

# Concept of SDG7 Roadmap and Introduction to



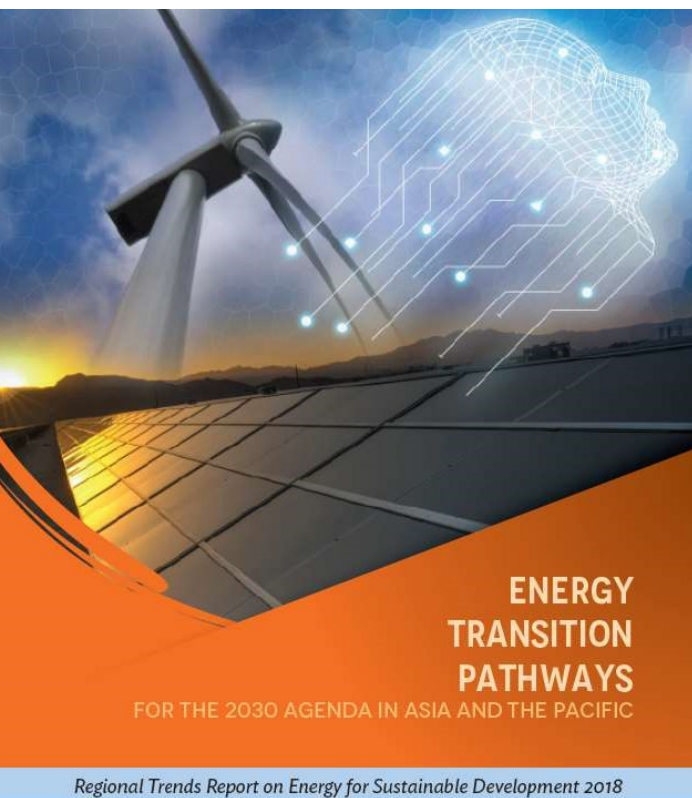
National Expert SDG Tool for Energy Planning

