



Investor Relations

Global Power EPC Company

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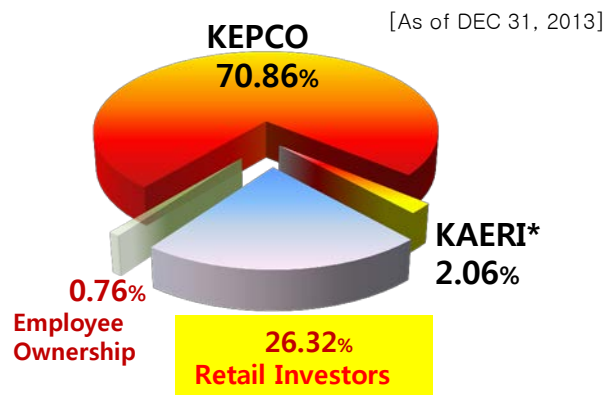
Korea's Leading Power Plant Engineering Company

- Korea's leading provider of design and engineering for nuclear, thermal and hydro-electric plants with over 38 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 Thermal EPC, energy-related business, environment-friendly business, etc.

Corporate Information

CEO & President	Park, Koo Woun <ul style="list-style-type: none"> • Former nuclear power advisor, POSCO E&C • Former Senior Vice President, KEPCO E&C
Foundation Date	October 1, 1975
Employees	2,326 (As of SEP. 30, 2013)
Business Area	Power plant design & engineering, etc.

Ownership



IPO Information

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

Dividends

[Unit : KRW]

FY	2009	2010	2011	2012
Dividend Propensity*	50%	50%	70%	55%
Amount (per a share)	1,081	1,847	2,126	1,932

* KAERI - Korea Atomic Energy Research Institute

* Dividend Propensity – Dividend/Net Income *100



Business Areas

• Design & Engineering

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

• Environmentally-friendly Biz.

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



• O&M (Operations & Maintenance)

- Technology & Engineering Support for Operating Power Plants

• PM/CM

- SOC
- Private SOC
- Power Plants
- International Plants

Business Area – Design & Engineering

All of the local nuclear power plants have been independently designed by KEPCO E&C since 1993, Ulchin Unit 3.

Nuclear Power Plant

Services performed

- Site selection and feasibility survey
- Engineering and design
- Construction/Project management, licensing support, quality assurance and inspection
- Support for purchasing, owner support, education/training



Major Project Experience

• Projects in Progress

Reactor	Project	Project Period	Client
APR 1400	UAE #1,2,3,4	Jan '10 ~ May '20	KEPCO
	Shin-Ulchin #1,2	Dec '07 ~ Dec '16	KHNP
	Shin-Kori #3,4	Aug '06 ~ Sep '14	KHNP

• Projects Completed

Reactor	Project	First Power	Design
OPR 1000+	Shin-Wolsung #1,2	2012 / 2014	KEPCOE&C
	Shin-Kori #1,2	2011 / 2012	KEPCOE&C
OPR 1000	Ulchin #5,6	2004 / 2005	KEPCOE&C
	Yonggwang #5,6	2002 / 2002	KEPCOE&C
	Ulchin #3,4	1998 / 1999	KEPCOE&C
	Yonggwang #3,4	1995 / 1996	KEPCOE&C-WEC
CANDU PHWR	Wolsung #3,4	1998 / 1999	AECL-KEPCOE&C
	Wolsung #2	1997	AECL-KEPCOE&C
	Wolsung #1	1983	AECL-CANATOM

*KHNP – Korea Hydro & Nuclear Power co. LTD. (The sole nuclear power plant operator in Korea)

*WEC – WestingHouse Electric.

*AECL – Atomic Energy of Canada Limited

*CANDU PHWR – CANada Deuterium Uranium Pressurised Heavy Water Reactor

Technology – Nuclear Power Plant



Korean Nuclear Power Plant Design Development

OPR 1000
Optimized Power Reactor

- Improved Safety
- Improved Operability, Maintainability and Accessibility
- Yonggwang Units 5,6
Ulchin Units 3~6

OPR+
Improved OPR

- Optimization of plant arrangement
- Optimization of system design and Equipment capacity
- Shin-Wolsong Units 1,2
Shin-Kori Units 1,2

