

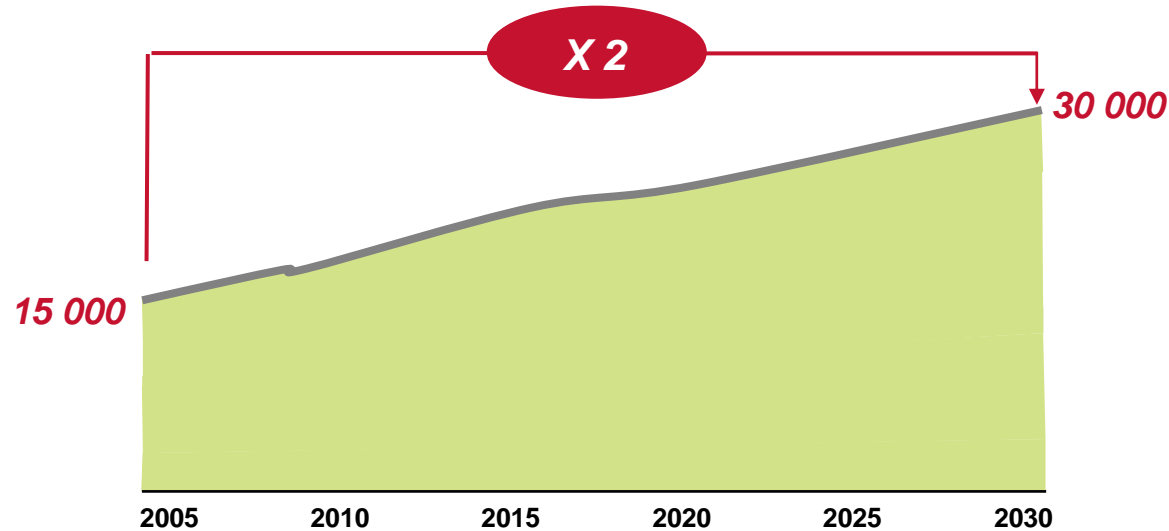


Appendix 1

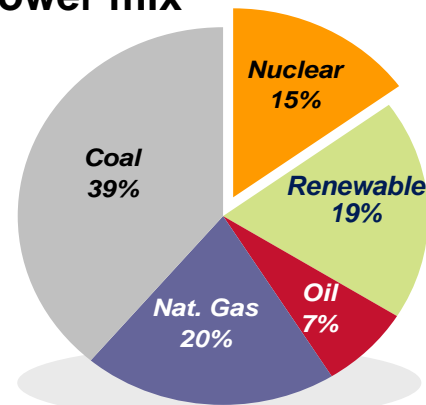
Nuclear: a necessary part of the solution

Worldwide demand for electricity to double by 2030

► Worldwide electric power generation (in TWh)



► 2007 – Worldwide distribution of electric power mix



► Capex in the Power sector expected to reach \$11 trillion²⁰⁰⁷

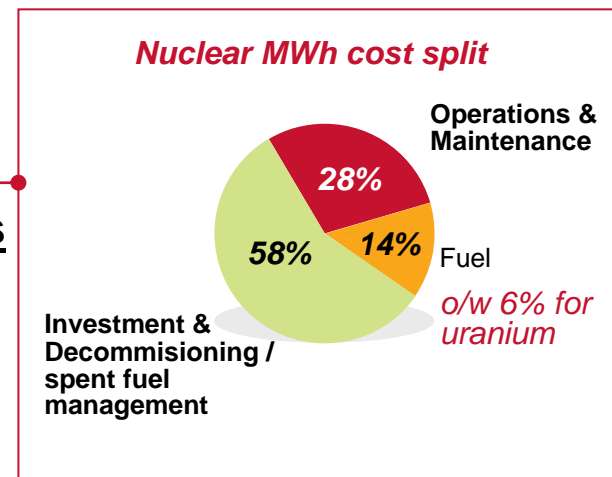
- ♦ \$6 trillion in T&D
- ♦ \$5 trillion in generating capacity

Covering both Generation and T&D markets,
AREVA has 2 reasons to benefit from
electricity sector investments

Sources: IEA-Energy Information (2006), IEA-World Energy Outlook (2007)

Nuclear power: a necessary part of the solution for power generation also for economic reasons

1. **Nuclear doesn't release CO₂:**
no greenhouse effect
2. **Low price of generation**
almost immune to uranium price fluctuations
3. **Fossil resources are limited**
and uranium conventional resources are 200 times 2008 demand
4. **Energy self-sufficiency:**
uranium is present in stable countries



	Average MWh cost for new plants (Europe)	Including CO ₂ emission cost (23€/t CO ₂)
Nuclear	€50 - €55	NS
Combined cycle gas	€65 - €80	€5 - €10
Wind	€53	NS
Coal	€55 - €75	€15
Biomass	€66	€22

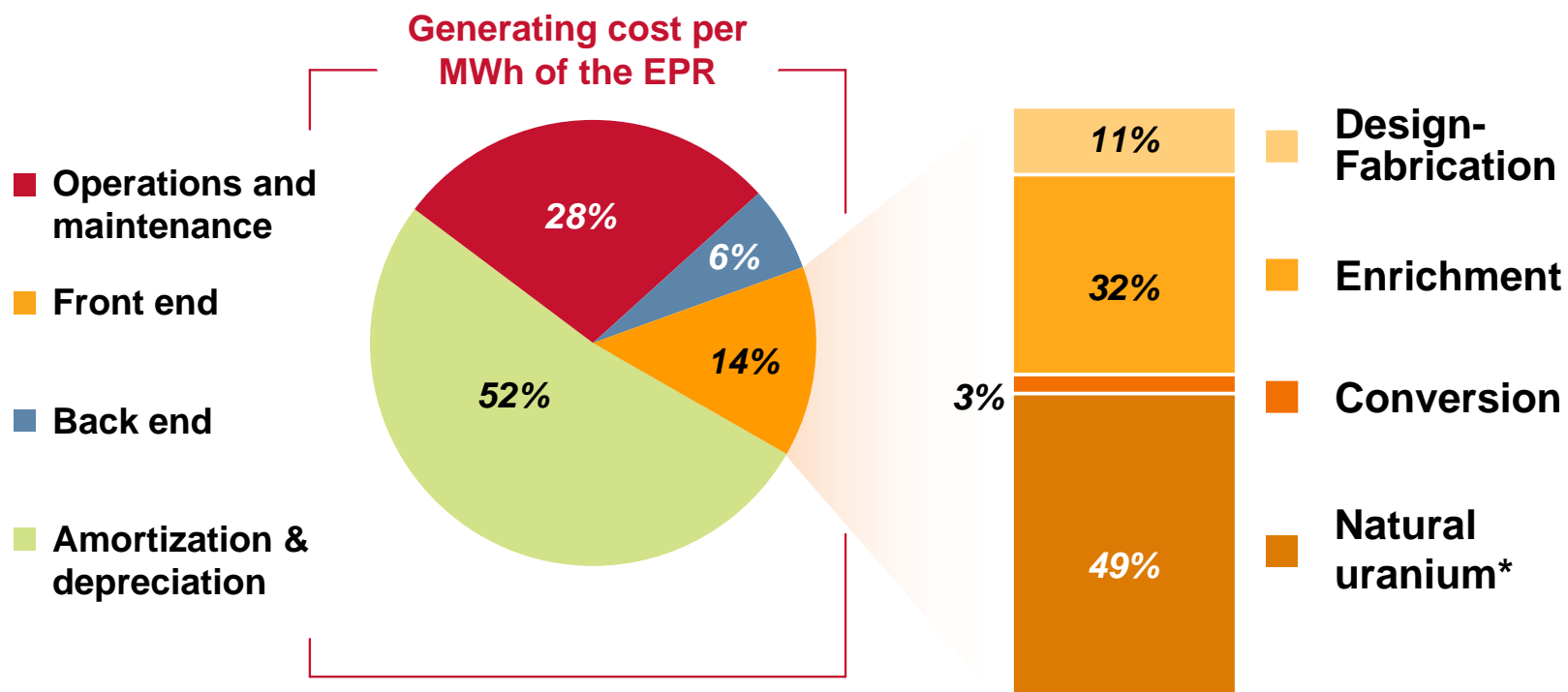
Sources: Enel (July 2008), E.On (April 2008)

Snapshot of energy technologies

	<i>Hard coal</i>	<i>Lignite</i>	<i>IGCC</i>	<i>Gas</i>	<i>Nuclear (PWR & BWR)</i>	<i>Hydro</i>	<i>Wind (on-shore)</i>	<i>Wind (off-shore)</i>	<i>Biomass</i>
<i>Efficiency (%)</i>	46	43.5	46.1	57.8	35.1	90	43	44	32
<i>Emissions:</i>									
<i>CO2 (g/kWh)</i>	728	944	727	349	0	0	0	0	0
<i>NOx (g/kWh)</i>	0.56	0.71	0.52	0.26	0	0	0	0	0.96
<i>SO2 (g/kWh)</i>	0.56	0.71	0.56	0.01	0	0	0	0	0.24
<i>Cost of electricity (€-ct/kWh)</i>	4.11	3.72	4.79	4.44	4.3	4.1	8.75	7.62	8.77
<i>Equivalent full load hours per year (h/a)</i>	7,500	7,500	7,000	6,000	7,900	7,000	2,000	3,750	7,500

