

Humaneering KEPCO E&C

We are trying to harmonize
humanity, environment and engineering.



KEPCO
E&C

KEPCO
ENGINEERING & CONSTRUCTION
COMPANY, INC.

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Company Overview

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Korea's Leading Power Plant Engineering Company

- Korea's leading provider of design and engineering for nuclear, thermal and hydro-electric plants with 35 years of experience
- Current 100% market share in nuclear power plant design in Korea
- The world's most competitive engineering company specialized in the two sectors: A/E and NSSS
- Expanding its business to energy-related business, environment-friendly business, etc.

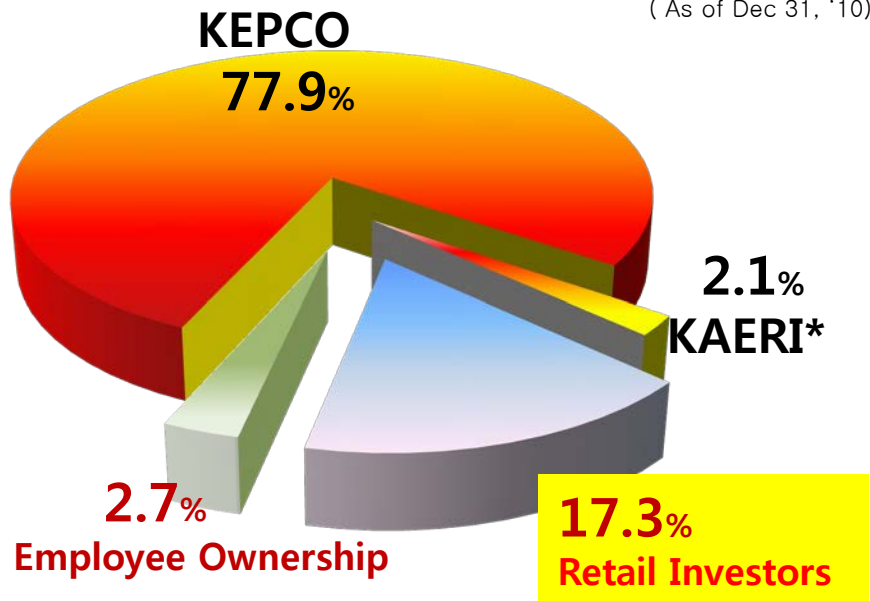
Corporate Information

CEO & President	An, Seung Kyoo (Former Vice Chairman, Hyundai Engineering)	Employees	2,041 (As of Feb 9, '11)
		Business Area	Power plant design & engineering, etc.
Foundation Date	October 1, 1975	Location	2354 Yonggudaero, Giheung-gu, Yongin-si, Gyeonggi-do, Korea
Listing Date	December 14, 2009	Homepage	www.kepco-enc.com



Listed on KRX [December 14, 2009]

Ownership



* Korea Atomic Energy Research Institute

IPO Information

Shares Outstanding (Common shares 100%)	38,220,000
Listing Date	December 14, 2009
Offered Securities	7,644,000 (20%)

Dividend

Year	2009	2010
Amount	₩1,081 /share	₩1,847 /share
Propensity to Dividend	50%	50%



Business Areas

Design & Engineering

- Nuclear Power Plant
- Thermal Power Plant
- Combined Cycle Power Plant
- Cogeneration Power Plant

O&M (Operations & Maintenance)

- Technology & Engineering Support for Operating Nuclear Power Plants

Environmentally-friendly Biz.

- FGD System / DeNOx System
- ESCO, Renewable Energy
- Water Pollution Control
- Wastewater Treatment Facilities

PM/CM

- SOC
- Private SOC
- Power Plants
- International Plants





KEPCO E&C has designed almost 60% of all Korea's power plants in terms of the generated output.

Nuclear Power Plant

• OPR1000

Power Plant	Construction Period (First Concrete-Commercial Operation)	Status
Yonggwang 3,4	'89.12~'95.03 / '90.06~'96.01	In Operation
Ulchin 3,4	'93.07~'98.08 / '93.11~'99.12	In Operation
Yonggwang 5,6	'97.06~'02.05 / '97.11~'02.12	In Operation
Ulchin 5,6	'99.10~'04.07 / '00.10~'05.04	In Operation

• OPR1000 +

Shin-Kori 1,2	'06.06~'10.12 / '07.06~'11.12	Under Construction
Shin-Wolsong 1,2	'07.12~'12.03 / '08.12~'13.01	Under Construction

• APR1400

Shin-Kori 3,4	'08.10~'13.09 / '09.10~'14.09	Under Construction
Shin-Ulchin 1,2	'11.03~'15.12 / '12.03~'16.12	Under Construction
UAE 1,2	'12.11~'17.05 / '13.11~'18.05	Under Construction
UAE 3,4	'14.11~'19.05 / '15.11~'20.05	Under Construction

• CANDU (PHWR)

Wolsung 1,2,3,4	'77.10~'99.10	In Operation
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■ In Operation

■ Under Construction

Thermal Power Plant

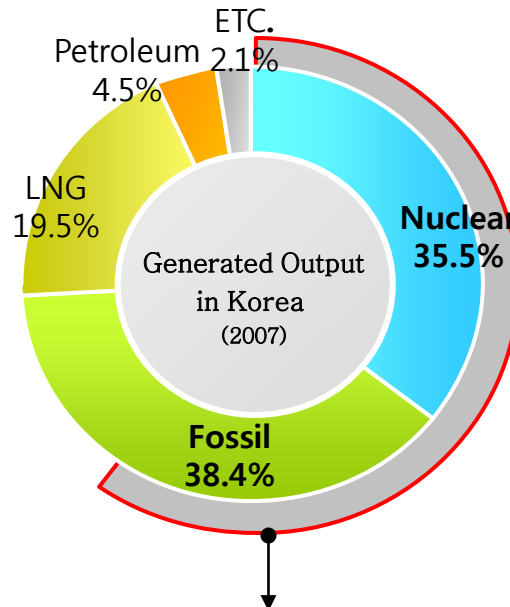
• Standard Coal Fired Power Plants

- 500MW : 34 Units ■
- 800MW : 4 Units ■
- 1000MW : 2 Units ■ (Dangjin #9,10)

• Large Scale CFB Coal Fired Power Plants

- 200MW : 2 Units ■
- 340MW : 1 Units ■ (Yosu #2)
- 1000MW : 2 Units ■ (Samchok Green #1,2)

