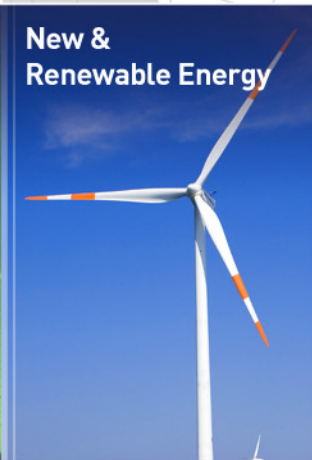


# Humaneering KEPCO E&C

We are trying to harmonize  
humanity, environment and engineering.



**KEPCO**  
E&C

KEPCO  
ENGINEERING & CONSTRUCTION  
COMPANY, INC.

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- 01 \_ Company Information
- 02 \_ Competitiveness
- 03 \_ Investment Highlights
- 04 \_ Our Performance



# Company Overview

Humaneering KEPCO E&C

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humanity, environment and engineering



## 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	<a href="http://www.kepco-enc.com">www.kepco-enc.com</a>

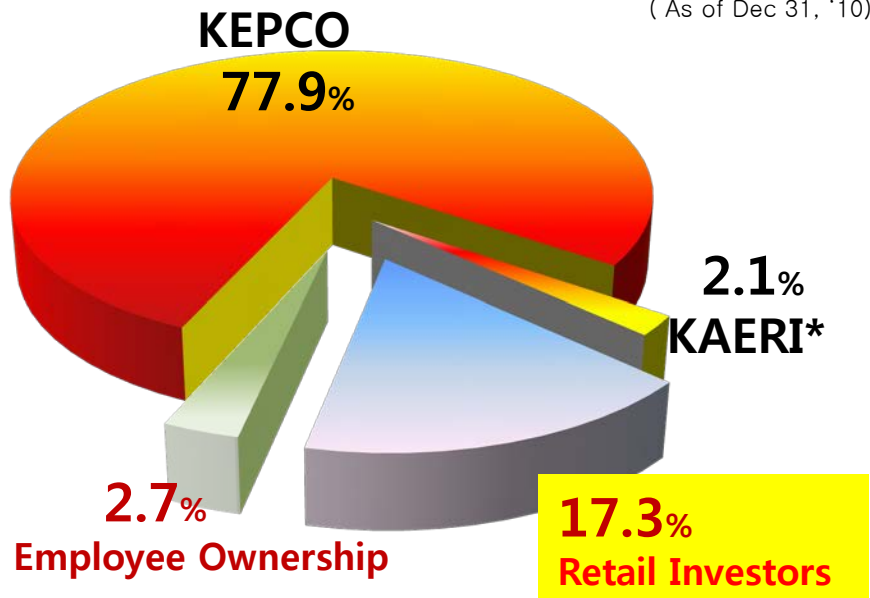


# Ownership Information



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.

## Project Experience

### Nuclear Power Plant

#### • OPR1000

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

#### • OPR1000 +

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

#### • APR1400

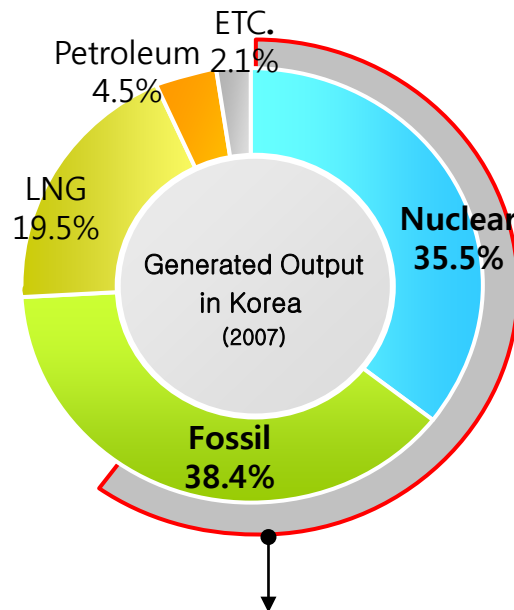
Shin-Kori 3,4	'08.10~'13.09 / '09.10~'14.09	■
Shin-Ulchin 1,2	'11.03~'15.12 / '12.03~'16.12	■
UAE 1,2	'12.11~'17.05 / '13.11~'18.05	■
UAE 3,4	'14.11~'19.05 / '15.11~'20.05	■

#### • CANDU (PHWR)

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

■ Under Construction



60% Designed by  
KEPCO E&C

[Source: The Ministry of Knowledge Economy]

### Thermal Power Plant

#### • Standard Coal Fired Power Plants

- 500MW : 34 Units ■
- 800MW : 4 Units ■
- 1000MW : 6 Units ■ (Dangjin #9,10)  
(Shin-boryeong #1,2)  
(Taeon #9,10)