**Anis Zaman**

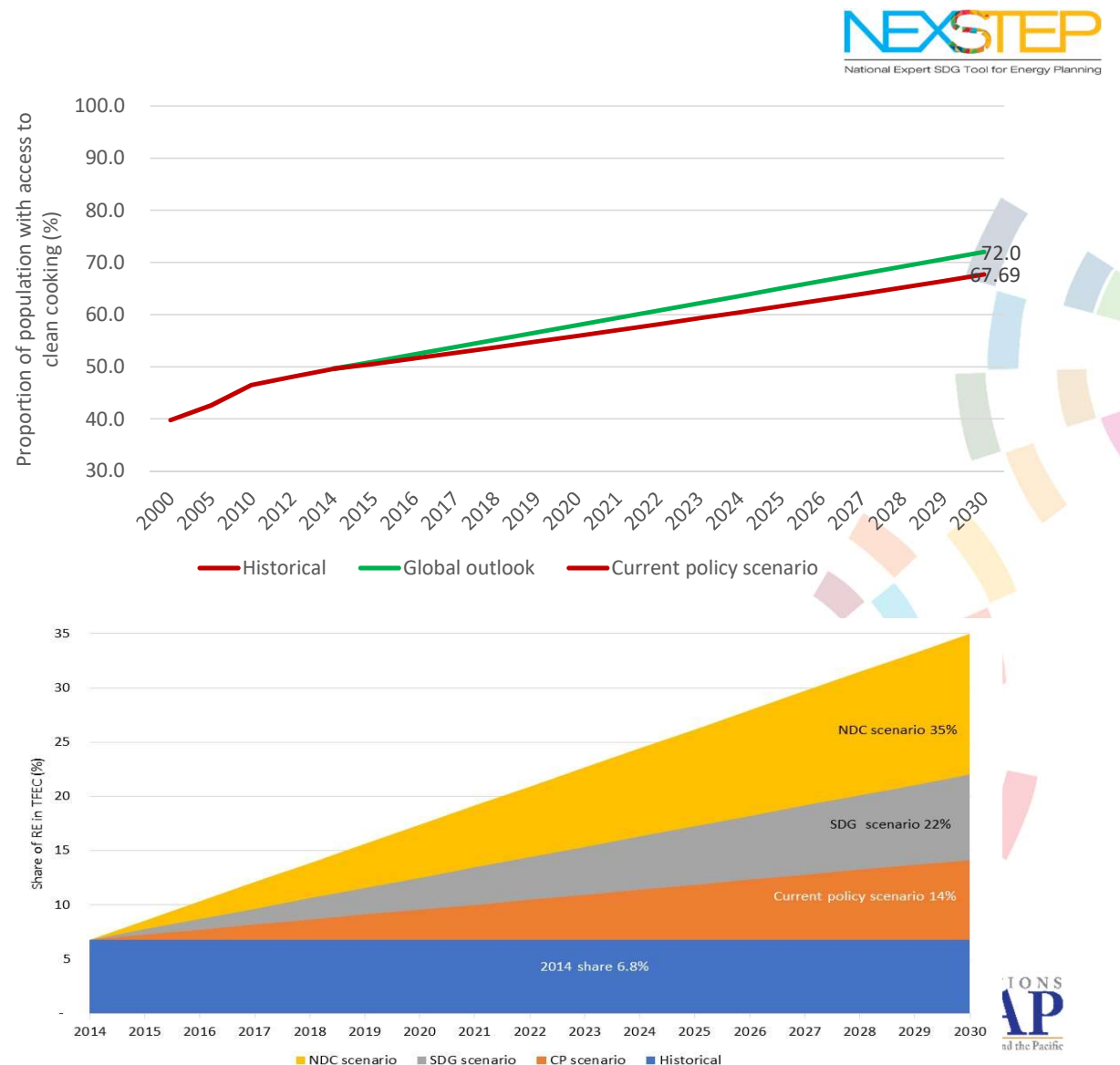
Kathmandu

*21 August 2019*





# Energy Transition Pathways for the 2030 Agenda in Asia and the Pacific



# 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.”*

# SDG7

## GOAL

## TARGETS

## INDICATORS



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

Proportion of population with access to **electricity**

Proportion of population with primary reliance on **clean fuels** and technology

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

Renewable energy share in the total **final energy consumption**

7.3 **double** the **global** rate of improvement in energy efficiency

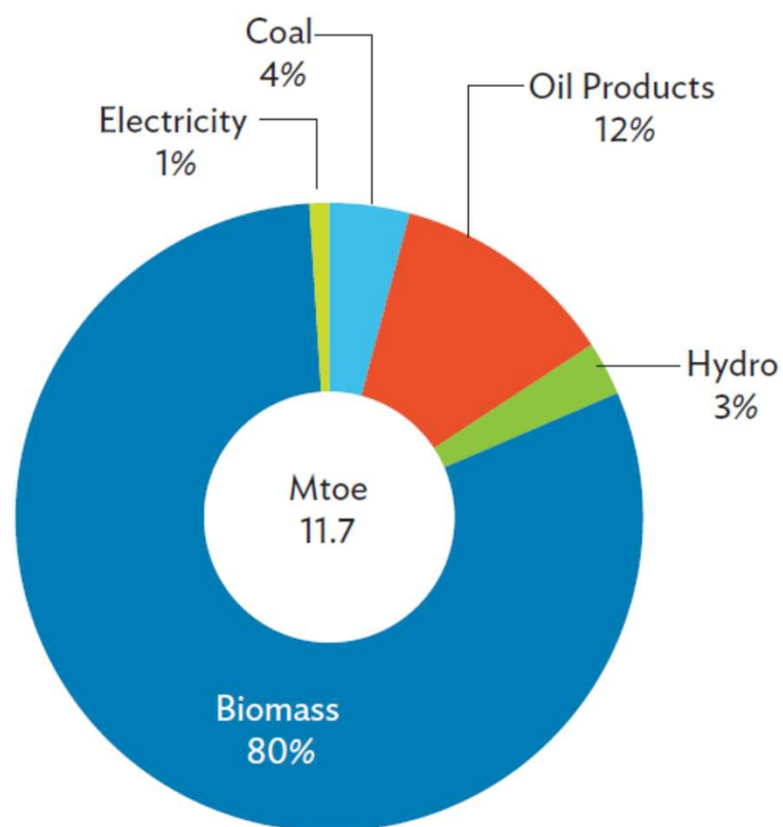
Energy **intensity** measured in terms of **primary energy and GDP**

SDG definition of clean cooking fuel: <https://unstats.un.org/sdgs/metadata/files/Metadata-07-01-02.pdf>

SDG definition of renewable energy: <https://unstats.un.org/sdgs/metadata/files/Metadata-07-02-01.pdf>

SDG definition of energy intensity: <https://unstats.un.org/sdgs/metadata/files/Metadata-07-03-01.pdf>

