EGEEC 65 and EGNRET 63 Join Meeting
Host Economy Presentation

19 November, 2025 | Korea Energy Agency

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1. Energy Consumption Status in Korea

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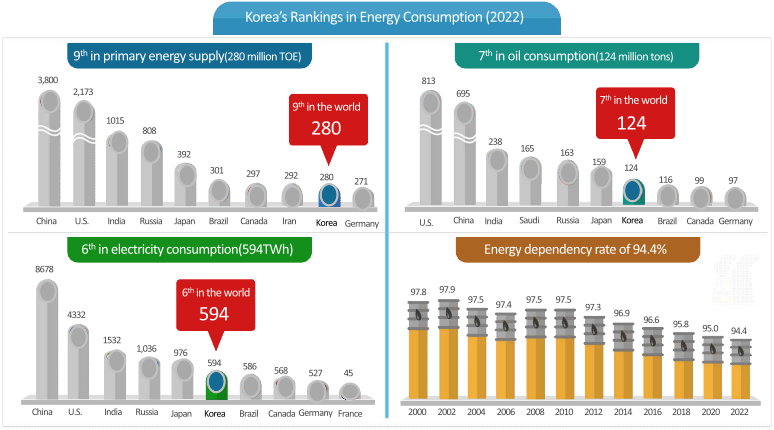

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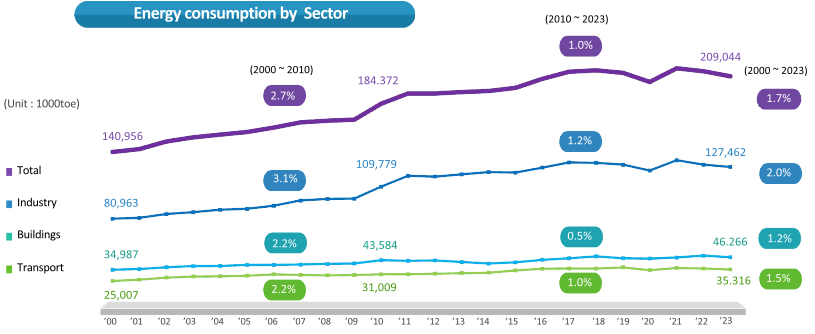
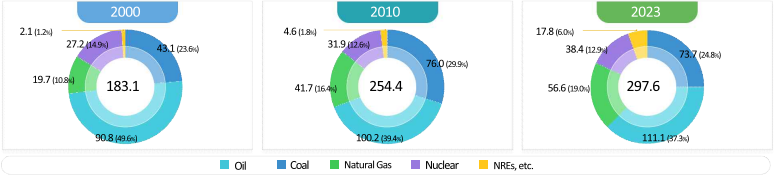


1. Energy Consumption Status in Korea

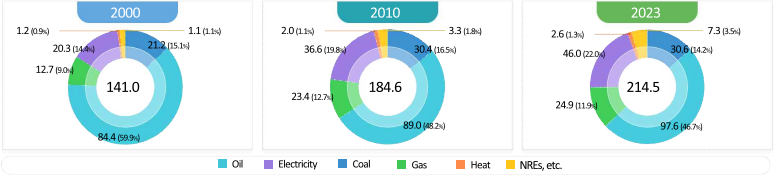
Primary energy supply by source

(Unit: mil. TOE)



Final energy consumption by source

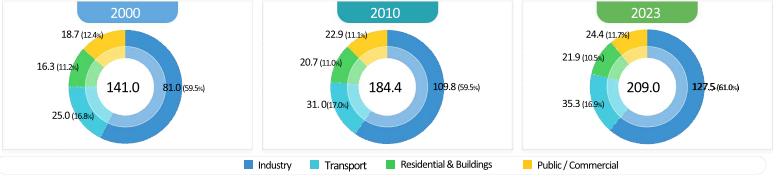
(Unit: mil. TOE)