APR 1400
Advanced Power Reactor

- 1,400MW Class large capacity
- A Korean nuclear power reactor improved economic factor
- Shin-Kori Units 3,4
Shin-Ulchin Units 1,2
BNPP(UAE) Units 1~4

Under Development

APR 1400 (For Europe)

APR+
Improved APR

- 1,500MW
- New light water nuclear reactor

APR 1400 (US NRC DC*)

SMART
System-integrated Modular Advanced Reactor

- 90MW
- Reactor, steam generator, pressurizer & coolant pumps integrated in one vessel

VHTR
Very High Temperature Reactor

SFR
Sodium Cooled Fast Reactor

1990s - GEN. III

• The Competing Reactors

2010s - GEN. III+

2020s - GEN. IV

France AREVA EPR1600	USA WH-Toshiba AP1000	Japan Mitsubishi APWR+	Russia ASE VVER-1500
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* US NRC DC: United States Nuclear Regulatory Commission Design Certification

※ All of the reactors in this box are PWR type reactors.

Strength of Korean Nuclear Power Plants

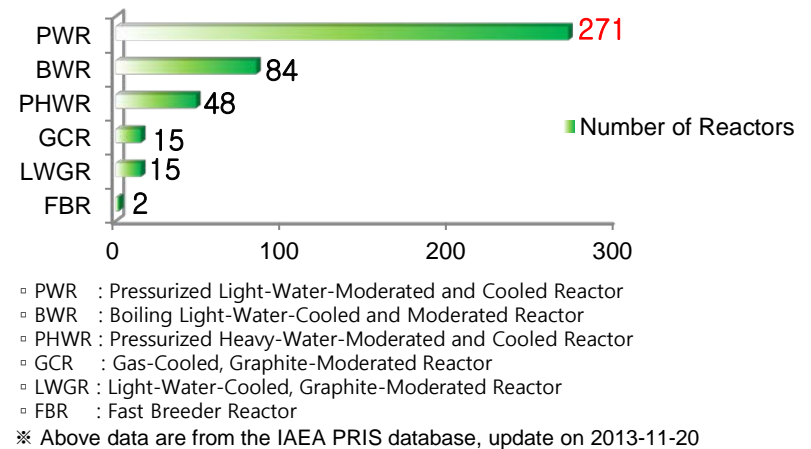


APR1400 - The best reliability, economic efficiency and operability

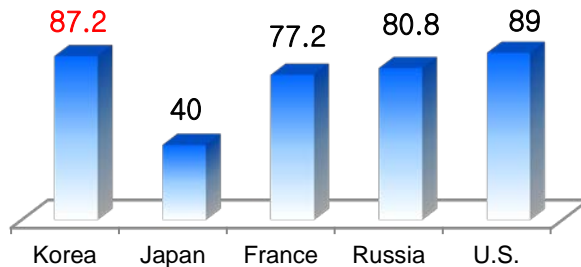
Comparison with other reactors (※ www.apr1400.com)

	APR1400	AP1000	EPR	ABWR
Developer	KHNP	WH/ Mitsubishi	Framatome ANP	Hitachi/ Toshiba/ GE
Power Capacity (MWe)	1,400	1,100	1,600 – 1,700	1,300
Design Life (Year)	60	60	60	60
Construction Period (month)	48	36	57	48
Refueling Time (month)	18	18~24	18	18~24
Reactor Type	PWR	PWR	PWR	BWR

Operational Reactors by type in the world



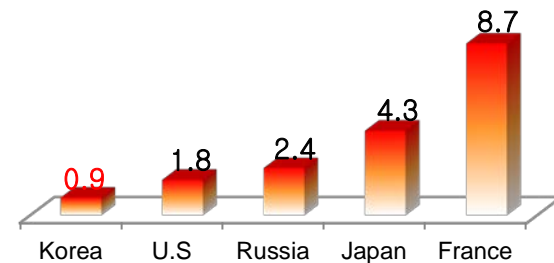
Energy Availability Factor(%)



▪ EAF = (REG-PEL-UEL-XEL)/REG x100
 ▫ REG : Reference Energy Generation ▫ PEL : Planned Energy Loss
 ▫ UEL : Unplanned Energy Loss ▫ XEL : External Energy Loss

※ IAEA PRIS (Power Reactor Information System), A three-year average (2010~2012)

Unplanned Capacity Loss Factor(%)