• Cogeneration Power Plant, Combined Cycle Power Plant Design

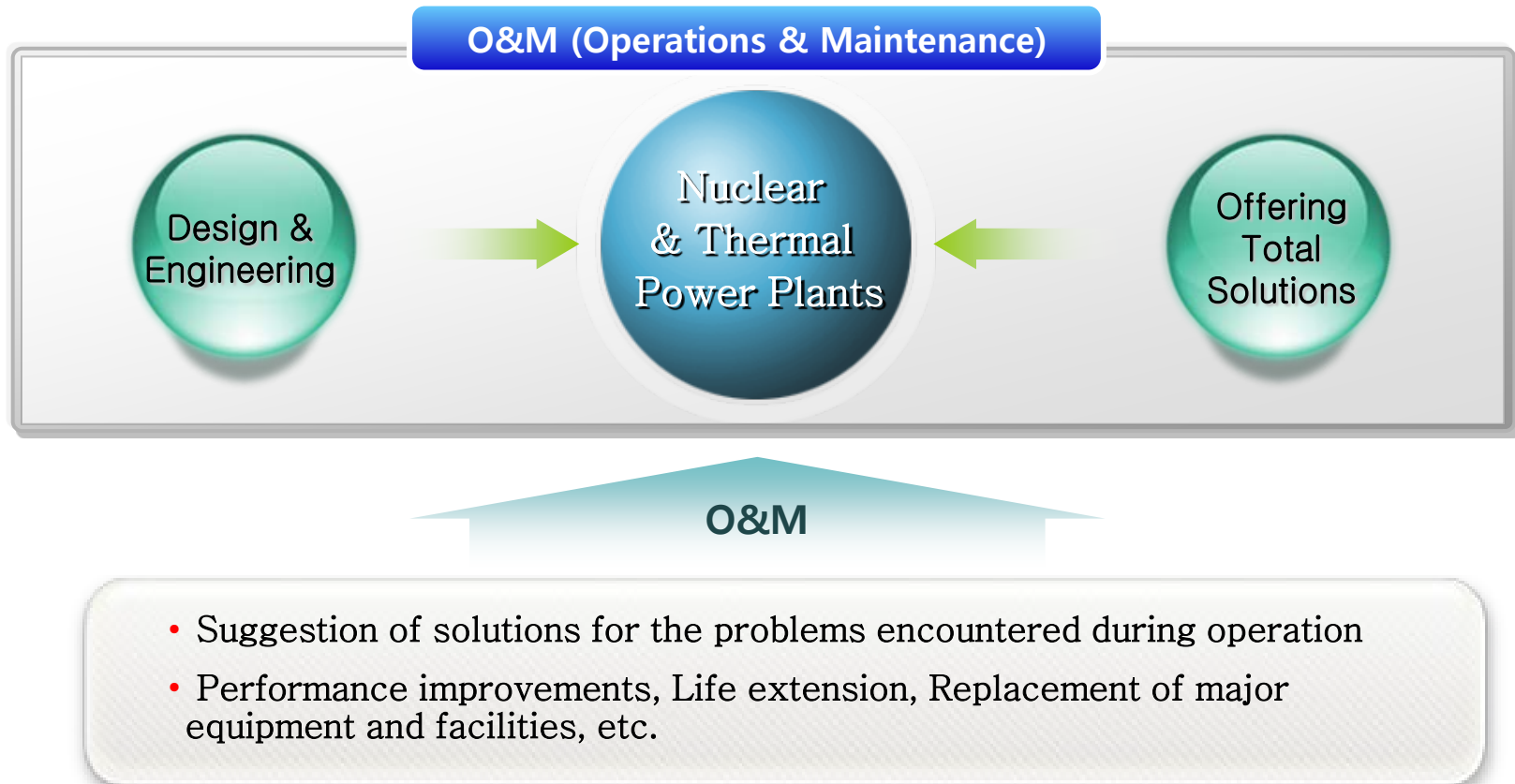


60% Designed by
KEPCO E&C

[Source: The Ministry of Knowledge Economy]

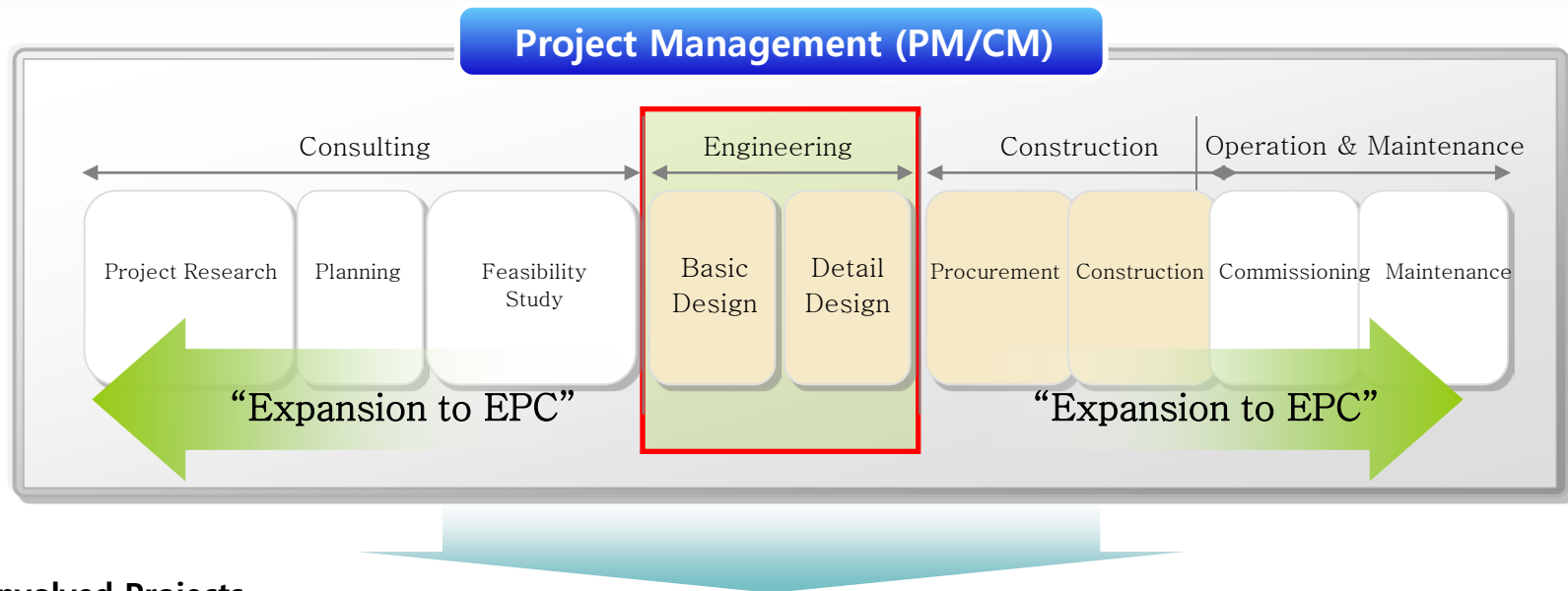


Contribution to the Improvement of the Operating Power Plants' Operability, Efficiency and Safety





Management of the Entire or Parts of a Construction Project (Consulting, Engineering, Construction, O&M , etc.)