1. Energy Consumption Status in Korea

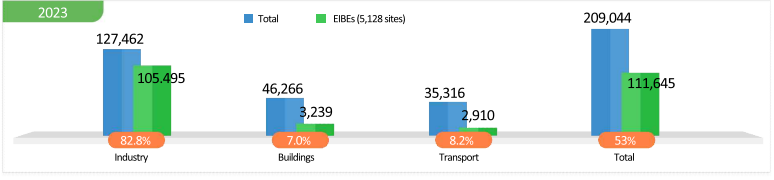
Energy consumption by sector

(Unit : mil. TOE)



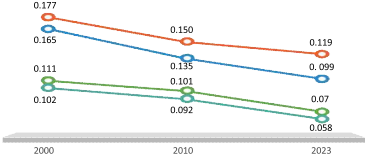
[Note] Energy-Intensive Business Entities

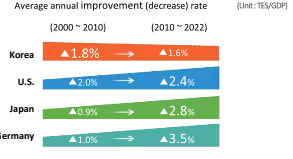
(Unit : 1,000 TOE)



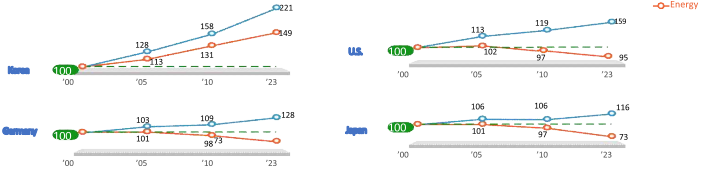
1. Energy Consumption Status in Korea

Trends in energy intensity of major countries





Trends in GDP and energy decoupling of major countries



1. Energy Consumption Status in Korea

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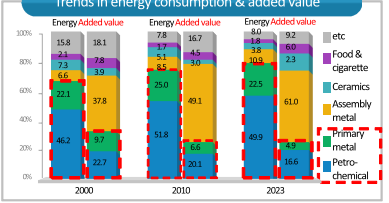
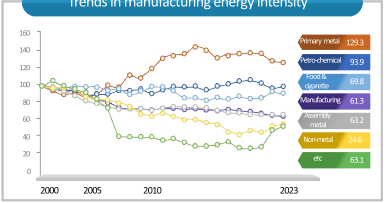
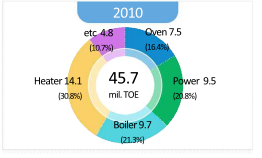
Industrial Increased consumption by energy-intensive industries

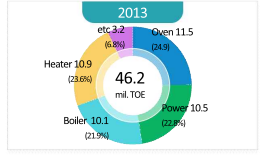
Trends in energy consumption & added value

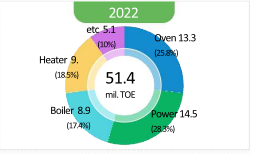


Trends in manufacturing energy intensity









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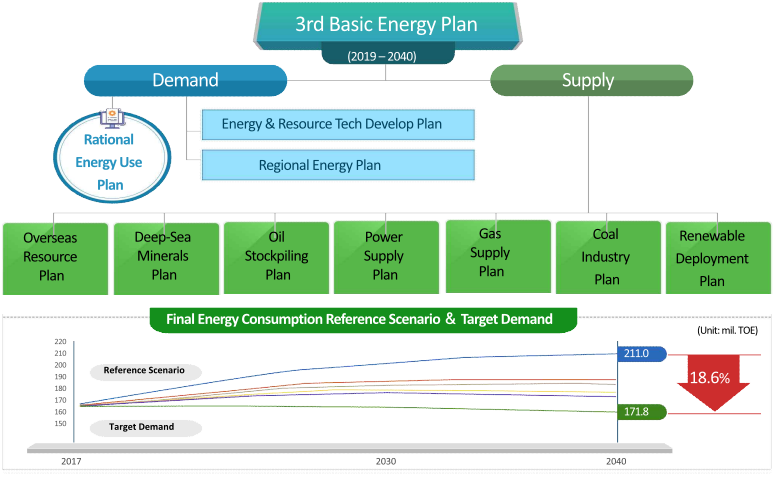