※ IAEA PRIS (Power Reactor Information System), A three-year average (2010~2012)

Market Opportunities

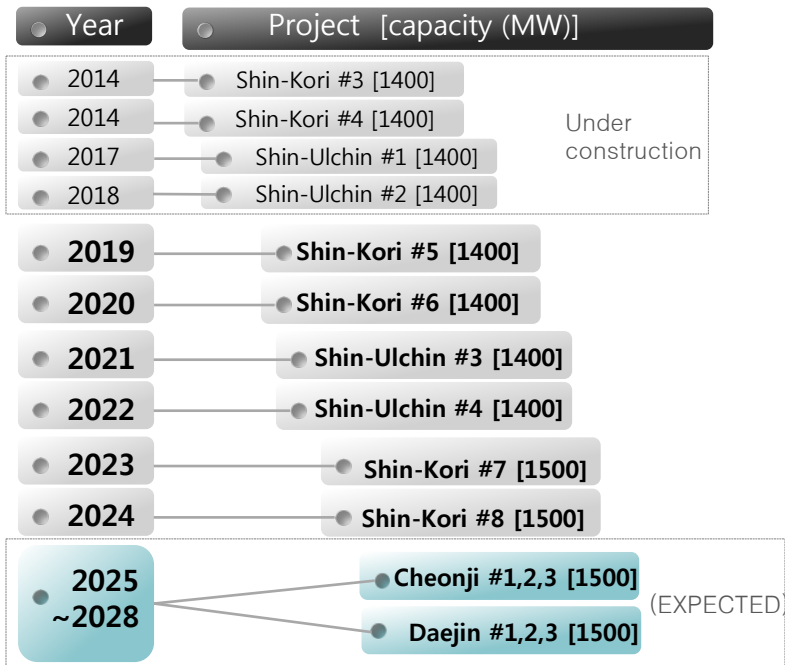


Focus on New Opportunities at Home & Abroad

Growth of Nuclear Power

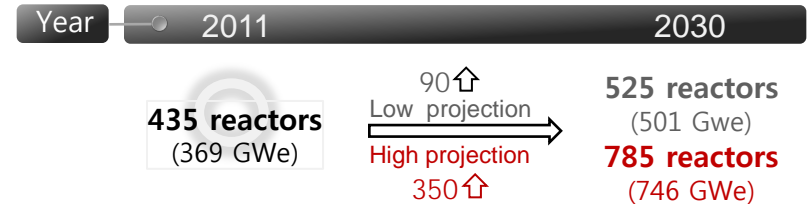
• Domestic

*Timeline for Completion of Nuclear power plant construction ('13~'24)

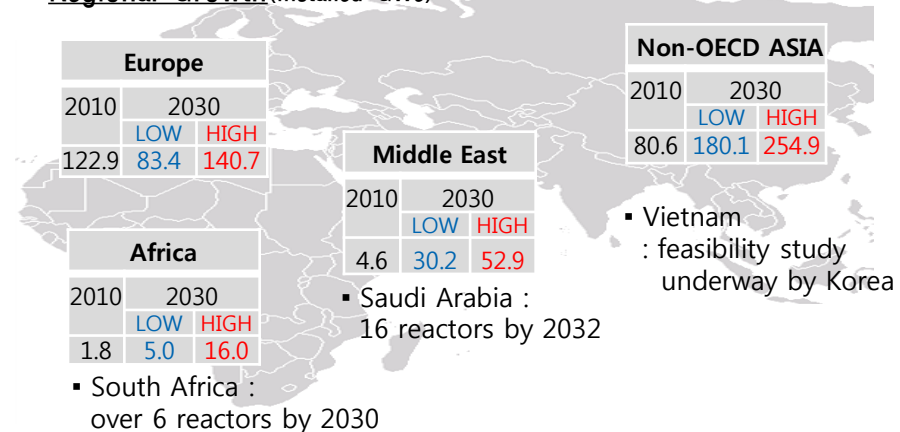


• Overseas

*Projected Growth for World Nuclear Power



*Regional Growth(Installed GWe)



*This timeline is based on "The 6th Basic Plan of Long-term Electricity Supply" of The Ministry of Knowledge Economy, Feb, 2013

(Source : IAEA Nuclear Technology Review 2012 ; World Nuclear Association country briefings)

