

Korea's Renewable Energy 3020 Plan



Contents

- 1** Global Trend of Renewable Energy
- 2** The Status of Renewable Energy in Korea
- 3** Energy Transition – Renewable Energy 3020
- 4** Renewable Energy 3020 Implementation Plan
- 5** Fostering Energy New Biz

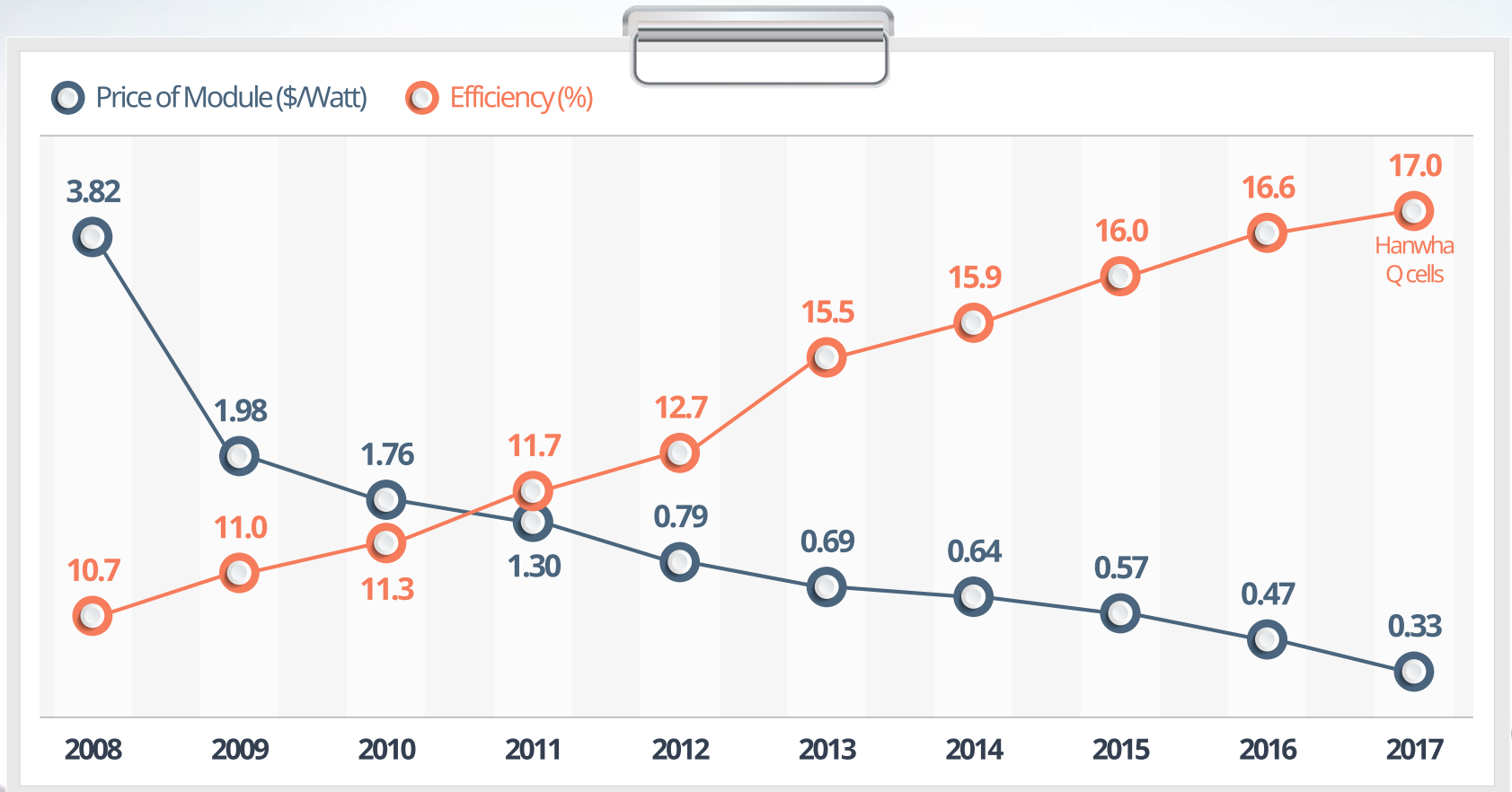