1. Energy Consumption Status in Korea

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Rational Energy Use Plan
(2020 – 2024)

01 Expand efficiency investment & enhance local government's EE

02 Real-time monitoring & bottom-up demand management

03 Improve efficiency management system

Efficiency

☑ Boost efficiency investment
- ① Support promising energy-saving projects
- ② Create investment market via mandates
- ③ Strengthen energy service companies (ESCOs)

☑ Local government-led efficiency
- ④ Delegate audit & improvement authority to local govs
- ⑤ Support tailored improvements via local networks

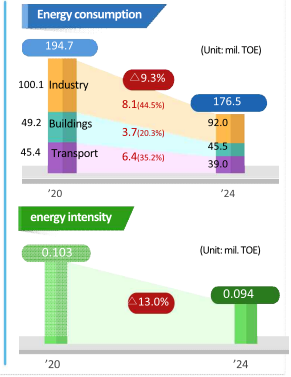
Demand Mgmt

☑ Digitalize demand management with data
- ⑥ Foster new business with real-time data
- ⑦ Build data-driven policy feedback system
- ⑧ Advance strategic R&D using data
- ⑨ Expand citizen participation in demand management

System Reform

☑ Promote efficiency
- ⑩ Establish new value chain via appliance efficiency standards
- ⑪ Strengthen facility mgmt through energy-use plan system
- ⑫ Enhance demand mgmt in public institutions

Energy Reduction Target



2. Changes in Korea’s Renewable Energy Policy

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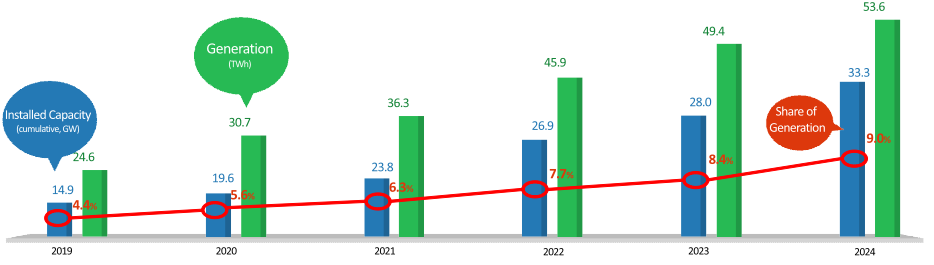


New Deployment by Renewable Source

Category	2019		2020		2021		2022		2023		2024		cumulative
Solar PV	3,375	88%	4,070	87%	3,946	94%	2,629	84%	2,797	91%	3,149	96%	**27,096**
Wind	92	2%	124	3%	72	2%	184	6%	258	8%	97	3%	**2,248**
Others	383	10%	486	10%	160	4%	326	10%	15	0%	31	1%	**3,916**
Total	3,850	100%	4,680	100%	4,178	100%	3,141	100%	3,070	100%	3,277	100%	**33,260**

2. Changes in Korea's Renewable Energy Policy

Renewable energy Share of Electricity Production (2023)

	Korea	USA	China	EU
Total renewable	**7.8%**	**21.6%**	**30.1%**	**30.1%**
Solar PV	63.1%	22.3%	20.5%	20.3%
Wind	7.2%	44.3%	31.2%	39.3%
Hydro	7.8%	25.6%	43.3%	27.1%
Bio	21.0%	5.4%	4.9%	12.4%
Others	0.9%	2.0%	0%	0.5%

* IRENASTAT Online Data Query Tool

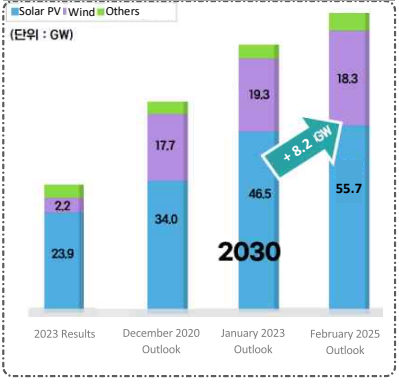
2. Changes in Korea's Renewable Energy Policy