Business Area – Design & Engineering

Experiences of Coal fired/ CFBC Coal fired/ Combined Cycle/ Cogeneration Design

Thermal Power Plant

Services performed

- Feasibility studies, environmental impact assessments, site survey
- Design standardization, basic and detail design of construction work
- Support for the purchase of equipment and materials
- Project management, supervision, test operation
- Quality assurance and control support
- Preparation, review and approval of documentation



Major Project Experience

• Projects in Progress

Capacity (MW)	Project	Project Period	Client
400	Osan cogeneration EPC	Apr '13 ~ Nov '15	DS Power
540	Cote d'Ivoire IV CCPP Add-on EPC	Jul '13 ~ Dec '15	CIPREL
340	Ghana Takoradi T2 EPC	Dec '11 ~ Oct '14	Takoradi Int'l Company
1000x2	Taeon #9,10	Jun '11 ~ Mar '17	Korea Western Power
150 x3	Turkey Turfanbeyli (Including Procurement)	Apr '11 ~ Feb '15	SK E&C
1000x2	Shin-Boryeong #1,2	Jan '11 ~ Sep '17	Korea Midland Power
350 x2	Morocco Jorf Lasfar	Jun '10 ~ Apr '14	Daewoo E&C
1000x2	Dangjin #9,10	Oct '07 ~ Sep '16	Korea East-West Power
1000x2	Samchok #1,2	Sep '09 ~ Mar '16	Korea Southern Power
300	Taeon *IGCC Pilot Plant	Apr '11 ~ Jul '16	Korea Western Power

• Projects Completed

■ Coal Fired Power Plant

- 500MW 34 Units
- 800MW 4 Units

■ Large Scale *CFB Coal Fired Power Plant

- 200MW 2 Units
- 340MW 1 Unit

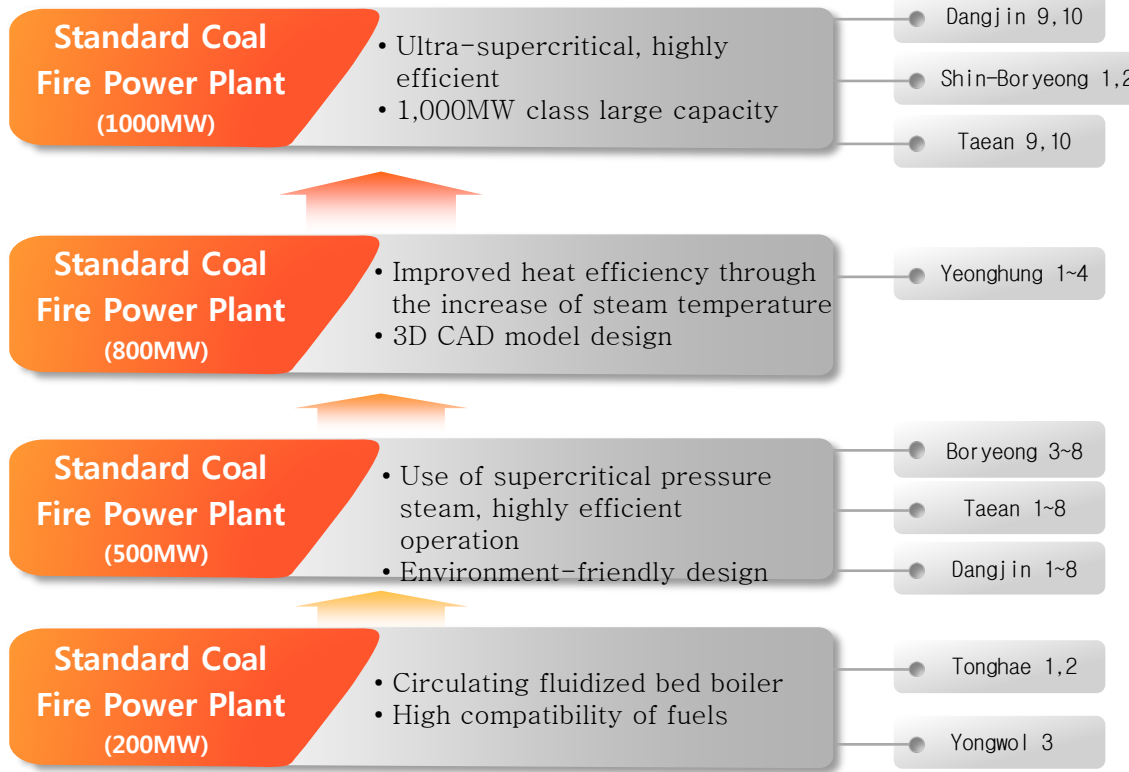
■ Combined Cycle /Cogeneration ▪ 38 Units

