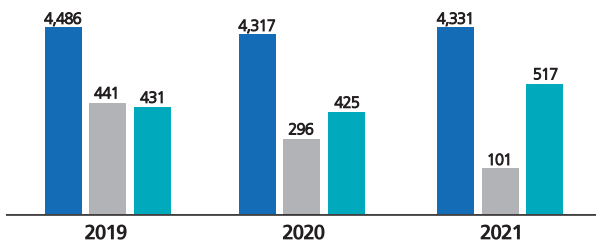




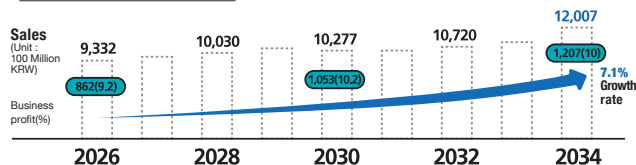
Business Performance and Goal

3-year performance

■ Revenue ■ Operating profit ■ R&D investment
(unit: KRW/bil)



Mid/long-term Goal



Stable Expansion of Business Domain

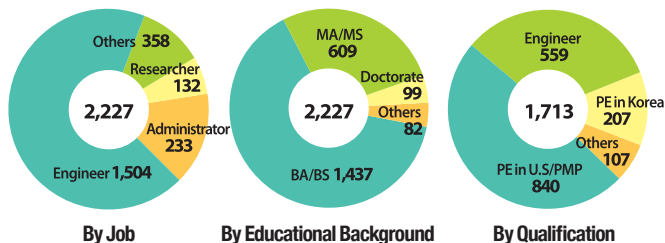
- Focusing on sales of key businesses and overseas expansion
- Securing stable growth and future business sales

Global Advancement

- Seeking balanced growth of business portfolio
- Securing continuity of orders of overseas nuclear power plants
- Building Foundation for Global Business

Human Resource

(September 30, 2022)



Study Hard and Work Diligently

In the late 1970s, KEPCO E&C forged a technological alliance with global leading companies and made all-out efforts to introduce advanced technologies.

Lay the foundation for technological independence by introducing advanced technology

- ▶ During the period 1978~1985, KEPCO E&C sent engineers to **Bechtel**, the largest construction and engineering company in the US.

OJP (On the Job Participation)

Beyond simple on-the-job training (OJT), "on-the-job-participation (OJP)" type lets the engineer actually participate in the design process on equal footing with Bechtel's engineers

- ▶ In keeping with the company's motto of "study hard and work diligently" KEPCO E&C allocated a huge amount of funds for R&D compared with the size of its business.

KEPCO E&C is expanding its global business based on unrivaled technologies and rich experience

Nuclear power plant

- ▶ Exported nuclear power plant to UAE
- ▶ Participated in International Thermonuclear Experimental Reactor (ITER) project
- ▶ Pre-Project Engineering(PPE) of SMART project

Thermal power plant

- ▶ EPC project of Takoradi T2 plant in Ghana
- ▶ EPC project of CIPREL in Cote d'Ivoire

* EPC stands for Engineering, Procurement, and Construction

Selected by renowned US engineering journal ENR

World's no. 1 for 4 consecutive years (2012-2015)
and World's no. 2 for 3 consecutive years (2016-2018)
in overseas sales of nuclear power plant engineering.



- Established to develop independent engineering technology for nuclear power plant (1975)
- First in Korea to be selected as major contractor of nuclear power plant (1987)
- Achieved technological independence by constructing Hanbit Units 3&4-
- Received EPI's "World's Top Power Plant Award" (1996)
- Received US Power Engineering's "World's Best Project Award" (2001)
- Participated in exporting Korean engineering technology for nuclear power plant for the first time (2009) (A/E & NSSS Design for UAE's nuclear power plant)
- Won EPC project to expand Takoradi T2 plant in Ghana (2011)
- Won EPC project to expand CIPREL in Cote d'Ivoire (2013)
- Won CMA(Construction Management-asAgent) service for ITER (2016)
- Signed LTEA(Long Term Engineering Agreement) relating to UAE BNPP (2018)
- Won Kori Unit 1 decommissioning engineering project (2018)
- Acquired the Design Certification of APR1400 from the US NRC (2019)
- Won EPC project for Jeju Hanlim Offshore Wind Farm (2021)



Technology for Earth, Energy for Human

KEPCO E&C





Naissance of KEPCO E&C

Established company to develop independent engineering technology for nuclear power plant

Oil crisis in the early 1970s

Seek independence of energy technology

Raised necessity of nuclear technology as energy source

Established company specializing in nuclear power plant engineering
Established Korea Atomic Burns & Roe, Inc.
: former form of KEPCO E&C (1975)