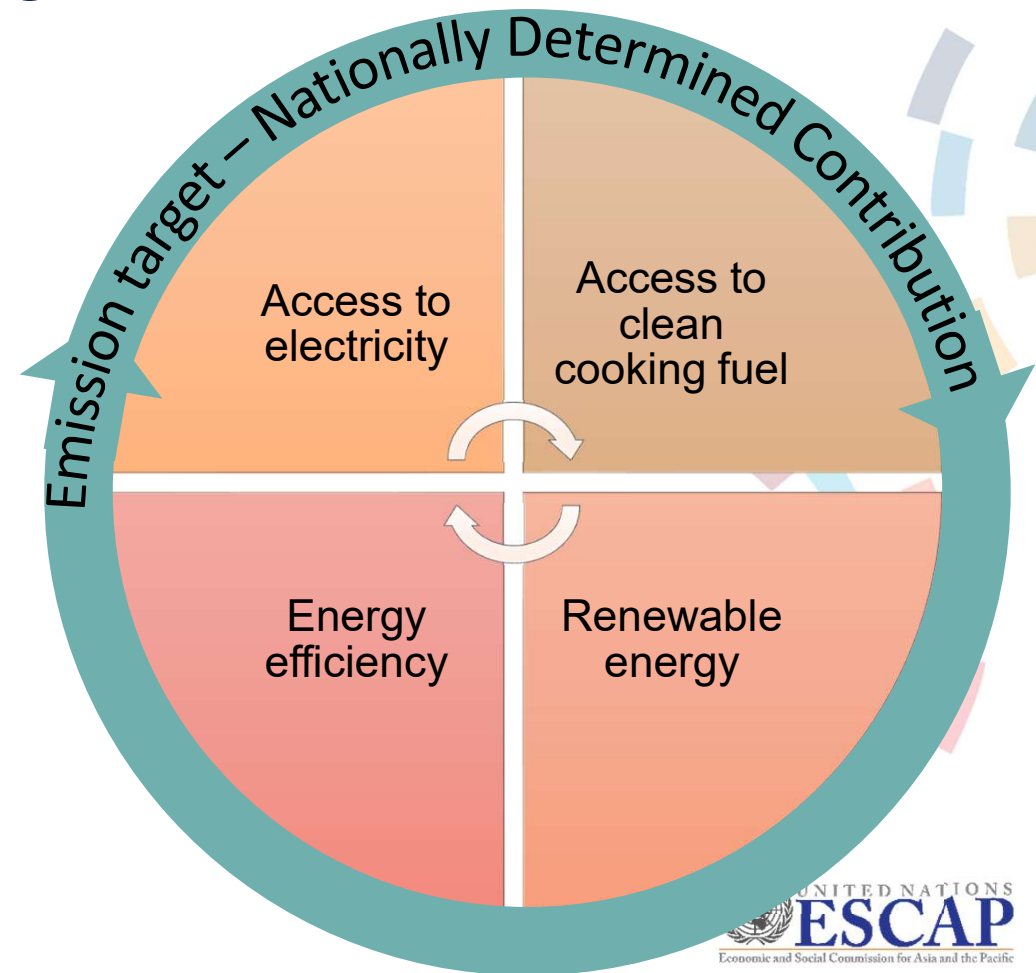
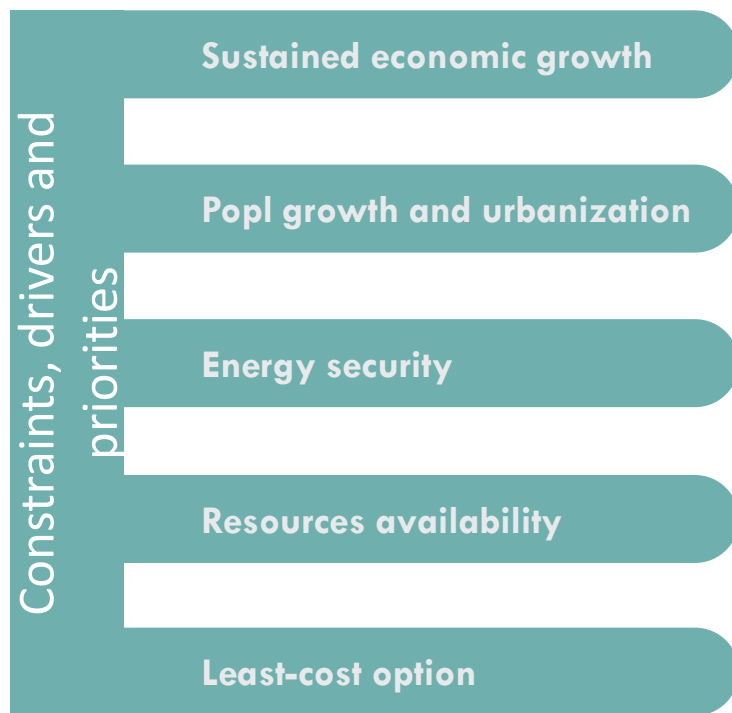
# Energy mix in Nepal



Energy Demand, by Source and Sector		Mtoe		
		2015	2020	2035
Primary energy demand	Coal	0.2	0.3	0.5
	Oil	1.1	1.3	2.1
	Natural gas	0.0	0.0	0.0
	Hydro	0.4	0.5	1.0
	Other <sup>a</sup>	9.7	10.5	13.1
Total		11.4	12.7	16.6