*IGCC - Integrated Gasification Combined Cycle
(Producing electricity by burning coal gas regarded as clean as natural gas)

* CFB - Circulating Fluidized Bed Combustion Boiler

Technology – Thermal Power Plant

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>

Business Area – O&M

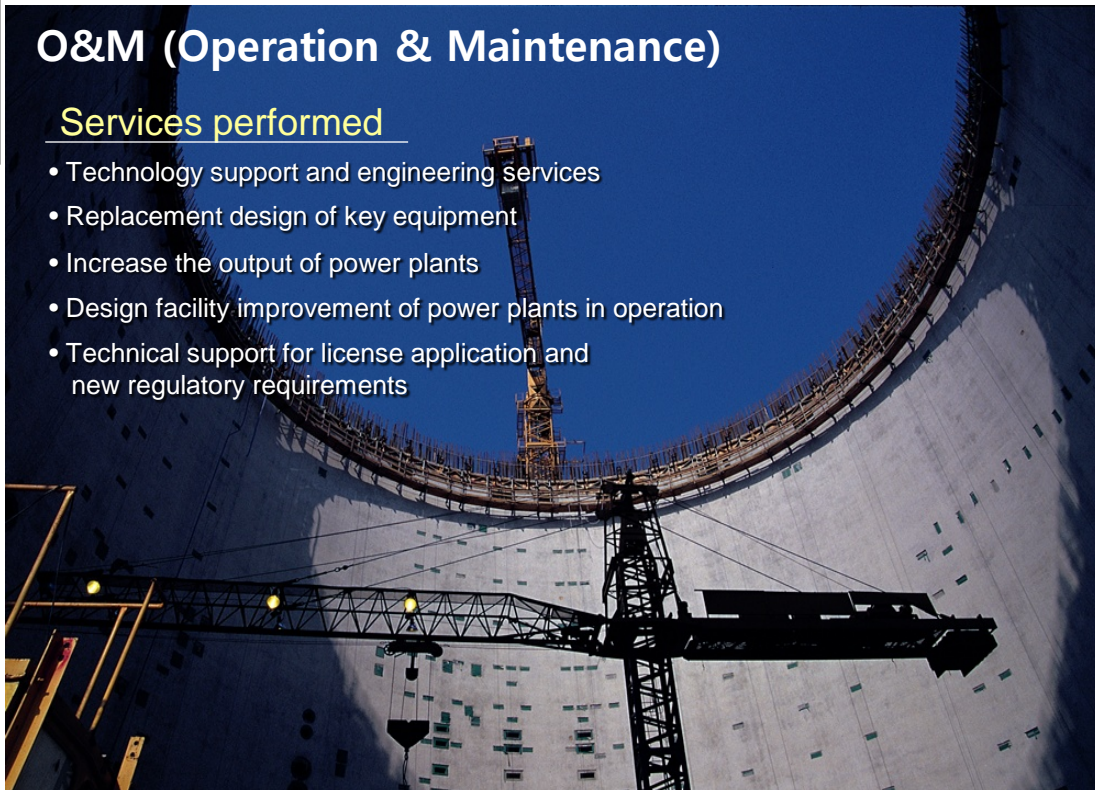


Contribution to the Improvement of the Operating Power Plants' Operability, Efficiency and Safety

O&M (Operation & Maintenance)

Services performed

- Technology support and engineering services
- Replacement design of key equipment
- Increase the output of power plants
- Design facility improvement of power plants in operation
- Technical support for license application and new regulatory requirements



Major Project Experience

• Recent Projects

- Technical support for license application to replace the steam generator for Unchin #1,2
- Technical consulting for license application to increase the output for Ulchin #1,2
- Improvement of facilities at Yeosu #2
- hundreds of small projects are in progress

Business Area – O&M

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

• Domestic Operating Nuclear Power Plants (23 units)

