

# AREVA

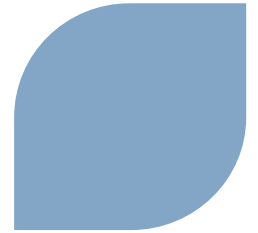
## Credit update

Pierre AUBOUIN, Chief Financial Executive Officer  
Pierre FOURRIER, Group Treasurer

January 2012



# Table of Contents



## ▶ Introduction

▶ Market outlook

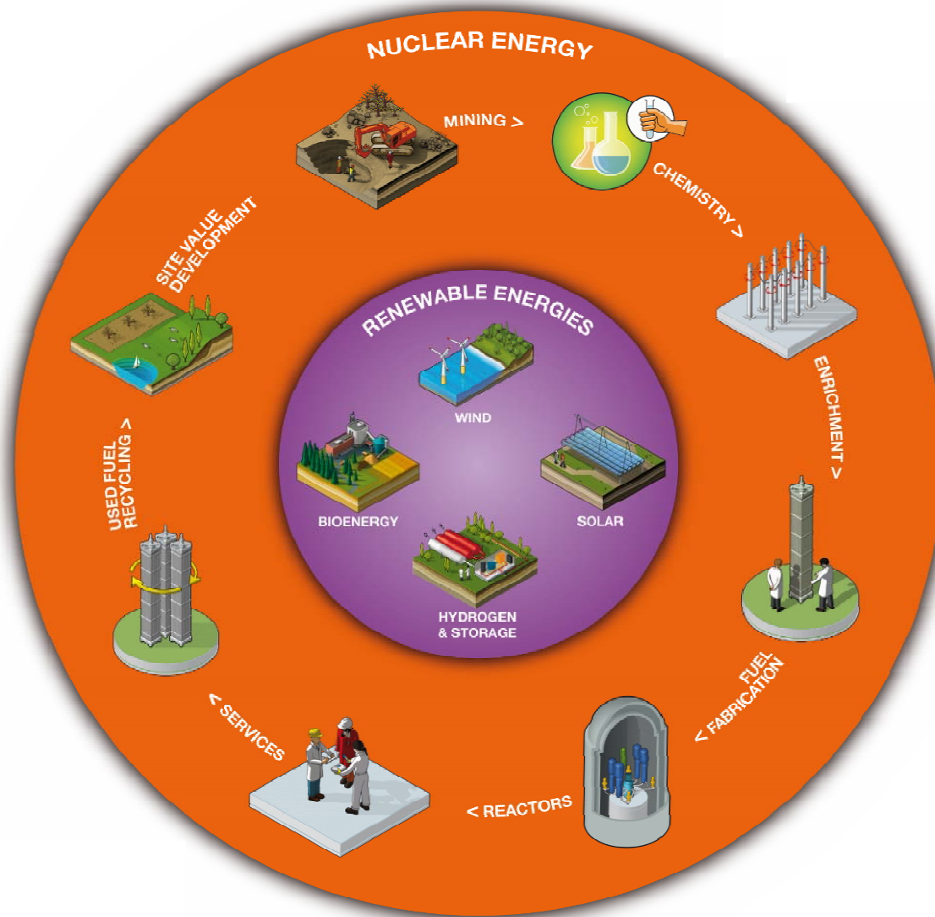
▶ Positioning and strategy

▶ Performance plan

▶ Financial outlook

▶ Conclusion

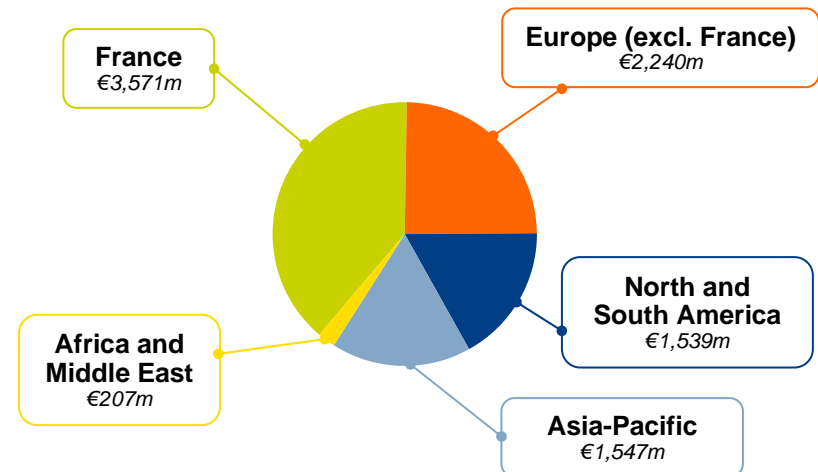
# AREVA is a global leader in solutions for power generation with less carbon



## 2010 Key figures

€44.2bn backlog

€9,104m revenue

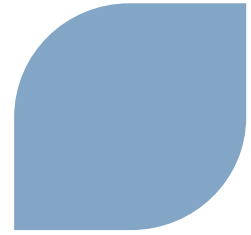


€532m EBIT  
excluding particular items

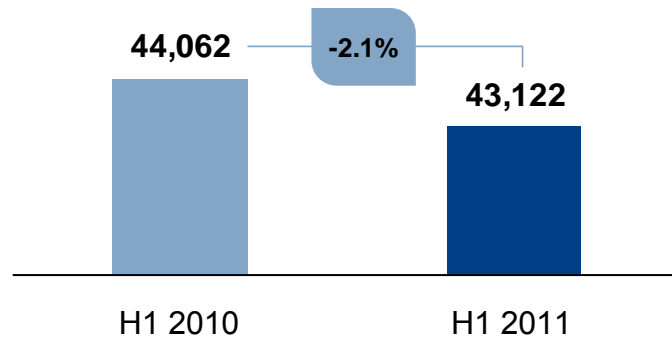
-€423m EBIT  
including particular items

47,851 people

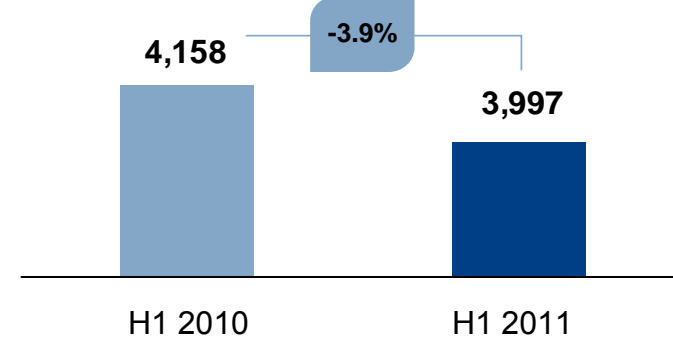
# H1 2011 key figures



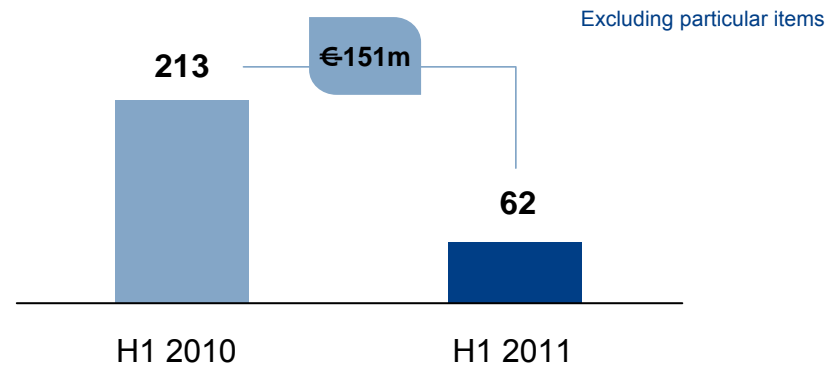
## Backlog (in millions of euros)



## Revenue (in millions of euros)



## Operating income (in millions of euros)

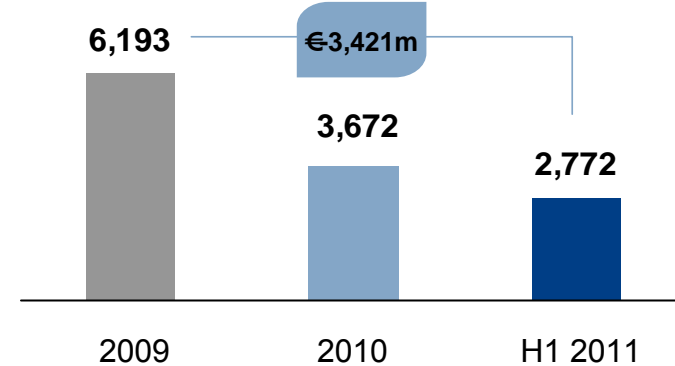


Reported operating income

€(485)m

€710m

## Net debt (in millions of euros)



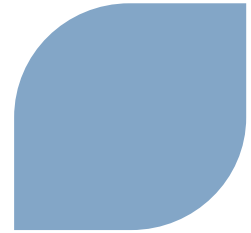
Gearing

45%

28%

22%

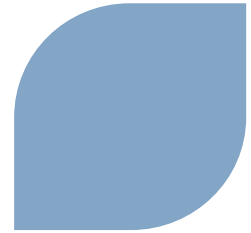
# Context of the “Action 2016” plan



- ▶ **10 billion-euro capital expenditure program over the period\* 2007-2011**
  - ◆ €10bn Capex financed internally by operations for 33%
  - ◆ Financing gap filled through a significant asset disposal program, a share capital increase, and debt increase
  - ◆ Free operating cash flow has been negative since 2006
  
- ▶ **Energy market forecasts are subject to questions in the aftermath of the Fukushima accident and the financial crisis**
  - ◆ Share of nuclear power in the energy mix and timing of ramp-up
  - ◆ Pace of growth in renewable energies
  
- ▶ **AREVA launched a comprehensive review of its activities, their outlook and corresponding resource needs which lead to the “Action 2016” plan released on Dec 13<sup>th</sup>, 2011, with notably the following objectives:**
  - ◆ Improvement of operating performance
  - ◆ Strengthening of AREVA financial profile
  - ◆ Continuous focus on safety and security as key business driver
  
- ▶ **Based on the above, S&P assigned a BBB- rating with stable outlook**

*\*Excluding the acquisition of AREVA NP shares from Siemens*

# Financial outlook 2011



Backlog	c. €44bn
Revenue	> €8.9bn
EBITDA	> €890m
	> €240m <small>*Excl. Siemens effects</small>
Free operating cash flow	> -€1.8bn <small>**Excl. Siemens effects</small>
	> -€2.9bn

## Provisions identified for fiscal year ended December 31, 2011

- ▶ €1.46bn impairment of mining assets related to UraMin acquisition in 2007
- ▶ €800m of provisions for contingencies and expenses likely to result in future cash outflows (including €150m related to the OL3 project)
- ▶ €100m of impairment of non-current assets related to industrial facilities (capacity utilization outlook revised downwards)

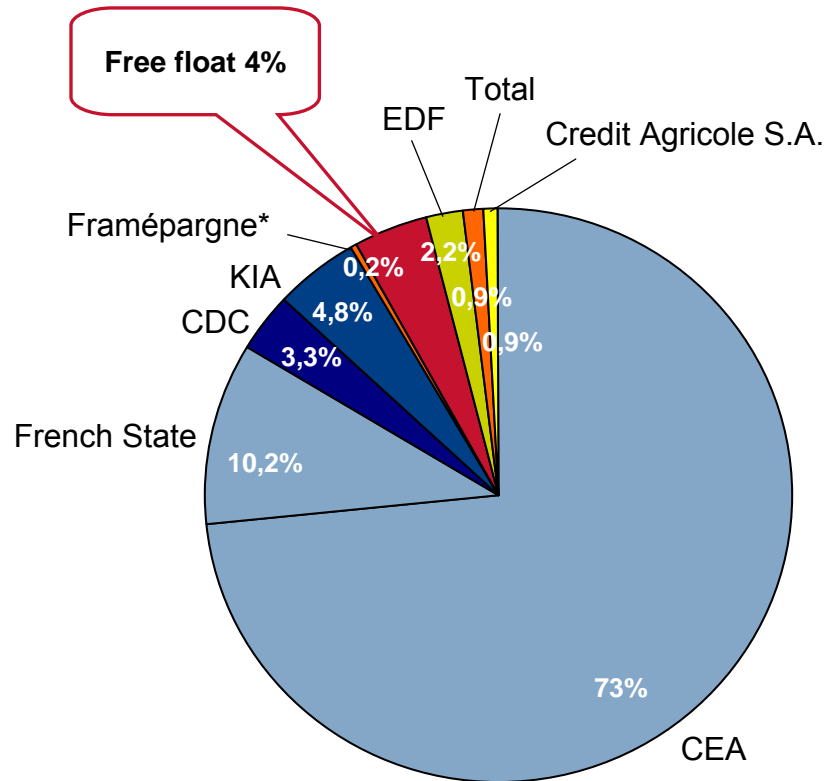
➤➤ Operating income between -€1.4bn and -€1.6bn

Constant consolidation scope

\* €48m penalty from Siemens

\*\* €48m penalty from Siemens and acquisition of AREVA NP shares for €1,679m

# AREVA current ownership structure



**Total French State: 87%**  
(CEA + French State + CDC)

**CEA**

**73%**

- ▶ French Atomic Energy Research Organization, public body established in 1945
- ▶ Active in three main fields : Energy, information and health technologies, defense and national security
- ▶ By law, CEA must retain the majority of AREVA's capital
- ▶ €3.4bn annual spending (2007)

**CDC**

**3,3%**

- ▶ French financial organization created in 1816, part of the Government institutions under the control of the Parliament
- ▶ Invests in long-term projects to serve France's public interests and economic development; supports public policies, companies and local authorities
- ▶ AAA/Aaa with a consolidated balance sheet of €21bn

**KIA**

**4,8%**

- ▶ Kuwait Investment Authority entered AREVA's capital in December, 2010.
- ▶ KIA took a 4,8% share in AREVA's capital for €600m, along with the French State which took another €300m share.