Source: ADB, 2015

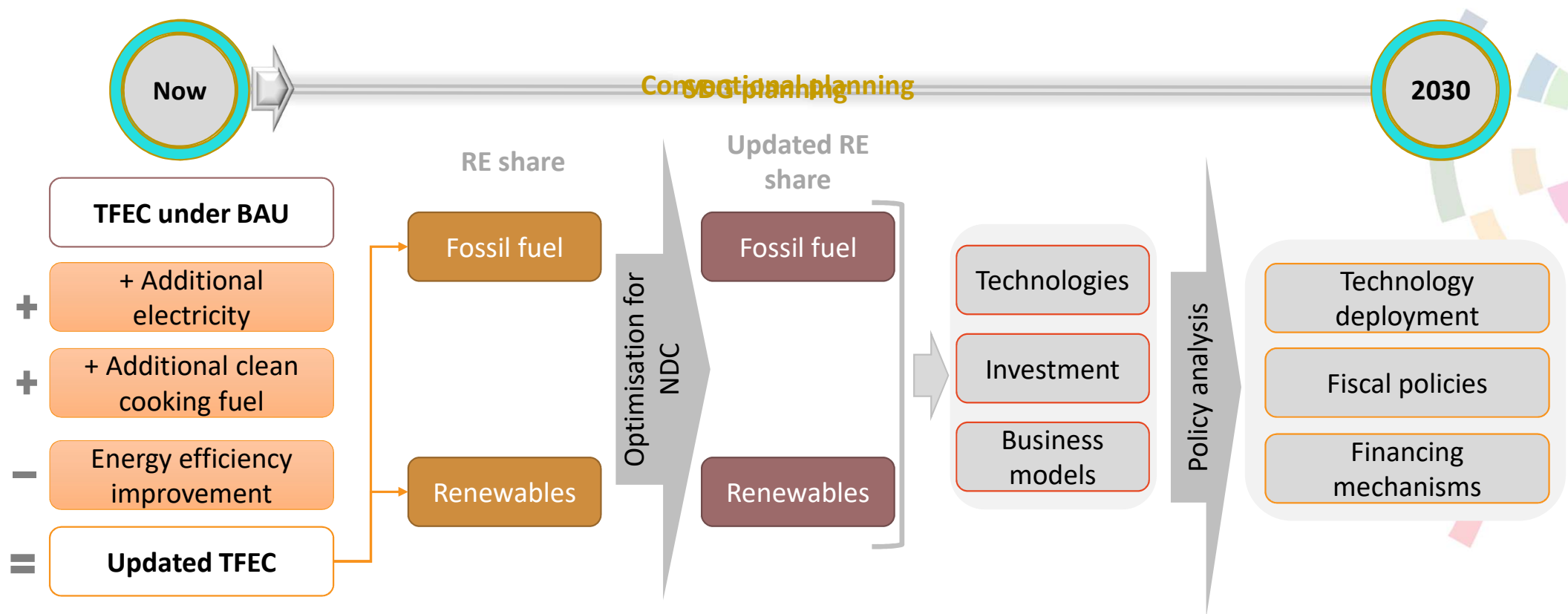
# SDG7 needs an integrated approach



# National Expert SDG Tool for Energy Planning (NEXSTEP)

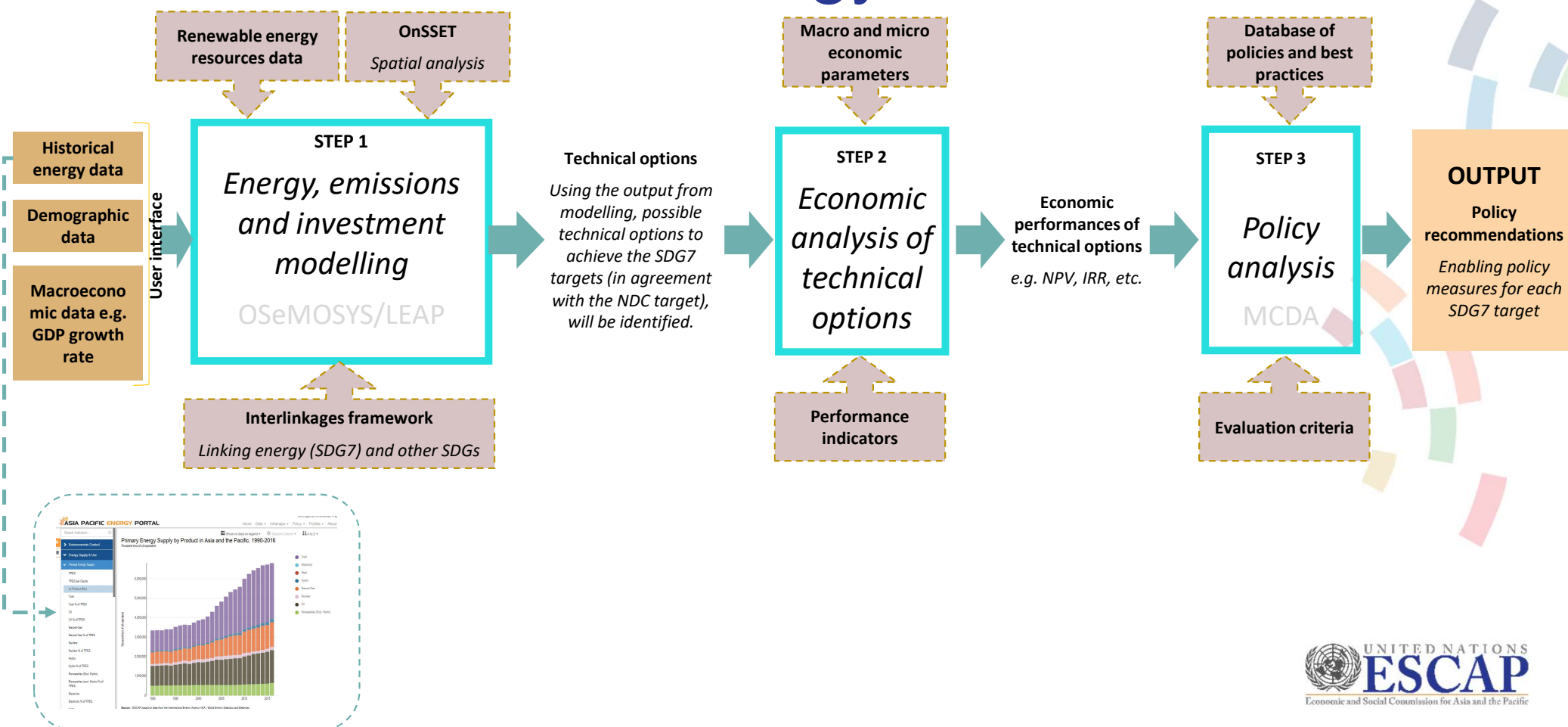
An **integrated tool** to assist policymakers make informed **policy decisions** that would help achieve **SDG7 targets and NDC.**