Plant		Capacity (MW)	Commercial Date	NSSS Supplier	Plant A/E	Model
Kori	#1,2	587/650	Apr `78/ Jul `83	WEC	Gilbert	PWR
	#3,4	950	Sep `85 / Apr `85	WEC	Bechtel/KEPCO E&C	
Wolsung	#1,2	679 /700	Apr `83 / Jul `98	AECL/	AECL	PHWR
	#3,4	700	Jul `98 / Oct `99	AECL/DOOSAN	AECL/KEPCO E&C	
Yonggwang	#1,2	950	Aug `86 / Jun `87	WEC	Bechtel/KEPCO E&C	PWR (OPR1000)
	#3,4	1,000	Mar `95 / Jan `96	DOOSAN	KEPCO E&C	
	#5,6	1,000	May `02 / Dec `02	DOOSAN	KEPCO E&C	
Ulchin	#1,2	950	Sep `89 / Sep `88	Framatome	Framatome	PWR (OPR1000)
	#3,4	1,000	Aug `98 / Dec `99	DOOSAN	KEPCO E&C	
	#5,6	1,000	Jul `04 / Apr `05	DOOSAN	KEPCO E&C	
Shin-Kori	#1,2	1,000	Feb `11 / Jul `12	DOOSAN	KEPCO E&C	PWR (OPR1000+)
Shin-Wolsung	#1	1,000	Jul `12	DOOSAN	KEPCO E&C	



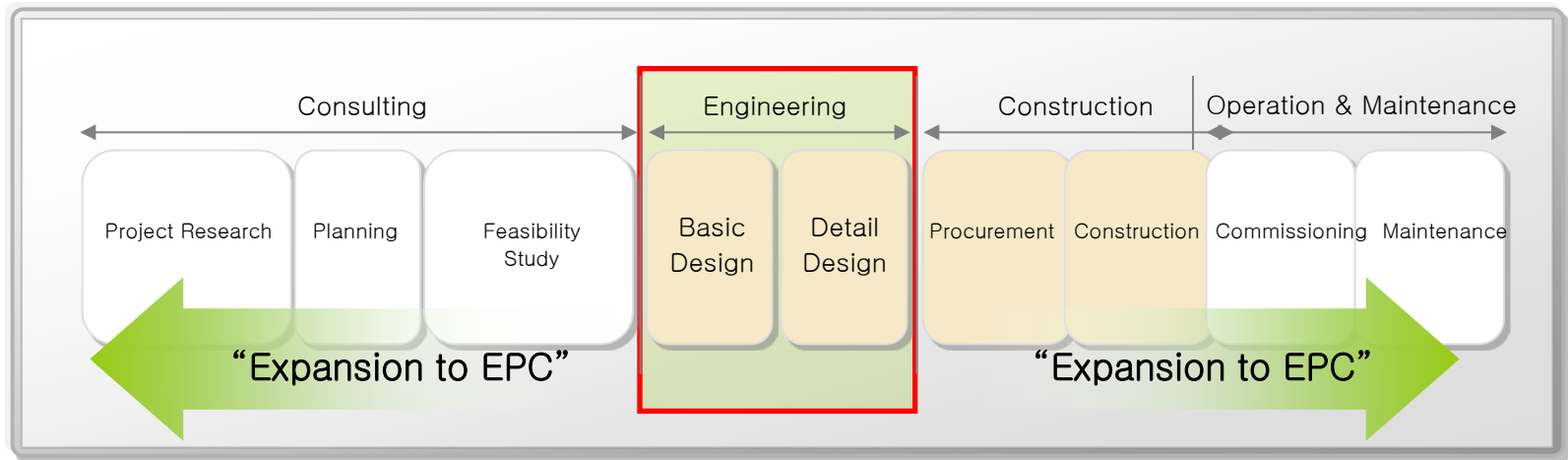
• Developing Canada PHWR O&M Market

- MOU with SNC-Lavalin Nuclear (Mar `12)
- MOU with CANDU Energy (May `12)
- Established the Office in Toronto, Canada (Dec `12)


- * CANDU Energy
 - created in 2011 when parent company SNC-Lavalin purchased the commercial reactor division of AECL(Atomic Energy of Canada Limited), along with CANDU reactor technology
- * CANDU reactor
 - CANada Deuterium Uranium PHWR(Pressurised Heavy Water Reactor)

