

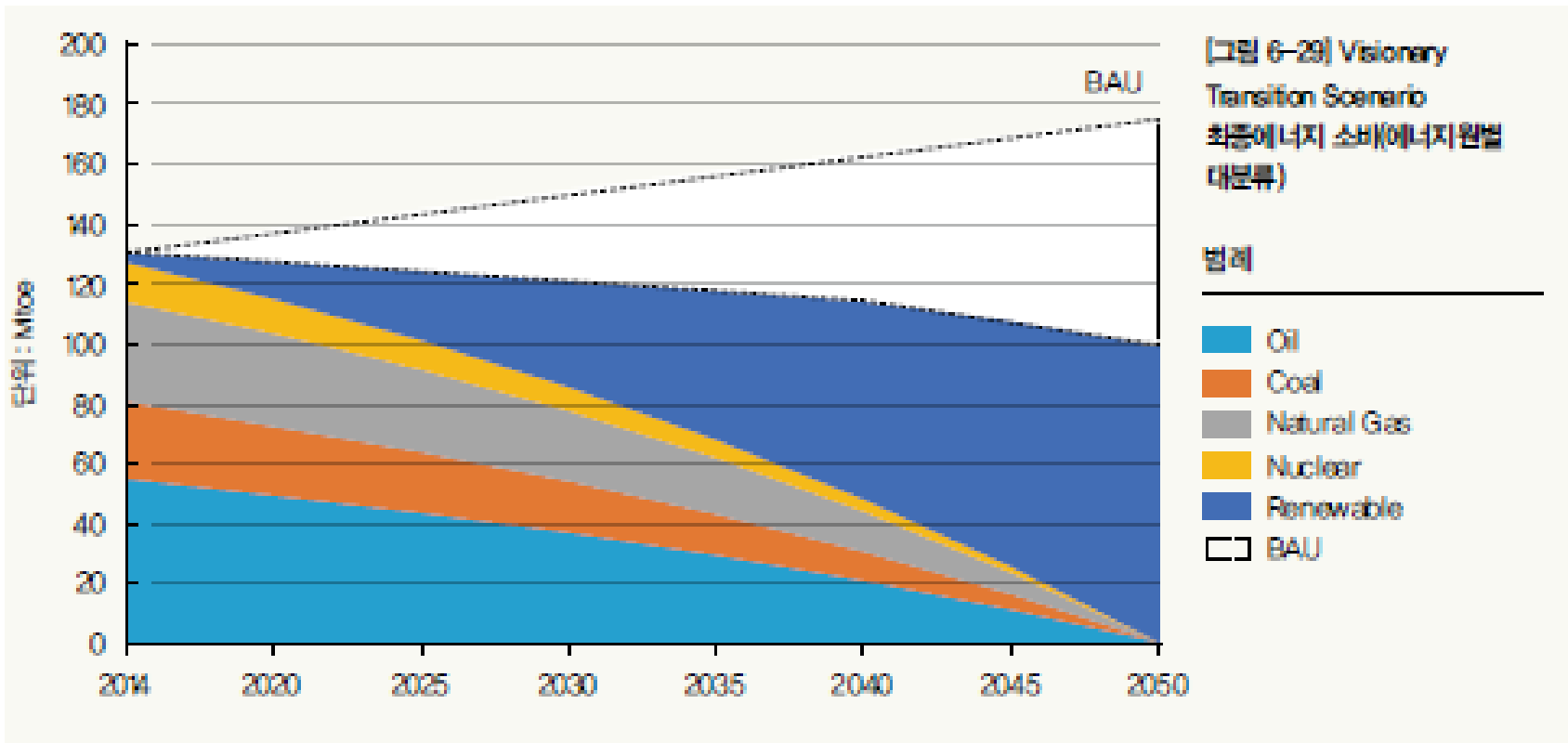
# **Renewable Energy 3020 Plan and Beyond**

**REvision2019 : Renewable Revolution**  
**6<sup>th</sup> March 2019, Tokyo**

Sanghoon Lee  
President of New and Renewable Energy Center,  
Korea Energy Agency