# SDG-responsive energy planning

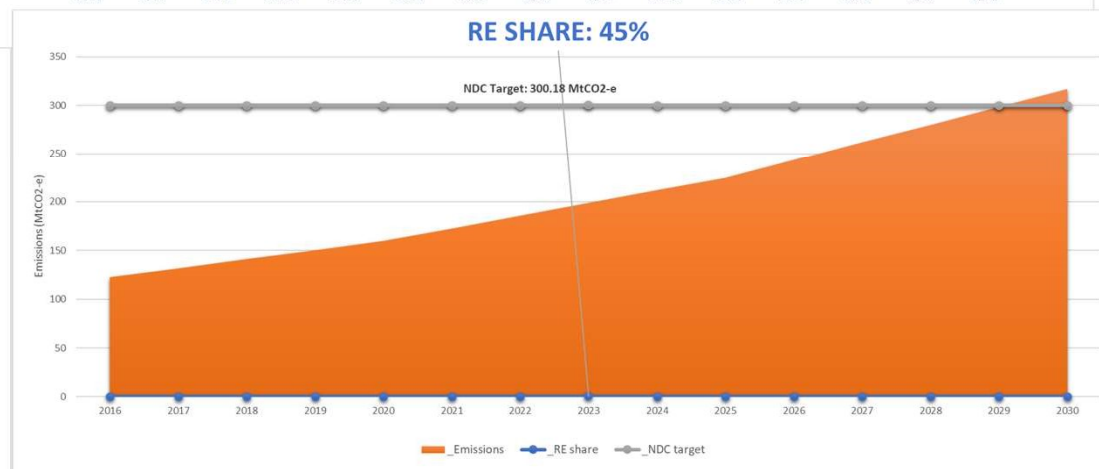
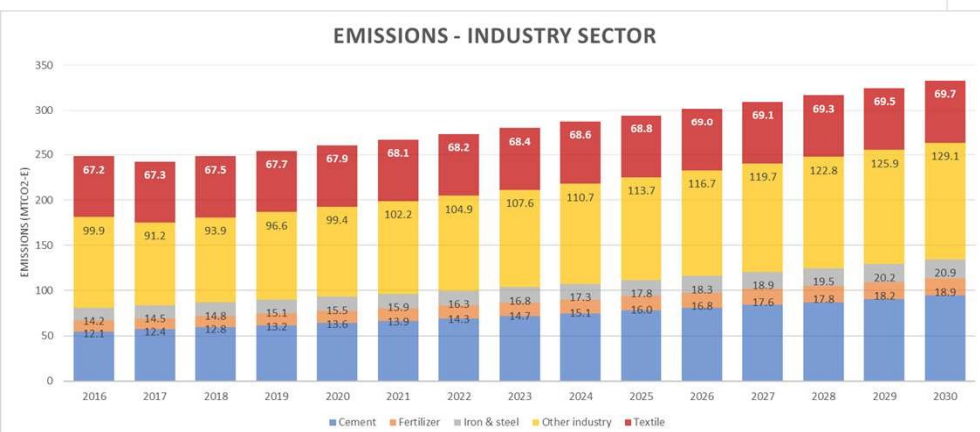
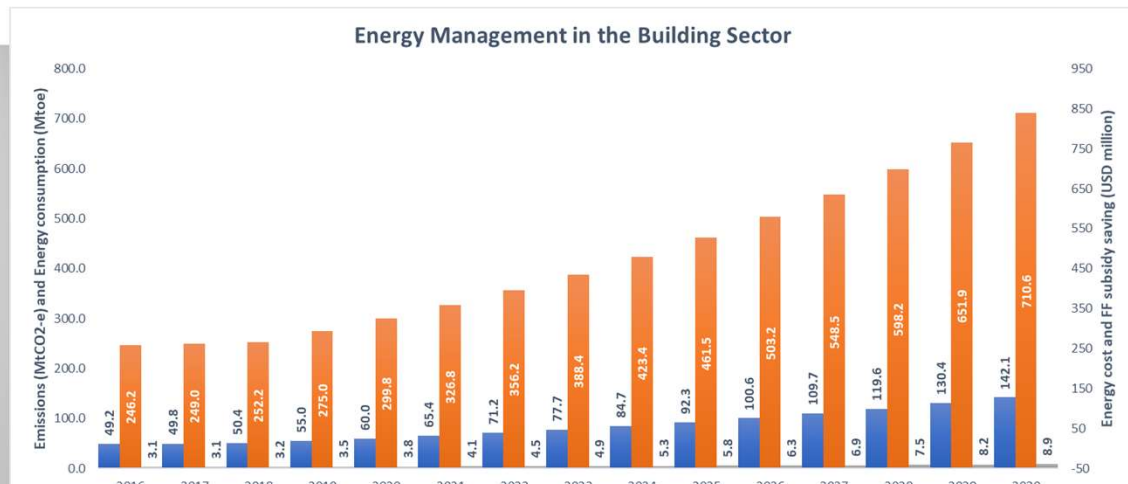
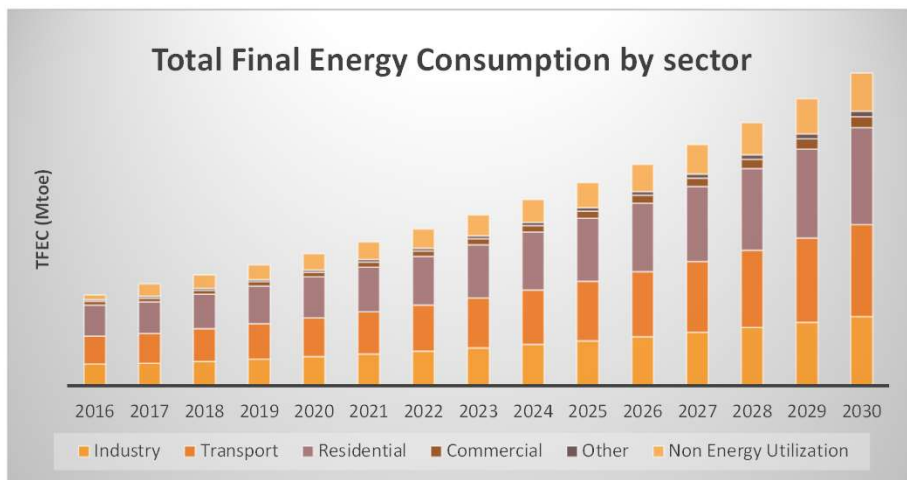