		First (Feb. 2001)	Second (Dec. 2003)	Third (Dec. 2008)	Fourth (Sep. 2014)	**Fifth (Dec. 2020)**
Policy Period		2001~2003	2003~2012	2009~2030	2014~2030	2020~2034
Goal	Primary Energy Share	2% by 2003	5% by 2011	11% by 2011	14.3% by 2030	13.7% by 2034
	Electricity Share	-	7% by 2011	7.7% by 2030	21.6% by 2030	25.8% by 2034
Key Polices		Introduction of Renewable Energy Feed-in Tariff (FIT) (2002) Mandatory Installation for Public Institutions (2004)	Expansion of Government Solar Deployment (100,000 homes)	Renewable Portfolio Standard (RPS) Announced (2012)	Korea's FIT Introduction Announced (2017)	Establishment of Fixed-Price Long-Term Auctions Strengthening the Framework for Renewable Energy Use (RE100)
Significance of the Policies		Fist Plan with Proposals for New Schemes, including FIT	Mid-term Plan Proposing New Deployment and Infrastructure Programs	Linking Detailed Scenarios to the Master Plan Proposal for Strengthening Market Functions	Public-Private Partnership-Based Market Development Incorporation of Energy Transition Vision	Acceleration of Transition to a Low-Carbon Economy and Society

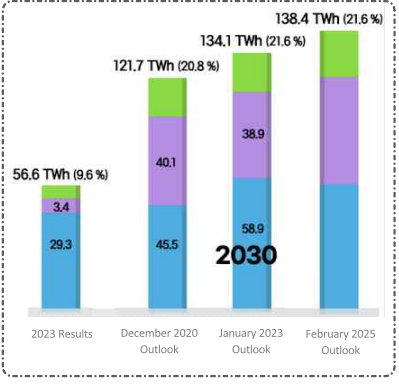
2. Changes in Korea's Renewable Energy Policy

Adjustment Holistic Consideration of Potential, Grid, and Policy Factors → Upward Revision of Solar and Wind Deployment Outlook

Renewable Energy Deployment Outlook (Commercial, Cumulative)



Renewable Energy Power Generation Outlook (Commercial)



2. Changes in Korea's Renewable Energy Policy

Goal	Long-term, structured RE expansion for carbon neutrality & energy security
Direction	Gov't-led deployment, stronger industry competitiveness, improved market system

1 Build robust offshore wind ecosystem	• Planned offshore wind rollout led by gov't • Strengthen competitiveness across supply chain • Ensure stable operation of offshore wind farms
2 Orderly solar PV expansion	• Strategic deployment by site type (industrial, farmland, etc.) • Grid-aware, orderly new capacity entry • Support for stable supply chains & technology
3 Market system transition for new era	• RPS reform for structured, gov't-led deployment • Promote PPAs & voluntary RE market
4 Support overseas market entry	• One-stop support (tentative RE Overseas Council) • G2G cooperation: top-down development & phased support

2. Changes in Korea's Renewable Energy Policy

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KOREA ENERGY AGENCY

Objectives	Inclusive Politics	**Global Innovation Economy**	Inclusive, Balanced Growth	Strongly Based Society	National Interest-Based Security Policy
Strategies	1. Advancing AI Leadership, 2. Robust Science and Technology Foundation, 3. Innovating for an Industrial Renaissance, **4. Accelerating Sustainable Energy Transition for Climate Action**, 5. Innovating Financial Mechanisms				

National Tasks

38. Establishing Energy Infrastructure as the Backbone of Economic Growth

39. Energy Transition Centered on Renewables

40. Achieving Carbon Neutrality for a Sustainable Future

2. Changes in Korea's Renewable Energy Policy

한국에너지공단 KOREA ENERGY AGENCY

Objectives

Boosting Renewable Industry Competitiveness via Expansion and Reform

Establishing Balanced Regional Growth through Solar · Wind Expansion, and RE100 Industrial Zones