#### • Large Scale CFB Coal Fired Power Plants

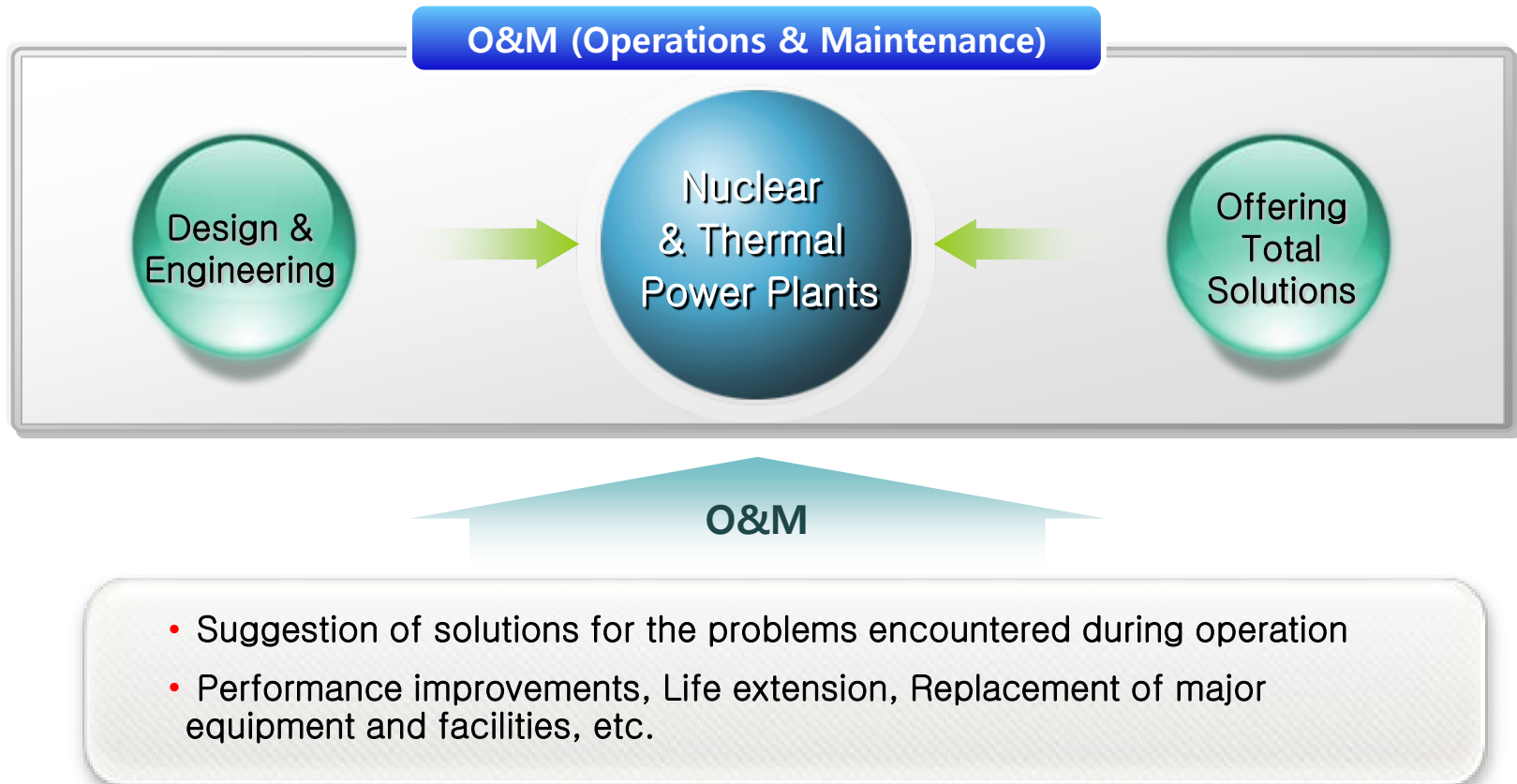
- 200MW : 2 Units ■
- 340MW : 1 Units ■ (Yosu #2)
- 1000MW : 2 Units ■ (Samchok Green #1,2)