# NEXSTEP methodology

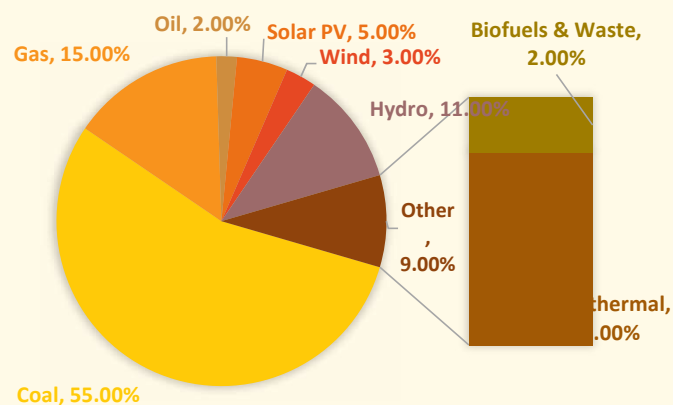


# NEXSTEP output

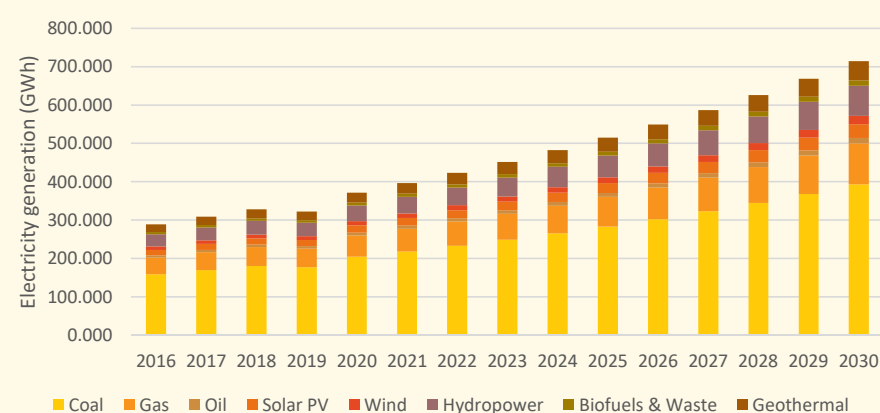


# NEXSTEP output

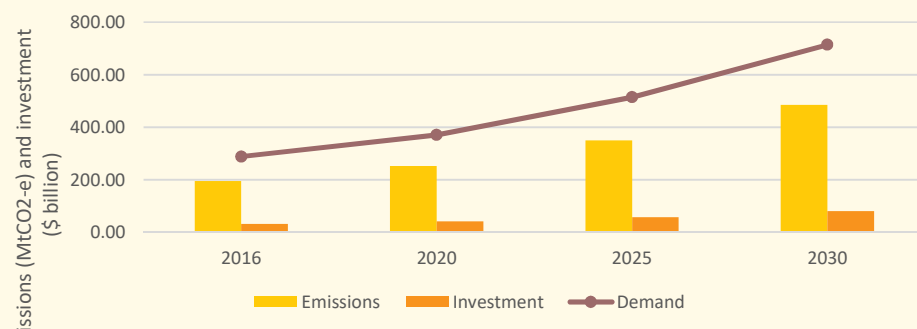
**SHARE OF ELECTRICITY GENERATION BY FUEL/SOURCE**



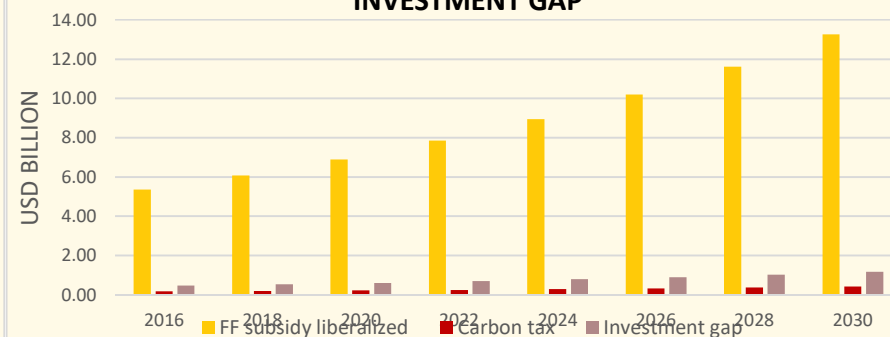
**ELECTRICITY GENERATION BY FUEL/SOURCE**



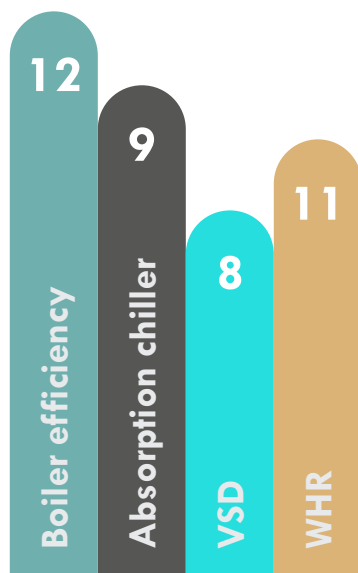
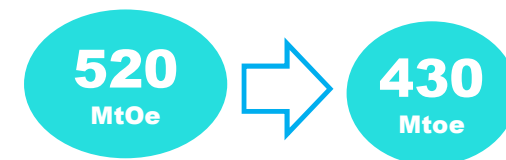
**ELECTRICITY GENERATION, EMISSIONS AND INVESTMENT REQUIREMENT**