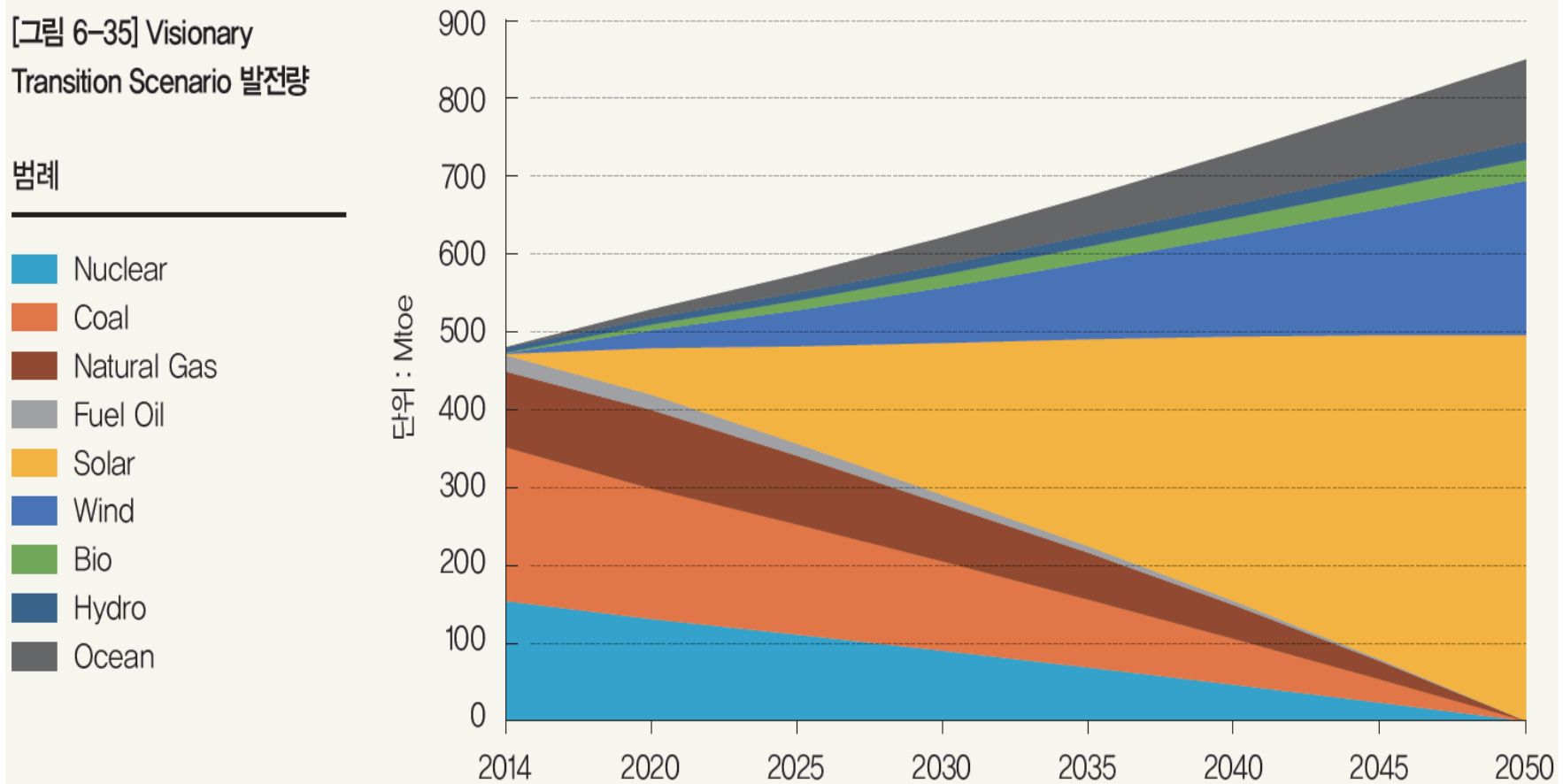
# • Visionary Transition Scenario by WWF Korea

- 100% RE Scenarios for South Korea developed
- Korea Energy Vision 2050 including 100% RE Scenario by WWF Korea
- 100% RE society through innovative energy efficiency and untapping RE potential



# • Power mix in Visionary Transition Scenario by 2050

- In case of VTS, power generation could increase to 850 TWh in 2050
- PV 495TWh(58%), Wind 198TWh(23%), Marine energy 105TWh(12%), Biomass 27TWh(3%), Hydro 24TWh(3%)