#### • Combined Cycle & Cogeneration Power Plants

- 26 Projects ■
- 6 Projects ■

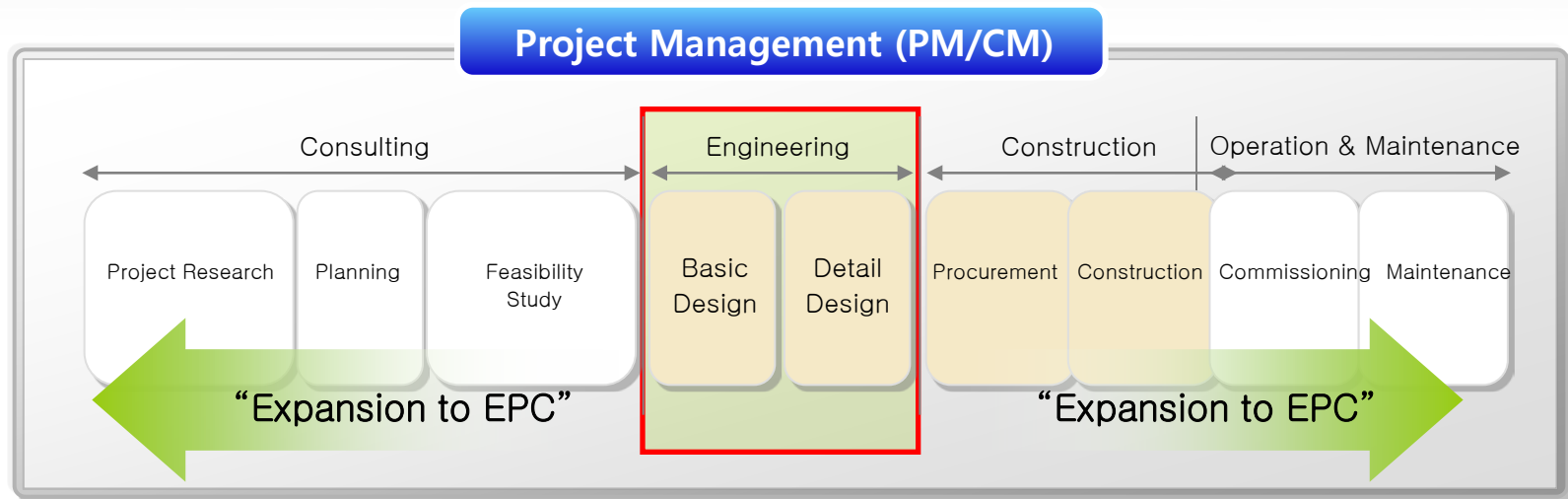


## Contribution to the Improvement of the Operating Power Plants' Operability, Efficiency and Safety





## 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

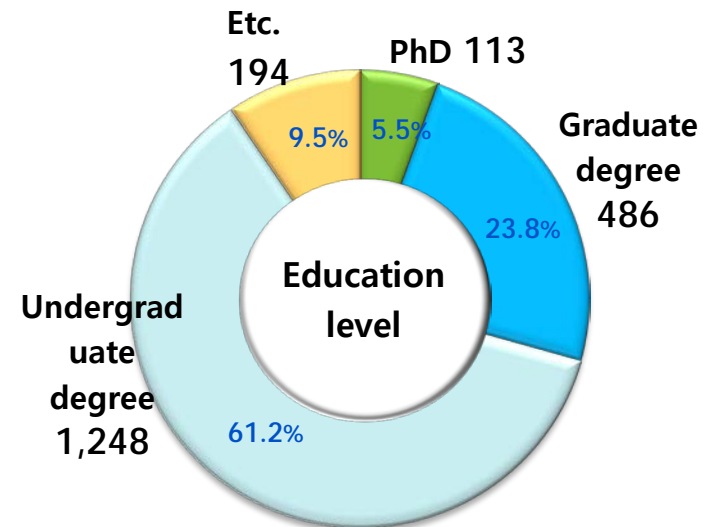
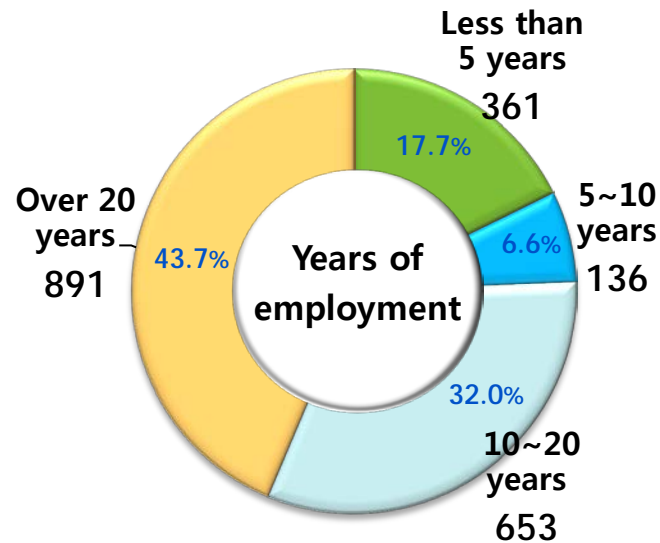