**FF SUBSIDY AND CARBON TAX TO REDUCE THE RE INVESTMENT GAP**

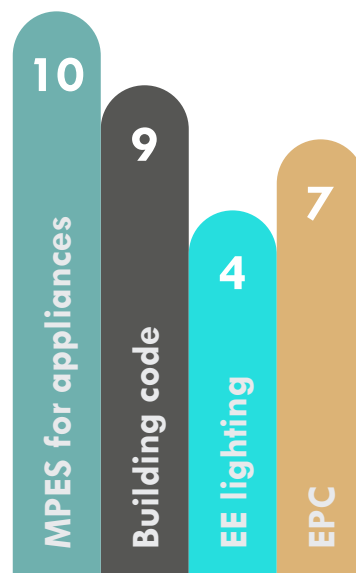


# ENERGY EFFICIENCY IMPROVEMENT



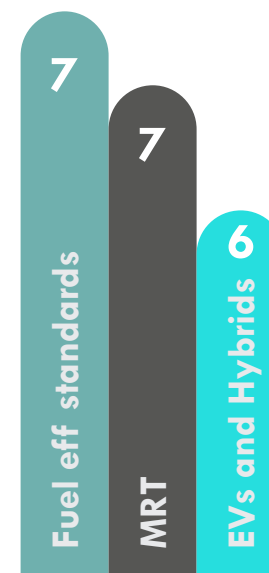
**INDUSTRY**

40 Mtoe



**RESIDENTIAL & COMMERCIAL**

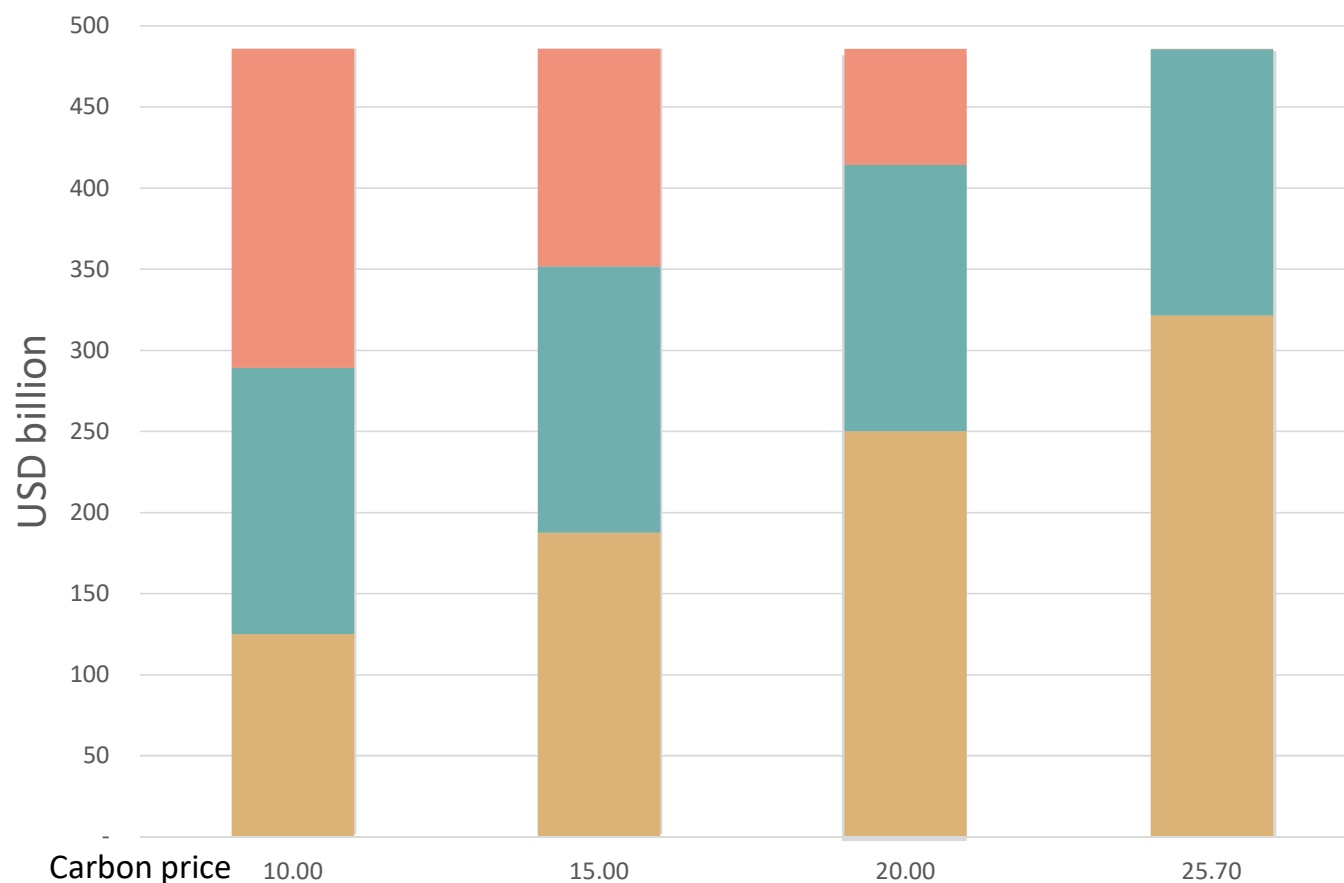
30 Mtoe



**TRANSPORT**

20 Mtoe

# Example of investment analysis



Savings from FF subsidy reform

Revenue from carbon price

Investment gap

# Auto generated roadmap

## 1. Current energy situation

1. Total final energy consumption
  1. TFEC by sources
  2. TFEC by sectors
  3. Electricity
2. Total primary energy supply