• Involved Projects

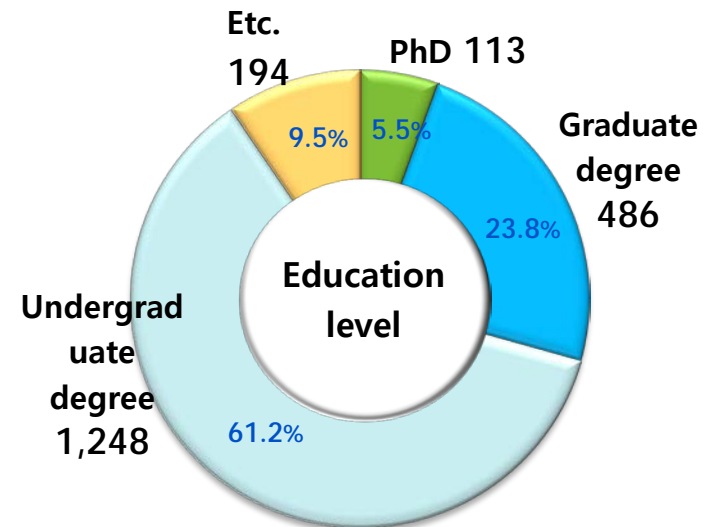
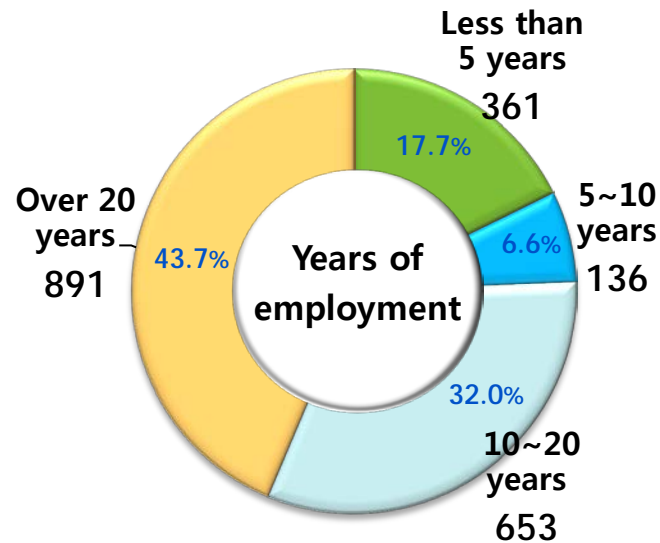
SOC		POWER PLANTS		PRIVATE SOC	
					
KTX Project	Incheon Int'l Airport	Nuclear	Thermal	Incheon Int'l Airport Rail	Bridge of Busan-Gejei

Manpower with Years of Accumulated Experience and Expertise in Plant Design and Technology Development

Experienced Workforce

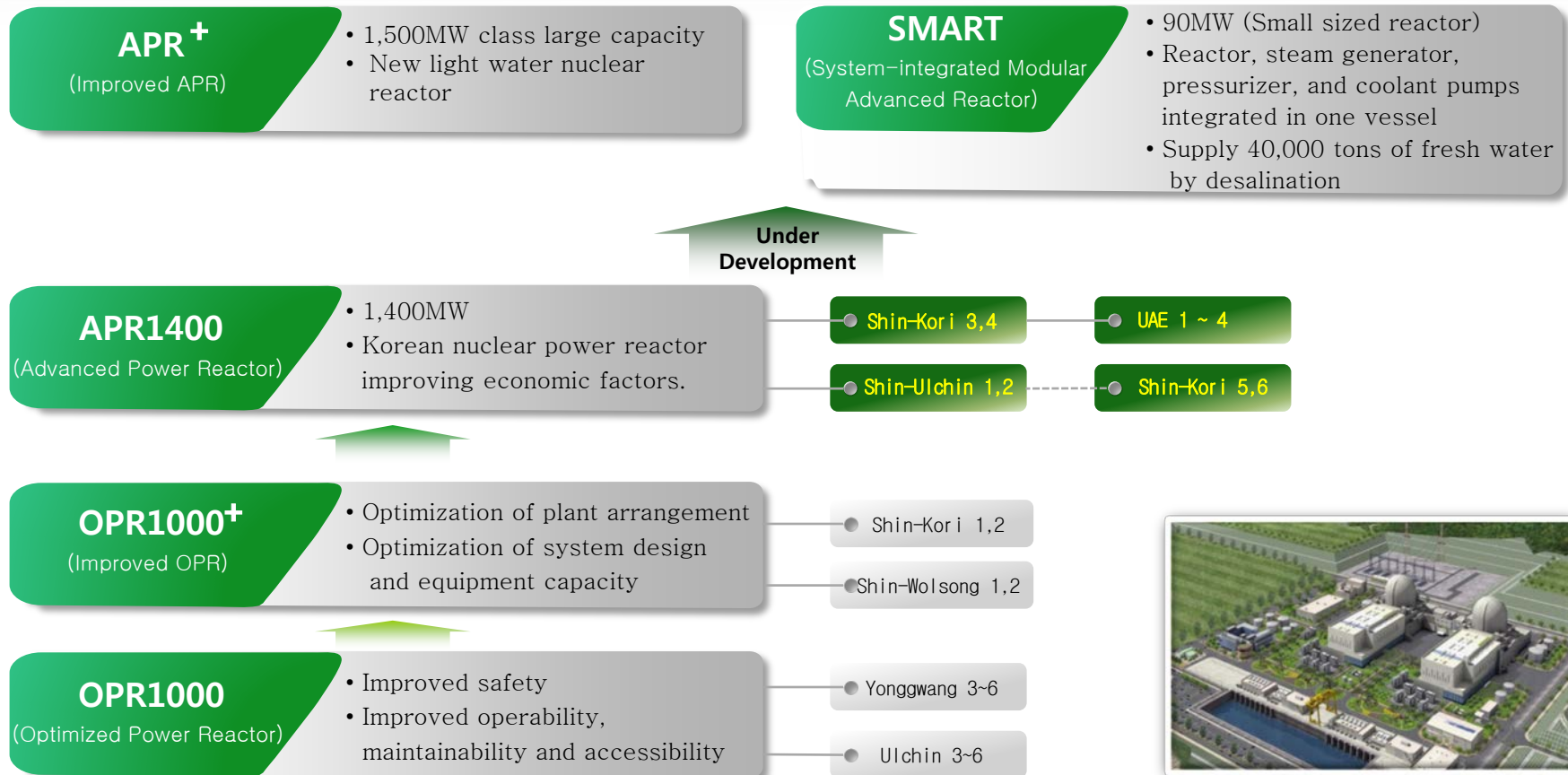
- 43.7% of the company's employees have performed various projects for over 20 years.
- In the past 20 years when the western countries reduced nuclear construction activities, we conducted nuclear power plant projects extensively and accumulated our technical know-how.