Center of power plant technology

Business owner

Secure safety / Guarantee credibility of equipment /
Fulfill delivery plan and adjust construction schedule /
Reduce project costs

Plan ▲ Test

Equipment company

Quality specifications
Delivery management

KEPCO E&C

Improvement, application, and integration of engineering, specification, and supervision technologies

Inspection
Process management

Construction company

Economic feasibility ▲ Commercialization

Production of scientific technology /
Research institution / Academic institution /
Self-development



Vision and Strategy

Mission

Harmony of
Human · Environment · Technology

Humaneering

Vision 2034

Technology for Earth, Energy for Human

Core Value



Humans



Technology



Future

Management Goals

Clean energy sales
of KRW 1 trillion

Overseas sales of
KRW 500 billion

Korean New Deal
goals 100%

Green new deal investment
of KRW 100 billion

Sales of
KRW 1.2 Trillion
in 2034

R&D commercialization rate 70%

R&D investment of
KRW 100 billion

ESG overall grade
A+

Employee satisfaction
95 points

Management Strategies

Focus on core competencies

Invigorating core and growth businesses

Business diversification

Advancement of future businesses

Advancement of the technology management system

Strengthening energy technology commercialization

Enhancement of corporate value

Building a sustainable management system



Safe, Clean Energy, Nuclear Power Plant

KEPCO E&C has continuously supported Korea in its bid to join the ranks of developed countries through the engineering technologies for cheap and safe Nuclear energy.

Operating 24 units in Korea
[Kori #1 Permanently Shutdown("17)] Capacity 22,529MW /
Accounting for 19.3% of domestic power energy production

Development Process of Nuclear Power Plant Technology

Period	Target reactor	Capacity	Features
1990s	OPR 1000	1000MW	- Develop & construct Korea Standard Nuclear Power Plant - Independence of engineering technology for nuclear power plant
	CANDU 6	700MW	- Achieves CANDU Design Technology selfreliance based on the OJP Program
2000-2010s	APR 1400	1400MW	- 3rd-generation advanced reactor - Main reactor for domestic construction - Reactor for export
2020s	APR+	1500MW	- Advanced reactor prioritizing safety and economic feasibility - Facilities for critical accidents - Strengthen passive safety - SC Modulization technique
2030s	Masterpiece Power Plant / SMART	1000 ~1500MW / 100MW	- Safe reactor to lead global market - Development of source technology for core elements before developing reactor model

Applications by Model

OPR 1000	- Constructed, operating 12 plants in Korea ▶ Hanbit Units 3,4,5,6 ▶ Hanul Units 3,4,5,6 ▶ Shin Kori Units 1,2 / Shin Wolsong Units 1,2
CANDU 6	- 4 plants in operation ▶ Wolsong Units 1, 2, 3, 4
APR 1400	- 5 under construction, 1 in operation ▶ Shin Kori Units 3,4,5,6 ▶ Shin Hanul Units 1,2 - 4 plants under construction abroad ▶ UAE barakah Units 1,2,3,4
APR+	- New nuclear power plants under developed
Masterpiece Power Plant	- Develop technologies for NuTech 2030 based on Comprehensive Promotion Plant for Nuclear Energy of KOREA * Develop source technologies for core elements of Masterpiece Power Plant
SMART	- System-integrated Modular Advanced Reactor(100MW) - Agreed to construct 2 Units in Saudi Arabia



Lead Clean, Highly Efficient Energy Technology

KEPCO E&C has secured globally competitiv engineering technologies for thermal power plant.

1000MW coal-fired thermal power plant

High efficiency and large capacity with ultra-super critical pressure

- ▶ Dangjin Units 9&10
- ▶ Shin Boryeong Units 1&2
- ▶ Taean Units 9&10
- ▶ Samcheok Units 1&2

800MW coal-fired thermal power plant

Thermal efficiency improved by raising steam temperature

- ▶ Yeongheung Units 1&2
- ▶ Yeongheung Units 3&4

500MW coal-fired thermal power plant

Korea's first super critical pressure power plant

- 34 units including
- ▶ Boryeong Units 3~8
- ▶ Taean Units 1~8
- ▶ Dangjin Units 1~8
- ▶ Hadong Units 1~8

IGCC(Integrated Gasification Combined-Cycle)

Clean coal technology Remove or reduce Pollutant emissions of fossil fuel

- ▶ Taean IGCC(380MW)

Economic Feasibility ↑

Environmentally Friendly ↑

Energy Efficiency ↑

Solution for Korea's stable electric supply & demand

KEPCO E&C is making a lot of efforts to develop and commercialize various renewable energies.

▶ Solar power, wind power, bio-energy, waste energy, marine energy, hydraulic power, etc.