Business Area – PM/CM

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



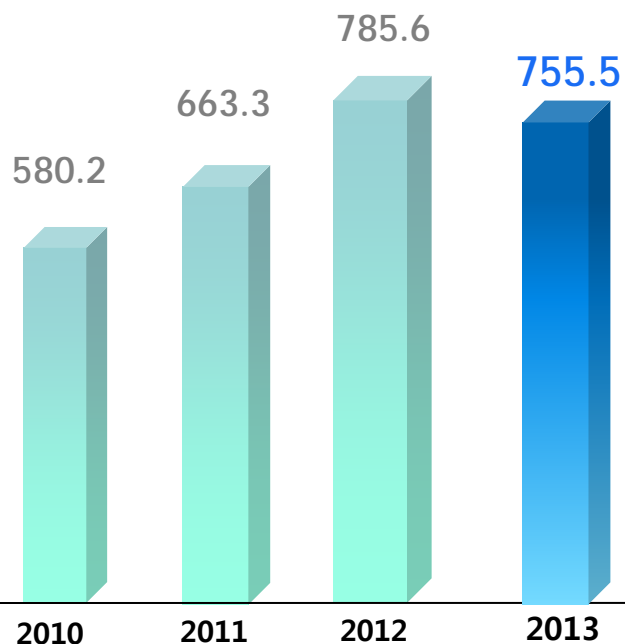
• Involved Projects

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

2013 4Q Revenue

• Revenue

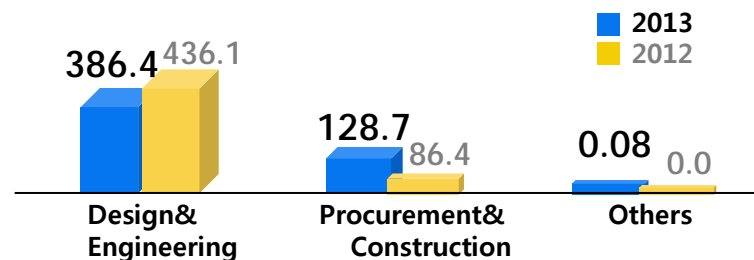
[Unit: KRW bn.]



• Revenue Breakdown

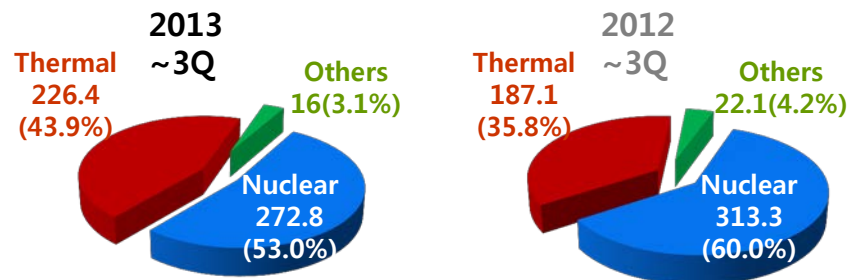
■ By Business Area

[Unit: KRW bn.]



■ By Division

[Unit: KRW bn.]



■ By Region

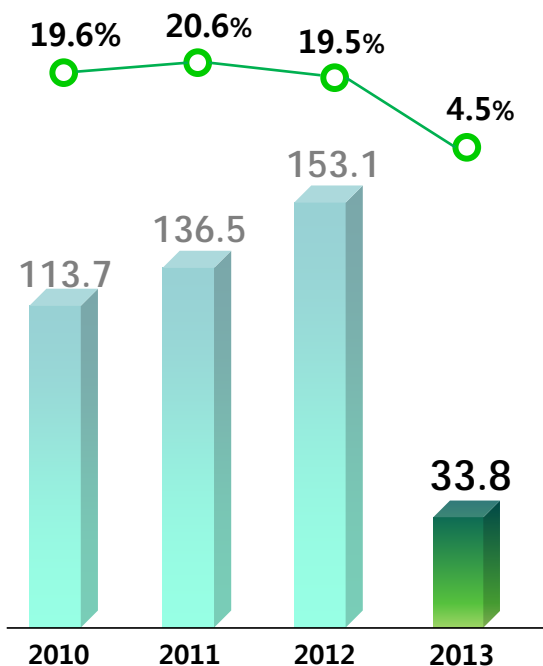


* KEPCO E&C has adopted K-IFRS(Korean International Financial Reporting Standards) from FY `11 in line with the national policy. (FY `10 financial statements is also converted to "K-IFRS" for comparison with FY `11.