Source: Eurelectric Fact Sheets – based on 2005 prices

Nuclear generating cost per MWh for the EPR



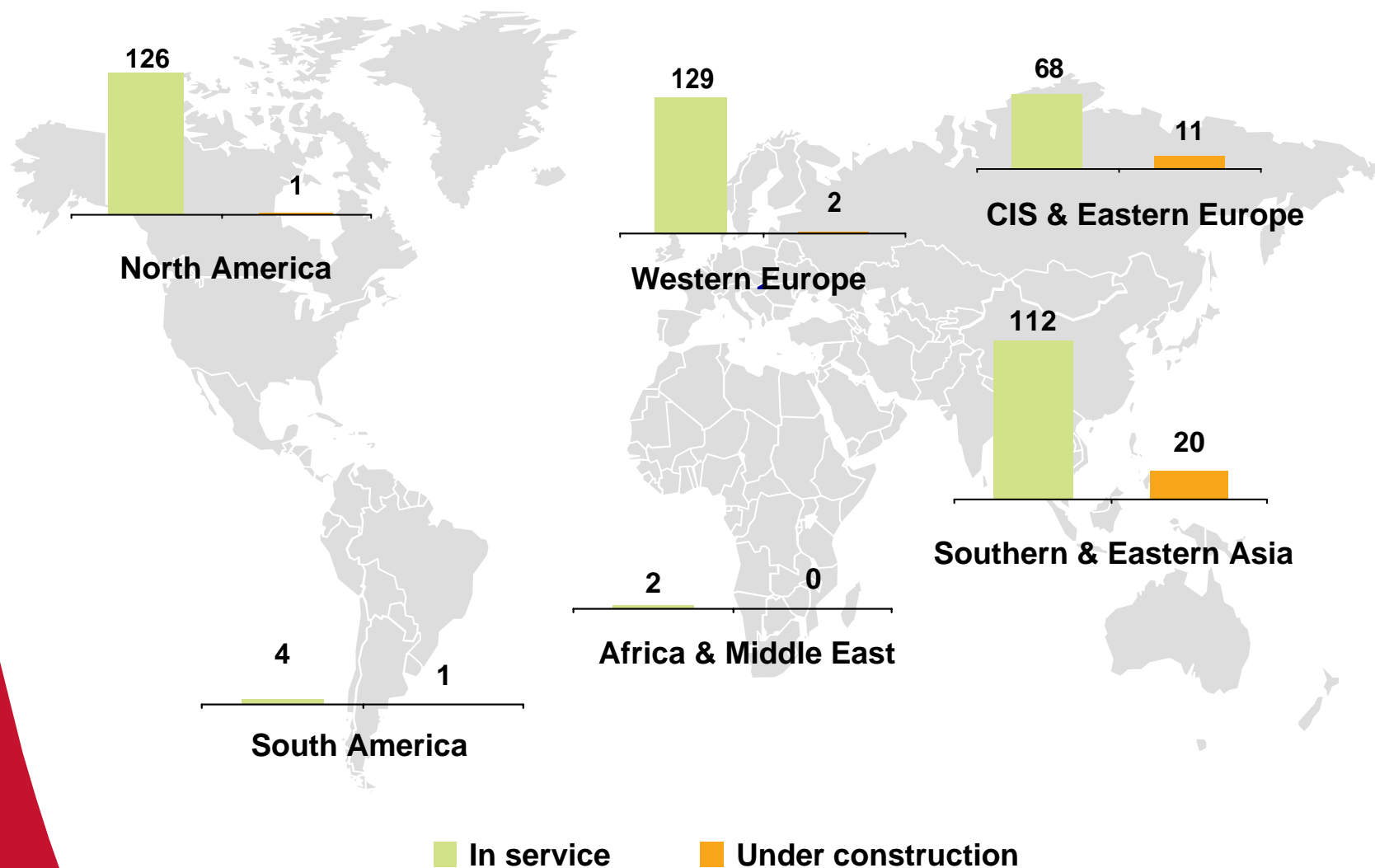
* For a uranium concentrate price around \$60 / lbU3O8



Appendix 2

Situation regarding nuclear in the various regions

The nuclear market place : 441 power plants in 2007 and more to come from the East



Source: WNA, restated by AREVA

Installed capacity in main countries

	Gross capacity (GWe)		Gross generation (TWh)	
	2007	2006	2007	2006
France*	65.9	65.9	439.1	449.5
Germany	21.4	21.4	140.5	167.4
Russia	23.2	23.2	158.3	154.5
United Kingdom**	11.9	11.9	58.6	71.9
Ukraine	13.8	13.8	92.7	90.2
Sweden	9.4	9.2	66.9	67.7
Spain	7.7	7.7	55.0	59.7
Belgium	6.1	6.1	48.2	46.6
Finland	3.0	2.9	23.4	22.9
Other	17.4	16.9	125.9	130.6
TOTAL	179.8	178.9	1,208.6	1,261.0

* Excluding Phoenix, considered a research reactor.
Source: Nucleonics Week, restated by AREVA.

	Gross capacity (GWe)		Gross generation (TWh)	
	2007	2006	2007	2006
Canada	15.0	15.0	94.0	98.4
United States	105.8	105.7	843.0	822.5
Mexico	1.4	1.4	10.4	10.9
Brazil	2.0	2.0	12.4	13.8
Argentina	1.0	1.0	7.2	7.7
TOTAL	125.2	125.1	937.8	953.3

Source: Nucleonics Week, February 2006, restated by AREVA.

	Gross capacity (GWe)		Gross generation (TWh)	
	2007	2006	2007	2006
Japan	49.9	49.9	278.7	303.2
China	9.1	8.0	62.9	54.1
India	4.1	3.9	17.8	17.6
South Korea	18.4	17.7	142.9	148.7
Taiwan	5.1	5.1	40.6	39.9
Pakistan	0.5	0.5	2.5	2.7
TOTAL	87.1	85.1	545.4	566.2

Source: Nucleonics Week, February 2006, restated by AREVA.