Expanding Renewable Energy

1. Updating and Executing 2030 Renewables Target Roadmap (78GW)

- Fast-tracking Wind Farm Deployment via Site Discovery and Permitting
- Diversifying Solar Sites across Industrial · Agrivoltaic · Public Land, Municipal Properties
- Diversifying Renewables with Tidal and Ocean Thermal; Coal Phase-Out by 2040

Improving Renewable Energy Policies

1. Gradually Transitioning Renewable Deployment into Contract Markets

2. Streamlining Permitting Processes

- Government-Led Site Planning with Streamlined Permitting and Assessment Reforms

3. Pursuing Regulatory Reforms Including Setback Relaxation·Elimination

Enhancing Industrial Competitiveness

1. Accelerating Next-Gen Solar Commercialization

2. Developing Offshore Wind Turbine Components and Technologies

3. Built Installation Vessels and Dedicated Ports

Regional Co-Benefits

1. Boosting Local Income via Solar · Wind Dividends and Energy Independence

- Enhancing Public Acceptance by Fostering One-Stop Renewable Service Companies

RE100 Industrial Complex

1. Creating Localized RE100 Zones in Renewable-Rich Areas

- Introducing Special Act with Innovative Incentives
- Promoting Distributed Models and Renewable Pricing to Attract Businesses
- Enhancing Livability and Infrastructure to Attract Investment and Talent

Expected Outcomes

- Strengthening Energy Security and Exporting Renewables through Energy Transition
- **Developing RE100 Complexes as Regional Growth Hubs and Enhancing Competitiveness of High-Tech Firms**

3. Global Trends in Energy

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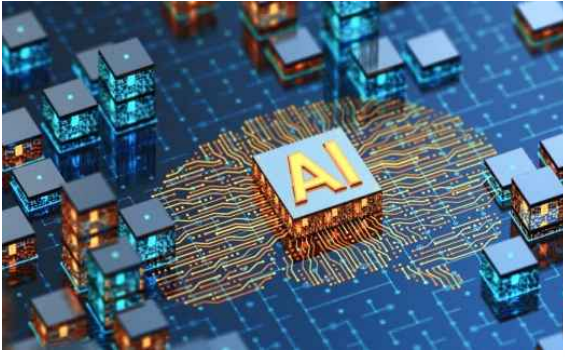
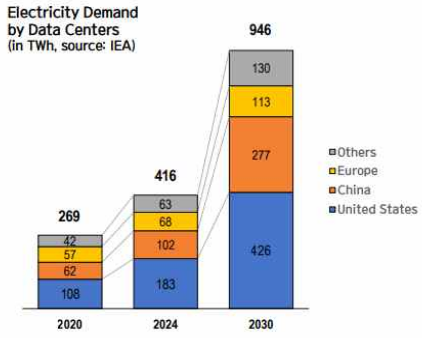
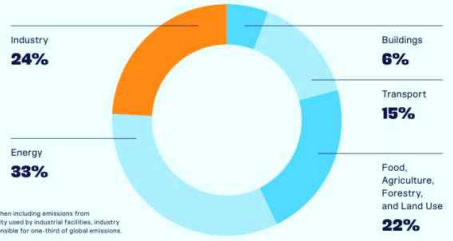




3. Global Trends in Energy

Greenhouse Gas Sources

Emissions from industry contribute about one-quarter of total global emissions, and are projected to increase significantly without intervention.



Note: When including emissions from electricity used by industrial facilities, industry is responsible for one-third of global emissions.

Electricity used by the buildings and industry sectors are included in the energy sector.

Source: Intergovernmental Panel on Climate Change Sixth Assessment Report, Climate Change 2022: Mitigation of Climate Change

3. Global Trends in Energy

Thank you