## Manpower with Years of Accumulated Experience and Expertise in Plant Design and Technology Development

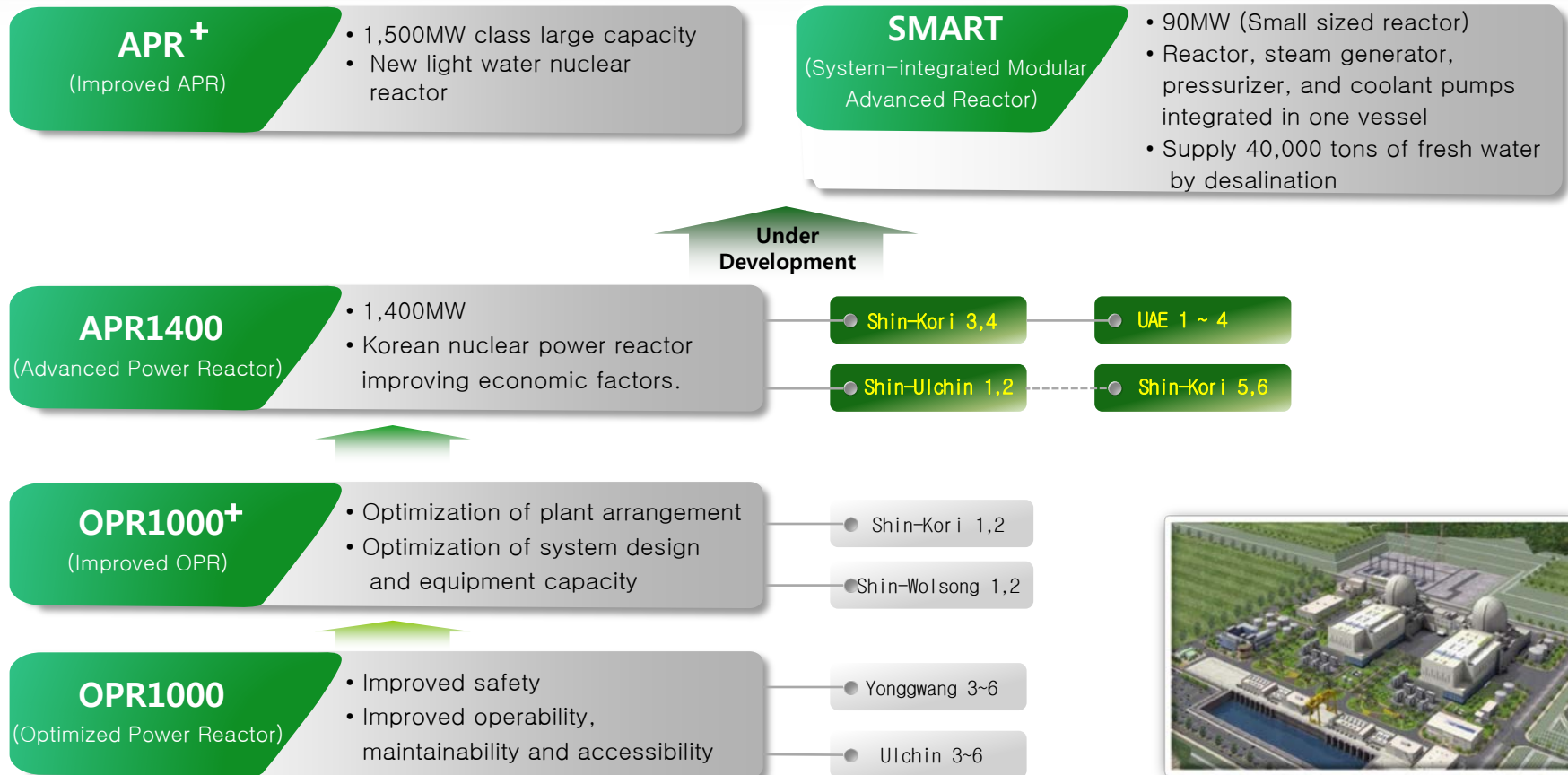
### Experienced Workforce

- 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

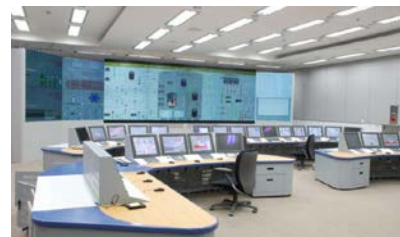
## APR1400 - The best safety, economic efficiency and operability

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]