* Total employees: 2,041 (As of Feb.9, '11)





Reactor Design Development



Shin-Ulchin 1,2



APR1400 - The best safety, economic efficiency and operability

OPR1000		APR1400		EPR (France-Areva)	
Capacity (MWe)	1,000	Capacity (MWe)	1,400	Capacity (MWe)	1,600~1700
Design Life Time	40 Years	Design Life Time	60 Years	Design Life Time	60 Years
Seismic Design Basis	0.2g	Seismic Design Basis	0.3g	Seismic Design Basis	0.25g
Refueling Interval	12~18 Months	Refueling Interval	18 Months	Refueling Interval	18 Months
Construction Period	Over 60 Month	Construction Period	54 Months	Construction Period	57 Months
Construction cost	—	Construction cost (\$/Kw)	2,300	Construction cost (\$/Kw)	2,900



OPR 1000

[Digital MMIS]

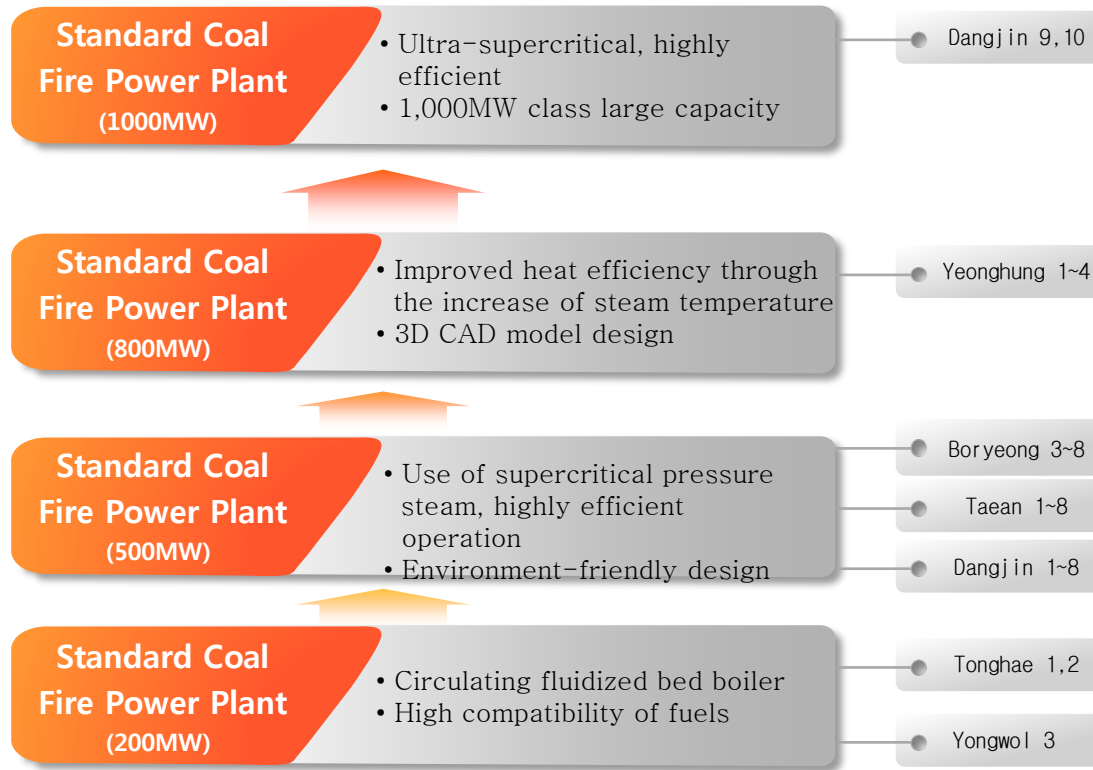


APR 1400

<Source : www.apr1400.co.kr ; Comparison with other reactors>



Coal-Fired Power Plant Design Development



- **Dangjin #1~4- World Best Project Awarded**
〈US, Power Engineering, 2001〉



- **Boryeong #3,4 – World Best Project Awarded**
〈US, Electric Power International, 1996〉



2020 Vision: Global Top 5 EPC Leader!

2020 VISION

Global Power EPC Company with Technology for Customer Value

Strengthen Total Solution Segment.

- Expanding EP(CM)
- Expanding Thermal Power Plant EPC Projects
- Expanding Total Solutions for Green Industry
- Expanding O&M

Advance into the Global Market.

- Laying Basis for Overseas Projects
- Focusing on Overseas Projects in All the Business Areas
- Differentiating Approach to Overseas EPC Projects

Develop Sustainable Technologies.

