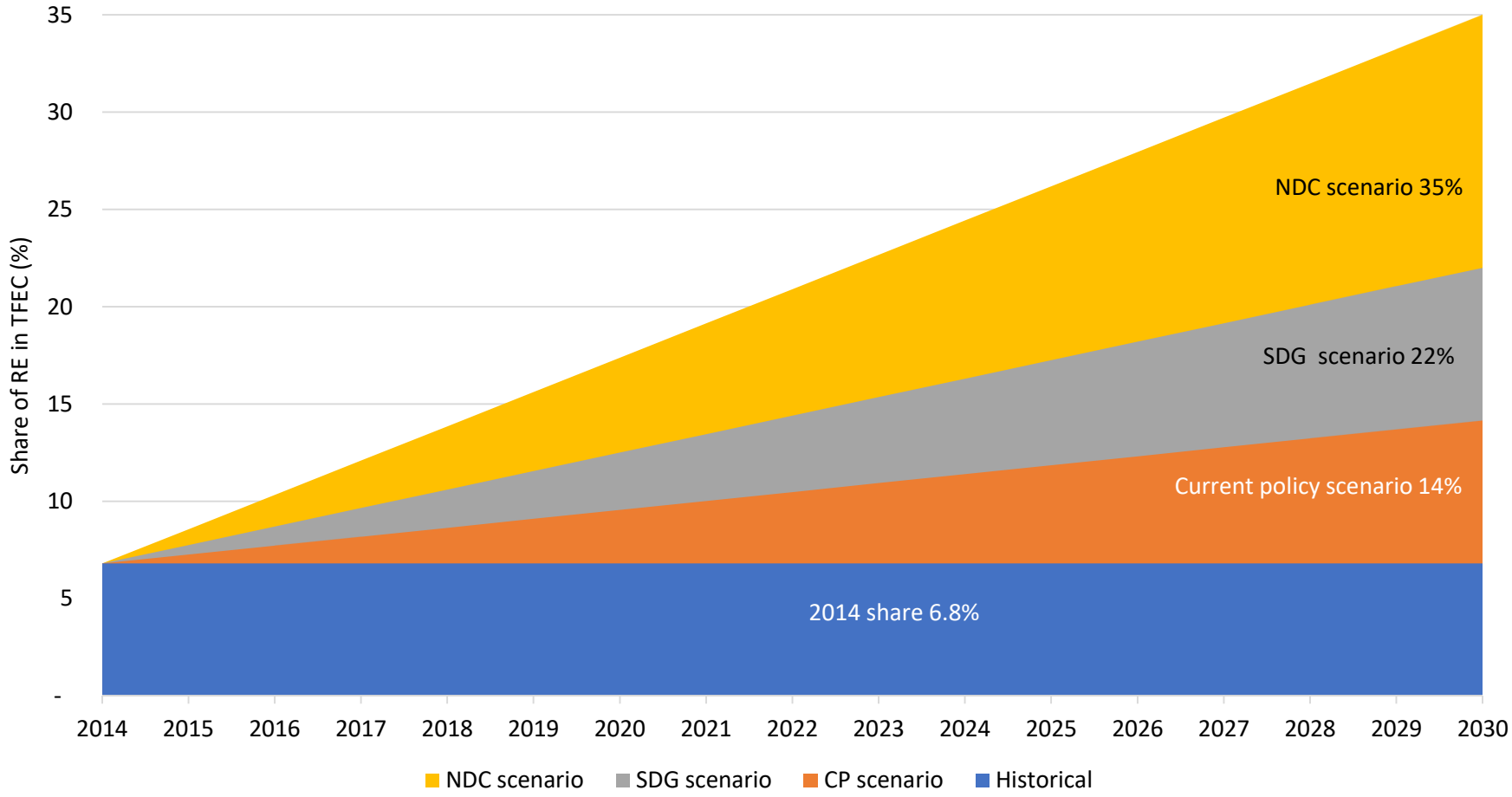
Underlying principles of scenario/pathway development

Pathways – scenarios

Current policy scenario (CPS)	• Based on targets announced by the member States
SDG scenario	• SDG7.1: 100% access to modern energy by 2030 • SDG7.2: Potential for RE to grow by 2030 based on IRENA's REmap • SDG7.3: Halving EI between 1990 and 2014 to set the EI for 2015-30
NDC scenario	• SDG7.1 and SDG7.3 remained the same as in SDG scenario • SDG7.2: Estimated the regional share of NDCs linked to the energy sector and estimated the share of RE required to achieve the NDCs

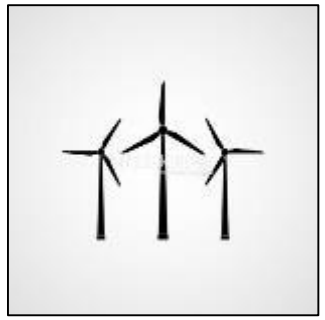
Example Pathway: Renewable energy

- It is estimated that renewables will need to supply 35% of TFEC
  - 1,789 Mtoe in absolute term to meet the energy sector's emission reduction target by 2030



- Assist policymakers to develop the optimum set of policies
- Support the energy transition by transforming national energy systems
- Benefit from economies of scale – fragmented development of individual roadmaps for each country is time consuming and expensive.
- Access to best available modelling tools, customisable to national circumstances

Policy options the roadmap aims to inform



- SDG7.1
  - technological choices?
  - investments, emissions and social benefits of technologies?
  - How do the interlinkages impact?
- SDG7.2
  - What RE share is possible under different scenarios?
  - Which technologies for RE up-scaling?
  - What fiscal measures?
  - Will technology help achieve 7.1? If so, how?
  - How do the interlinkages impact on RE?
  - Potential for RE-based heat & cooling?
- SDG7.3
  - What actions need to double energy efficiency improvement?
  - Focus areas for energy efficiency improvement?
  - Costs and benefits?

- Climate Change – emissions reductions under NDCs

Expected NEXSTEP output

1. Energy demand and supply scenarios – BAU, SDG, NDCs scenarios
2. Technology identification and prioritisation for each scenario
3. Policy options to achieve SDG7 and NDCs
4. Investment/economic analysis for each scenario
5. Marginal abatement cost curve
6. Report production using a pre-set template.