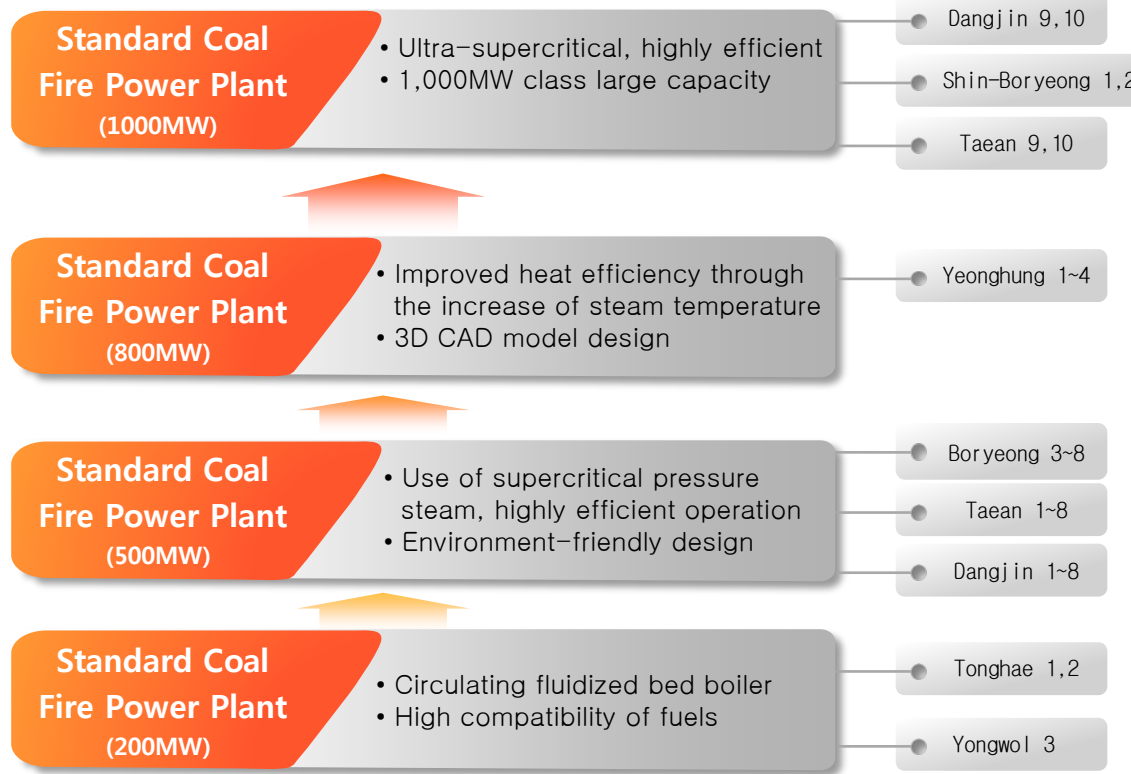


APR 1400

<Source : [www.apr1400.co.kr](http://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>



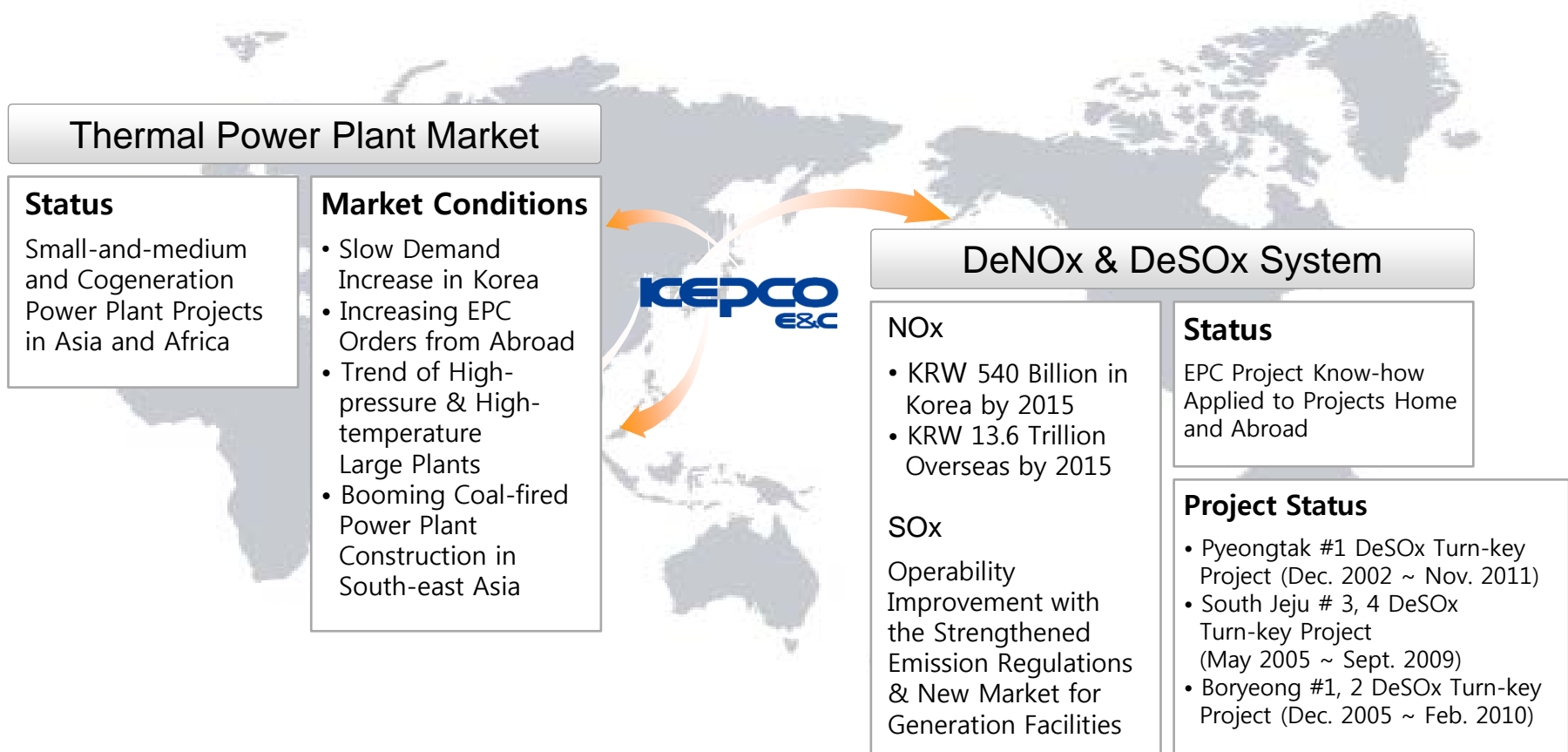
- **Boryeong #3,4 – World Best Project Awarded**  
<US, Electric Power International, 1996>