- Securing Next-generation Nuclear Power Plant Technology Tailored to Exports
- Developing Plant/Green Technologies
- Bolstering R&D

**Goals
by 2020**

**Revenue
5 Trillion**

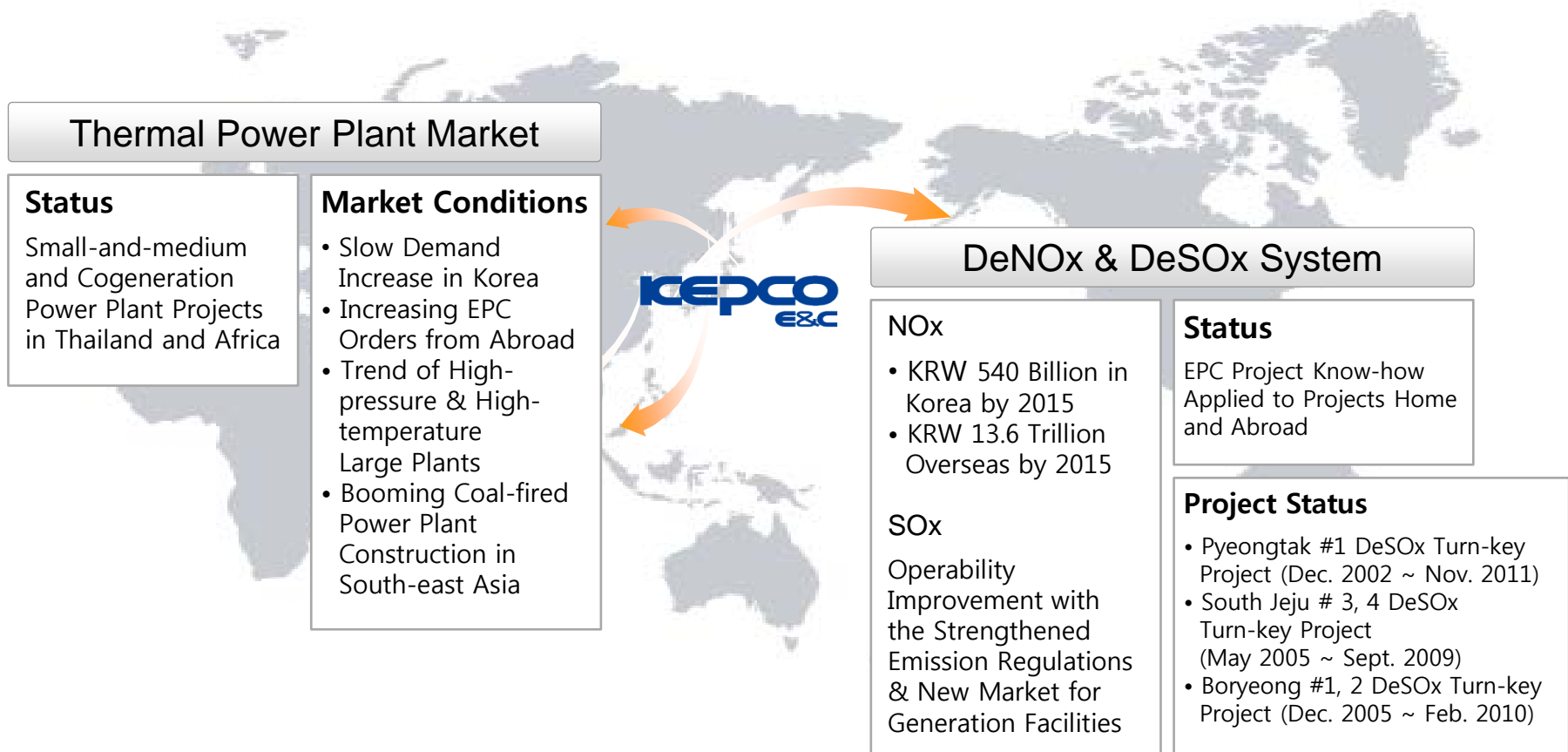
**EPC Revenue
4 Trillion**

**Global Revenue
3 Trillion (won)**



Developing Overseas EPC Projects toward Global Top 5 Power EPC Leader

Strategy 1





Developing Overseas EPC Projects toward Global Top 5 Power EPC Leader

Strategy 2

Green Business

Status

- Wind Power Plant Complex in Jeju under Way
- Wind Power Plant Complex in Central Asia under Way
- ESCO Projects in the existing NPPs under Positive Review

ESCO Project Status

- Youngdong 1 ESCO Project for Fuel Supply System (Feb. 2009 ~ Present)
- Bundang Combined Cycle Phase 2 ESCO Project (April 2009 ~ December)
- Ilsan Combined Thermal 1 ~ 6 HRSG ESCO for Heat Exchanger Installation (May 2009 ~ Present)

Renewable Energy Market Conditions

- Global \$77.3 billion ('07) → \$254.5 billion ('17)
- Korean KRW 1.9 trillion ('08) → KRW 6.4 trillion ('30)



O&M Market

Nuclear

- Additional Construction Orders Expected for the 20 NPPs in Operation in Korea for Continuous Operation and Replacement of Old Major Equipment
- 439 NPPs in Operation Overseas; O&M Market Expected to Grow

Thermal

- Increased Performance-improving Projects for Continuing Operation of the Existing Plants and Reducing the Cost
- Increasing Old Plant Facilities outside Korea

Status

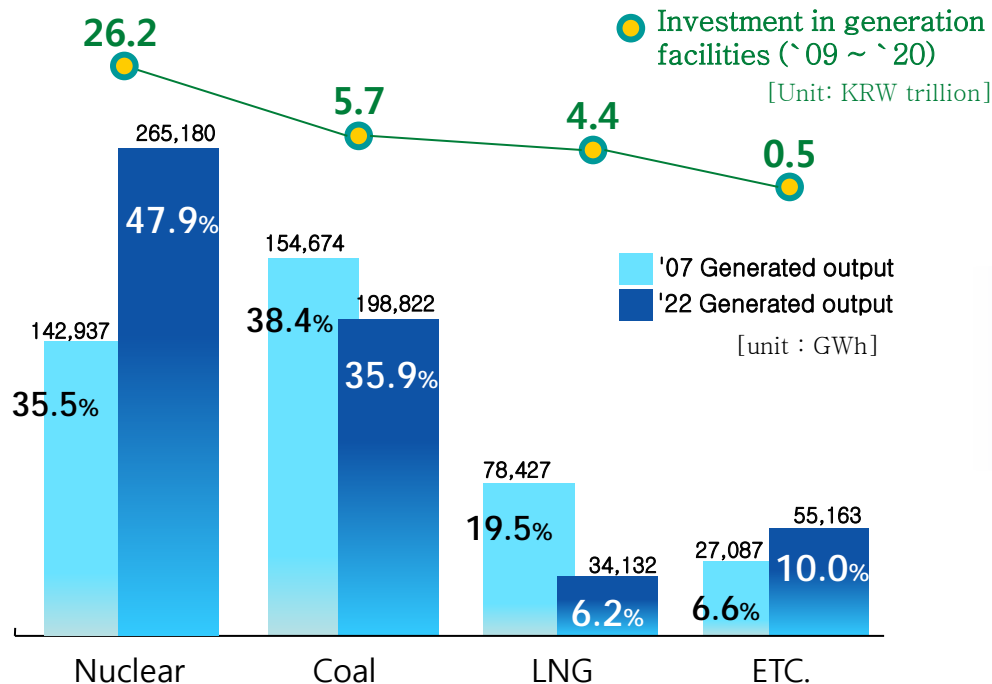
Steady Movement from Conventional Engineering into EPC