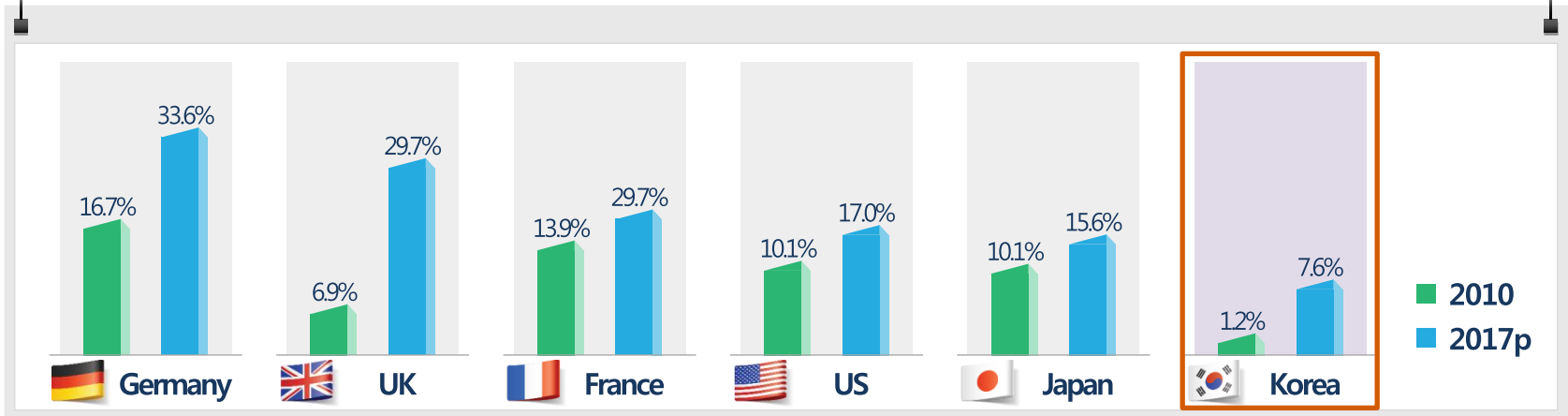


source : WWF Korea, 2017, Korea Energy Vision 20150 Transition

# • Status of Renewable Energy in South Korea

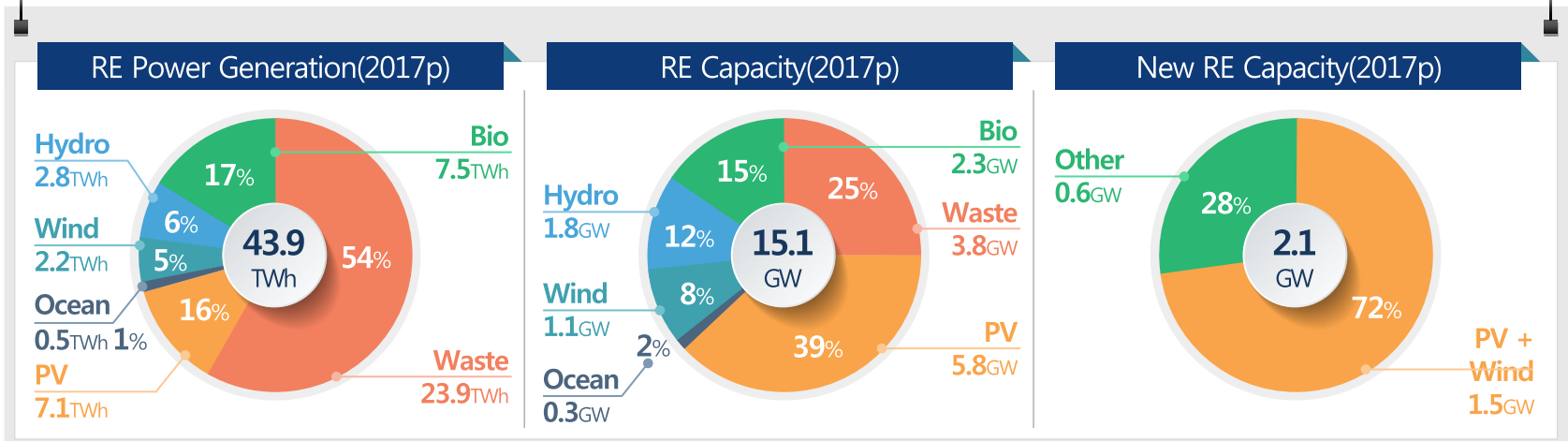
## ➡ Low share of Renewable Energy

➡ RE Power Generation Share in Major Countries (% , 2010 ⇒ 2017p)