Note: Shareholding structure as at 30/06/2011

\* Employees' shareholding in AREVA



▶ Introduction

▶ **Market outlook**

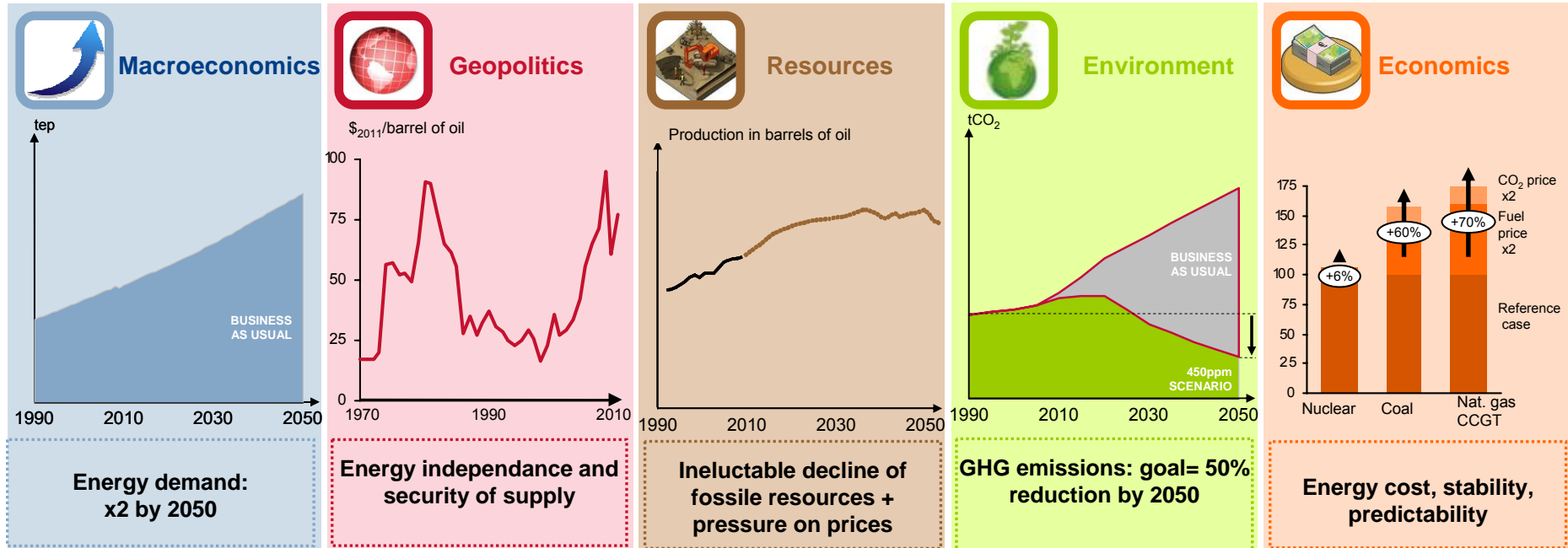
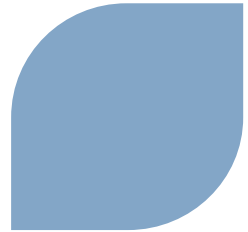
▶ Positioning and strategy

▶ Performance plan

▶ Financial outlook

▶ Conclusion

# Energy market: continued growth announced

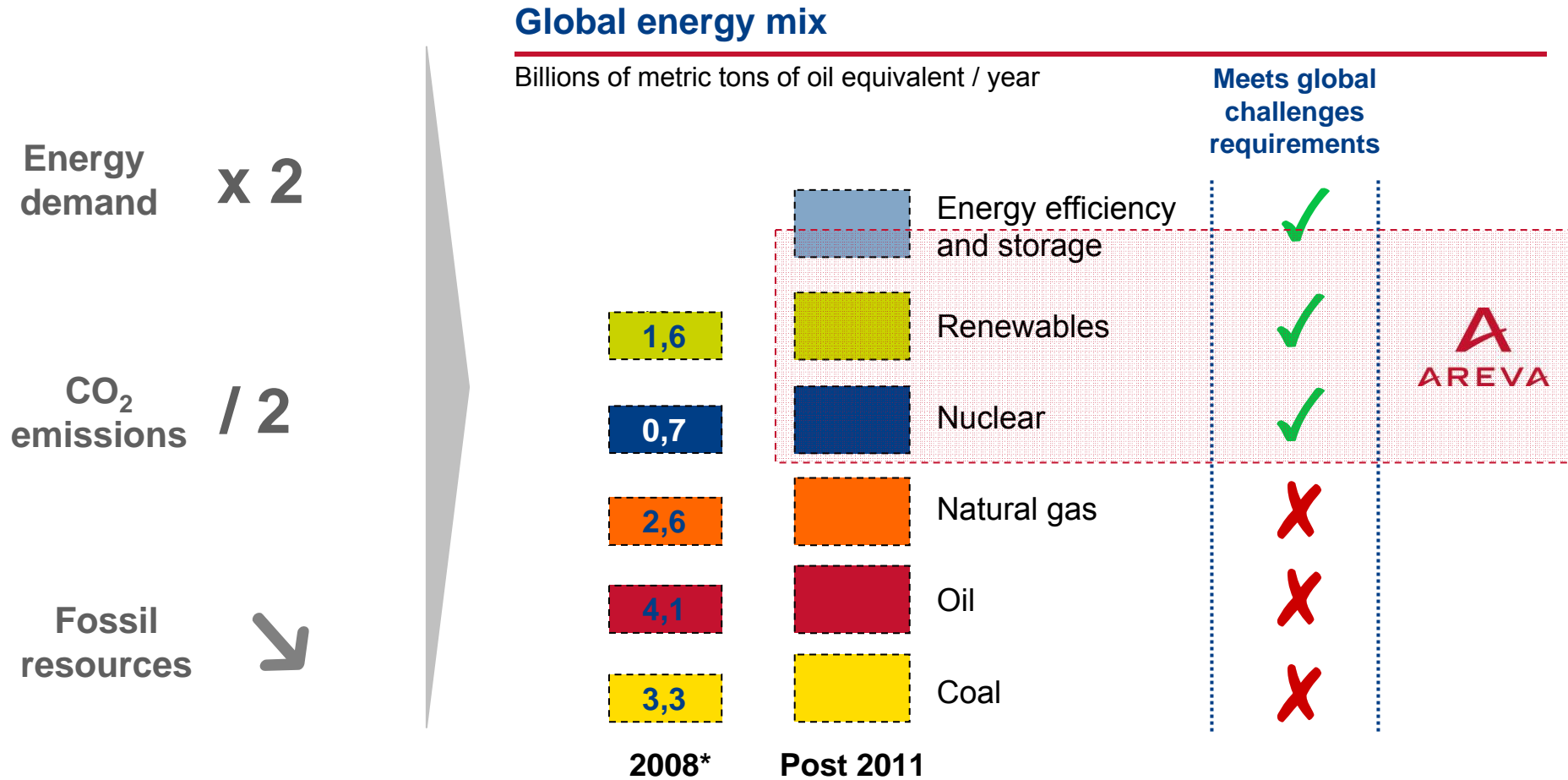
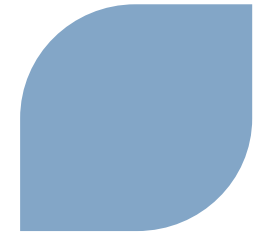


Source: IEA ETP: reference scenario 2010 - UNFCC, CERA 2009

<b>2011 WEO</b> 2009 – 2035 Scenario	<b>Global primary demand in energy*</b>	<b>+1.3% / year</b>
	<b>Demand in nuclear energy*</b>	<b>+2.1% / year</b>
	<b>Demand in renewable energies*</b>	<b>+2.5% / year</b>

\* Billions of toe

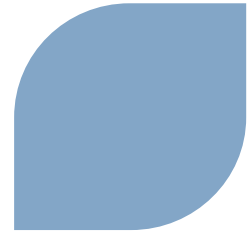
# AREVA positioned on markets fulfilling global challenges requirements



\*Source : World Energy Outlook



# Japan and Germany update



## Germany update :

- ▶ **Decision to phase out nuclear power after the March 2011 events**
  - ▶ In 2010, 17 reactors supplied 23% of the country's electricity
  - ▶ In 2011 : immediate shutdown of 8 reactors and gradual phase-out of 9 reactors from 2015 to 2022
  - ▶ Acceleration of the renewable energies program
  - ▶ Growing resort to coal and to imported gas / predictable increase of CO<sub>2</sub> emissions
- ▶ **Situation of power utilities**
  - ▶ Estimated operating losses due to the immediate shut-down of 8 reactors\*: €2bn
  - ▶ Job cuts (ex: E.ON up to 11,000 people) and announced reorganizations
  - ▶ Need to operate the facilities until their end-of-lifecycle and to implement a dismantling strategy

Germany:  
6 % of AREVA's backlog

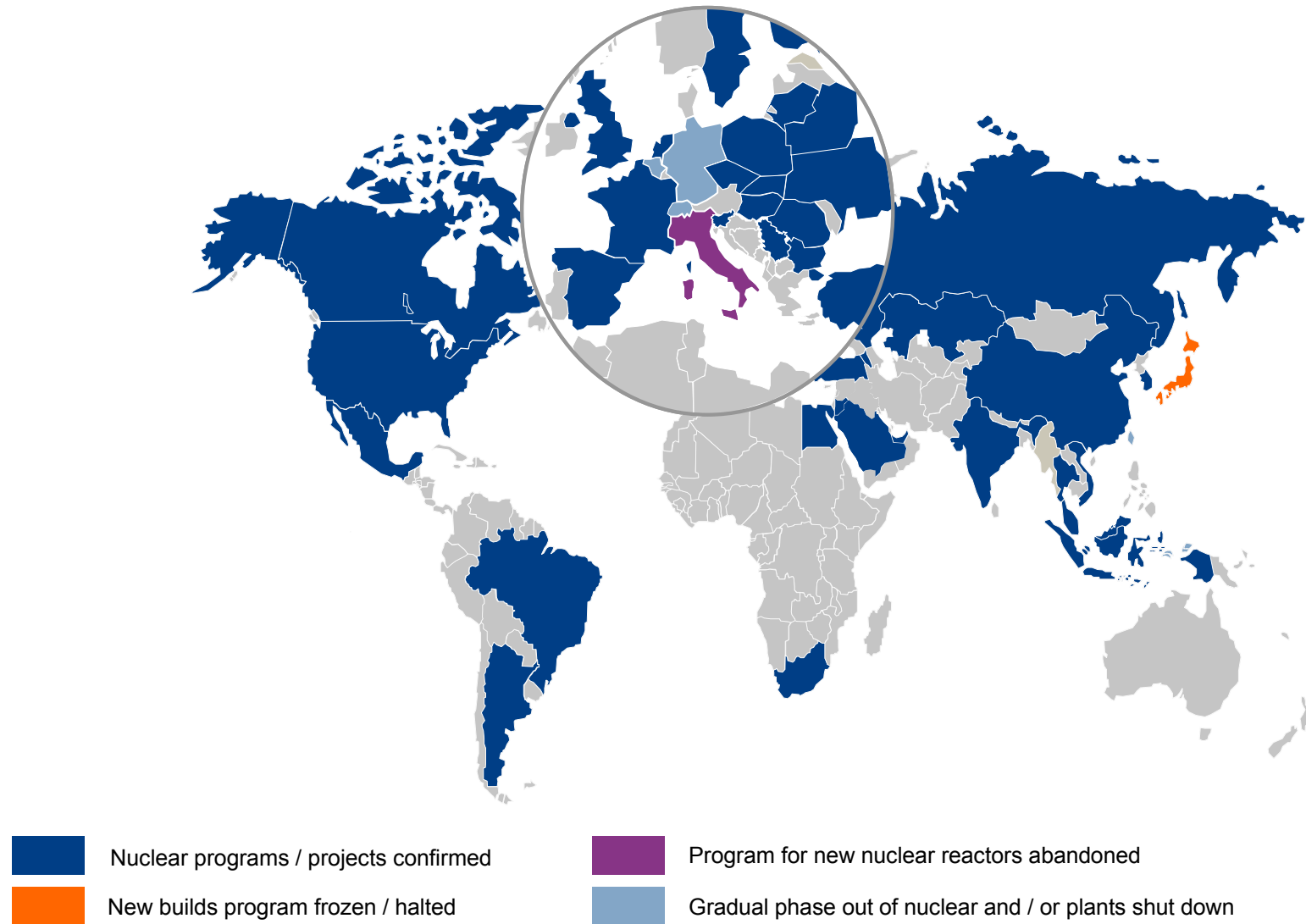
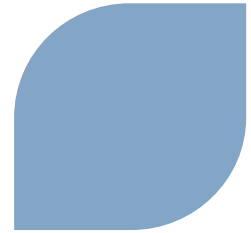
## Japan update :

- ▶ **Situation as of December 12, 2011**
  - ▶ Extremely complex and costly electrical supply
  - ▶ 45 reactors shut down
  - ▶ Construction for 2 reactors stopped
- ▶ **2012 outlook**
  - ▶ Debate on energy policy should confirm nuclear program
  - ▶ Complementary safety tests: prerequisites to the restart of reactors in second half of 2012
  - ▶ Update on Fukushima-Daiichi situation: after the exit of the emergency phase, decontamination of the site