Korean Government's Focus on Nuclear Energy

The 4th Basic Plan of Long-term Electricity Supply

Outlook of Generated Output & Investment Cost



[Source: The Ministry of Knowledge Economy]

Timeline for Completion of nuclear power plant construction ('13 ~'22)





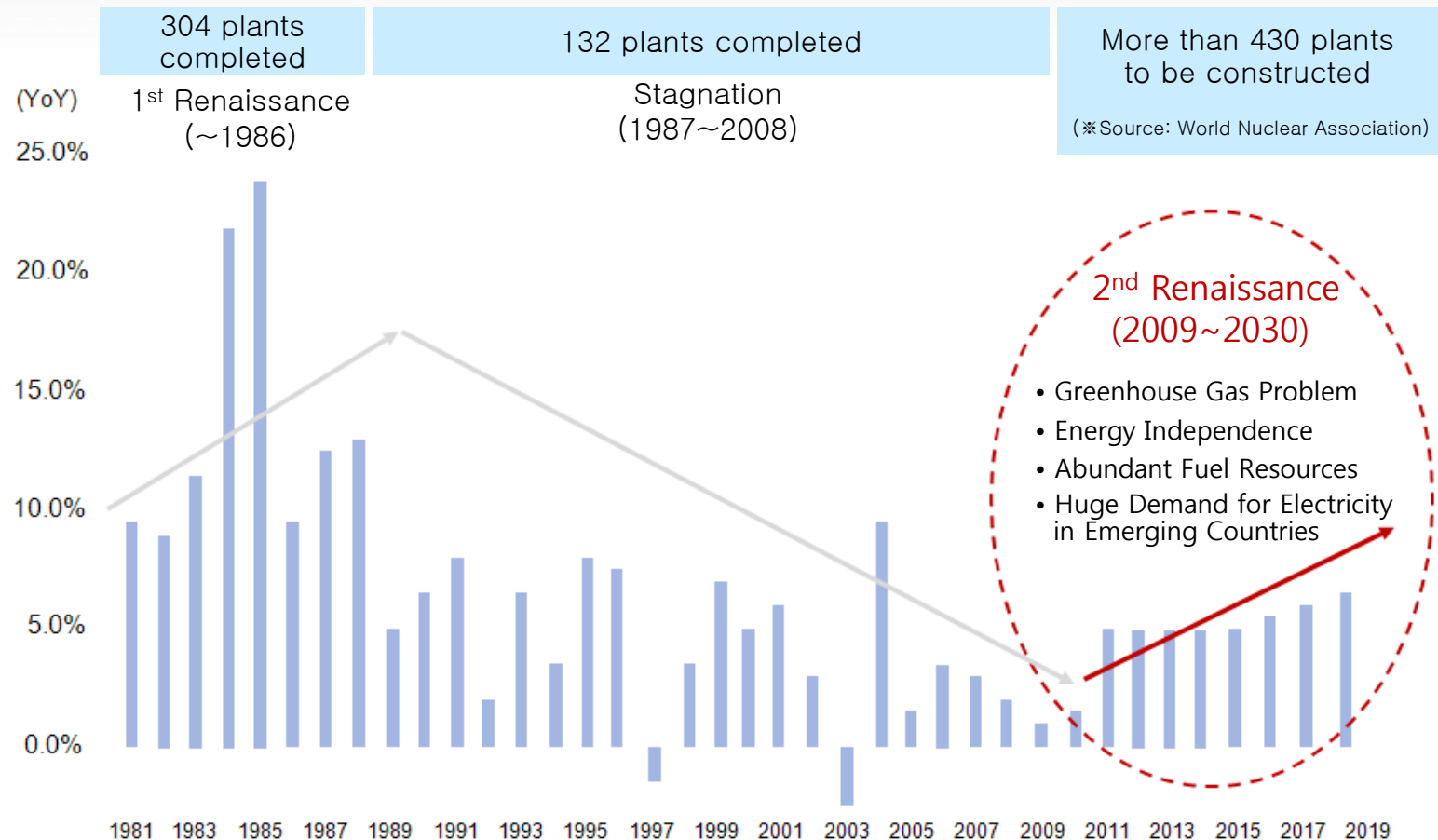
The O&M market is growing
due to the old operating nuclear power plants.

Domestic Operating Nuclear Power Plants (20 units)

Plant		Capacity (MW)	Commercial Date	NSSS Supplier	Plant A/E	Model
Kori	#1	587	78.04.29	WEC	Gilbert	
	#2	650	83.07.25	WEC	Gilbert	
	#3	950	85.09.30	WEC	Bechtel/KEPCO E&C	
	#4	950	85.04.29	WEC	Bechtel/KEPCO E&C	
Wolsung	#1	679	83.04.22	AECL	AECL	
	#2	700	98.07.01	AECL/DOOSAN	AECL/KEPCO E&C	
	#3	700	98.07.01	AECL/DOOSAN	AECL/KEPCO E&C	
	#4	700	99.10.01	AECL/DOOSAN	AECL/KEPCO E&C	
Yonggwang	#1	950	86.08.25	WEC	Bechtel/KEPCO E&C	
	#2	950	87.06.10	WEC	Bechtel/KEPCO E&C	
	#3	1,000	95.03.31	DOOSAN	KEPCO E&C	OPR1000
	#4	1,000	96.01.01	DOOSAN	KEPCO E&C	OPR1000
	#5	1,000	02.05.21	DOOSAN	KEPCO E&C	OPR1000
	#6	1,000	02.12.24	DOOSAN	KEPCO E&C	OPR1000
Ulchin	#1	950	89.09.10	Framatome	Framatome	
	#2	950	88.09.30	Framatome	Framatome	
	#3	1,000	98.08.11	DOOSAN	KEPCO E&C	OPR1000
	#4	1,000	99.12.31	DOOSAN	KEPCO E&C	OPR1000
	#5	1,000	04.07.29	DOOSAN	KEPCO E&C	OPR1000
	#6	1,000	05.04.22	DOOSAN	KEPCO E&C	OPR1000