## 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

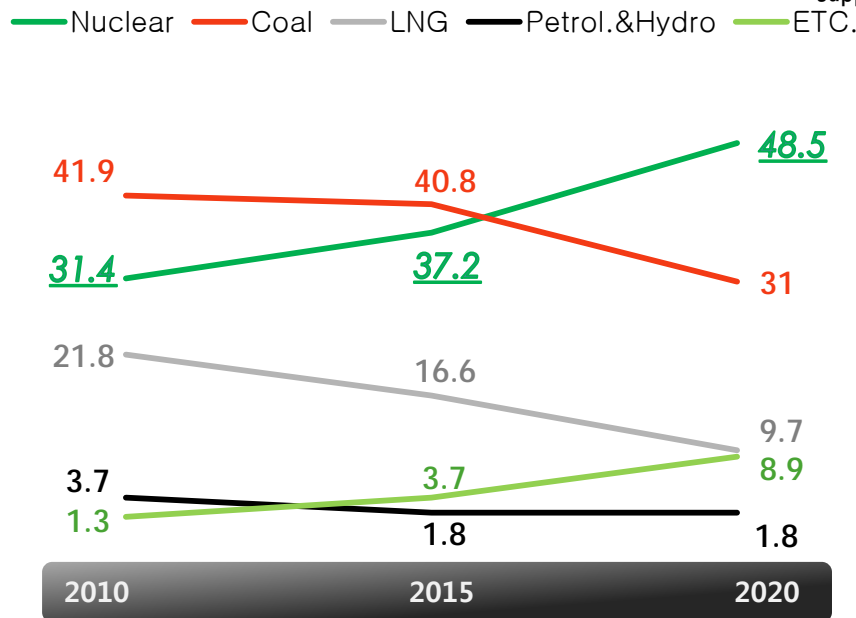


## Korean Government's Focus on Nuclear Energy

### The 5<sup>th</sup> Basic Plan of Long-term Electricity Supply

#### Outlook of Generated Output

(Unit : % of total electricity supply in Korea )



#### Timeline for Completion of nuclear power plant construction ('13 ~'24)

Year	Project [capacity (MW)]
2013	Shin-Kori #3 [1400]
2014	Shin-Kori #4 [1400]
2016	Shin-Ulchin #1 [1400]
2017	Shin-Ulchin #2 [1400]
2018	Shin-Kori #5 [1400]
2019	Shin-Kori #6 [1400]
2020	Shin-Ulchin #3 [1400]
2021	Shin-Ulchin #4 [1400]
2022	Shin-Kori #7 [1500]
2023	Shin-Kori #8 [1500]

[Source: The Ministry of Knowledge Economy, "The 5<sup>th</sup> Basic Plan of Long-term Electricity Supply" , 2010.12.28]

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

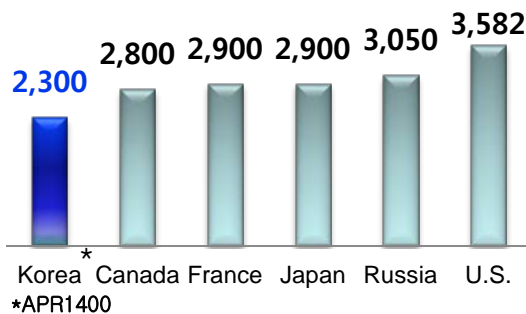




## Why APR1400?

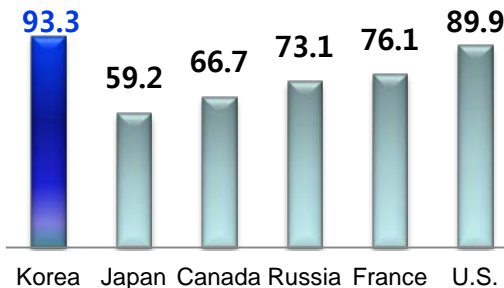
### The World's Most Economical and the Safest Reactor