Japan:  
12 % of AREVA's backlog

\*Source: LBBW bank – estimated data for E.On, RWE, EnBW, Vattenfall

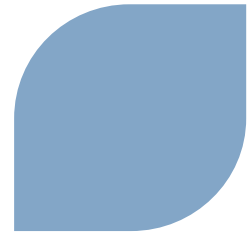
# Major nuclear programs are confirmed



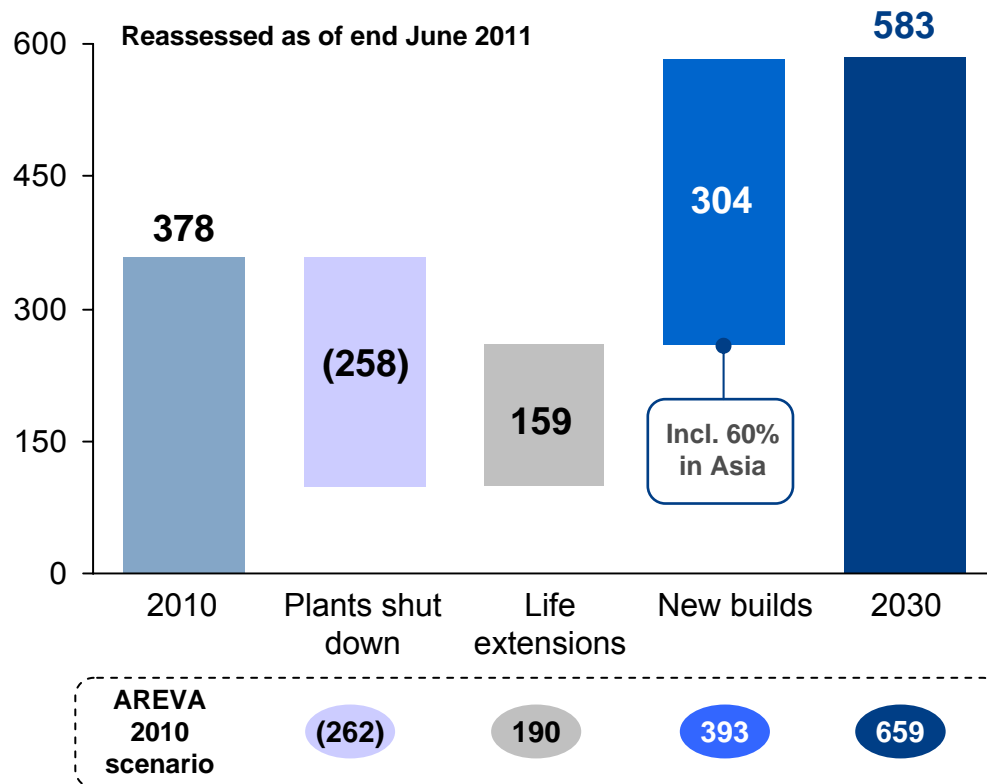
- Nuclear programs / projects confirmed
- New builds program frozen / halted
- Program for new nuclear reactors abandoned
- Gradual phase out of nuclear and / or plants shut down



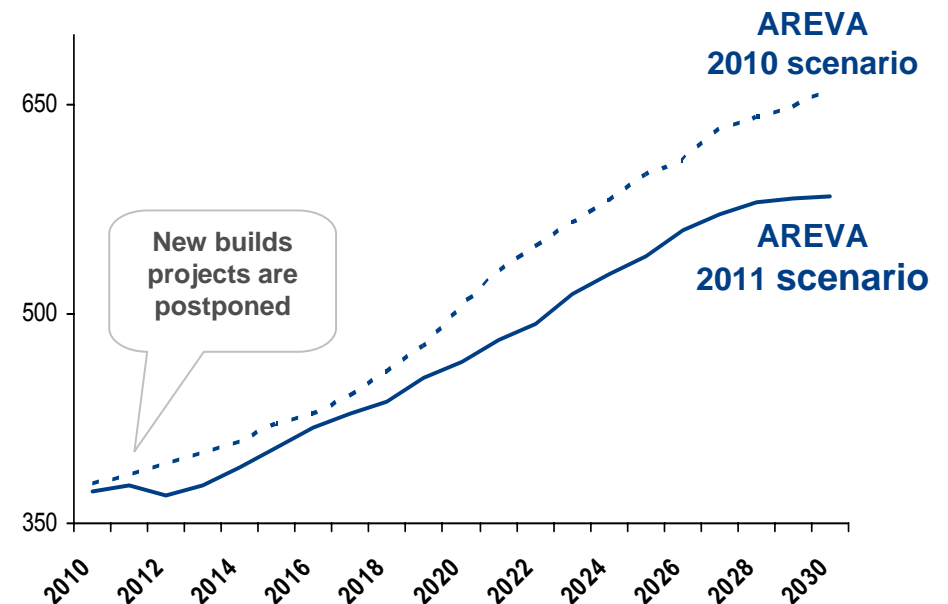
# Nuclear scenario: installed capacity growth will be delayed



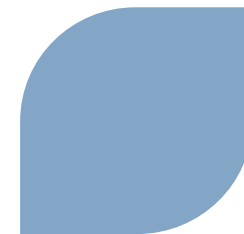
AREVA 2011 scenario (GWe)



Change in global installed base (GWe)



➤➤ Growth in installed capacity:  
+2.2% per year on average until 2030



- ▶ Introduction
- ▶ Market outlook
- ▶ **Positioning and strategy**
- ▶ Performance plan
- ▶ Financial outlook
- ▶ Conclusion

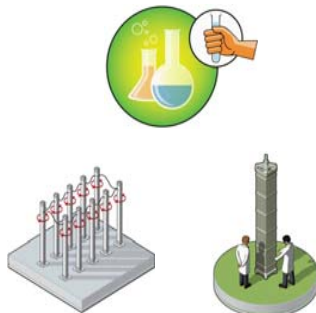
# AREVA Business Groups

## Mining



- Mining : Uranium mines exploration and operation activities

## Front-End



- Conversion and enrichment of the uranium
- Design of the fuel for the nuclear reactors

## Reactors & Services



- Design and construction of nuclear reactors
- Maintenance and modernization of the nuclear power plants

## Back-End



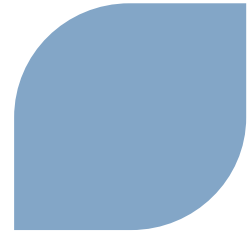
- Recycling of the used fuel and provider of clean-up and dismantling services

## Renewable Energies



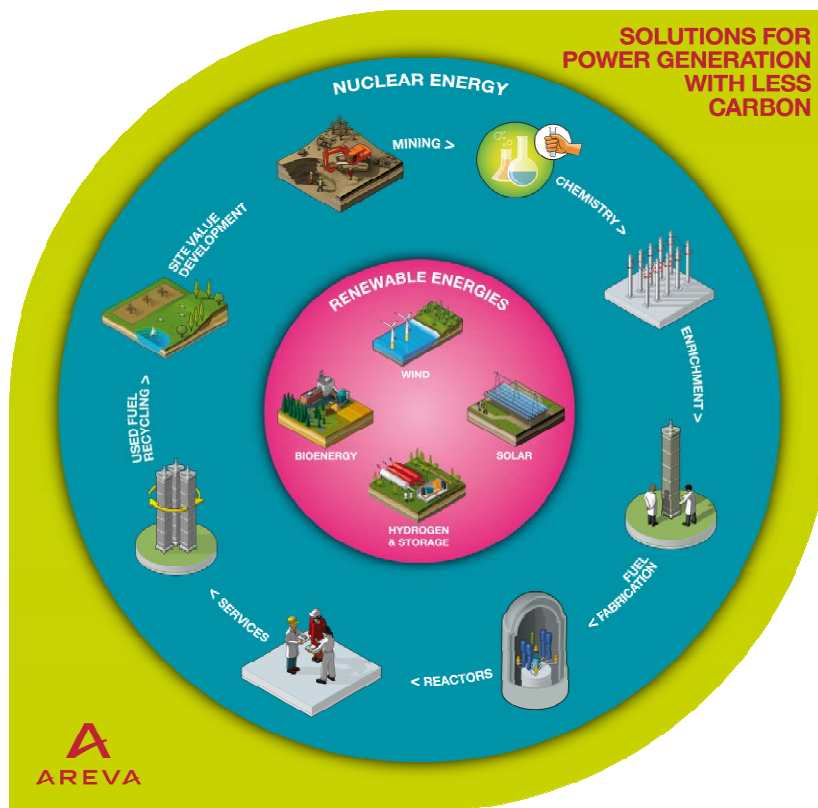
- Development of wind energy, bio-energy, solar power and hydrogen power solutions

# Nuclear and renewables: a consistent offering



## AREVA's portfolio of solutions...

## ...creating value thanks to strong synergies



### Commercial

- ▶ Leveraging established relations with utilities across the world
- ▶ Securing access to front-end resources and recycling for nuclear plant customers
- ▶ Proposing a **global answer** to the CO2 challenges of customers

### Technology

- ▶ **Sharing engineering competences** and know-how
- ▶ **Visibility over R&D challenges** for the whole nuclear value chain, a key enabler for **staying ahead in the technological race**
- ▶ **R&D and engineering synergies** between nuclear and renewable

### Competency

- ▶ **Attracting and retaining talents** thanks to enhanced visibility and reputation

### Cost

- ▶ **Developing nuclear supplier base** and increasing negotiation power
- ▶ **Mutualising go-to-market costs**