## 2. SDG 7 status and BAU Scenario

1. Access to electricity
2. Access to clean cooking fuel
3. Renewable energy
4. Energy efficiency
5. Emissions
6. The gaps

## 3. SDG scenario

1. Access to electricity
2. Access to clean cooking fuel
3. Energy efficiency
4. Emissions
5. Renewable energy

## 4. Pathways to 2030

1. Technical options
2. Economic analysis
3. Policy analysis

## 5. Policy recommendations

# Development of NEXSTEP

- Methodology development
  - Developed through a learning process
  - Peer reviewed by a panel of external experts in the subject matter
  - Development of different components is underway
  - Expecting a beta version by the end of 2019
- National consultations
  - Working with 3 pilot countries (Bangladesh, Georgia and Indonesia) to learn about differences in national contexts
- Member States will be invited to use NEXSTEP from 2021.
  - ESCAP will provide training on the use of NEXSTEP for energy planning



# NEXSTEP testing

Jakarta, March 2019

**NEXSTEP**  
National Expert SDO Tool for Energy Modeling

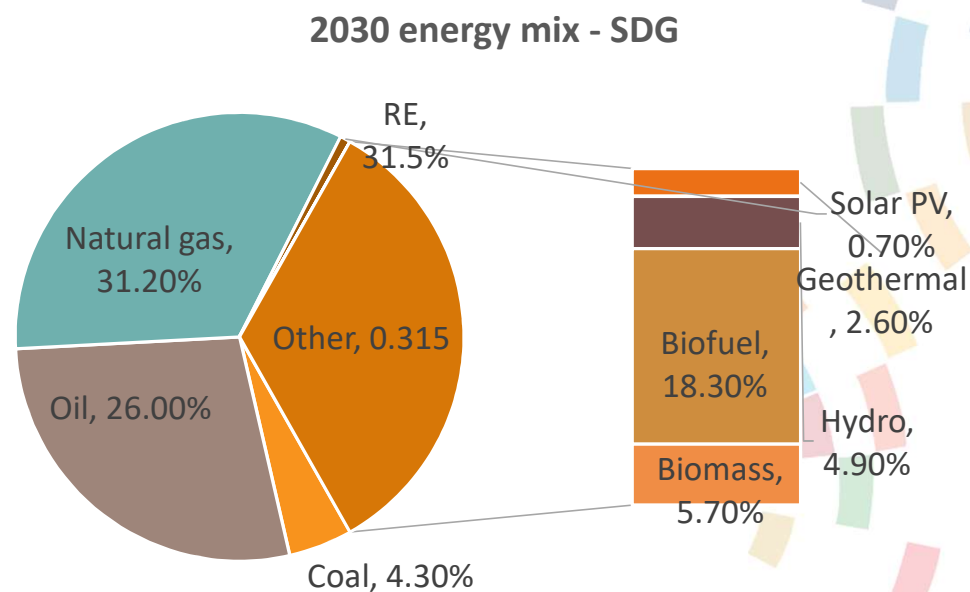
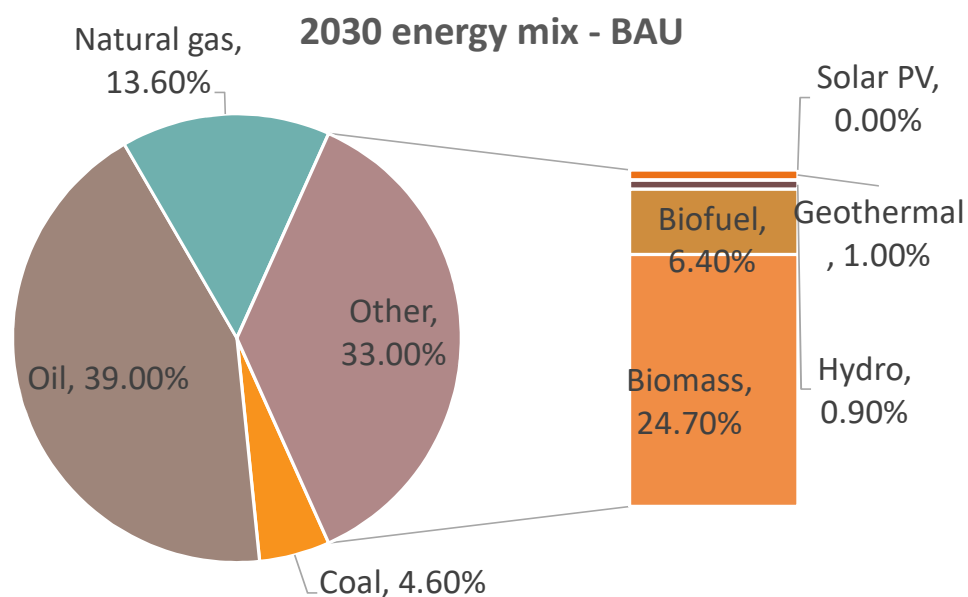






UNITED NATIONS  
**ESCAP**  
Economic and Social Commission for Asia and the Pacific

# NEXSTEP testing – Indonesia



These results are for illustration only – they have been found during testing of the methodology and are likely to vary once further analysis is performed with the final version of NEXSTEP.





# Stakeholder consultation

**Tbilisi, Georgia**

**March 2019**





*It's **not** a traditional energy modelling software.*

*It's an integrated system planning approach to  
achieve SDG7 and NDC*

**Thank you**