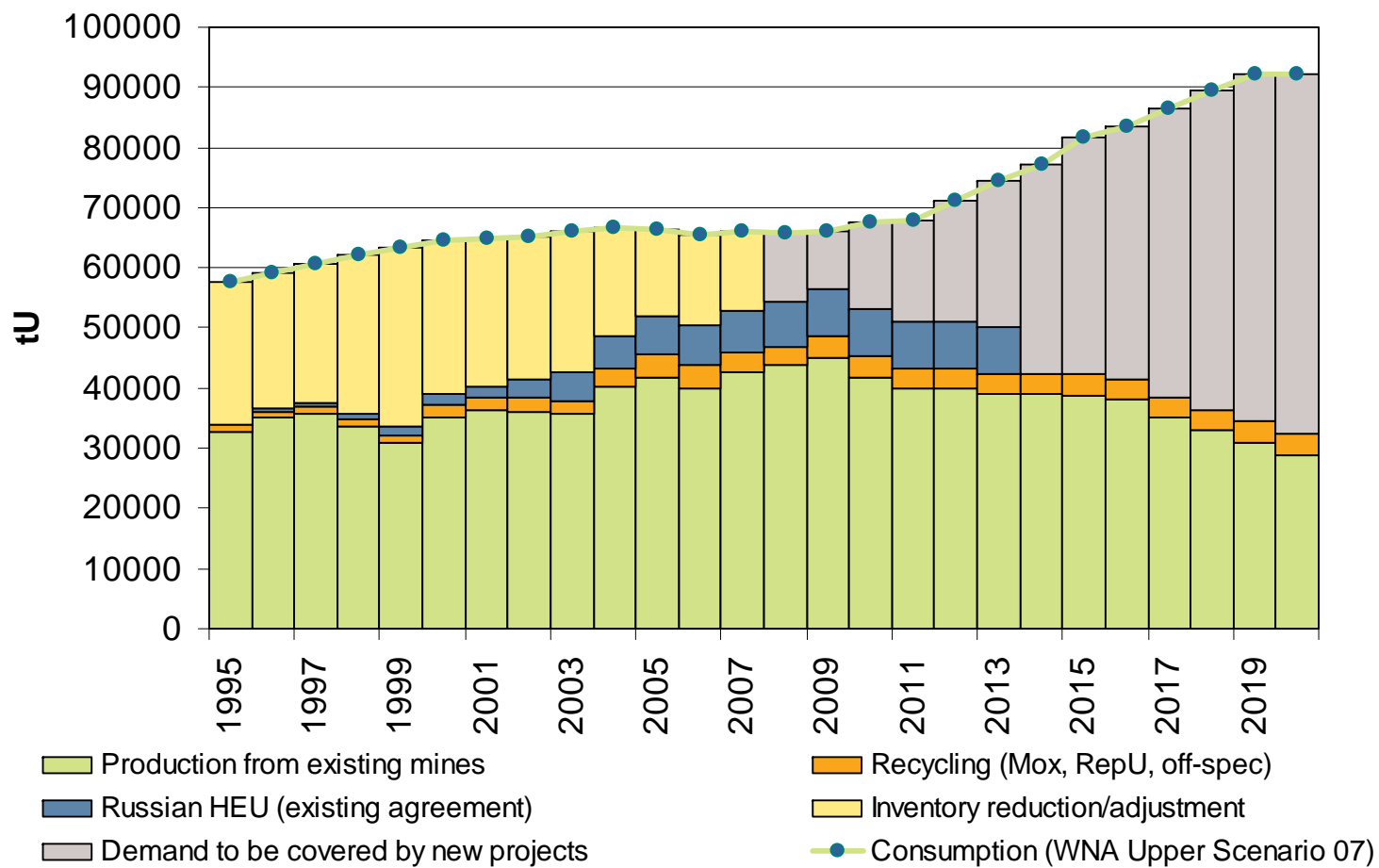


Appendix 3

Front End business details

New mines will be necessary to meet Uranium demand

World Uranium Supply and Demand



source: WNA 2007

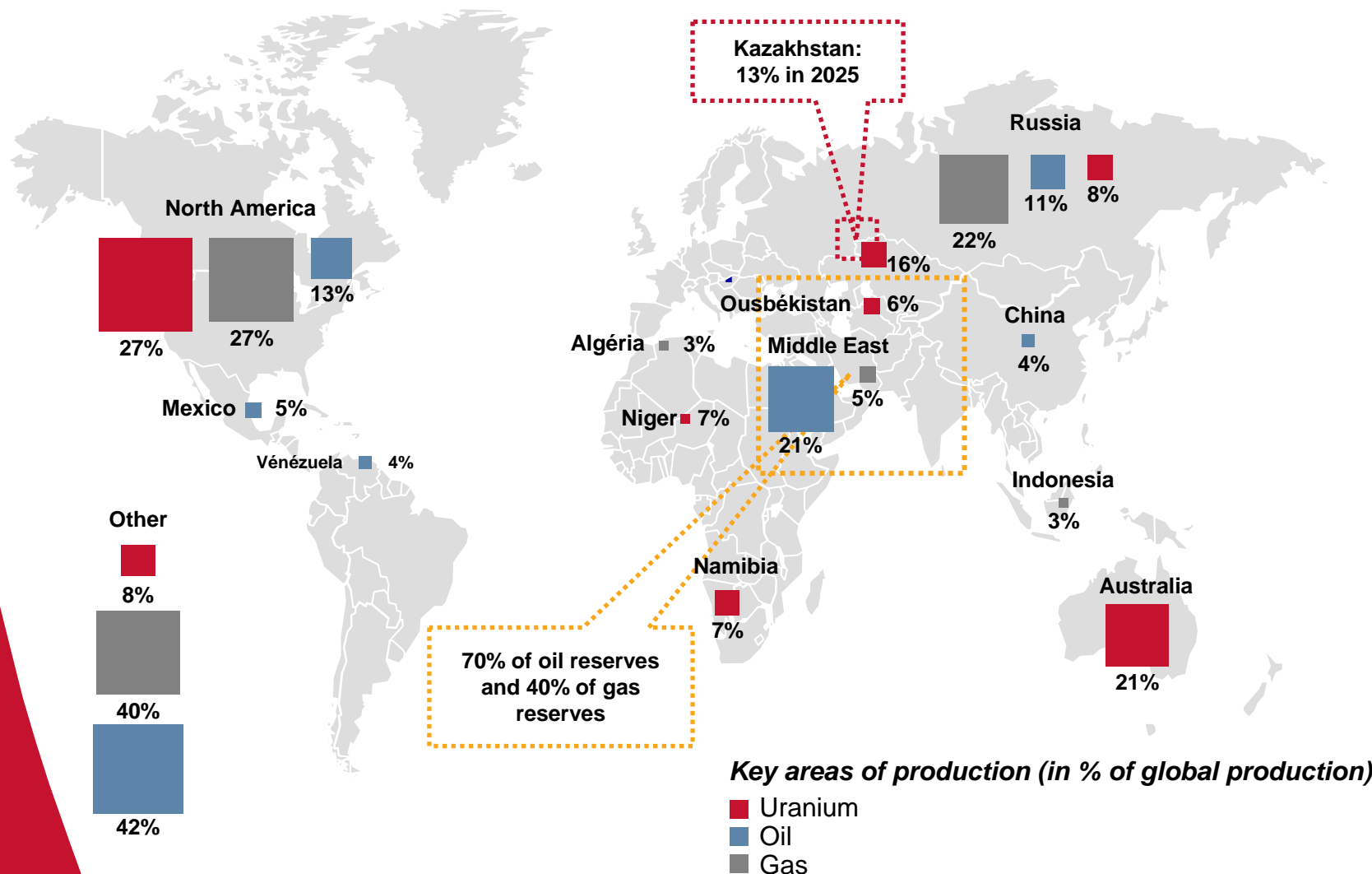
Conventional fissile resources represent more than 200 years of 2007 world demand

CATEGORY of Uranium resources (million tons = Mt)					
Conventional					
Cost of recovery \$/kgU	Reasonably Assured Resources	Inferred Resources ①	Prognosticated Resources ②	Speculative Resources ③	① Based on direct geological evidence ② Based on indirect geological evidence ③ Extrapolated values
< 40	1.95	0.80	1.7	4.6	
40 to 80	0.70	0.36			
80 to 130	0.65	0.29			
> 130	-	-	?	2.9	Unconventional
Subtotal	3.30	1.45	2.52	7.5	
General total	4.75		10.0		15 to 25
General total of conventional resources: 14,750 000 t World demand in 2007: less than 70,000 t Resources: > 200 times 2007 demand					
+ With Gen IV Fast Breeder Reactor, resources are virtually unlimited					

Source: Nuclear Energy Agency "Uranium 2005: Resources, Production and Demand"

Improved security of supply with Uranium

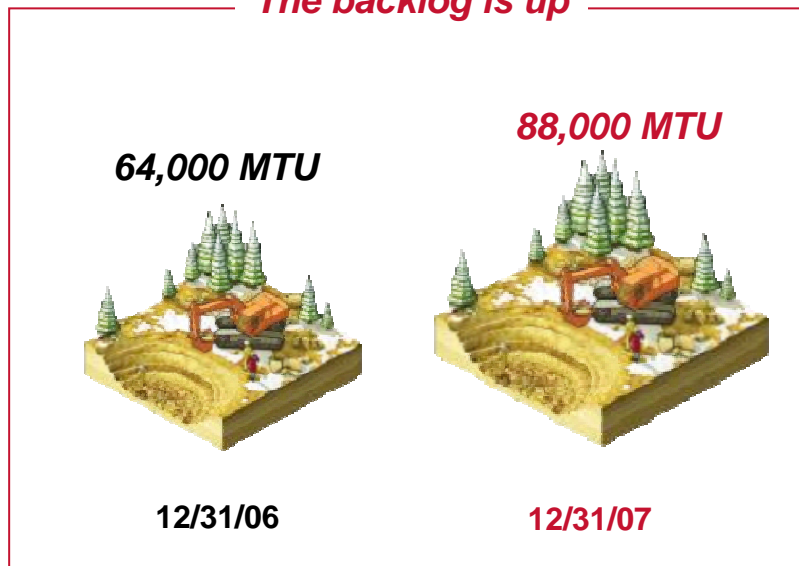
- **Developed countries and China depend largely on oil & gas supplied from unstable areas**



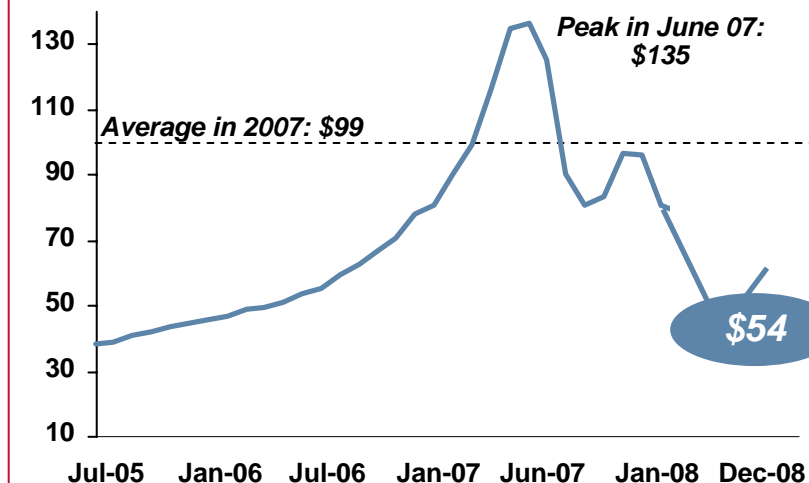
Sources: AREVA, IEA

Mining: gradual increase in sales price

The backlog is up



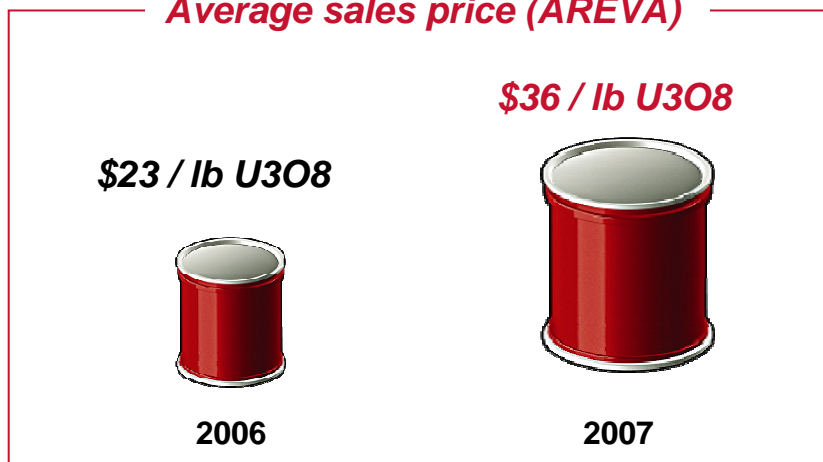
Uranium spot price indicator (\$ / lb U3O8)



Backlog delivery schedule



Average sales price (AREVA)