\* Source : IEA(2018) / KEA(2018)

## ➡ High reliance of Waste & Bioenergy Power Generation



\* Source : KEA(2018)

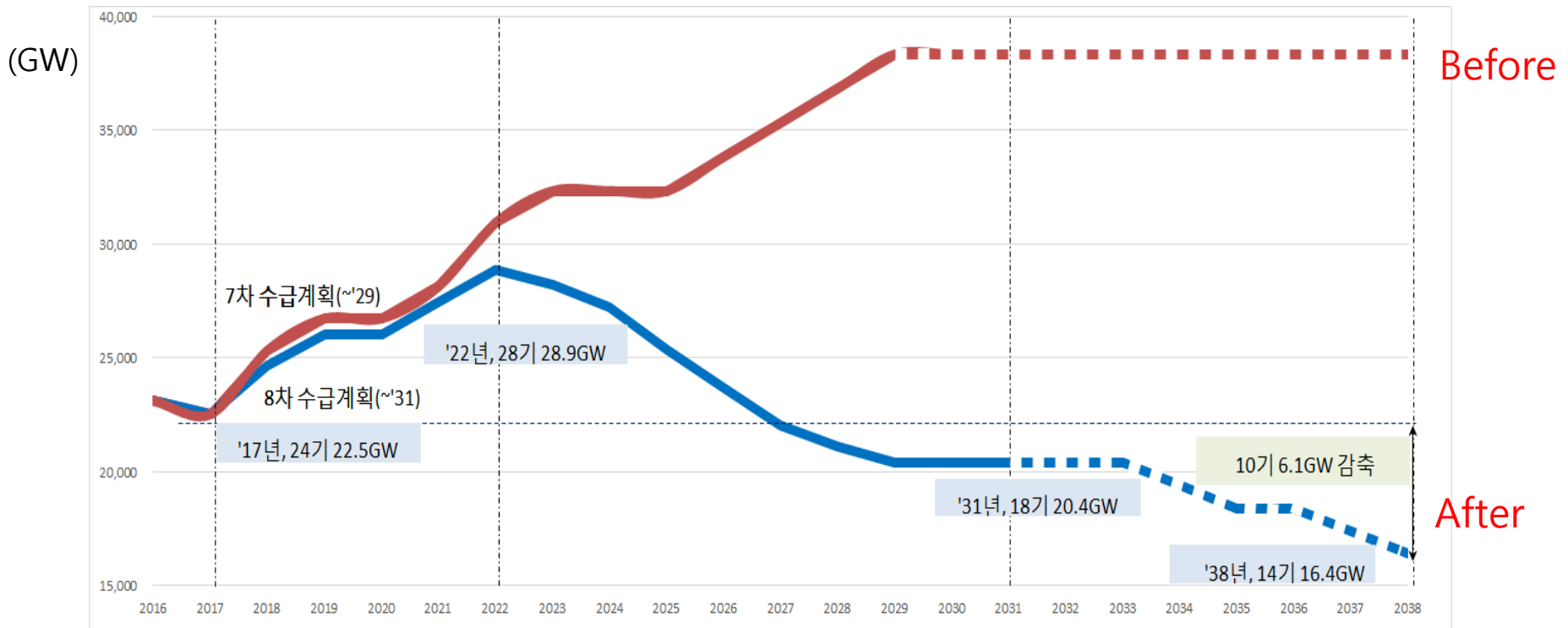
- **Transformation of Energy Policy by Moon Administration**
- On 19<sup>th</sup> June 2017, President Moon announced the transformation of Energy policy from nuclear and coal to RE and natural gas as a bridge energy reflecting the people's needs for safer, cleaner and healthier energy system

Stopping Nuclear power construction and strengthening nuclear safety	Sustainable Energy Future
<ul style="list-style-type: none"> <li>• To Cancel 6 reactors' construction plan</li> <li>• To Prohibit license renewal of old nuclear power plants</li> <li>• To Induce social consensus on constructing two reactors through deliberative poll</li> <li>• To Strengthen nuclear safety standard and the committee of nuclear safety</li> </ul>	<ul style="list-style-type: none"> <li>• To Stop new construction of coal fired power plants</li> <li>• To Review the constructing 9 coal fired power plants on the zero base</li> <li>• To Phase out old coal fired plants sooner</li> <li>• To increase the capacity factor of gas fired plants higher</li> <li>• <b>To Increase the share of renewable energy in generation mix by 20% by 2030</b></li> </ul>