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



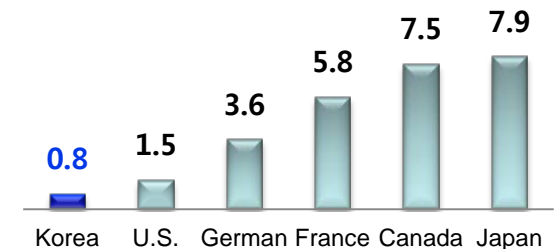
※ *World Nuclear News*  
(World Nuclear Association, 2008)

Using Rate of Nuclear Power Plant (%)



※ *Nucleonics Week*, March 2009

Unplanned Capacity Loss Factor (%)



※ *IAEA Power Reactor Information System*,  
March 2009



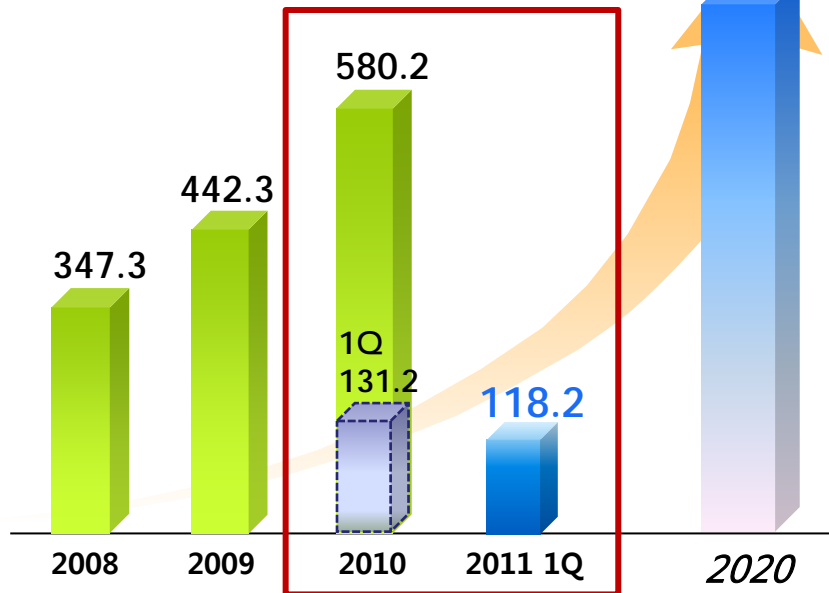
## 2011 1Q Sales

### Sales

[Unit: KRW bn.]

Global Top 5 Power EPC Leader

5000 KRW bn.



Under K-IFRS

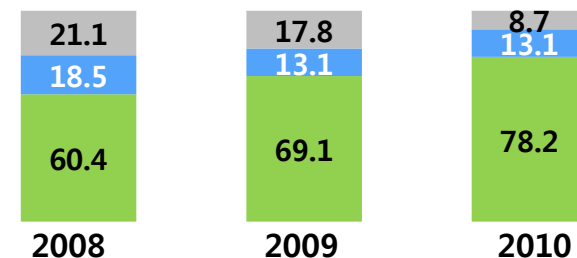
### Sales Analysis

- **The Decrease in the Major Nuclear Projects Progress**
  - The decrease in the progress in the major nuclear design projects led to the sales decline
- **Adoption of K-IFRS**
  - According to the K-IFRS Accounting rule, the cost of sales follows the progress of the each projects and it made a decrease in operating profit

### Sales Breakdown

[Unit : % of Sales]

■ Nuclear ■ Thermal ■ Etc.