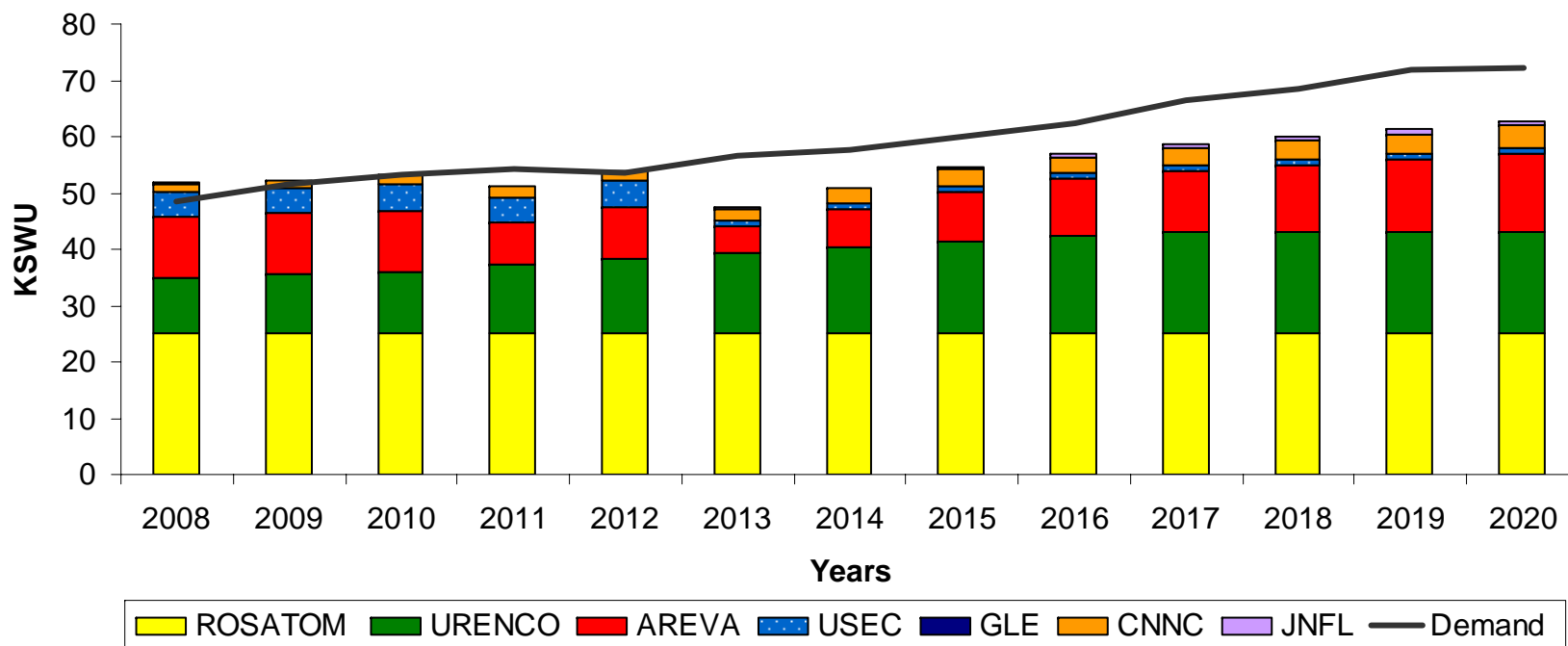


Mining Projects

Main deposits in development

	Participation	Part marketed	Resources and Reserves contained	Production target tU/year	Start-up date
KATCO	51%	~100%	30,000 tU	4,000	Production rise in progress
Cigar Lake	37.1%	37.1%	50,000 tU	2,560	2012
Imouraren	~ 70%	~ 70 %	139,000 tU	5,000	2011/2012
Kiggavik-Sissons (Nunavut)	99% and 51%	99% and 51%	33,000 tU	1,500	2017
Trekkopje	74%	100%	46,000 tU	3,500	2009/2010

Enrichment services requirements should rise significantly



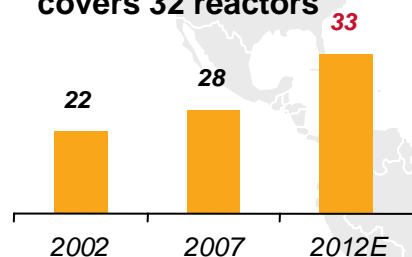
Source: AREVA-BUE

Fuel: in 2007, almost 45% of all PWR and BWR reactors in operation worldwide were fueled by AREVA

Number of reactors fueled by AREVA

► **North & South America**

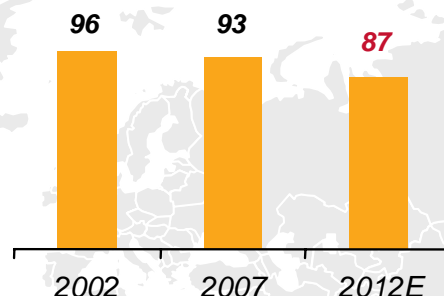
- ♦ Strong growth in the US over a five-year period
- ♦ Backlog for 2012 already covers 32 reactors



Potential market: 108 reactors

► **Europe**

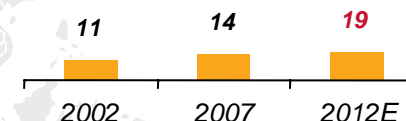
- ♦ Decrease due to the opening of the French market



Potential market: 112 reactors

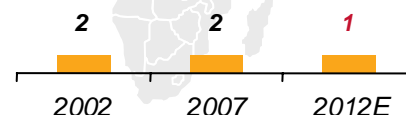
► **Asia**

- ♦ Gradual penetration in Asia, where the market is protected, **via our Chinese licensee**



Potential market: 98 reactors

► **Africa**



Potential market: 2 reactors

Sources: IAEA, NAC and WNA, as of April 2008

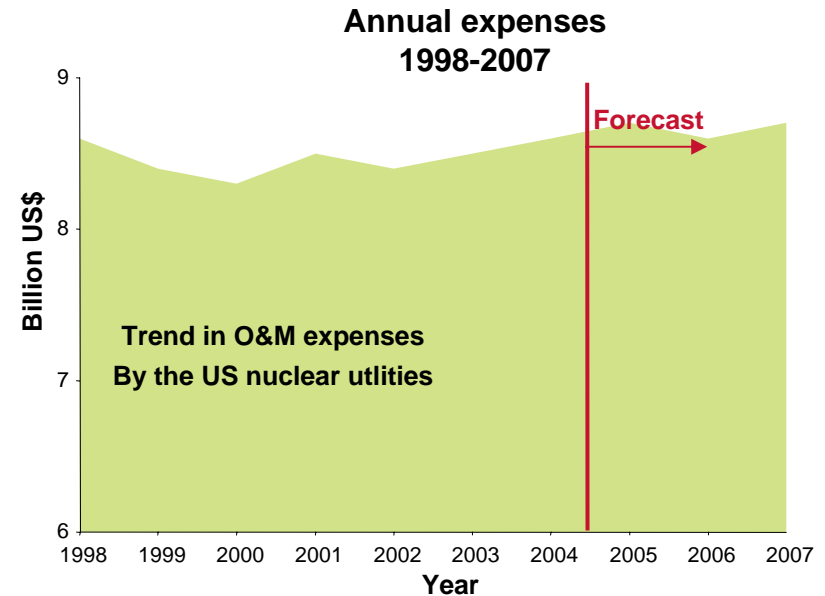
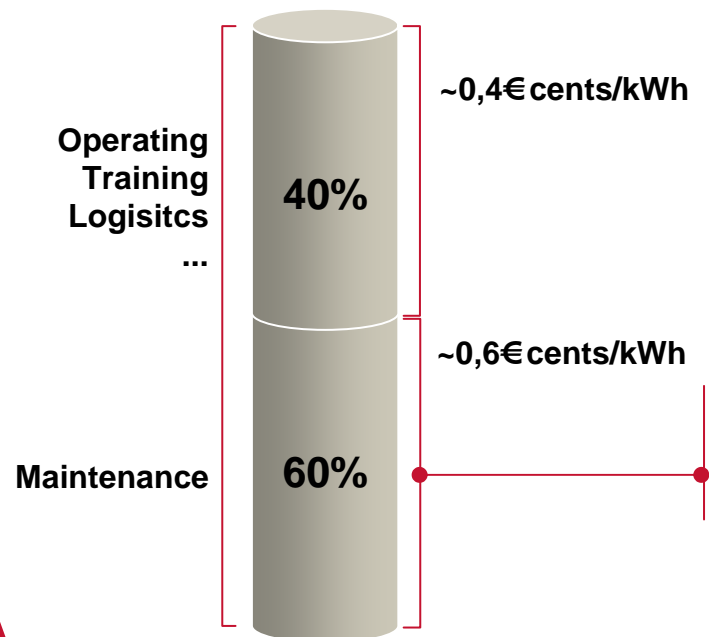