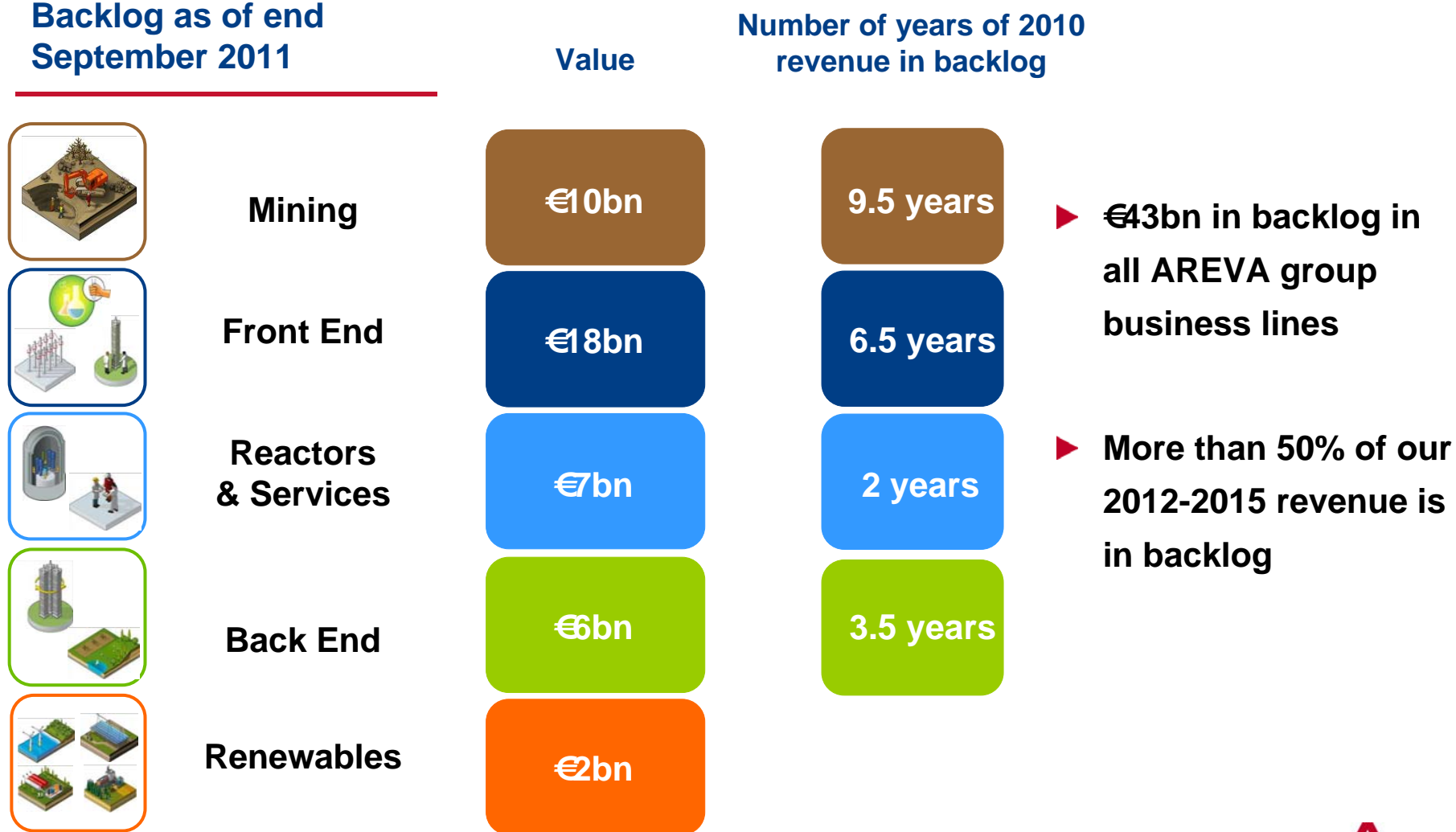
### Financial

- ▶ **Smoothing activity** with a portfolio of business with different cycles

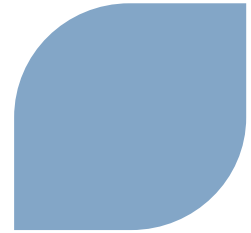
# Orders: 5 years of revenue in backlog



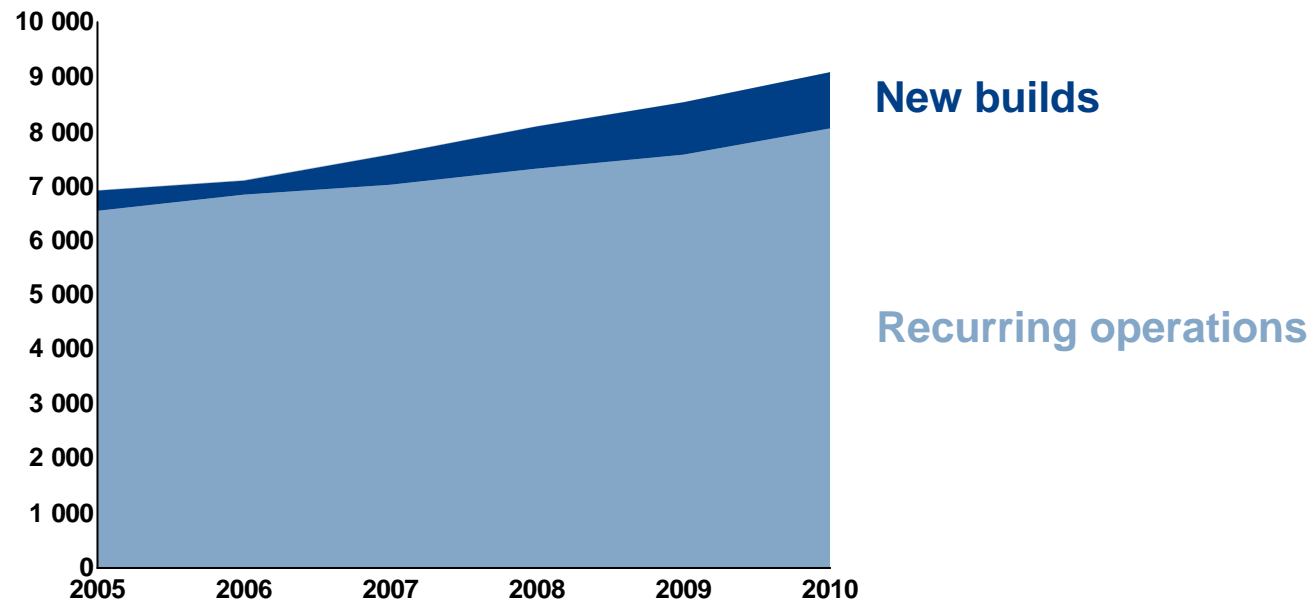
Backlog as of end September 2011



# Recurring operations: a robust foundation

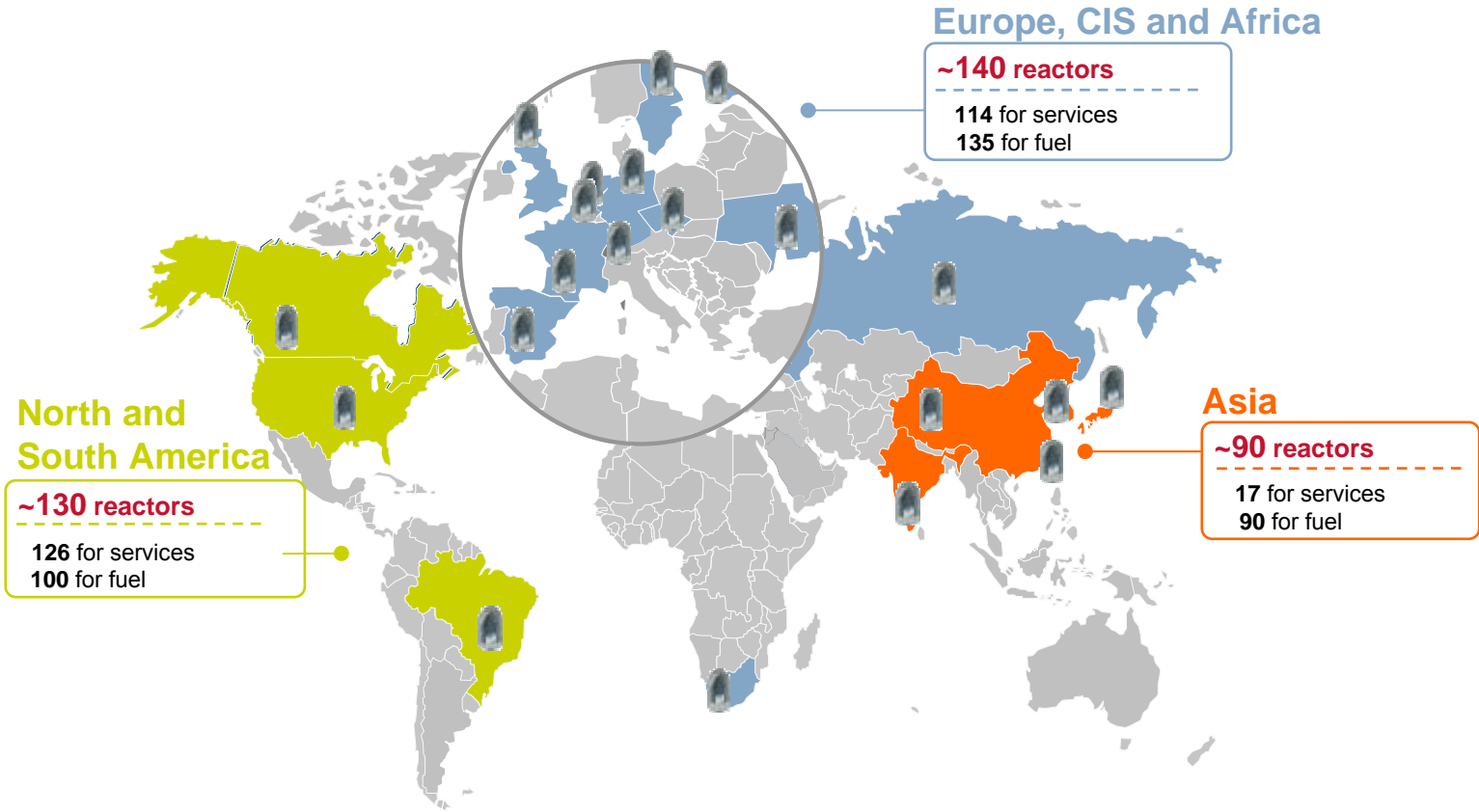
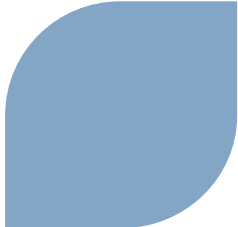


Revenue from Recurring operations vs. New builds (€m)



» Over 80% of AREVA's revenues stem from recurring operations generated by existing reactors

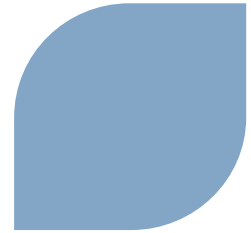
# 95% of all nuclear utilities are AREVA customers



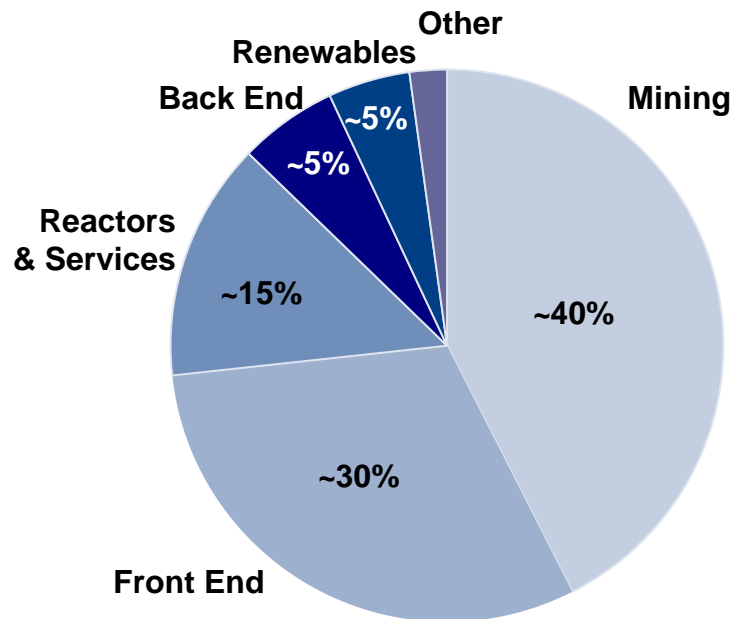
**>> AREVA provides services to 360 reactors worldwide**



# 2007-2011 capex for our customers' benefit



## Gross capital expenditure, 2007-2011\*



➤➤ **Total: about €10bn**  
(incl. about €2bn for safety, security, maintenance)

\*Excl. acquisition of AREVA NP shares

## Capital expenditure in the fuel cycle (Mining/Front End/Back End)

- ▶ Development of a diversified portfolio of projects to secure uranium resources
- ▶ Replacement and improvement of production facilities
- ▶ Deployment of the most advanced technologies
- ▶ Expansion of the offering and optimization of nuclear fuel

## Capital expenditure in Reactors & Services

- ▶ Design and certification of Gen III+ reactors
- ▶ Optimization of component manufacturing facilities

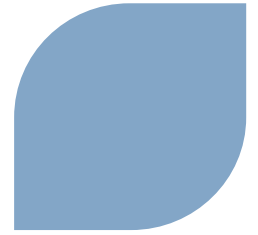
## Capital expenditure in Renewables

- ▶ Building of a portfolio of renewable energy solutions through targeted acquisitions
- ▶ Capacity development and industrialization of existing activities



- ▶ Introduction
- ▶ Market outlook
- ▶ Positioning and strategy
- ▶ **Performance plan**
- ▶ Financial outlook
- ▶ Conclusion

# Action 2016



## Safety Security Transparency

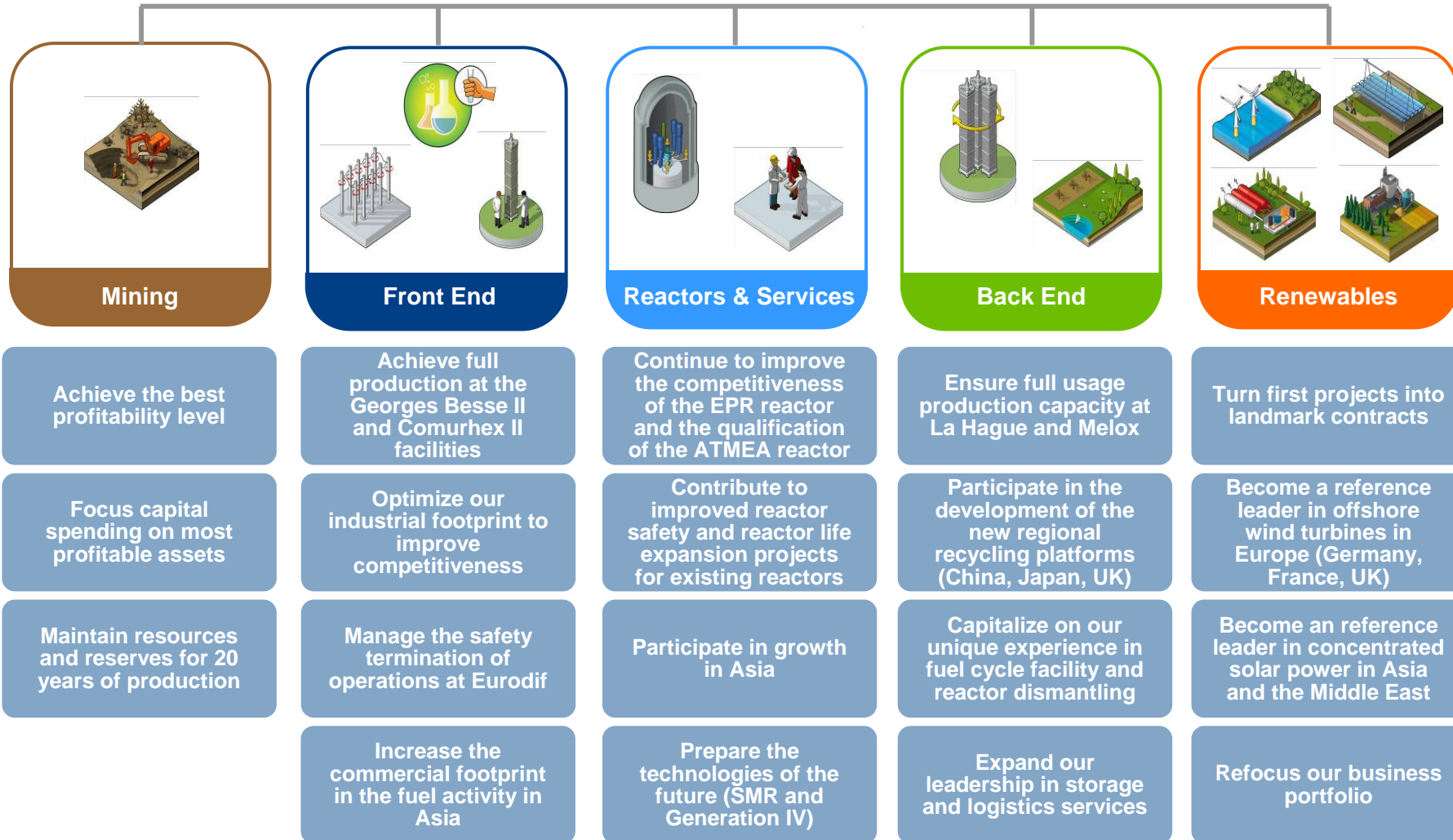
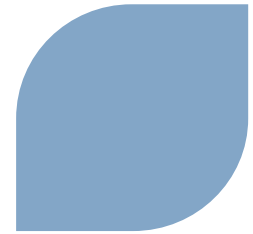
Commercial  
priority given  
to value  
creation

Selectivity  
in  
capital spending

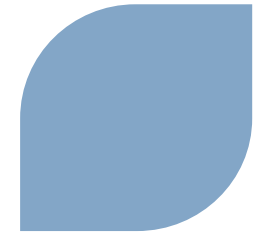
Debt  
management

Improving our performance

## Strategic objectives by Business Group



# Action 2016



## Safety Security Transparency

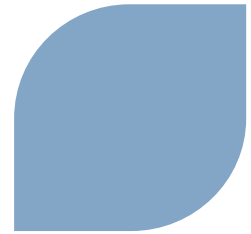
**Commercial  
priority given  
to value  
creation**