1

Global Trend of Renewable Energy

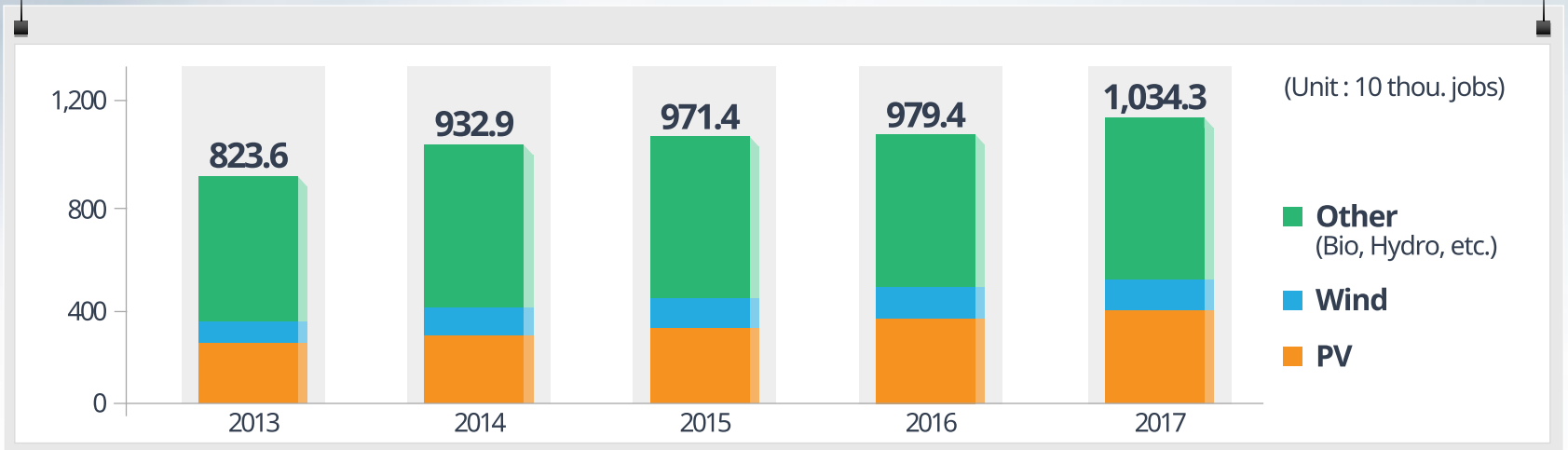
⌚ Fossil Energy ⇒ Rapid Transition to Renewable Energy

- ↳ Global effort for carbon emission reduction ⊕ innovation of green technology
⇒ Dramatic cost reduction of renewable energy system