Appendix 4

Reactors & Services business details

O&M recurring expenses should remain stable and high

***US: around \$8.5-9.0bn
for a production in the range
of 750 bn kWh / y***

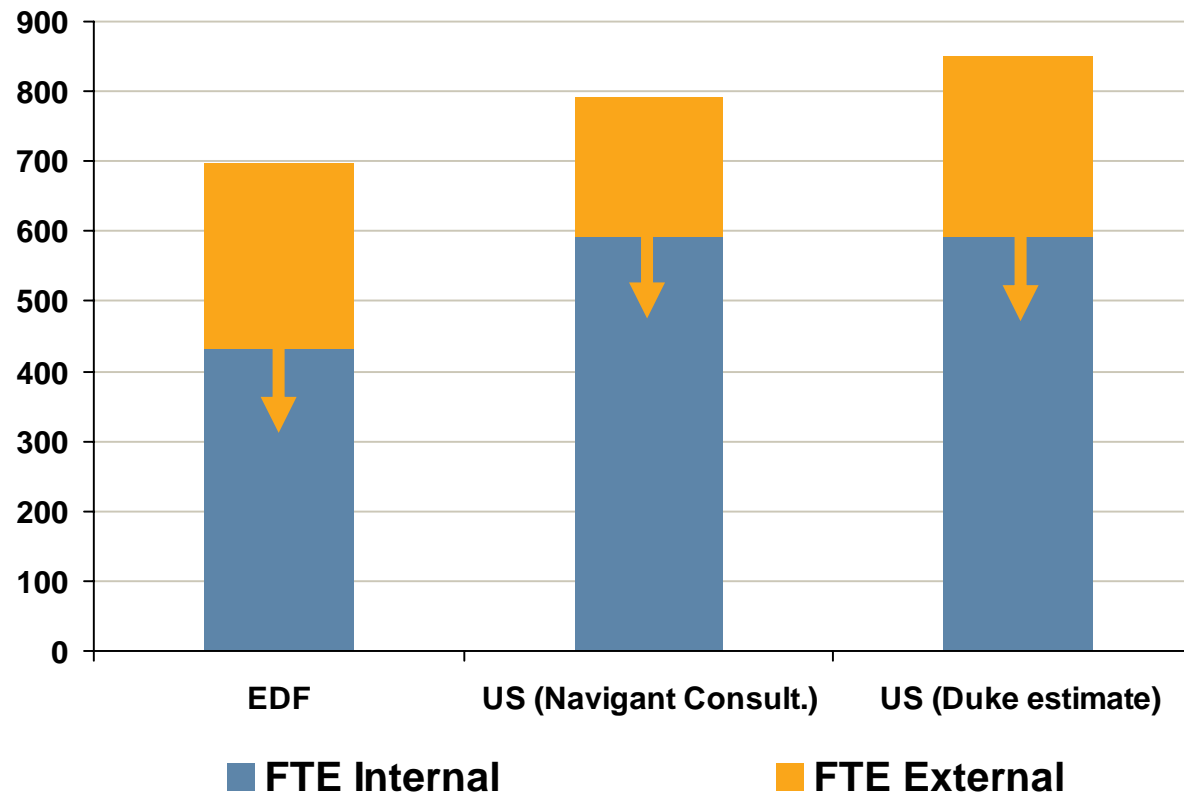


***Europe: maintenance, repare,
spare parts replacement, recurring
engineering and upgrade***

***→ Est. €40-45 M/y for a typical
1 000 MW PWR***

A significant share of O&M expenses are outsourced by the utilities

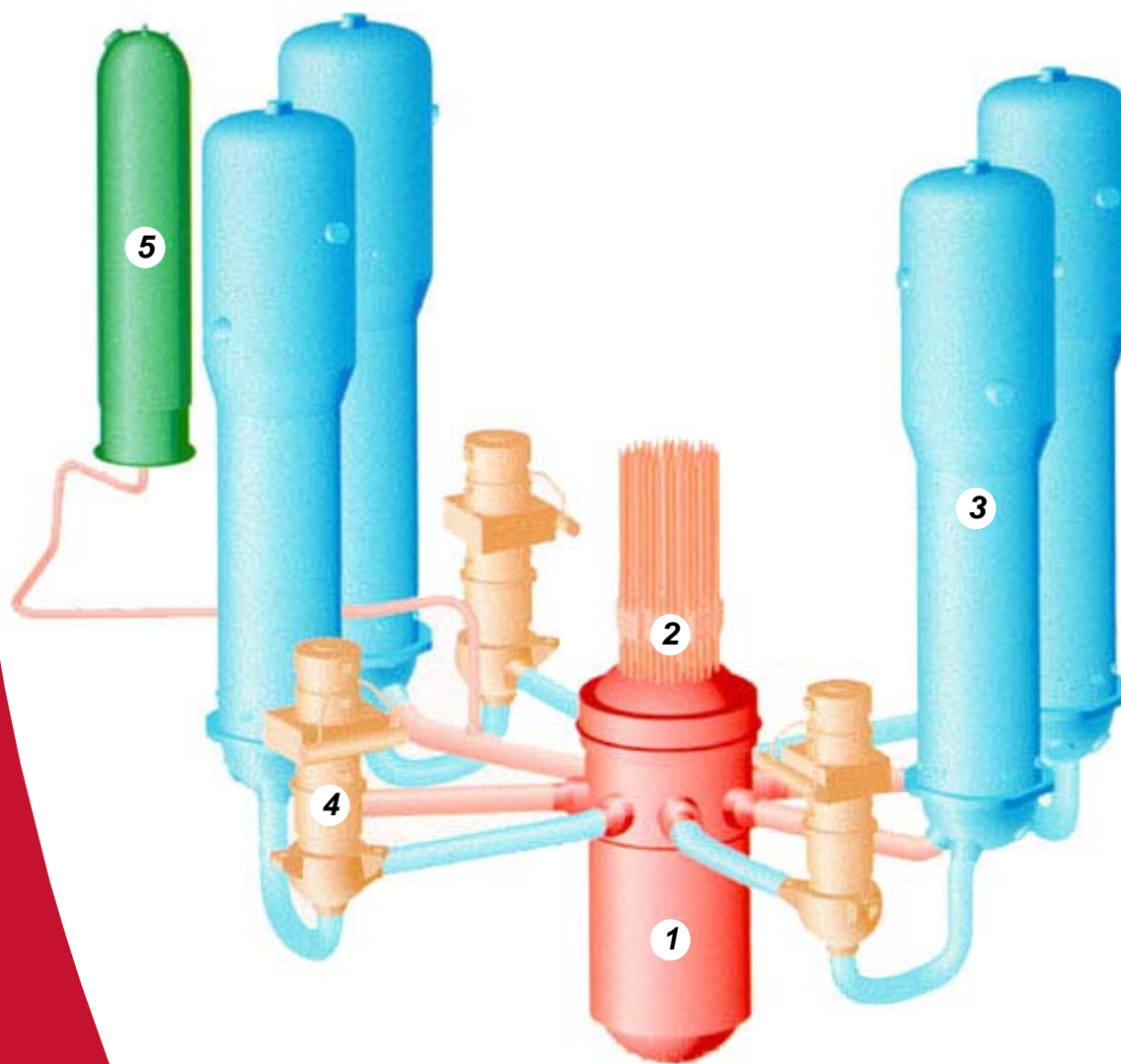
**Full Time Equivalent workforce internal + external
for 1,000 MWe installed**



*The trend should amplify
in the coming years*

Source: Nuclear Engineering International – december 2004 / AREVA

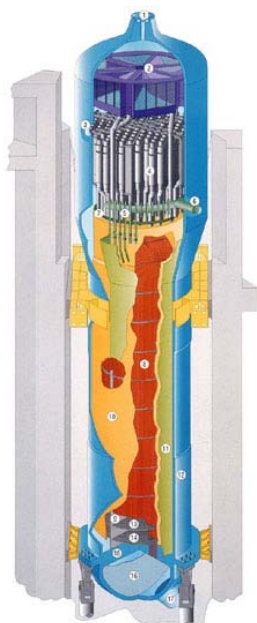
Main components of PWR coolant system



- ① Reactor vessel
- ② Control rod drive mechanisms
- ③ Steam generator
- ④ Reactor coolant pump
- ⑤ Pressurizer

PWR steam generator

Design



Commissioning



Heat transfer surface:
4,700 to 7,000
square meters

FUNCTIONS

- ▶ to transfer heat and ensure leak-tightness between the primary (P) and secondary (S) circuits

DUTY

- ▶ mechanical effects of the circulating P and S flows
- ▶ chemical effects of the P and S fluids
- ▶ nominal and transient temperatures and pressures on P and S sides

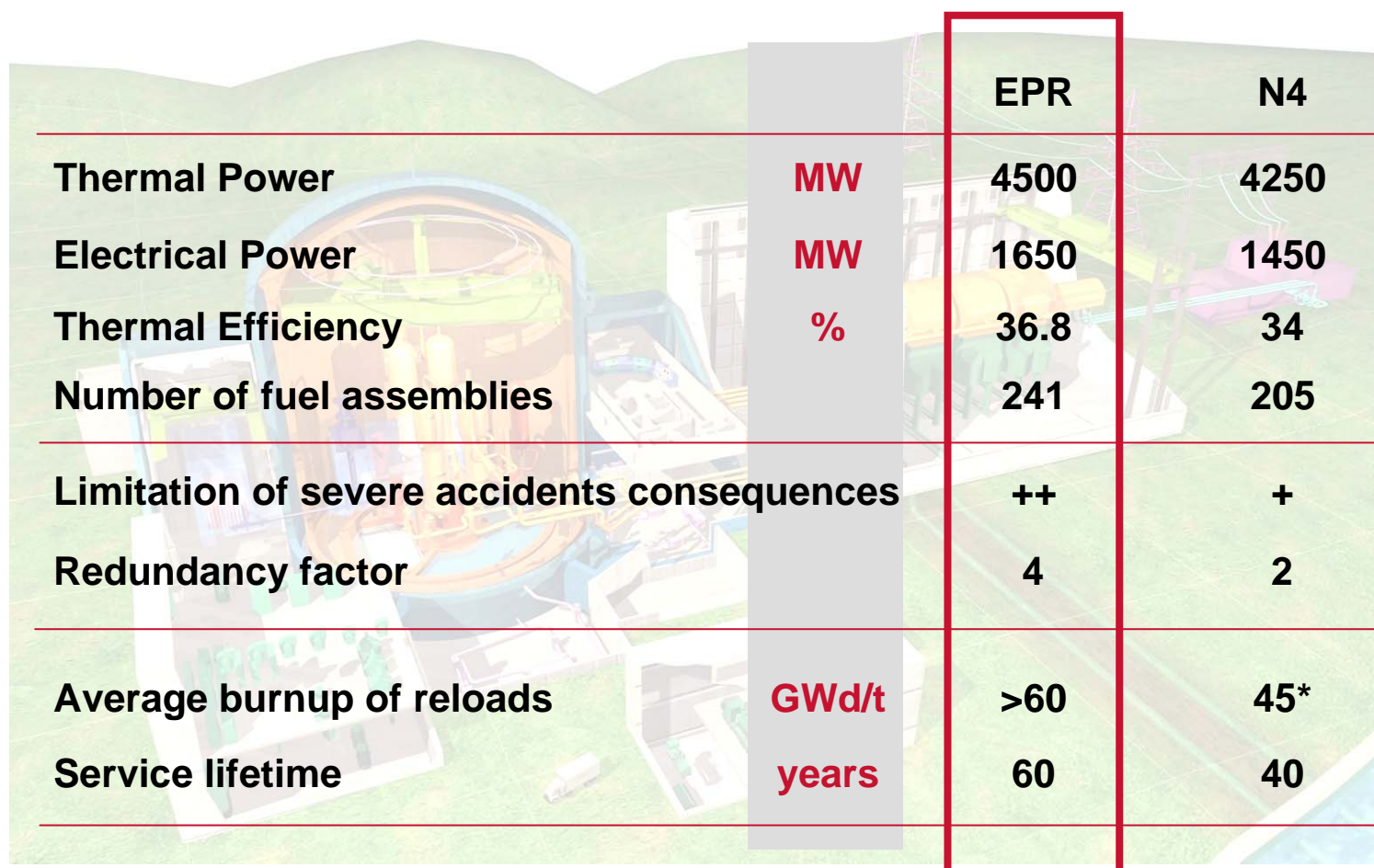
MATERIALS

- ▶ nickel-based alloy (tubes), low internal alloy carbon steel (structures) with a stainless steel layer the water chamber (P side)