2013 4Q

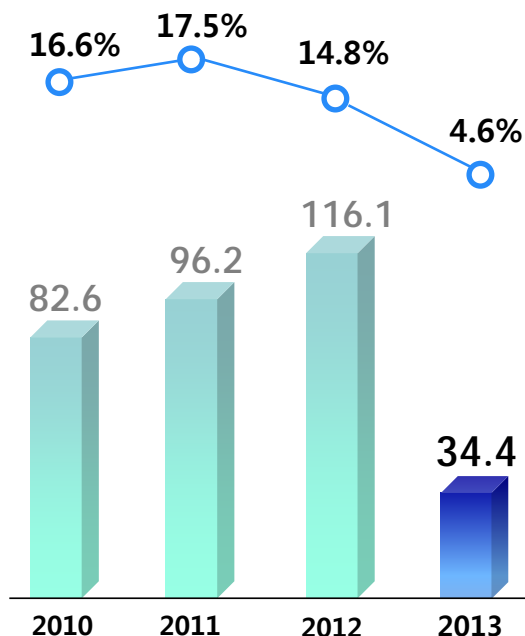
• Operating Income /Margin

[Unit : KRW bn.]



• Net Income /Margin

[Unit : KRW bn.]

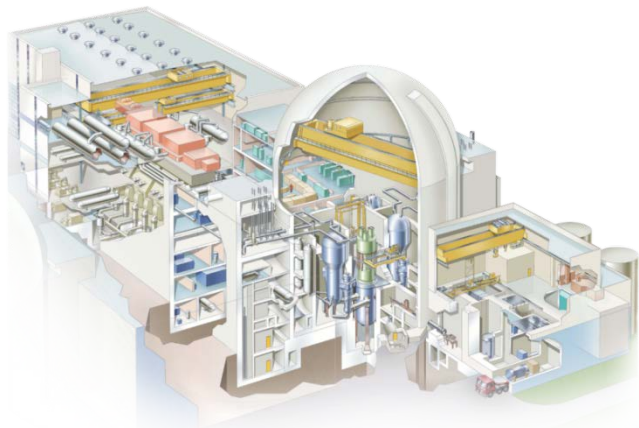


• 2013 4Q Overview

[Unit : KRW bn.]

	2013 4Q	2013 3Q	2012 4Q
Revenue	240.3	161.6	263.1
Operating Income	-7.3	3.0	46.9
Net Income	-3.2	1.3	40.9

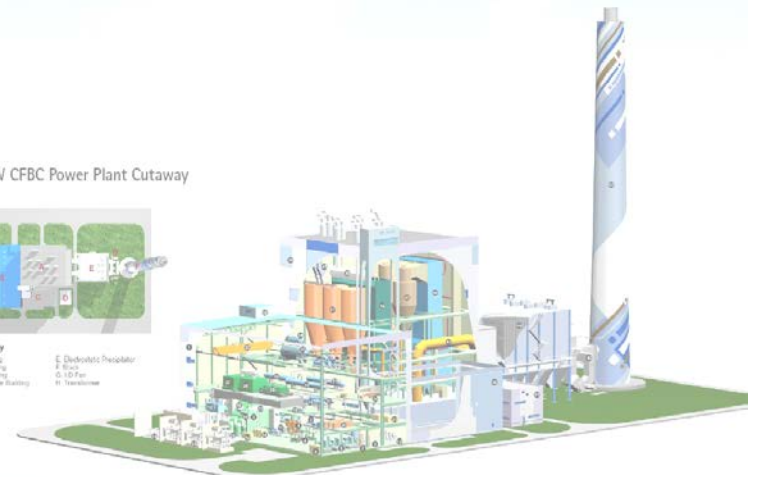
* KEPCO E&C has adopted K-IFRS(Korean International Financial Reporting Standards) from FY `11 in line with the national policy. (FY `10 financial statements is also converted to "K-IFRS" for comparison with FY `11.



200MW CFBC Power Plant Cutaway



- Site plan key
- A. Ejector Building
 - B. Turbine Building
 - C. Control Building
 - D. Auxiliary Boiler Building
 - E. Dielectric Resistor
 - F. Stack
 - G. 10 Fan
 - H. Transformer



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