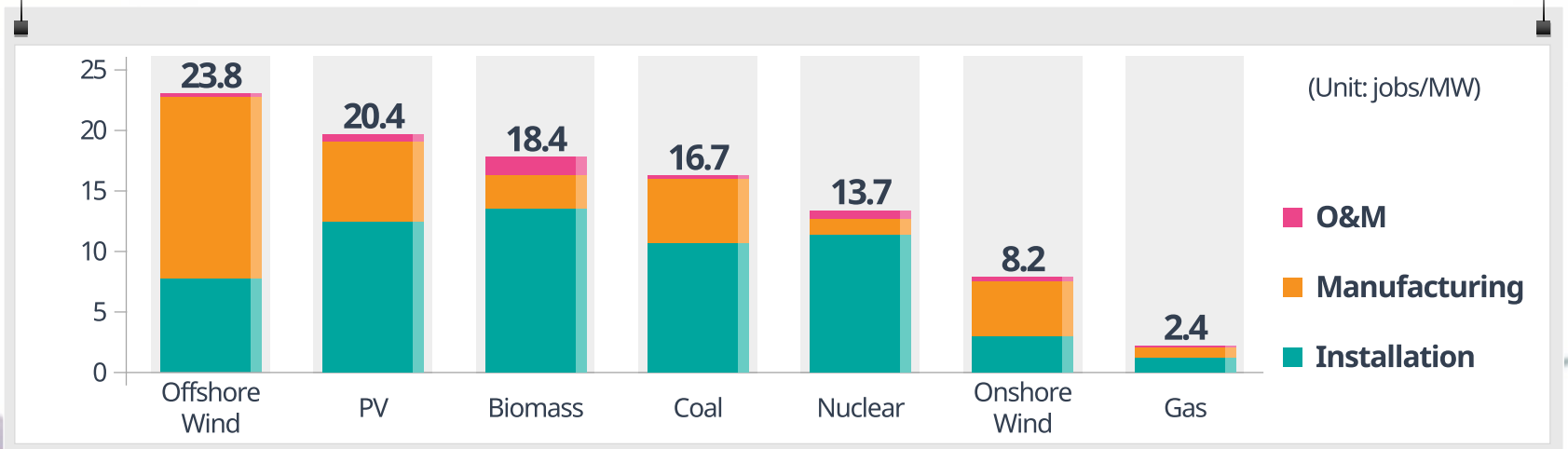
Global Trend of Renewable Energy

Global Renewable Energy Employment (2013~2017)



* Source: IRENA(2018)

Renewable Energy Creates more jobs than fossil fuel



* Source : Greenpeace, UTS : ISF(2015)

1

Global Trend of Renewable Energy

➔ Private Sector facilitates Renewable Energy Market

➤ RE100 (Renewable Energy 100)



Corporate sourcing 100% RE electricity

* Self consumption, PPA, purchasing certificates, etc.



Over 130 Companies joined RE100 campaign

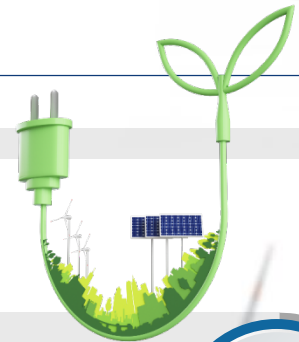
* Apple, IKEA, Walmart, BMW, Google, Microsoft, etc.



➤ REBA (Renewable Energy Buyers Alliance)



Installing & Grid connecting 60GW of New RE capacity by 2025



65 Companies joined REBA

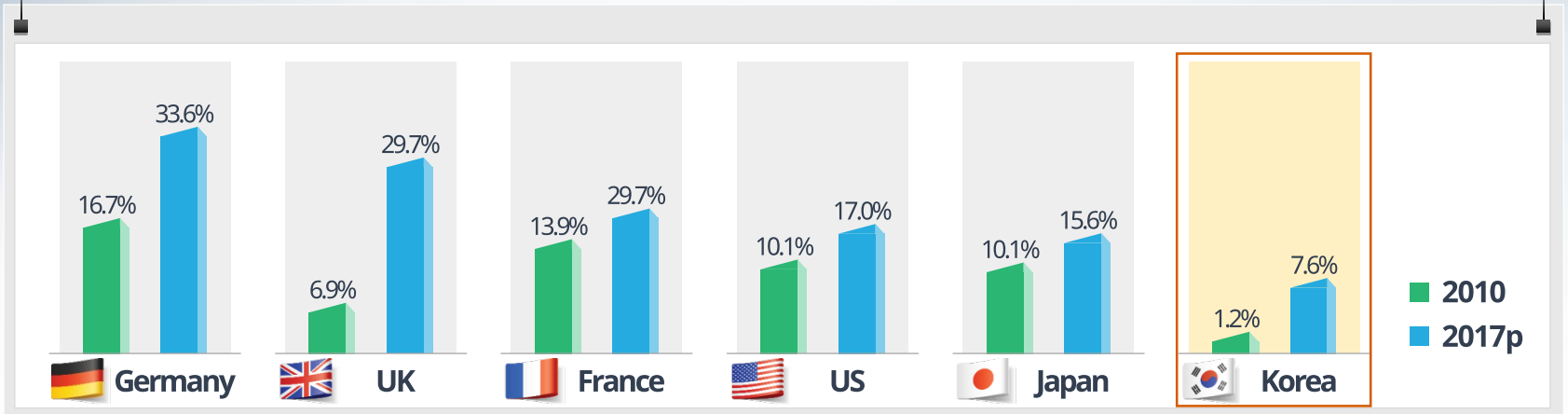
* Facebook, Intel, Walmart, Amazon, Google, GM, etc.