DIMENSIONS & WEIGHT:

- ▶ height: 20 to 22 meters
- ▶ diameter: 3.5 to 5 meters
- ▶ weight (empty): 300 to 420 metric tons

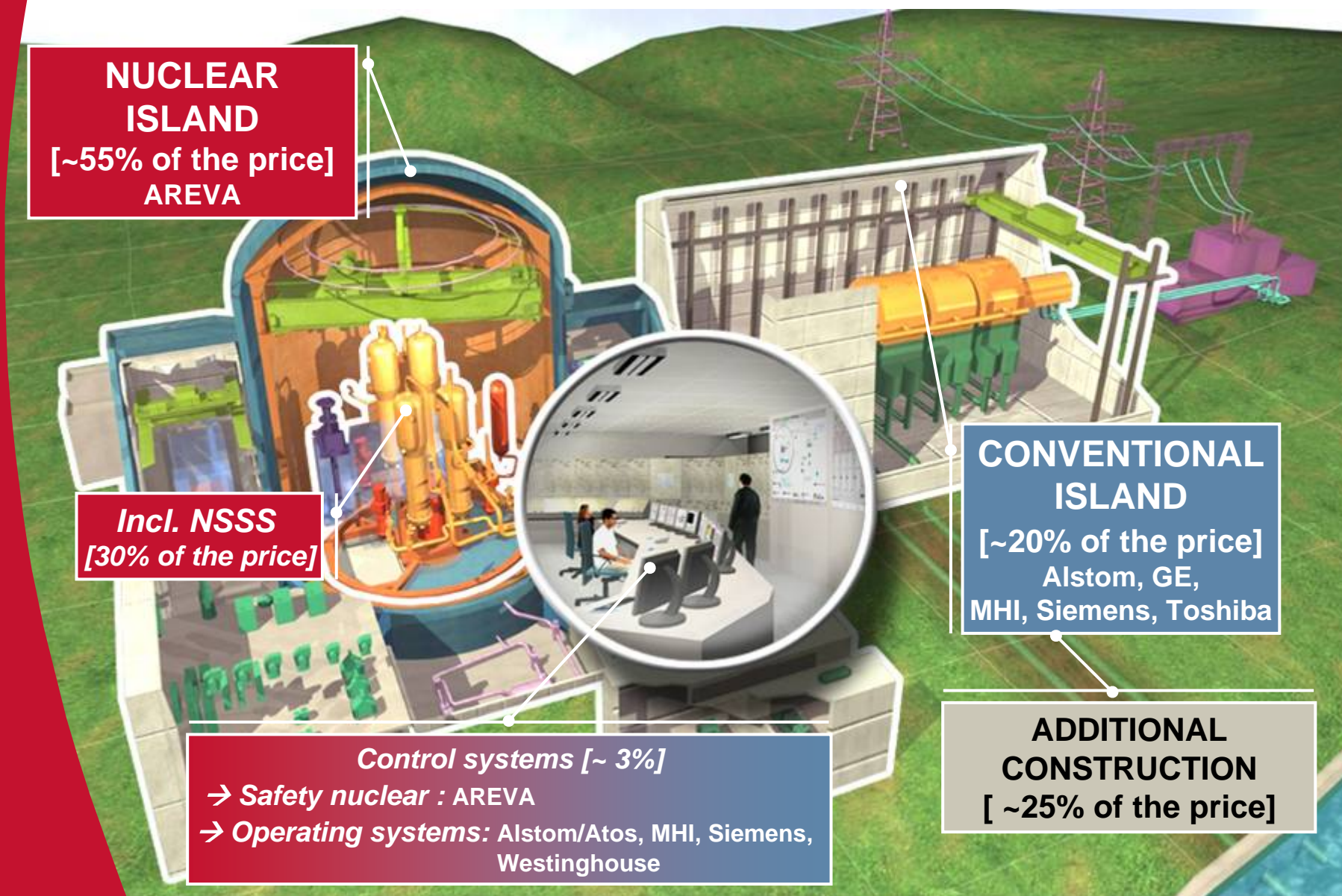
The EPR: increased power and safety - extended life expectancy over the most recently built reactors



		EPR	N4
Thermal Power	MW	4500	4250
Electrical Power	MW	1650	1450
Thermal Efficiency	%	36.8	34
Number of fuel assemblies		241	205
Limitation of severe accidents consequences		++	+
Redundancy factor		4	2
Average burnup of reloads	GWd/t	>60	45*
Service lifetime	years	60	40

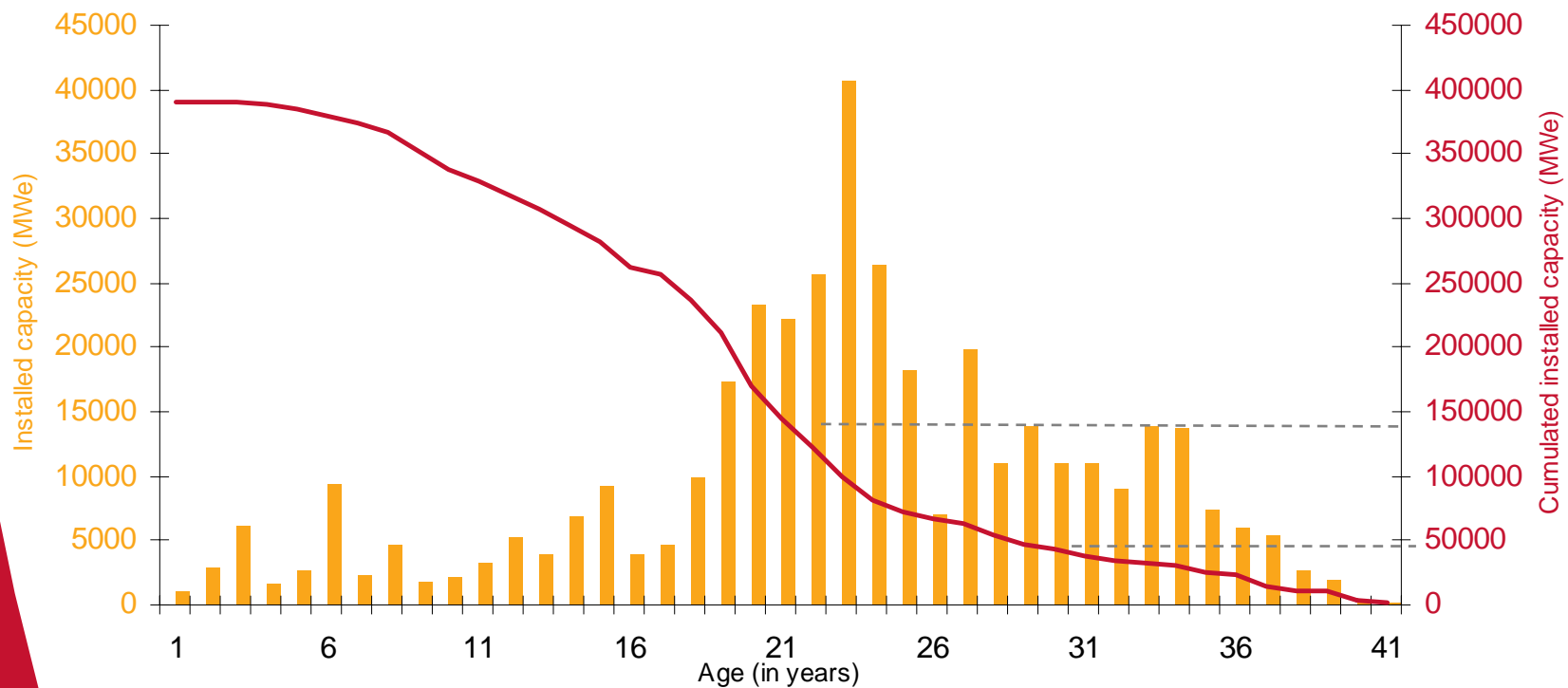
** Maximum burnup rate currently allowed by the French safety authority*

Plants: Call for Tenders – Who does what?



50,000 MWe installed is over 30 years

Pyramid of ages – 436 nuclear plants – WW nuclear fleet (January 2008 update)



***A need for re-investments
in the existing fleet***

Source: AIEA / PRIS – October 2006

> Overview – January 2009

Heavy re-investments in existing US reactors ***Up to \$300M for a typical 850 MWe PWR***

▶ **Oconee 1, 2 & 3**

- ◆ **PWR 850 MWe**
- ◆ **Commissioned: july 1973 → december 1974**
- ◆ **Re-investment: \$1bn over 2001-2006**
 - **Replacement of Vessel Heads and Steam Generators**
 - **Instrumentation & Control upgrade**