**Selective  
capital  
expenditure**

**Debt  
management**

**Improving our performance**

# Installed base: doubling profitability by 2016



## Fuel offering

- ▶ Expanding integrated offerings in the front end cycle



## Post-Fukushima safety

- ▶ Capturing 35% of the accessible market of post-Fukushima safety works (estimated at €3.5bn over 10 years)



## Reactor modernization/ life extension

- ▶ Replacing primary components
- ▶ Installing digital I&C systems



## Recycling: promoting safer management approaches for used fuel

- ▶ Reducing the volume of used fuel in the pools (recycling or dry storage)
- ▶ Improving pool safety




# New nuclear plants: becoming the reference technology



## Ongoing negotiations (bilateral)

  
CGNPC  
Taishan 3-4

  
NPCIL  
Jaitapur 1-2

  
EDF  
Hinkley Point  
C-D

  
EDF  
Penly 3

  
EDF  
PPL  
Duke Energy  
Calvert Cliff 3  
Bell Bend  
Piketon

## Ongoing bids

  
Horizon  
Nuclear Power  
Wylfa 3-4

  
Fennovoima  
Pyhäjoki


  
CEZ  
Temelin 3-4


  
JAEC

## Bids to come (in 3-5 years)

  
ESKOM

  
TVO

  
GDF Suez – Iberdrola

  
Delta

  
PGE

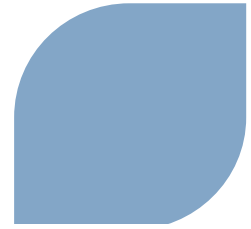
  
Vattenfall

  
New Brunswick Power

  
Ameren

  
Saudi Arabia

# Contract wins since Fukushima



## Fuel cycle

- ▶ Uranium supply and conversion services for a European power company
- ▶ Supply of fuel assembly in Japan and in the US
- ▶ Supply to TEPCO of a treatment-recycling solution for contaminated water at the Fukushima site in Japan
- ▶ Supply of dismantling services with the CEA for the Marcoule site over the 2011-2015 period in France
- ▶ Supply of dry storage casks for 2 European customers
- ▶ Integrated fuel and related services contract for Xcel Energy (uranium, conversion, enrichment, fuel design and fabrication and related services)

## Reactors & Services

- ▶ Supply of 32 steam generators to EDF for 1,300 MW reactors (€1.1bn) in France
- ▶ Upgrade of instrumentation and control systems for 20 EDF 1,300 MW reactors (€600m) in France
- ▶ Solutions provided to TVA to complete the Bellefonte plant in the US
- ▶ Supply of digital instrumentation & control systems for JNPC's Tianwan 3&4 reactors (VVER type) in China
- ▶ Supply of services for electrical and I&C systems for Kozloduy 5&6 in Bulgaria
- ▶ Supply of forgings for EDF Energy Hinkley Point EPR in the UK
- ▶ Agreement with CNNC on safety checks post Fukushima in China

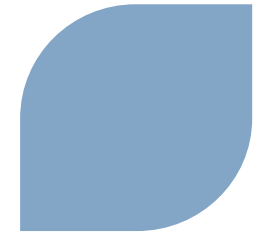
## Renewable Energies

- ▶ Construction of a biomass cogeneration plant for Coriance (€45m)
- ▶ Construction of a biomass cogeneration plant for Eneco (€155m)
- ▶ Selected to be involved in the part 1 of the "Solar Flagships" program in Australia (250 MW)



**€5.6bn orders at the end of October, 2011**

# Action 2016



## Safety Security Transparency

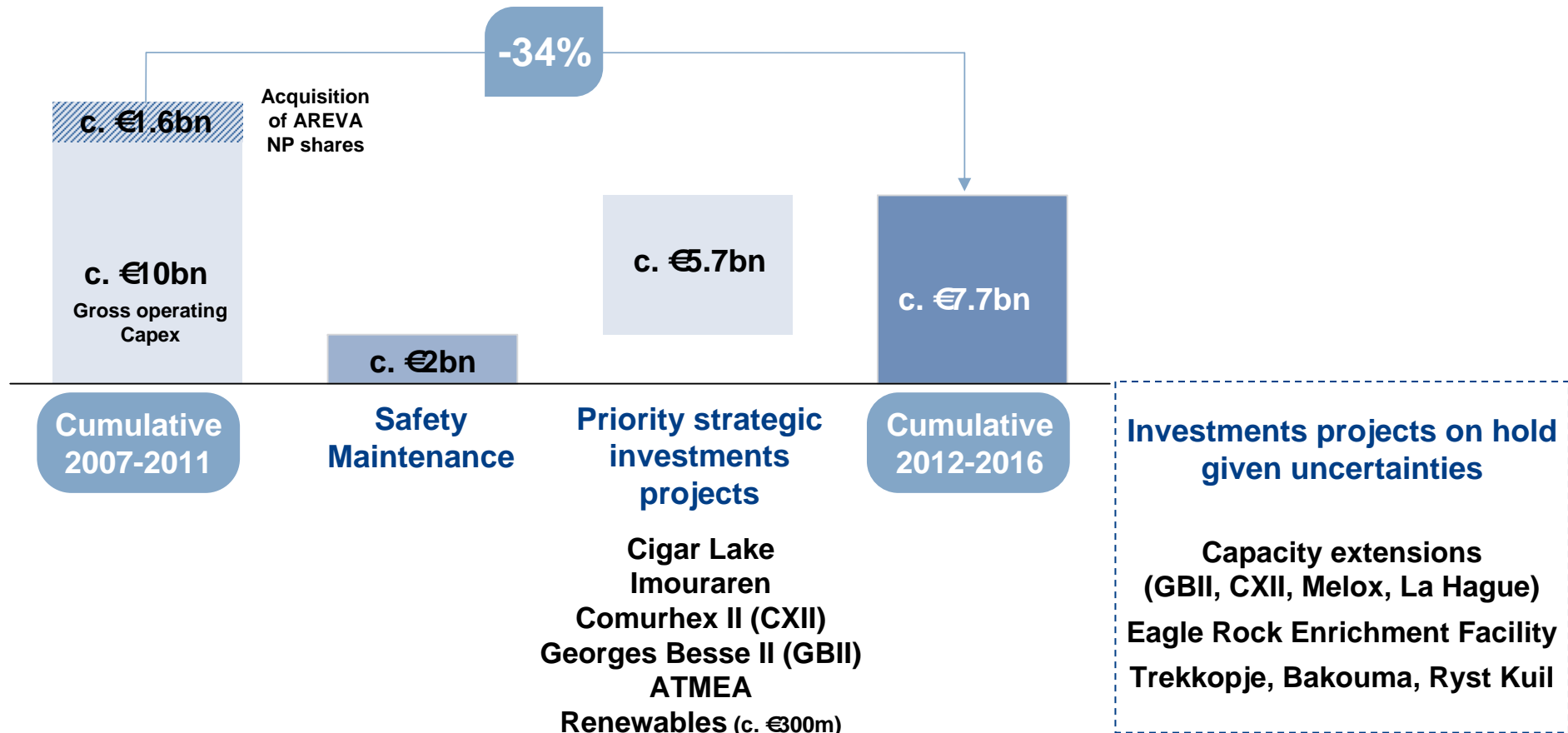
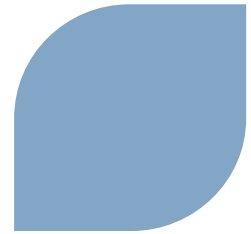
Commercial  
priority given  
to value  
creation

Selective  
capital  
expenditure

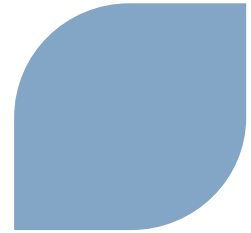
Debt  
management

Improving our performance

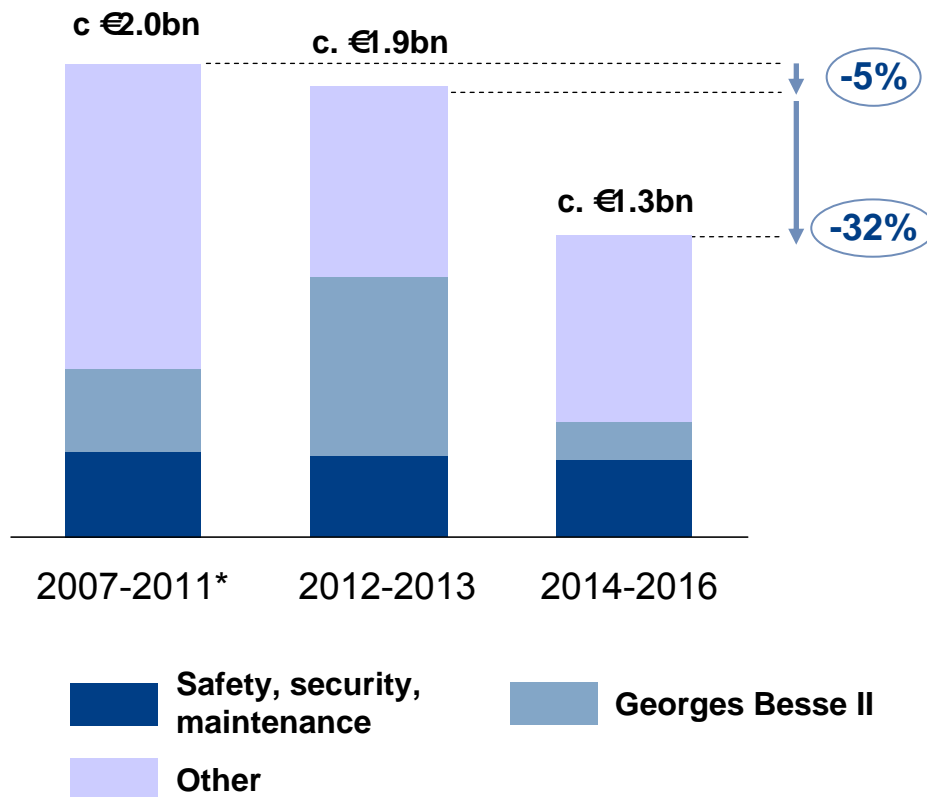
# Investment program consistent with new market conditions



# Capital spending trend 2012-2016



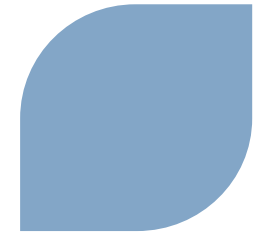
## Gross operating Capex (€bn) Average per year



- ▶ No new significant Capex project launched
- ▶ Significant decrease of the annual value of capital spending in 2014 with the completion of the Georges Besse II plant
- ▶ Capex related to safety stable at €2bn over the period

\* excluding the acquisition of AREVA NP shares

# Action 2016



## Safety Security Transparency

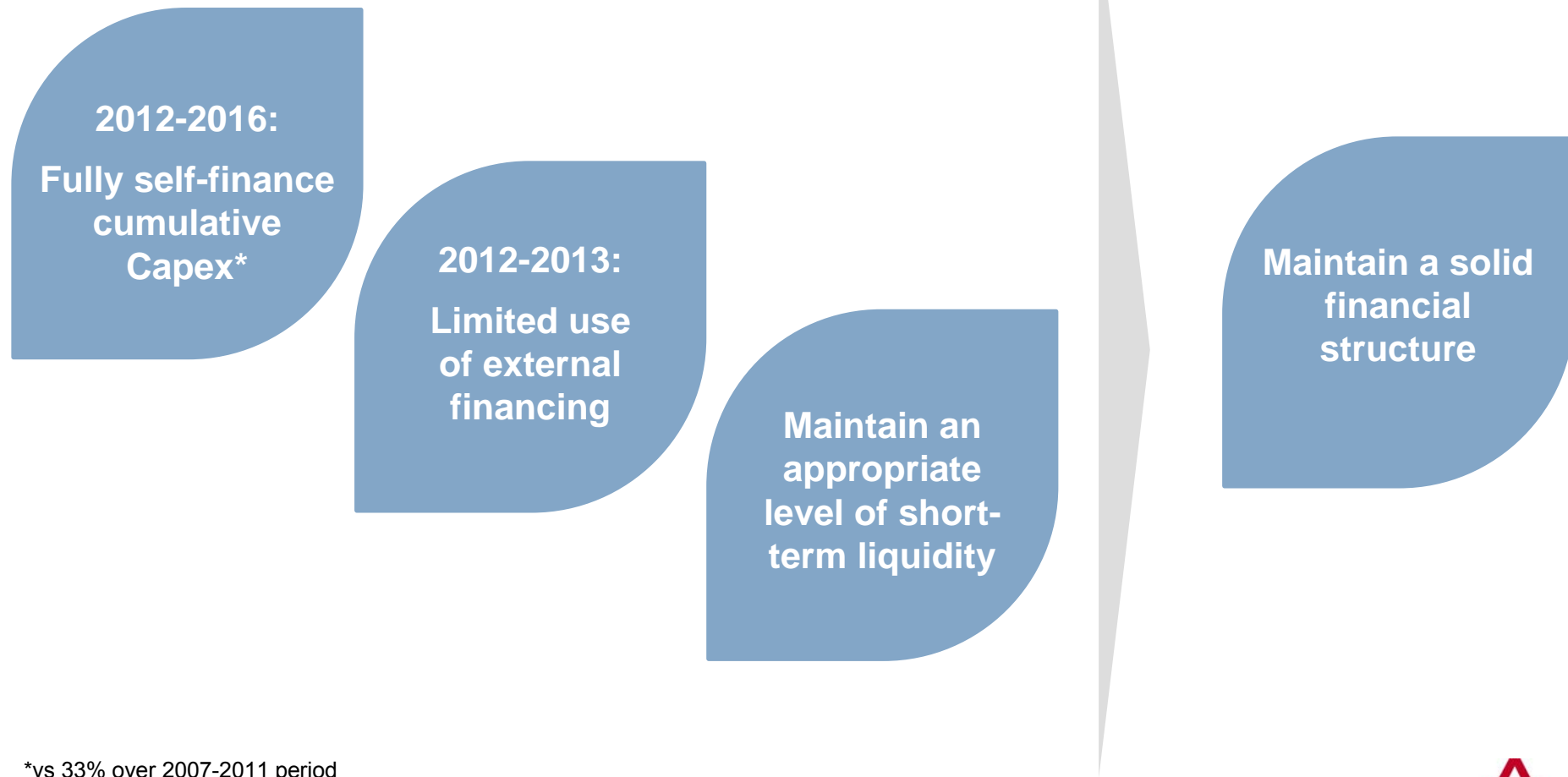
Commercial  
priority given  
to value  
creation