The Status of Renewable Energy in Korea

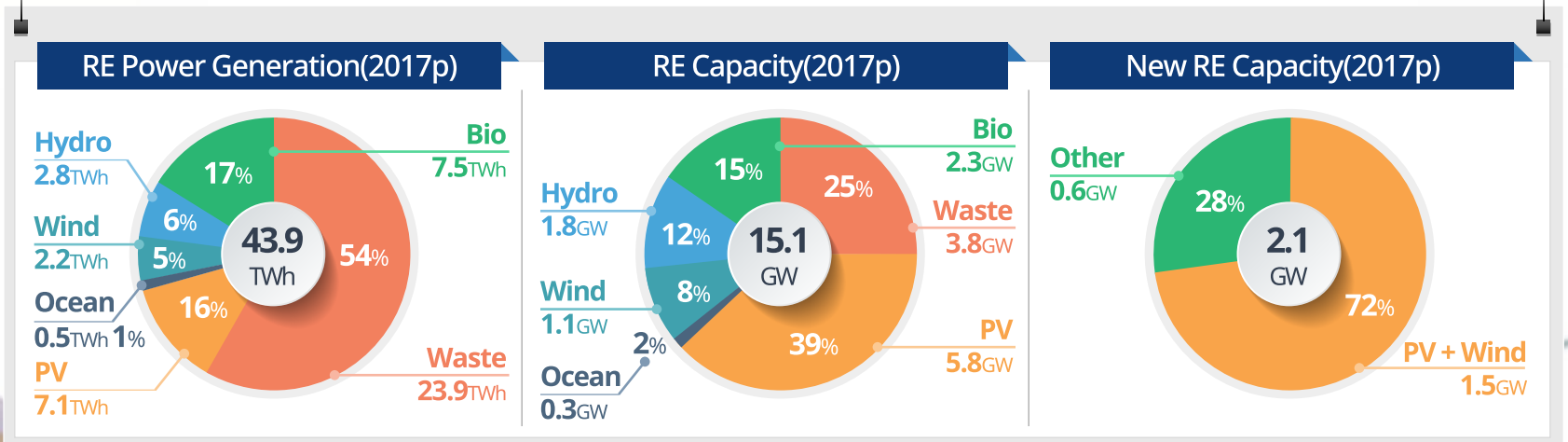
Low share of Renewable Energy

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



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

High reliance of Waste & Bioenergy Power Generation



* Source : KEA(2018)



<http://english.president.go.kr/>

Sustainable KOREA!

- ➔ Increase **20% of renewable energy by 2030** and relevant job creation
- ➔ Deploy eco-environment and low-carbon energy **cultivating new businesses and markets**
- ➔ Govern energy system **adapting to the new climate regime**

Major topics for Renewable Energy Innovation

- ➔ **RPS** for energy suppliers, **FIT** for small renewables users
- ➔ PV deployment to **agricultural area and buildings**
- ➔ Raising **eco-environmental energy funds** for utility scale renewable projects
- ➔ Demonstrating **eco-environmental and energy-independent cities**

Vision

Energy transition 「RE3020」

Everyone's Participation & Benefits

Target				Strategy	
RE share in power generation	7.6%	10.5%	20%	Sector	Bio & Waste → Clean Energy (PV & Wind)
Citizen power Plant	Urban (#Households)	0.29mil.	0.76mil.	Subject	Local Residents & Public Participation
	Agri.	0.1GW	3.3GW	Method	Planned Large-scale Projects
	2017	2022	2030		