➔ These Policy are reflected on 8<sup>th</sup> electricity supply and demand plan

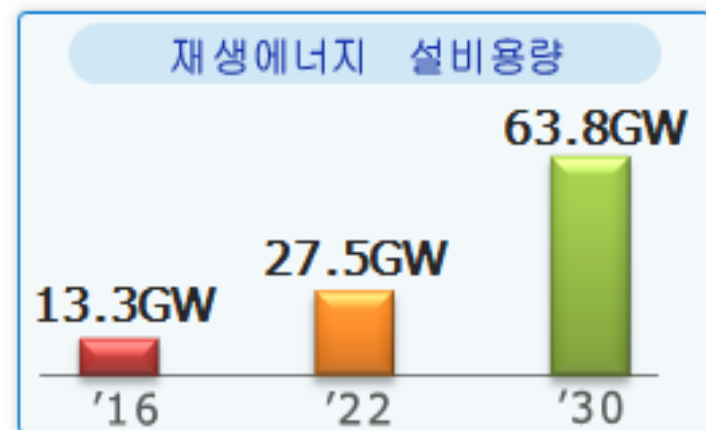
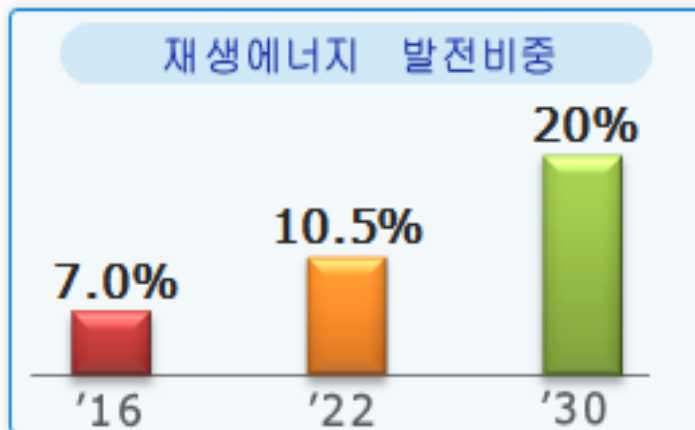
- Roadmap of Nuclear power phase- out
- Phase-out of nuclear power plants

classification	numbers	capacity
Newly planning reactors	6 reactors	8.8GW
Ageing nuclear power plants	14 reactors	12.5GW
Wolsung 1 – end of license	1 reactor	0.7GW