Beginning of the Second Renaissance in the Nuclear Industry

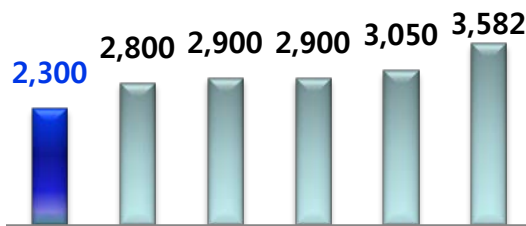




Why APR1400?

The World's Most Economical and the Safest Reactor

Cost of Building Nuclear Power Plant (\$/Kw)

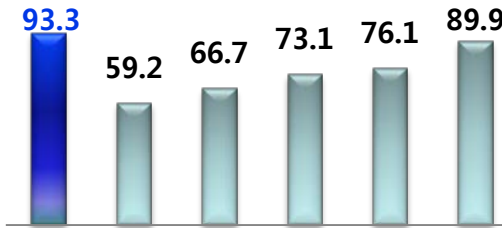


Korea* Canada France Japan Russia U.S.

*APR1400

※ *World Nuclear News*
(World Nuclear Association, 2008)

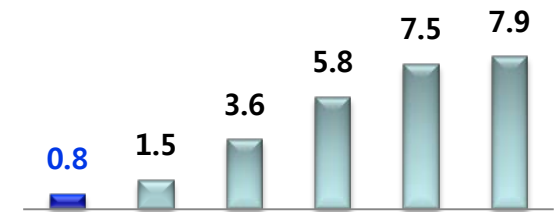
Using Rate of Nuclear Power Plant (%)



Korea Japan Canada Russia France U.S.

※ *Nucleonics Week*, March 2009

Unplanned Capacity Loss Factor (%)



Korea U.S. German France Canada Japan

※ *IAEA Power Reactor Information System*,
March 2009

Financial Overview



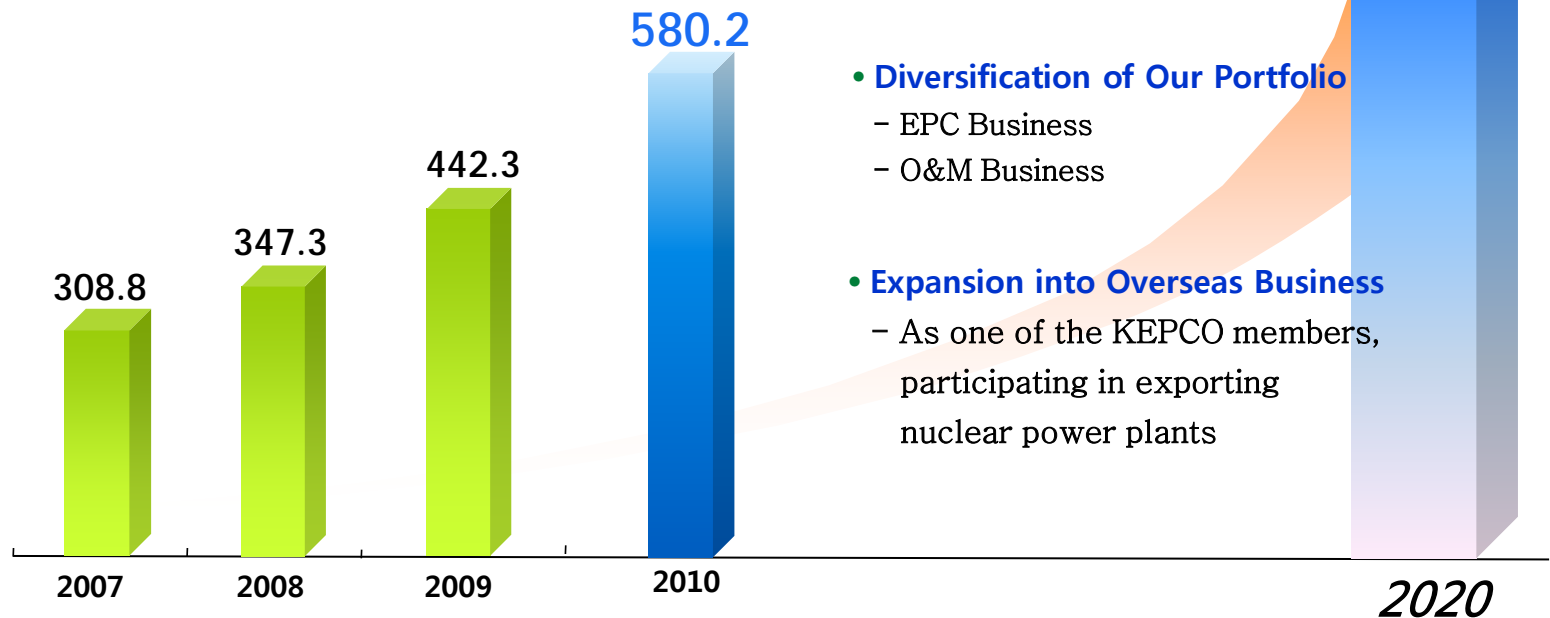
KRW 580.2 Billion for the 2010 Sales,
31.2% Increase Year on Year

Sales

Global Top 5 Power EPC Leader

5000 KRW bn.

[Unit: KRW bn.]