Expanding PV in urban area



Expanding Agricultural PV



Task

Planned Estates System

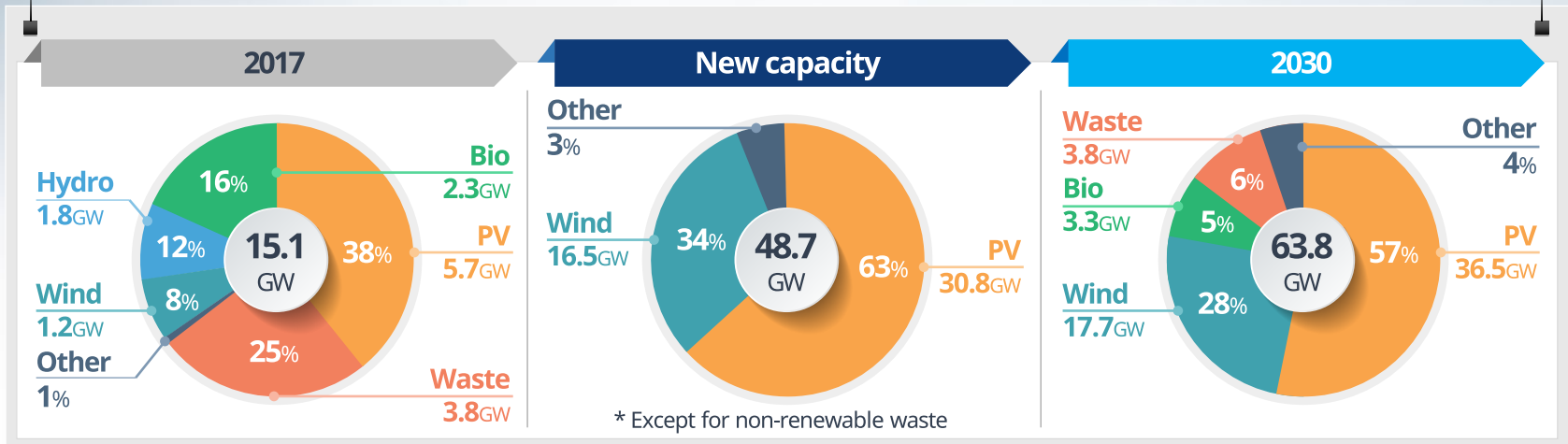


Large-scale project

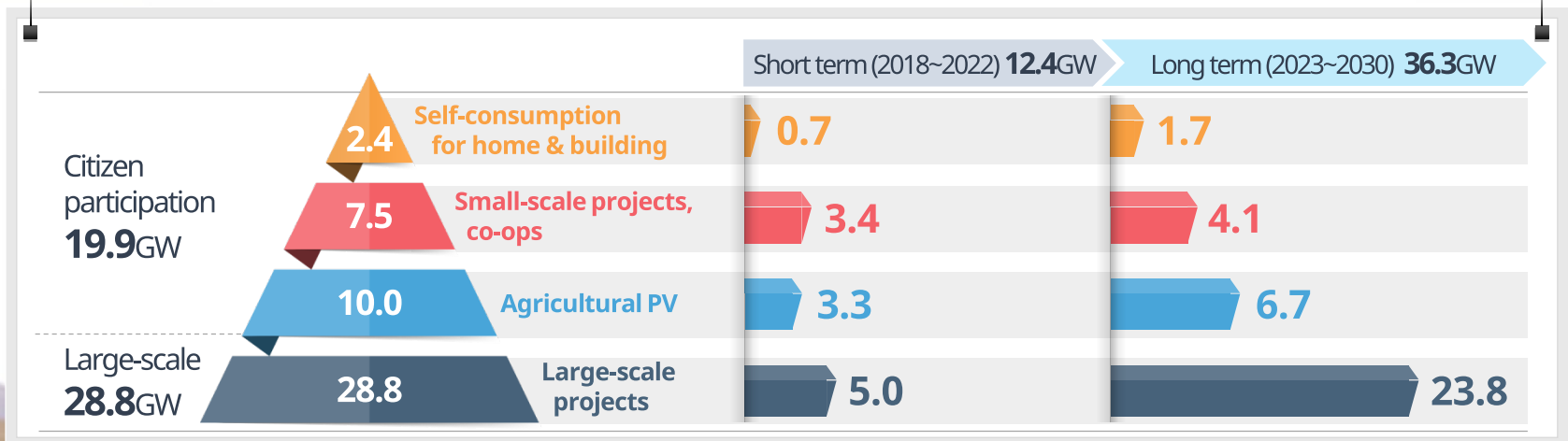


3 Energy Transition – Renewable Energy 3020

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



4 Renewable Energy 3020 Implementation Plan

⊕ Public Participation - Expanding Urban-type & Small-scale PV

Improving Net-metering system

- ⤵ (Excess power) Crediting
⇒ Allowing for Cash compensation
- ⤵ (Entities) Single house
⇒ Single & Apartment house



Introducing Korean Feed in Tariff system

- ⤵ Small-scale PV(<100kW) owned by farmers, fishermen and cooperatives can obtain stable profits for 20 years