Selective  
capital  
expenditure

Debt  
management

Improving our performance

# Financial structure objectives



\*vs 33% over 2007-2011 period

# A financing plan in line with the group's financial structure objectives



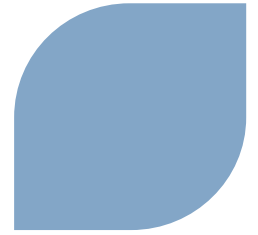
- ▶ Plans for disposal / secondary offering of equity interests
- ▶ Plans for disposal of non-strategic operations
- ▶ Plans for disposal of minority interests / partnerships in strategic projects or operations
  
- ▶ Long-term bond issue program



Cumulative objective  
2012-2013  
> €1.2bn

» Capex fully funded from operations from 2014 onwards

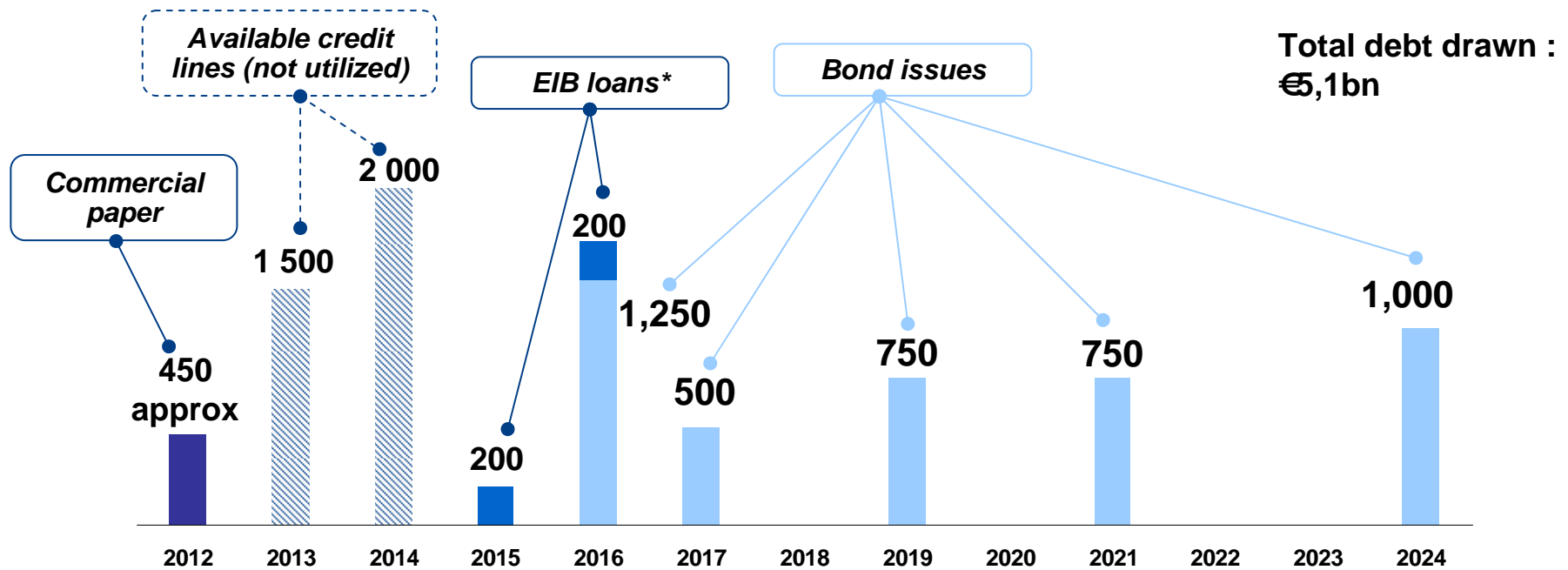
# Dividend policy



- ▶ **Approved by the Supervisory Board on June 30, 2009**
- ▶ **2012 and 2013 dividend (based on financial statements for years ending December 31, 2011 and 2012) limited to 25% of consolidated net income group share**

# Financial debt profile

Maturity of main financial obligations (in million € as of Dec. 31, 2011)

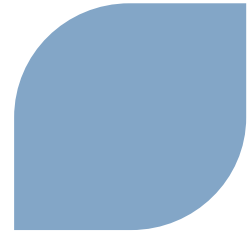


- ▶ No major debt maturing before 2016
- ▶ Share of fixed rate debt: 70%

\* European Investment Bank

➤➤ Average debt maturity: 7,5 years

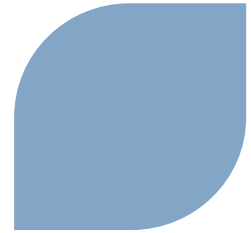
# Strong liquidity



- ▶ **Cash available on Dec 31<sup>st</sup> 2011: well above €1bn\***
- ▶ **No major short-term debt roll-over**
- ▶ **No debt subject to financial covenants**
- ▶ **€3.5bn of available committed credit lines**
  - ◆ **€2bn syndicated facility – maturity 2014**
  - ◆ **€1.5bn bilateral facilities – maturity 2013**
- ▶ **Investment of cash surplus in highly liquid, risk-free short-term assets**
- ▶ **Commercial paper program: €2bn (current stock approx €450m)**

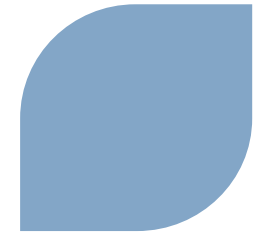
*\* net of commercial paper and short-term debt issues*

# S&P assessment and key messages



- ▶ On Dec 20, 2011, S&P reviewed AREVA's rating to BBB-/A-3 with "stable" outlook
- ▶ Stable outlook thanks to the "new management's focus on improving AREVA's profitability" through the "Action 2016" plan
- ▶ AREVA benefits from a 3 notches State support
  - ◆ "[...] our opinion that there is a "high" likelihood that the French state would provide timely and sufficient extraordinary support in the event of financial distress"
- ▶ A downgrade of the French sovereign rating would not impact AREVA's rating
  - ◆ S&P underlines : « a downgrade of France to the 'AA' category would not in itself alter the three notches of uplift that we currently factor into the ratings »

# Action 2016



## Safety Security Transparency

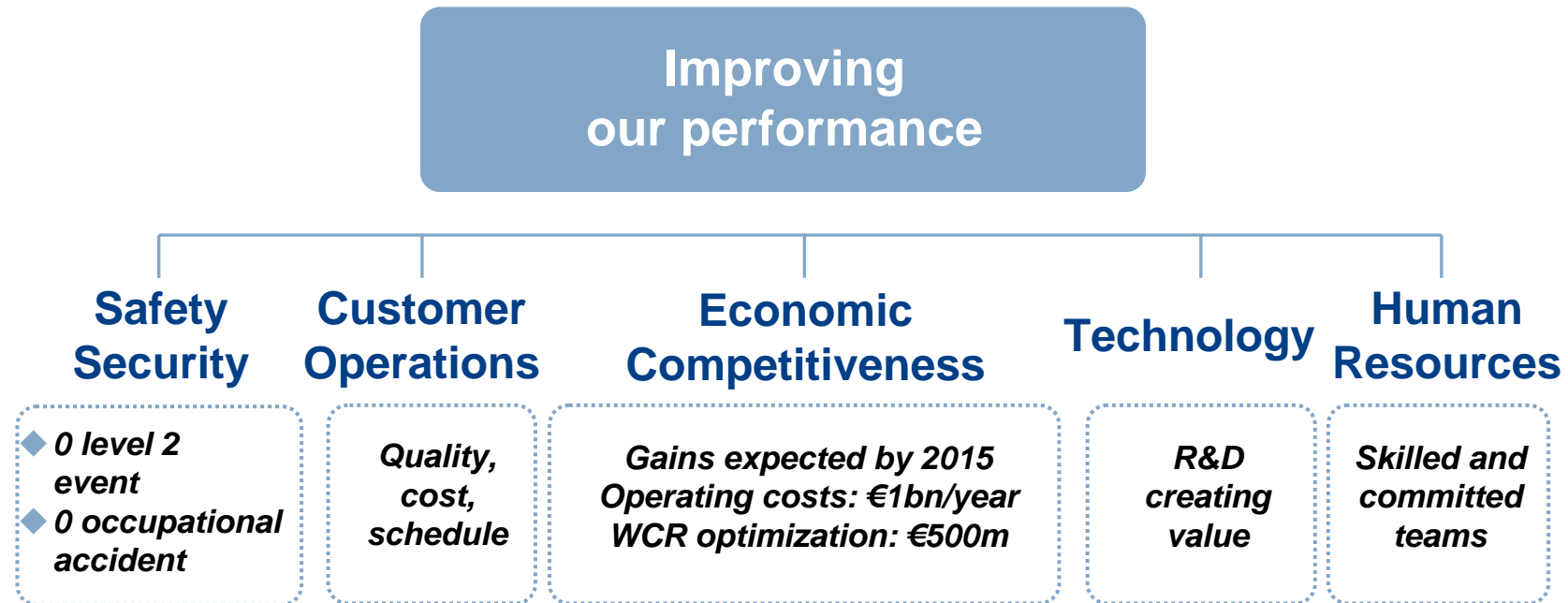
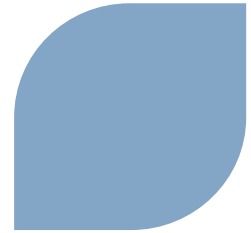
Commercial  
priority given  
to value  
creation

Selective  
capital  
expenditure

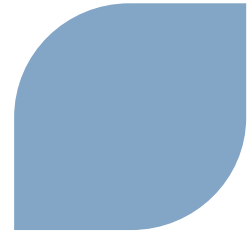
Debt  
management

Improving our performance

# Performance improvement founded on 5 pillars



# Focus on economic competitiveness



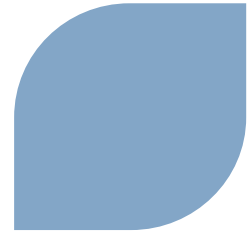
**Operating costs  
and support functions**  
**-€1bn/year by 2015**  
(-10% reduction cost base)

- ▶ **300 documented and monitored initiatives**
- ▶ **Breakdown of operating costs and support functions reduction**
  - ◆ 70% from gains on external expenses
  - ◆ 30% from optimization of internal expenses

**Optimization of  
working capital requirement**  
**€500m by 2015**  
(improvement > 15 days of revenue)

- ▶ **50 documented and monitored initiatives**
- ▶ **Simultaneous efforts concerning all components of WCR**
  - ◆ Reduction in inventories (notably GB1–GB2 transition)
  - ◆ Optimization of trade receivables and trade payables

# €1bn savings on annual operating cost base



## €700M on external costs

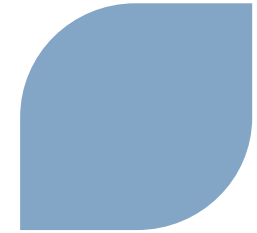
Transition GBI → GBII	<ul style="list-style-type: none"> <li>▶ Savings of €180m per year as from 2013 on energy consumption thanks to GBII technology innovations</li> </ul>
Subcontracting	<ul style="list-style-type: none"> <li>▶ 70% reduction in engineering subcontracting by 2013 for a rapid adjustment of resources to lower business levels</li> </ul>
Procurement	<ul style="list-style-type: none"> <li>▶ Reduction in EPR cost baseline for future projects</li> <li>▶ Procurement savings for ongoing projects and recurring business</li> </ul>
Support functions	<ul style="list-style-type: none"> <li>▶ Internalization of activities</li> <li>▶ Reduction in IT costs</li> <li>▶ Decrease in advertising and sponsorship budgets; reduction of event costs</li> </ul>

## €300M on internal costs

Compensation	<ul style="list-style-type: none"> <li>▶ The Executive Board renounces 2011 bonus</li> <li>▶ Intention to freeze salaries in 2012</li> </ul>
Support functions	<ul style="list-style-type: none"> <li>▶ Reduction in the costs/revenue ratio of 15% to 10% by 2015</li> <li>▶ Hiring freeze</li> </ul>
Germany	<ul style="list-style-type: none"> <li>▶ Intention to reduce the workforce over the period from 1,200 to 1,500 people*</li> <li>▶ Study of possible diversification of Duisburg production</li> </ul>
France	<ul style="list-style-type: none"> <li>▶ Gathering the Parisian sites in La Défense under consideration in 2012</li> <li>▶ Bringing together management teams and industrial sites under consideration</li> </ul>
United States	<ul style="list-style-type: none"> <li>▶ Reducing the number of sites under consideration</li> <li>▶ Expense reduction at head office</li> </ul>

\* including sub-contracting

# Performance improvement decisions taken since 2011 2<sup>nd</sup> half



## Support functions and external expenses

- ▶ Reduction in general & administrative, marketing & sales expenses as part of CAP 2012: €200m in savings by the end of 2011, in line with the objectives – acceleration over the 2<sup>nd</sup> half
- ▶ Contracts with external consultants interrupted, communication spending reduced