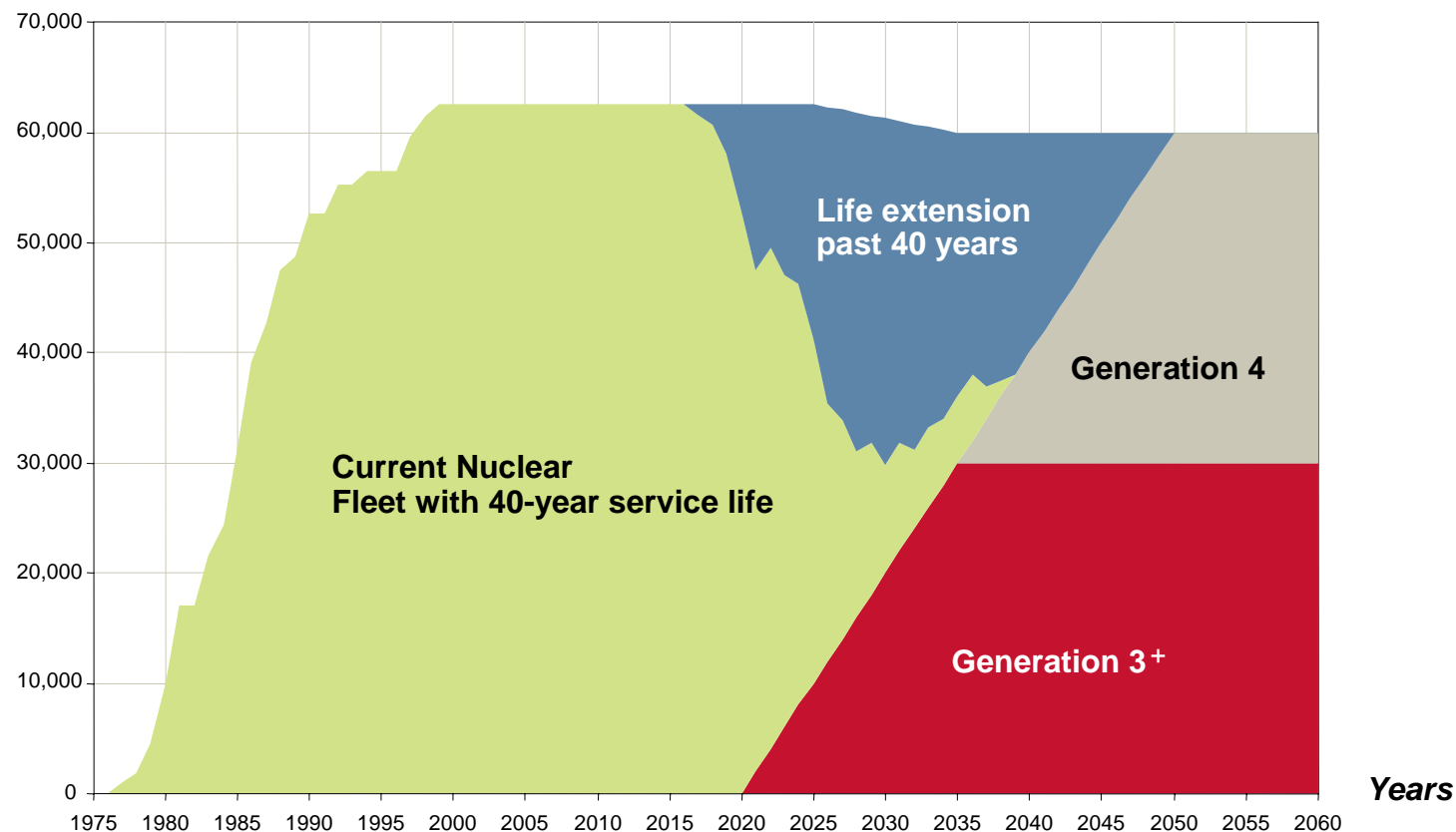
▶ **Calvert Cliffs 1&2**

- ◆ **PWR 850 MWe**
- ◆ **Commissioned: may 1975 - april 1977**
- ◆ **Re-investment: \$600M over 2001-2006**
 - **Replacement of Vessel Heads and Steam Generators**
 - **Instrumentation & Control upgrade**

EDF nuclear plant scenario starting in 2020

Renewal over 30 years (2020-2050)
Construction of about 2,000 MW/year

MWe installed



Average plant life: 48 years

Generation 3+: EPR

Source: EDF



Appendix 5

Back End business details

The closed and open cycles are similar in price, in a back-end that represents less than 6% of the overall nuclear kWh cost

Cost* (€/kWh)	Closed cycle	Open cycle
Spent Fuel Transp.	0.015	0.015
Spent Fuel Storage		0.047
Reprocessing / Vitrif.	0.183	
Spent Fuel condit..		0.106
Disposal of wastes	0.017	
End-of –cycle Subtotal	0.215	0.168
Uranium credit	(0.027)	
Plutonium credit	(0.011)	
Materials Credit Subtotal	(0.038)	0
Total cost	0.177	0.168
% of a 3 €/kWh generation cost (typical nuclear)	5.9%	5.6%

► **The rising cost of uranium is in favour of the closed cycle**

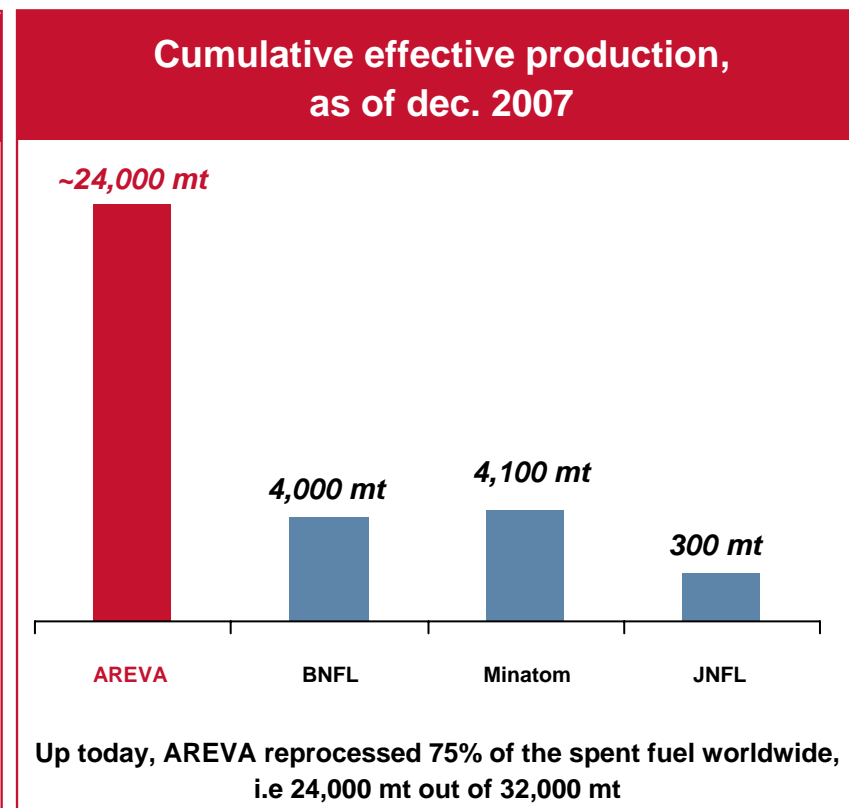
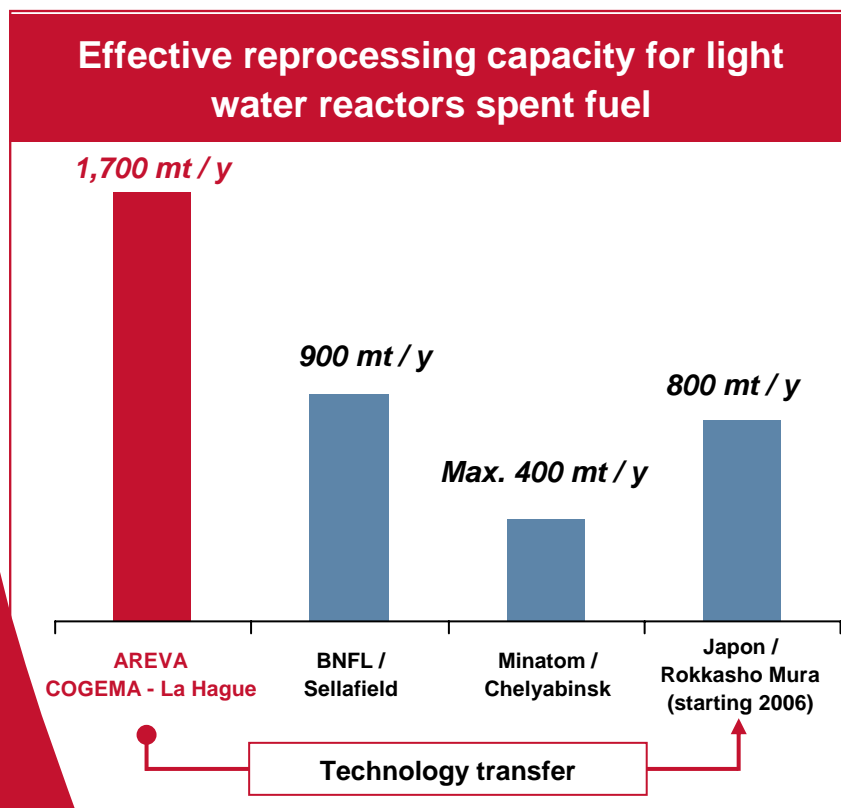
* Source: OECD - April 1994 converted to € - discount rate 0%

In Back End, AREVA is the specialist of spent fuel management

► **Considerable barriers to entry for reprocessing-recycling:**

- ◆ Technical and technological know-how
- ◆ Regulations
- ◆ Capital requirements