Before

After

Tariff

Variable

20 Years Fixed

Procedure

Complicated Bid Procedure

Application Only

4 Renewable Energy 3020 Implementation Plan

Public Participation – Deploying PV in rural area

Activating Participation of Farmers

↳ (Loan) Long-term & Low interest soft loans for farmers' PV installation



Introducing Agricultural PV model

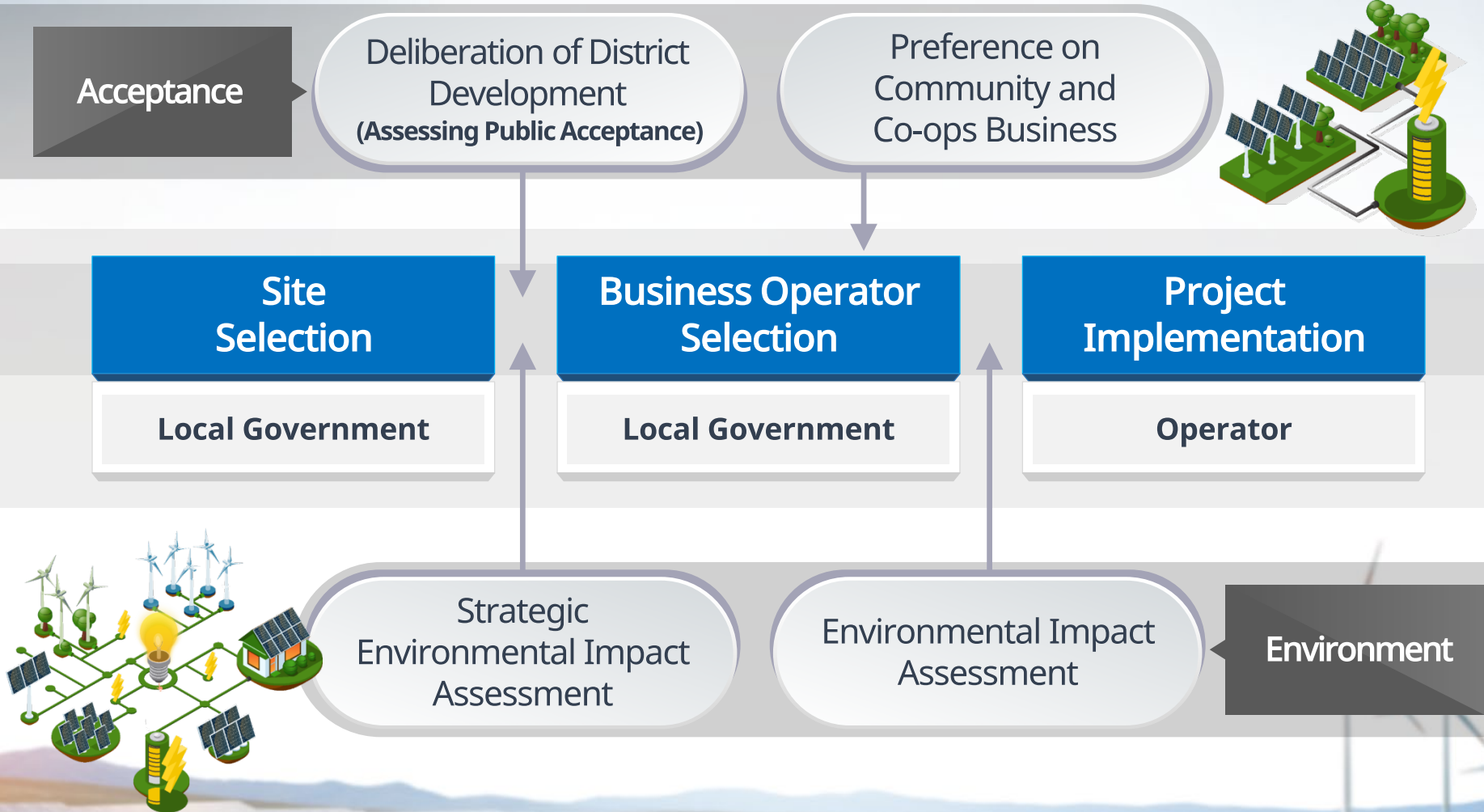
↳ (Farming + PV power) Developing & Promoting Agricultural PV projects



4 Renewable Energy 3020 Implementation Plan

⊕ Planned Estate System by Local Govt.