Financial Overview

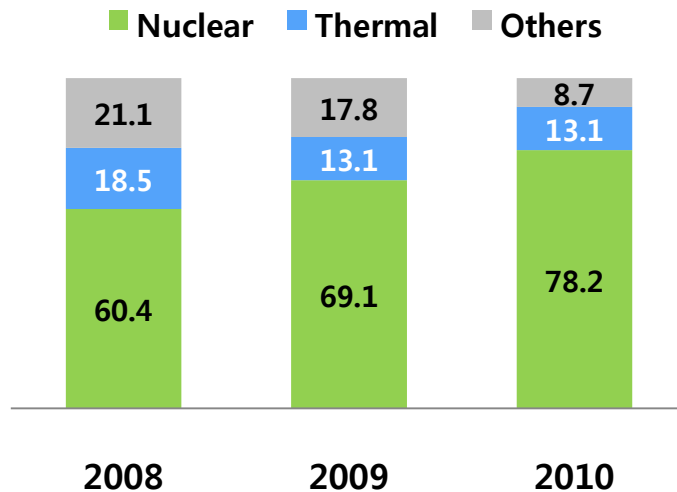
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Sales Breakdown

[Unit: % of Revenue]



Sales Analysis

- Revenue increased largely thanks to the rising revenue of nuclear power plant design business and the initiation of UAE project.
- The increase in revenue led to rapid growth of the operating income
 - Stable operating expenses
(by the government control to raise the wage and the efforts to cut down the operating expenses)

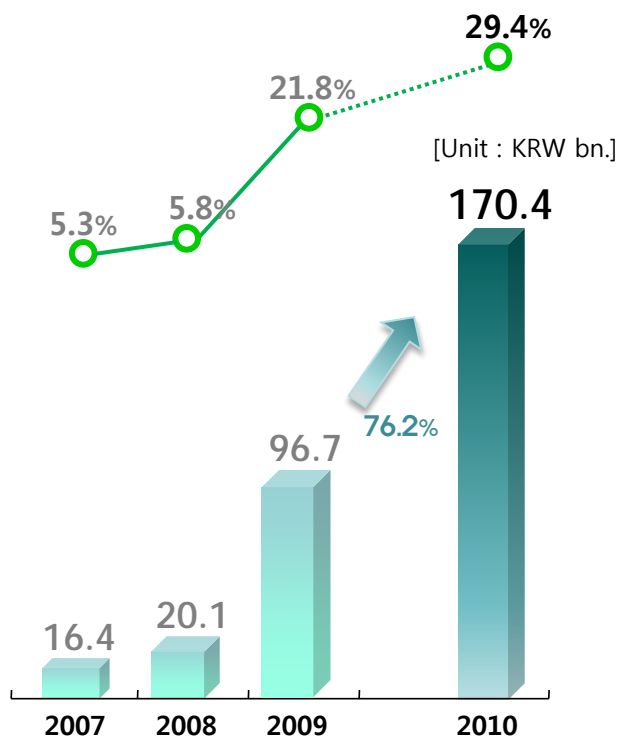
Financial Overview

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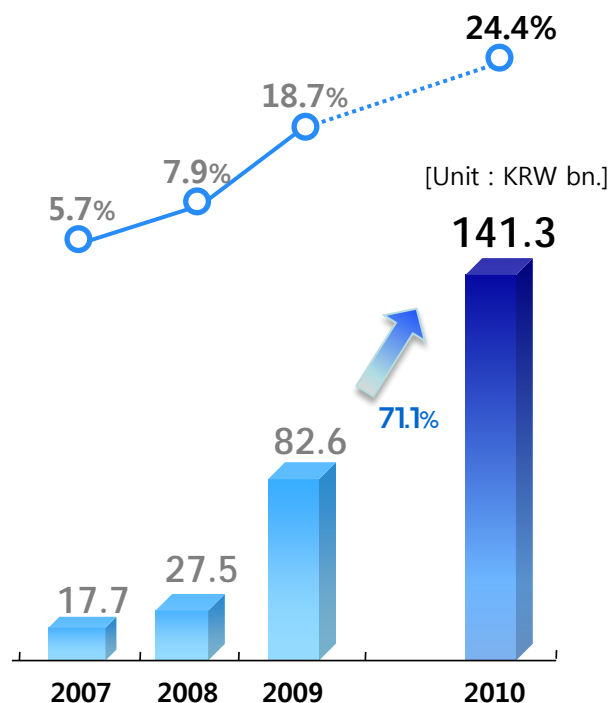
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Operating Profit / Margin



Net Income / Margin



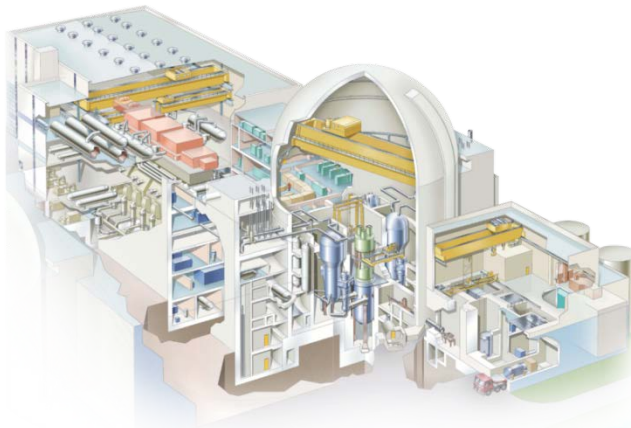
2010 4Q Overview

[Unit: KRW bn.]

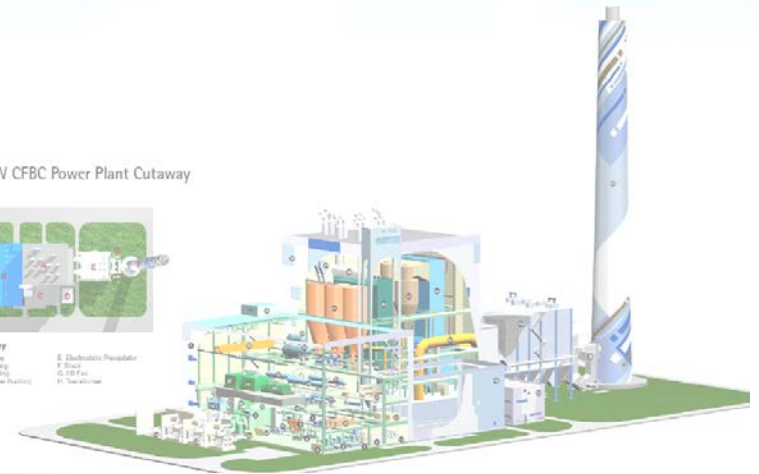
	2010 4Q	2010 3Q	2009 4Q
Revenue	187.3	120.4	129.0
Operating Income	50.6	35.4	23.1
Net Income	43.2	29.1	16.5



Vision 2020 – Global TOP 5 Power EPC Leader



200MW CFBC Power Plant Cutaway



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