► **AREVA is Nr 1 worldwide in terms of effective production**



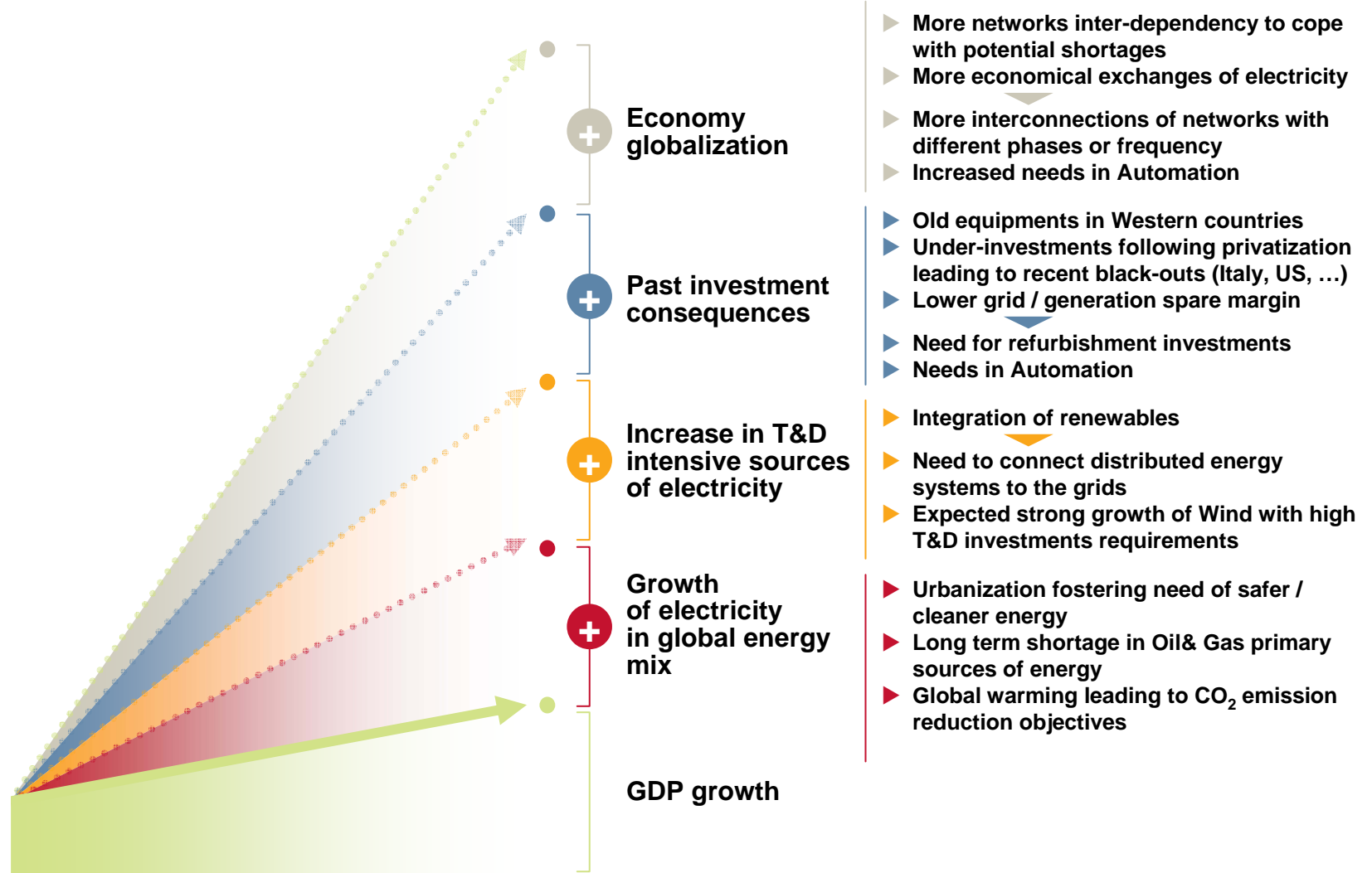
Source: AREVA, World Nuclear Association



Appendix 6

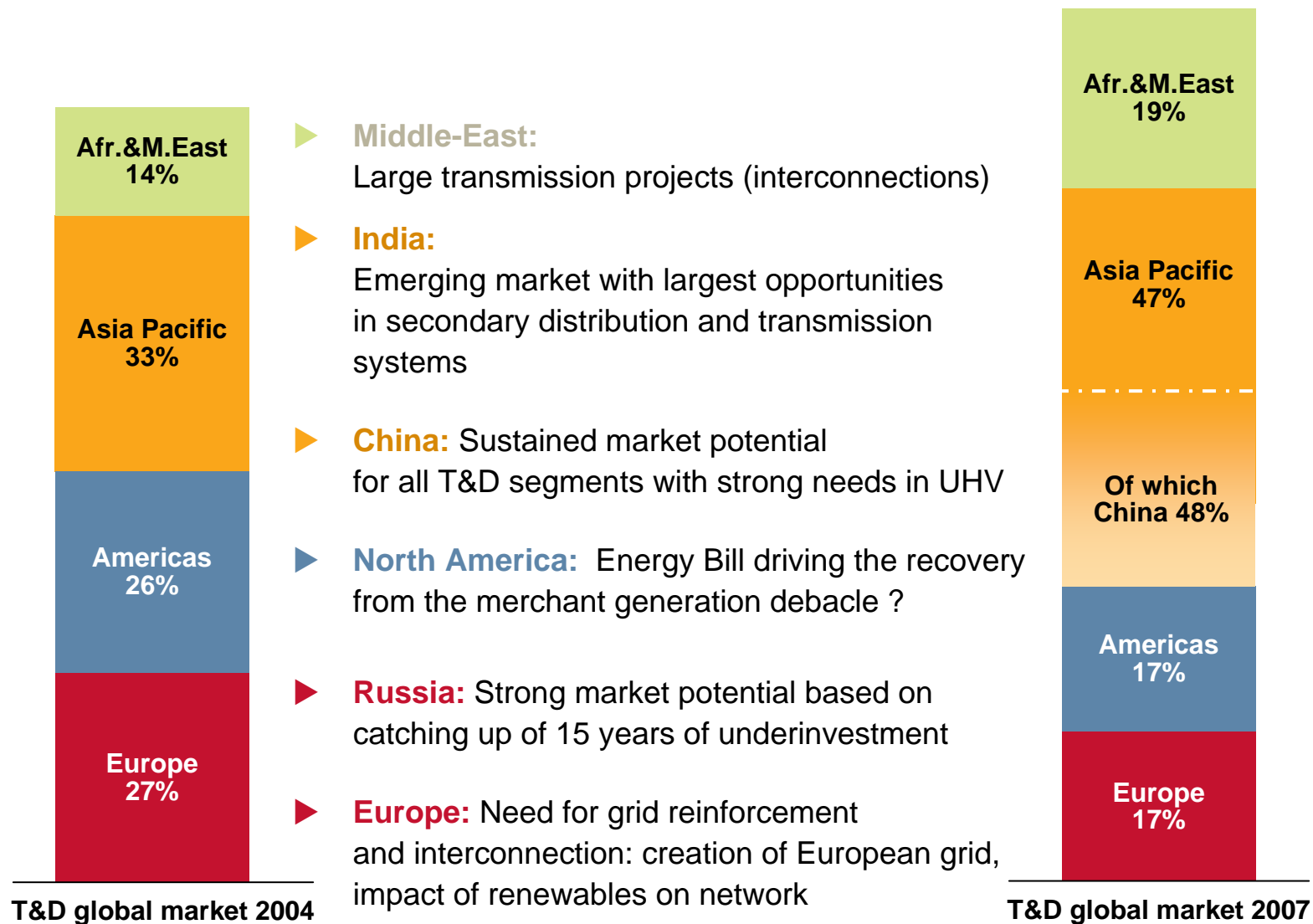
T&D business details

T&D investments will outpace GDP growth in the near future



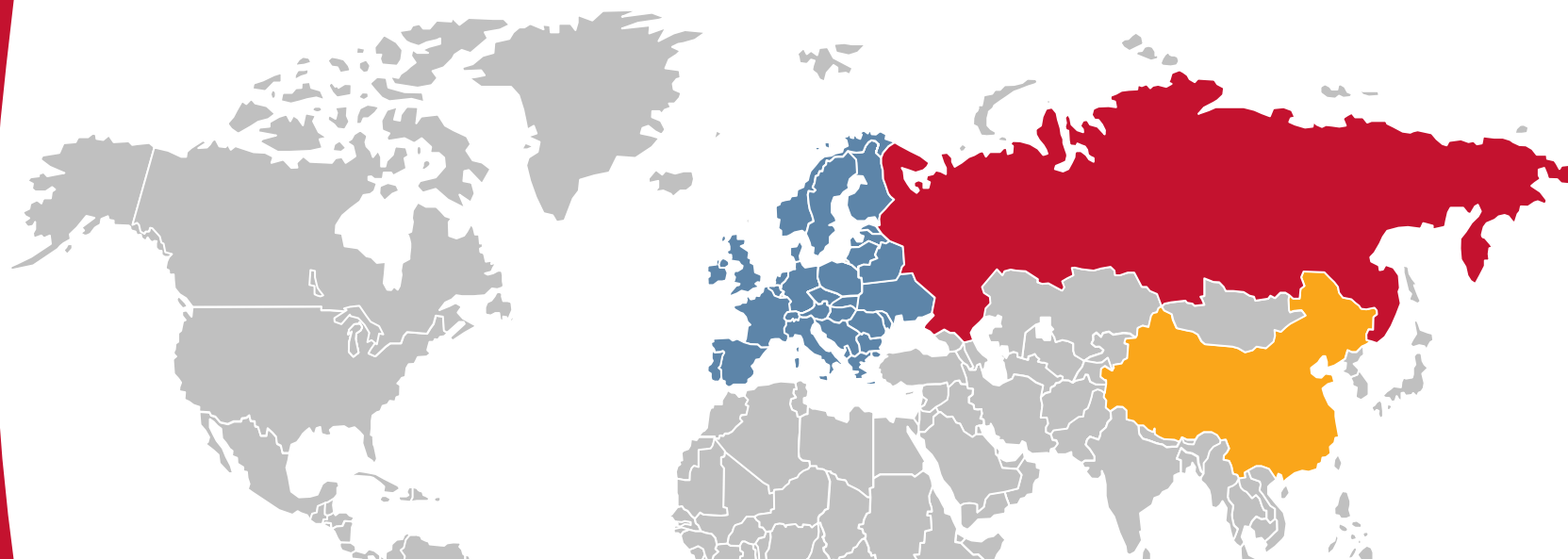
Source: AREVA

Today, key market opportunities are in Asia and Middle-East



Source: AREVA estimates

T&D – The strategy of selective acquisitions and partnerships is maintained in 2007



EUROPE

- ▶ Acquisition of Passoni & Villa (Italy)

CHINA

- ▶ Opening of a new plant in Suzhou (gas-insulated switchgear)
- ▶ JV formed with Sunten Electric Co. (MV transformers)
- ▶ Partnership with China Electric Power Research Institute (C-EPRI): access to HVDC market

RUSSIA

- ▶ Strategic agreement with Rusal: AREVA T&D becomes exclusive supplier

Reach World Leader Positions

Gas Insulated Substation



New

Disconnectors



Instrument Transformers



Static Power Supply Aluminum



New

Energy Management System