↳ Securing Public Acceptance & Considering Environment



4 Renewable Energy 3020 Implementation Plan

⊕ Large-scale Projects by Public & Private Sector

↳ Reducing RE cost through economy of scale

Phase 1
2018~2022

5
GW

↳ 5GW among public and companies
proposal(21.3GW)



Phase 2
2023~2030

23.8
GW

↳ Promoting Investment

- Encourage GENCO's Large-scale projects

↳ Securing Site

- (PV, Onshore wind) Floating PV, Using reclaimed sites(ex. Saemangeum)
- (Offshore wind) Large-scale planned estates

Floating PV in Sang-ju
area(6MW)



Tamra Offshore Wind Farm
In Jeju Island(30MW)



4 Renewable Energy 3020 Implementation Plan

↻ Deregulation of RE installation

Agricultural Development Region

- ↻ Allowing 20 years use for PV in reclaimed land(salty condition)
- ↻ Abolishing rooftop PV installation restriction rule

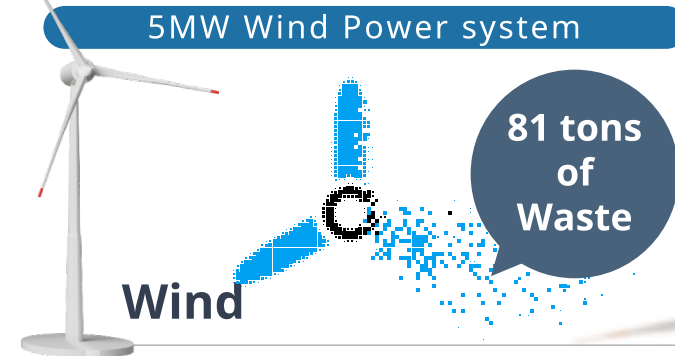
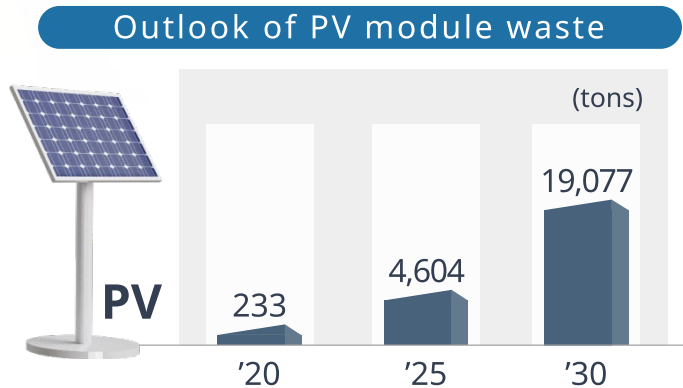
State-owned property

- ↻ Rental fee reduction
- ↻ Extension of initial rental period : 10 ⇒ 20 years

↻ RE waste management program: PV module waste, wind blade, etc.

- ↻ Establishing PV module recycling center

- ↻ Developing waste blade management guideline



↻ Discovering & Expanding Eco-friendly Design(RE design contest, etc.)

⊕ High-quality job creation in RE & Energy New Biz field

➤ Total

168 thou. (2018~2022)

PV
industry

79 thou.

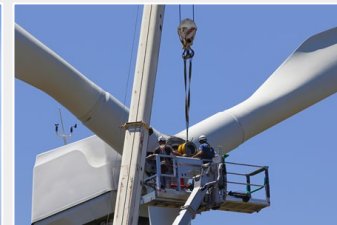
PV cell, module
manufacturing, etc.



Wind
industry

65 thou.

Wind tower, blade,
power system, etc.