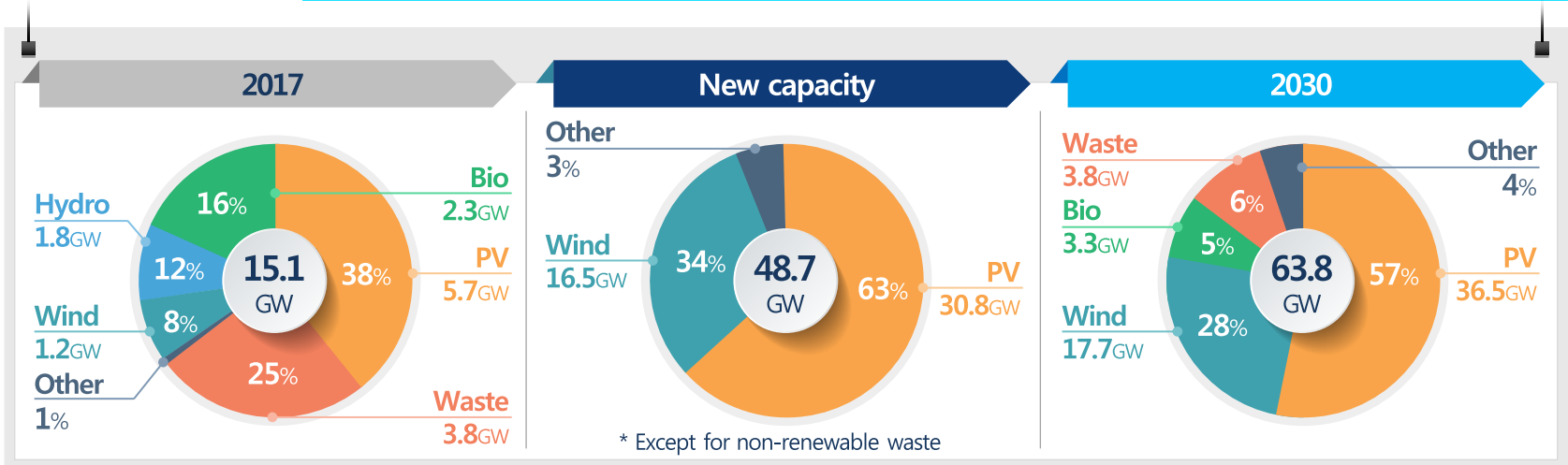
- **20% Renewable target by 2030**

- The share of renewable energy(plus others) in generation mix will increase from 7% to 20% by 2030
- The target is not high compared to the status of OECD. Currently, the share of renewable electricity accounts for 24% in OECD electricity generation.
- Newly 30.8GW of Solar PV and 16.5 GW of wind capacity will be added by 2030
- In 2017, solar PV capacity is around 5.5GW and wind is 1.1GW, that's why the target can look very ambitious for South Korea



# Renewable Energy 3020

Target 20% of power generation by 2030 : More than 95% of new capacity is PV & Wind



Method Achieving target by Citizen participation & Large-scale projects





# Progress of Renewable Energy 3020 in 2018

**Deployment** Newly added capacity of 3GW in 2018

✓ Ongoing RE 3020



2,028MW  
(61% growth)



168MW  
(29% growth)

**Large Scale Project** Saemangeum RE project + RE industry cluster vision

✓ Vision of RE project in Saemangeum('18.10)



2.4GW PV and 0.6GW offshore wind by 2022 in Saemangeum Area



Establishment of RE industry and R&D cluster

- **Challenges to Energy Transition**

- Strong resistance from nuclear industry and academia
  - Asking to build two nuclear reactors more and promote nuclear reactor export
  - Claiming nuclear power as a solution for cheaper and cleaner low carbon society
  - Criticizing RE and raising the doubt of RE 3020 through influential media and SNS
- Challenges to RE 3020
  - Delay of grid connection : more than 5GW PV waiting
  - Lack of local acceptance : conflicts and passive local construction consent
  - Argument and Concern on the deterioration of natural environment
  - Uncertainty of people's willingness to pay for RE

- **Beyond RE 3020**

- Discussing 2040 RE target related to 3th Energy Basic Plan
- Revised target of 30~35% RE in Power mix by 2040
  
- RE 3020 : Just a beginning of the long journey towards 100% RE
- Fulfillment of RE 3020 to ensure the next step of Energy Transition
- Regulatory and technical measure to solve the delay of grid connection
- Participatory business model and spread of best practices
- Sound regulation based on public consensus
- Introduction of tendering for large scale projects



KIREC 2019 in Seoul, Korea – Oct 23rd ~ 25th, 2019



KOREA ENERGY AGENCY  
New & Renewable Energy Center

# KIREC Seoul 2019 in Korea

\* Korea International Renewable Energy Conference

## Date & Venue

Oct 23rd ~ 25th, 2019 / COEX Seoul, KOREA

	DAY 1	DAY 2	DAY 3	(DAY 4)
	Opening & Keynote speech			
Morning	<b>High-level Round Table</b> - Innovation for Energy Transformation - Accelerating the Global Energy Transformation: Scaling up of RE investment	<b>Parallel Sessions</b> - Regional RE Trends - Market Investment - Policy & Regulation - Climate Change - EE + RE Integration	<b>Parallel Sessions</b> - The 4th Industrial Revolution - Energy New Biz - Sectoral RE Trends - Energy efficiency and RE - Hydrogen Society - Digitalization	<b>Technical &amp; Cultural Tours</b>
Afternoon	<b>Parallel Sessions</b> - Global Stakeholder's Cooperation		<b>Closing &amp; Farewell Lunch</b>	
Evening	<b>Welcome Reception</b>	<b>Gala Dinner</b>	<b>Technical &amp; Cultural Tours</b>	

\* Tentative schedule