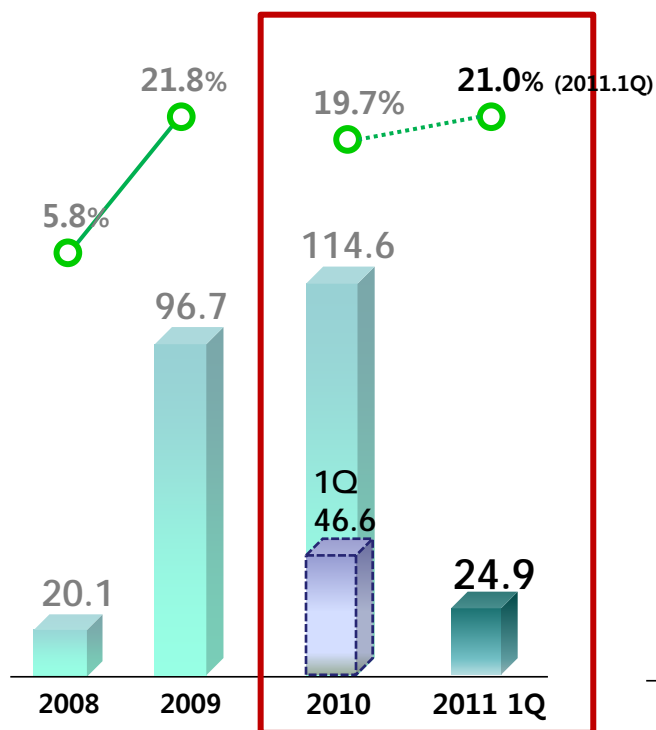
## Financial Overview



## 2011 1Q Summary

## Operating Profit / Margin

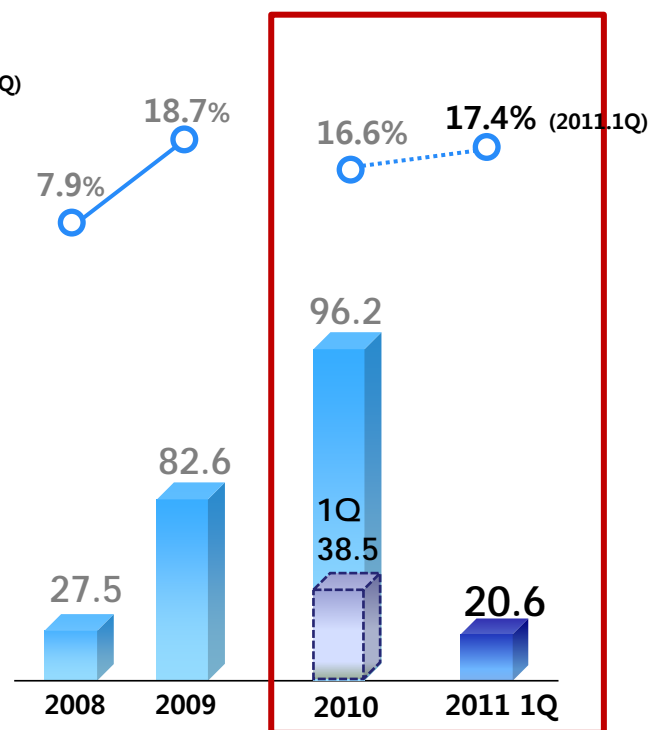
[Unit : KRW bn.]



Under K-IFRS

## Net Income / Margin

[Unit : KRW bn.]



Under K-IFRS

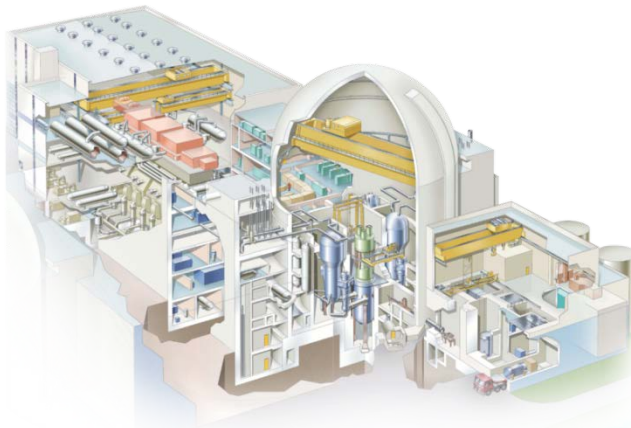
## 2011 1Q Overview

[Unit : KRW bn.]

	2011 1Q	2010 1Q	2010
Revenue	118.2	131.2	580.2
Operating Income	24.9	46.6	114.6
Net Income	20.6	38.5	96.2



# Vision 2020 – Global TOP 5 Power EPC Leader

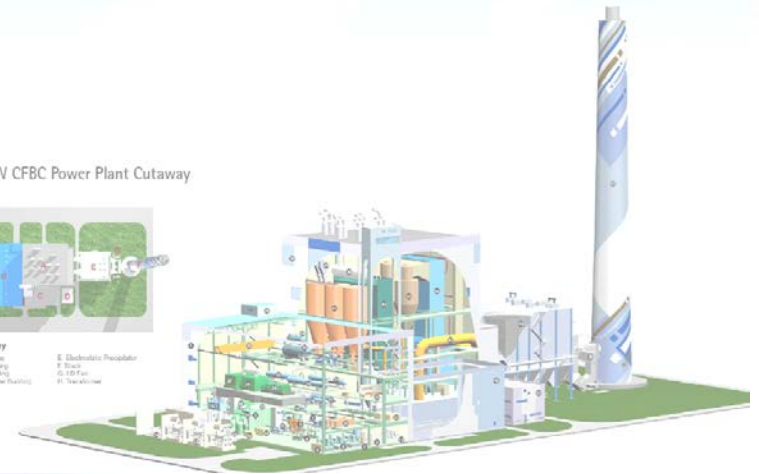


200MW CFBC Power Plant Cutaway



Site plan key

- A. Boiler Building
- B. Turbine Building
- C. Control Building
- D. Auxiliary Building
- E. Electrostatic Precipitator
- F. Stack
- G. ID Fan
- H. Separator



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