Smart
Energy

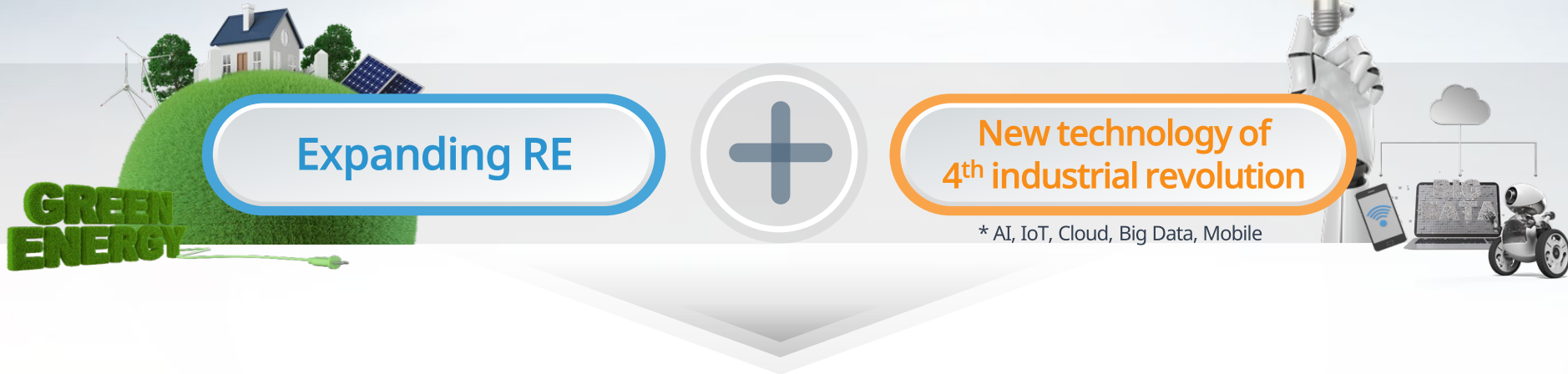
24 thou.

AMI, EMS, etc.



⊕ RE deployment to foster Energy New Biz

↳ Enhancing RE industry along with 4th industrial revolution technology



Fostering Energy New Biz

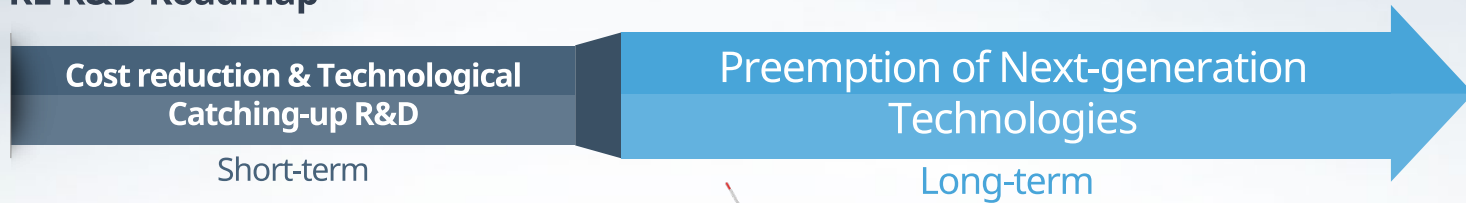
RE(PV & Wind) manufacturing industry

Distributed Power-based energy industry

DSM(Demand-Side Management) service industry

⊕ Fostering RE Manufacturing Industry

↳ RE R&D Roadmap



↳ RE Innovation Cluster



⊕ Fostering Distributed Power Industry

- ↳ Creating a New Market for Aggregating Small-scale Distributed Power
- ↳ Expanding RE + ESS integration

⊕ Fostering DSM Industry with 4th Industrial Revolution Technology

- ↳ Establishing 'Smart E-Market' :
Web/App-based platform for Big data(RE, EE, Power consumption, etc.) service
- ↳ Creating & Spreading V2G(Vehicle to Grid) service : Biz model utilizing EV as 'Mobile ESS'



KIREC Seoul 2019 in Korea

* Korea International Renewable Energy Conference

Date & Venue Oct 23rd ~ 26th, 2019 / COEX Seoul, KOREA

	DAY1	DAY2	DAY3	DAY4
Morning	Opening & Keynote speech			
	Climate Week 2019			
	High-level Round Table - Innovation for Energy Transformation - Accelerating the Global Energy Transformation: Scaling up of RE investment	Parallel Sessions - Regional RE Trends - Market Investment - Policy & Regulation - Climate Change - EE + RE Integration	Parallel Sessions - The 4th Industrial Revolution - Energy New Biz - Sectoral RE Trends - Energy efficiency and RE - Hydrogen Society - Digitalization	Technical & Cultural Tours
Afternoon	Parallel Sessions - Global Stakeholder's Cooperation			
Evening	Welcome Reception	Gala Dinner	Closing & Farewell Dinner	

* Tentative schedule



Korea's Renewable Energy **3020** Plan

Thank you