## Operational optimization

- ▶ Gradual phase-out of fuel manufacturing operations at the Dessel site in Belgium
- ▶ Restructuring of the Biomass business in Brazil
- ▶ Establishment of a program for mobility towards Renewable energies BG operations in Germany
- ▶ Establishment of a program for mobility from Saint-Marcel to Chalon Services (150 people)
- ▶ Interruption of Comurhex production for a 2-month period over year-end 2011

## Disposals

- ▶ Sale of SFAR-CIVAD
- ▶ Sale of 01DB Metravib

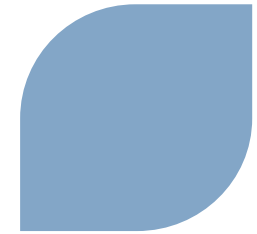
## Crosscutting programs

- ▶ Simplification or elimination of indicators, reporting requirements and/or tools for a dozen group programs
- ▶ "FOCUS" project to improve leadership of customer projects



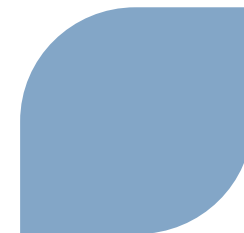
- ▶ Introduction
- ▶ Market outlook
- ▶ Positioning and strategy
- ▶ Performance plan
- ▶ **Financial outlook**
- ▶ Conclusion

# 2012-2016 Financial outlook: two distinct phases



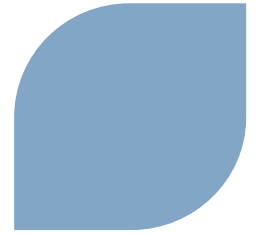
	2012-2013 Transition period	2014-2016 Safe growth and cash generation
Revenue	Nuclear: +3 to 6% p.a.	Nuclear: +5 to 8% p.a.
	Renewables: > €750m	Renewables: > €1.25bn
EBITDA	> €750m	> €1.25bn
Capex	€1.9bn p.a. on average	€1.3bn p.a. on average on 2014-2016
Free operating cash flow excluding disposals	> -€1.5bn	> +€1bn p.a. from 2015
	Balanced	

Data at constant consolidation scope



- ▶ Introduction
- ▶ Market outlook
- ▶ Positioning and strategy
- ▶ Performance plan
- ▶ Financial outlook
- ▶ **Conclusion**

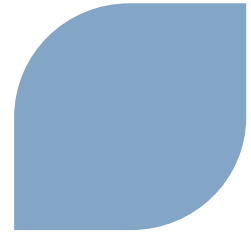
## Conclusion



- ▶ **AREVA believes in the future of nuclear and renewable energies**
  
- ▶ **AREVA is consolidating its leadership**
  
- ▶ **AREVA is committed to improving its performance**
  - ◆ **CAPEX reduction and disposal program**
  - ◆ **Free Operating Cash Flow break even expected by 2014**



# Appendix



- ▶ **Appendix 1: Impairment of mining assets stemming from UraMin acquisition**
- ▶ **Appendix 2: H1 2011 Key financial indicators**
- ▶ **Appendix 3: H1 2011 Key data by BG**
- ▶ **Appendix 4: A simplified capital structure**
- ▶ **Appendix 5: Detailed market outlooks**
- ▶ **Appendix 6: A portfolio of solutions to ensure nuclear safety**
- ▶ **Appendix 7: EPR and ATMEA: designed to meet the most demanding nuclear and industrial safety standards**
- ▶ **Appendix 8: Integrated business model: an engine for growth / Detailed positioning and strategy by BG**
- ▶ **Appendix 9: An engineering force without equivalent**
- ▶ **Appendix 10: Human resources: developing the Group's talents**
- ▶ **Appendix 11: A performance plan managed and monitored**
- ▶ **Appendix 12: Safety and security above all**

# Appendix 1: Impairment of mining assets stemming from UraMin acquisition



## Reminder

---

- ▶ €426m impairment booked in 2010
- ▶ Reference in the Notes to the consolidated financial statements for the year ended December 31, 2010 and for the half-year ended June 30, 2011 to deposit's resources of Trekkopje
- ▶ Interpretation of the analyses results on Trekkopje in progress as of the date of the closing of June 30, 2011

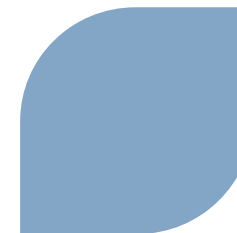
» Provisions identified for the year ended December 31, 2011: €1.46bn additional impairment of the property, plant and equipment and intangible assets capitalized for mining projects stemming from the UraMin acquisition in 2007 (Trekkopje, Bakouma, Ryst Kuil) bringing the net carrying amount of capitalized assets to €410m

## Evolution of the impairment tests' hypotheses since June 30, 2011

---

- ▶ Unfavourable revision of (i) the level of deposit's resources of Trekkopje from 46,2 ktU to 26,0 ktU and (ii) the cost production assumptions, following interpretation of conducted technical analysis
- ▶ Adjustments of the offer-demand balance and downwards evolution of future price expectations on natural uranium market and decision to postpone the start of 3 mining production projects stemming from the acquisition of UraMin (Trekkopje, Bakouma and Ryst Kuil)
- ▶ Revision of the production plan of those projects on the basis of above elements

## Appendix 2 : H1 2011 Key financial indicators

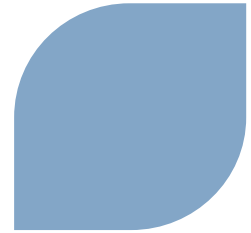


<i>In millions of euros</i>	H1 2010	H1 2011	Change
<b>Backlog</b>	44,062	43,122	-2.1%
<b>Revenue</b>	4,158	3,997	-3.9%
<b>Operating income excluding particular items</b>	213	62	-€151m
<i>In % of revenue</i>	5.1%	1.6%	-3.5 pts
Disposal / minority stakes – Mining / Front-End assets	19	-	
Non cash reversible impairment of mining assets	(300)	-	
Additional provisions on Reactors & Services projects *	(417)	-	
Financial impact of Siemens arbitration	-	648	
<b>Operating income</b>	<b>(485)</b>	<b>710</b>	<b>+€1,195m</b>
<b>Net income attributable to equity owners of the parent</b>	<b>843</b>	<b>351</b>	<b>-€492m</b>
<i>Net earning per share (in euros per share)**</i>	<b>€2.38</b>	<b>€0.92</b>	<b>+€1.46</b>
<b>Operating cash flow before investments</b>	<b>(99)</b>	<b>571</b>	<b>+€670m</b>
<b>Free cash flow before tax</b>	<b>(1,084)</b>	<b>(1,950)</b>	<b>-€866m</b>
<b>Net debt</b>	<b>(5,152)</b>	<b>(2,772)</b>	<b>-€2,380m</b>

\* of which €367m in 2010 for the OL3 project

\*\* the nominal value of shares has been divided by 10 at the end of year 2010 : earning per share has been retreated

# Appendix 3: H1 2011 Key data by BG

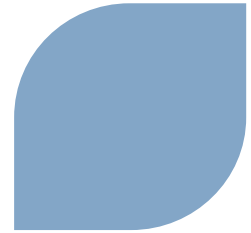


## H1 2011

*In millions of euros (except employee data)*

	Mining-Front End	Reactors & Services	Back End	Renewable Energies	Corporate and Other	Total group	
<b>Income</b>	Contribution to consolidated revenue	1,429	1,604	830	59	75	<b>3,997</b>
	Operating income	155	(79)	127	(50)	558	<b>710</b>
	% of contribution to consolidated revenue	10.8 %	(4.9) %	15.3 %	(84.7) %	ns	<b>17.8%</b>
<b>Net cash</b>	EBITDA (excl. end-of-life-cycle costs)	251	(113)	228	(63)	563	<b>865</b>
	% of contribution to consolidated revenue	17.6 %	(7.0) %	27.5 %	(106.8) %	ns	<b>21.6%</b>
	Net Capex	(641)	(105)	(61)	(20)	(1,696)	<b>(2,521)</b>
	Change in operating WCR	152	(174)	(15)	(10)	(248)	<b>(294)</b>
	Free operating cash flow	(236)	(392)	151	(93)	(1,380)	<b>(1,950)</b>
<b>Other</b>	Workforce	14,247	16,966	10,952	1,280	4,782	<b>48,228</b>

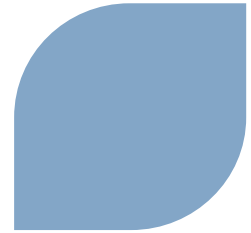
# Appendix 3: Mining / Front-End



## Key figures

<i>In millions of euros</i>	H1 2010	H1 2011	Change
<b>Backlog</b>	28,590	27,702	-€88m
<b>Contribution to consolidated revenue</b>	1,593	1,429	-10.3%
<b>Op. income excluding particular items</b> <i>In % of revenues</i>	148 9.3%	155 10.8%	+€7m +1.5 pts
<i>Disposal / new partners in assets</i>	19		
<i>Impairment of mining assets</i>	(300)		
<b>Contribution to operating income</b>	(133)	155	+€288m
<b>Free operating cash flow before tax</b>	(210)	(236)	-€26m

# Appendix 3: Reactors & Services

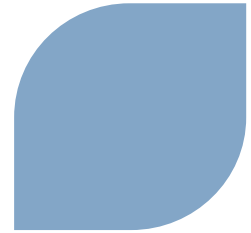


## Key figures

<i>In millions of euros</i>	H1 2010	H1 2011	Change
<b>Backlog</b>	7,964	7,316	-€648m
<b>Contribution to consolidated revenue</b>	1,543	1,604	+4.0%
<b>Op. income excl. particular items</b> <i>In % of revenue</i>	26 1.7%	(79) (4.9%)	-€105m -6.6 pts
<i>Provisions on projects*</i>	(417)	-	
<b>Contribution to operating income</b>	(391)	(79)	+€312m
<b>Free op. cash flow before tax</b>	(420)	(392)	+€28m

\* incl. OL3: 367 M€ in 2010

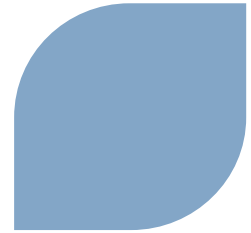
## Appendix 3: Back-End



### Key figures

<i>In millions of euros</i>	H1 2010	H1 2011	Change
<b>Backlog</b>	6,268	6,178	-€90m
<b>Contribution to consolidated revenue</b>	897	830	-7.5%
<b>Contribution to operating income</b> <i>In % of revenues</i>	167 18.6%	127 15.3%	-€40m -3.3 pts
<b>Free operating cash flow before tax</b>	102	151	+€49m

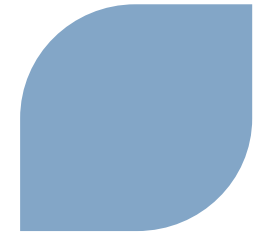
# Appendix 3: Renewable Energies



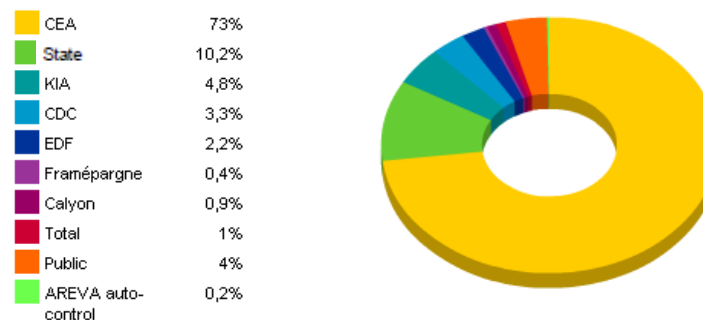
## Key figures

<i>In millions of euros</i>	H1 2010	H1 2011	Change
<b>Backlog</b>	1,135	1,849	+€713m
<b>Contribution to consolidated revenues</b>	47	59	+26.3%
<b>Contribution to operating income</b>	(59)	(50)	+€9m
<b>Free operating cash flow before tax</b>	(272)	(93)	+€179m

# Appendix 4: A simplified capital structure



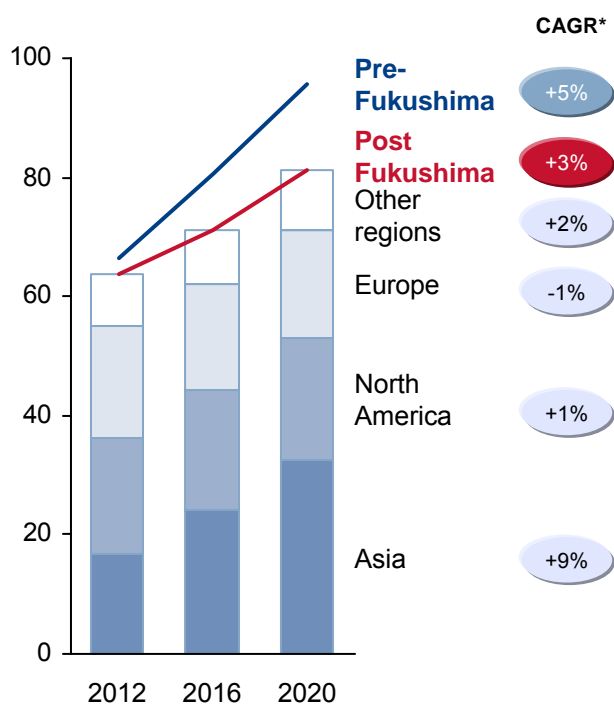
- ▶ **The 2011 capital market operations were successfully completed**, they led to the conversion of all AREVA listed titles into ordinary shares.
- ▶ **Listing:** beginning Monday 30 May. It allowed:
  - ◆ The simplification of the capital structure: it is now composed of ordinary shares only
  - ◆ The free float remains at 4% of the capital
- ▶ Historical holders now hold voting rights associated to their securities. They will be able to participate to the General Meetings and to the vote of the resolutions.
- ▶ **AREVA becomes more visible, more legible and more transparent on financial market and towards its shareholders**
- ▶ AREVA's shareholding structure remains unchanged. Below as of May 30, 2011:



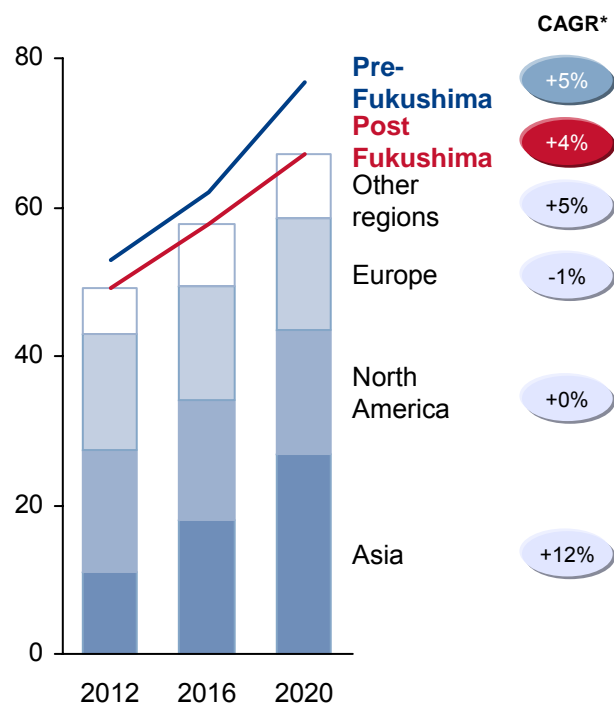
# Appendix 5: Fuel cycle markets: orders postponed in the short term



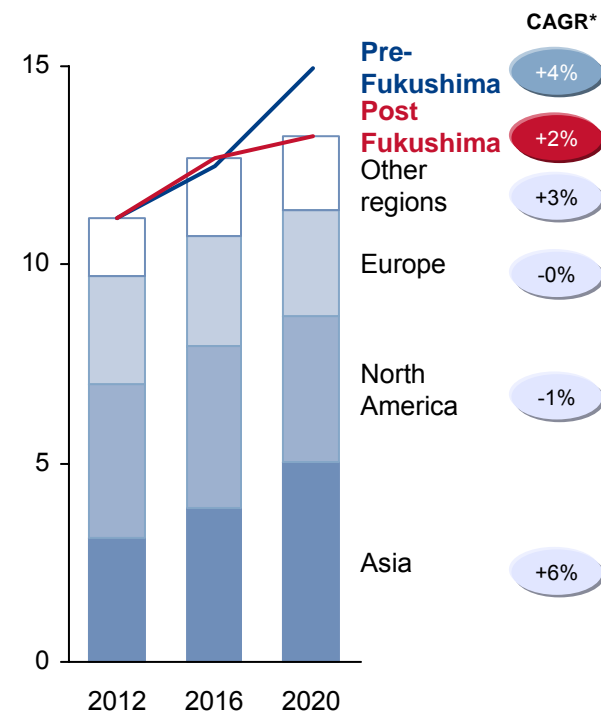
### Uranium demand (kTU)



### Enrichment demand (MSWU)



### Fuel demand (kTHM)

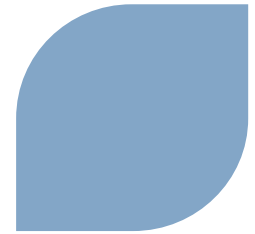


Source: AREVA



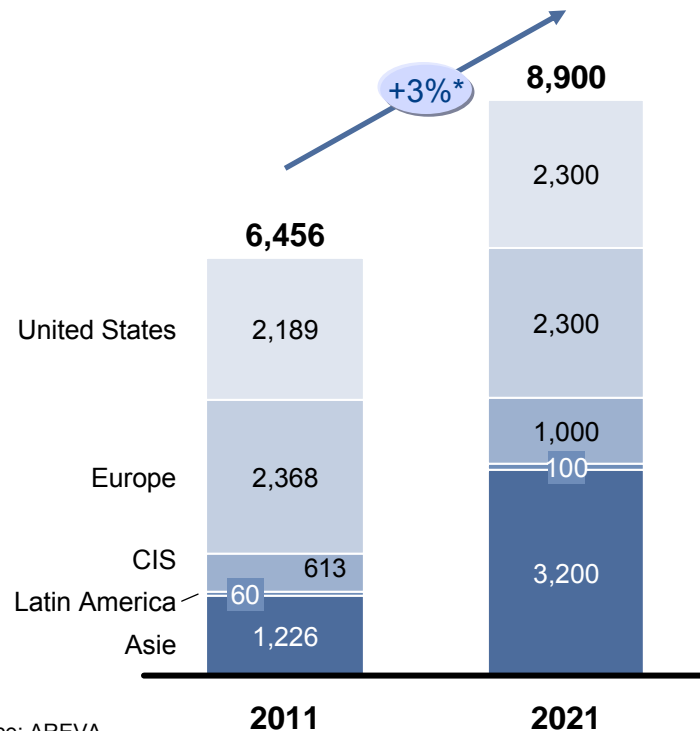
**Asia: main growth engine for demand**  
**Europe: drop in demand over the period**

\*Compound annual growth rate

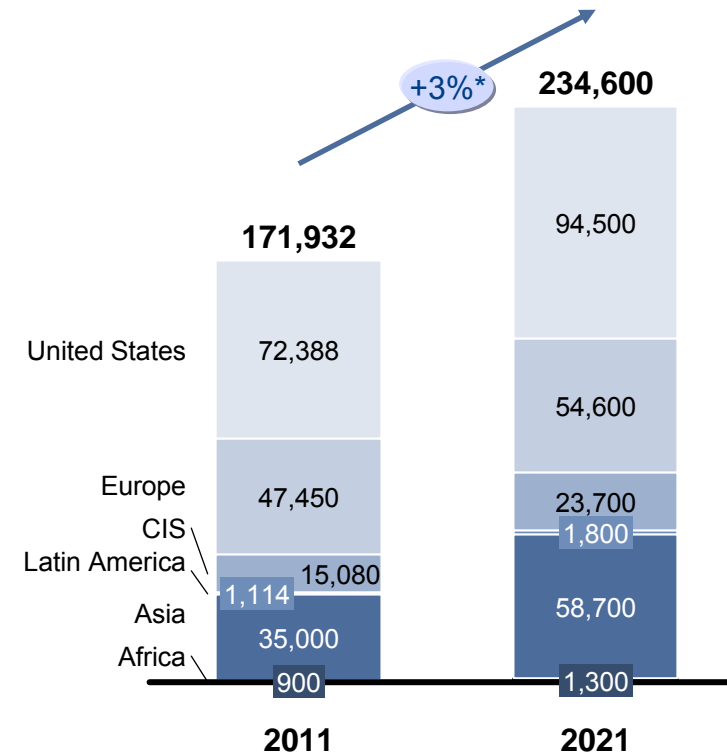


# Appendix 5: Used fuel management: a growing market

Used fuel unloaded by region  
(MTHM/year)



Used fuel inventories by region  
(MTHM)



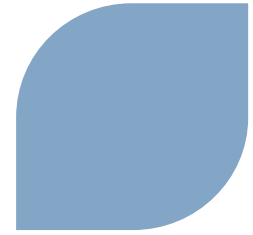
Source: AREVA



**Recycling or dry storage solutions are needed to reduce the level of used fuel inventories in pools**

\* Compound annual growth rate

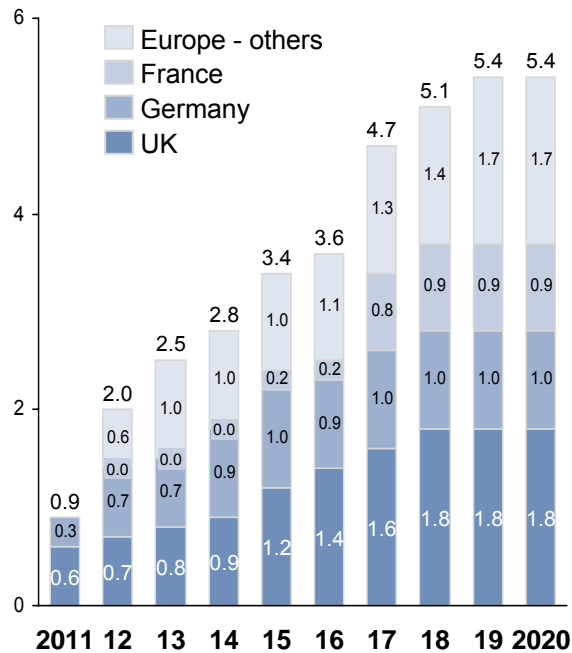
# Appendix 5: Accelerated growth in renewable energies



Offshore wind market will focus on the UK, Germany and France

Global accessible market for concentrated solar could reach up to 30GW by 2020

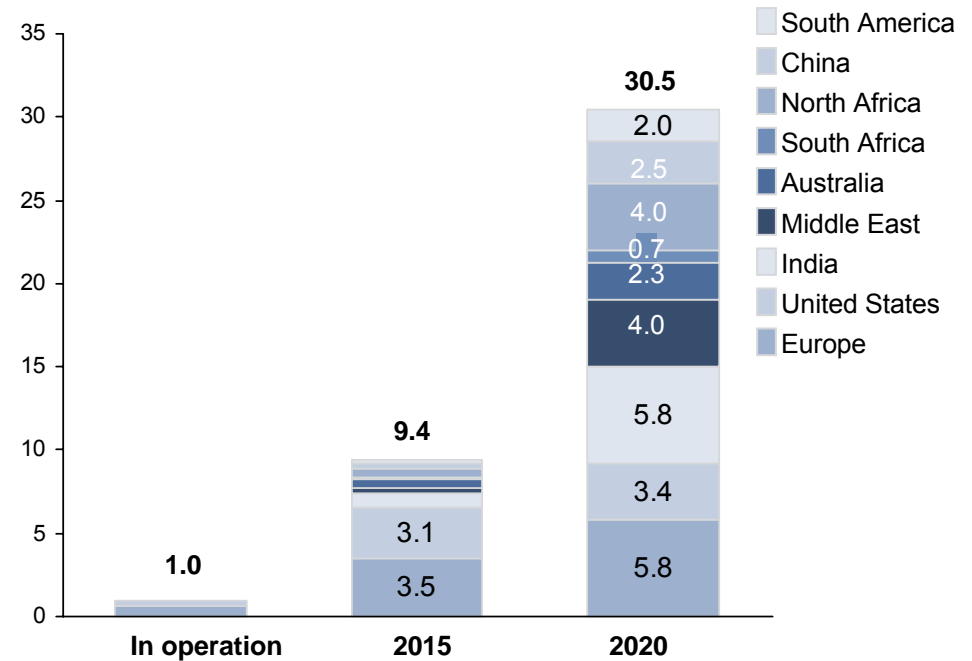
Annual addition to the installed base in Europe 2011-2020 (GW) – Reference scenario



Source: Boston Consulting Group

» An average of 3.6GW installed in Europe per year from 2011 to 2020

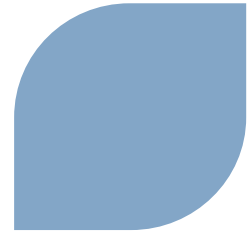
Installed capacity (GW)



» Reference scenario: 30GW installed worldwide by 2020



## Appendix 6: A portfolio of solutions to ensure nuclear safety



### AREVA leadership

---

- ▶ Analysis of Fukushima accident
- ▶ Safety engineering expertise
- ▶ Global footprint supporting utilities during stress tests
- ▶ Experience with all reactor models

### Safety objectives

---

- ▶ Managing major risks
- ▶ Resilience of cooling systems
- ▶ Preventing environmental damage

### A portfolio of 30+ safety solutions

---

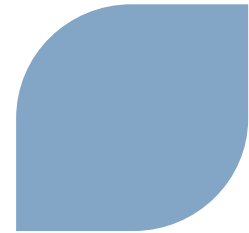
- ▶ Safety analysis (reassessment of safety margins in case of earthquake or flooding)
- ▶ Safety upgrades (cooling systems, hydrogen recombiners, containment filtered venting systems)
- ▶ Safety procedures (severe accident management guidelines)

### Recognized expertise (examples)

---

- ▶ CNNC (China): analysis services and support for safety testing
- ▶ Japanese utilities: sale of hydrogen recombiners
- ▶ US utility : safety analysis (earthquakes, flooding)

# Appendix 7: EPR and ATMEA: designed to meet the most demanding nuclear and industrial safety standards



Ability to withstand exceptional accidents and natural events

- ▶ External shell
- ▶ Earthquake proof
- ▶ Doors able to withstand explosions and flooding

Ability to withstand an airplane crash

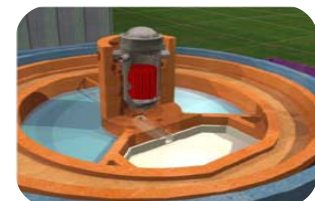
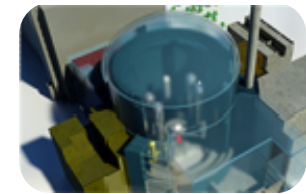
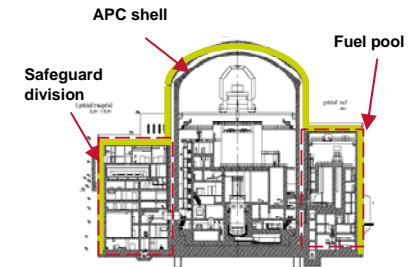
- ▶ External containment protecting critical buildings

Reducing the risk of a serious accident with core melt

- ▶ Independent cooling trains + physical separation
- ▶ Emergency diesel generators in two different buildings

No impact on local populations near the site in the event of a serious accident

- ▶ Core catcher: to collect the corium

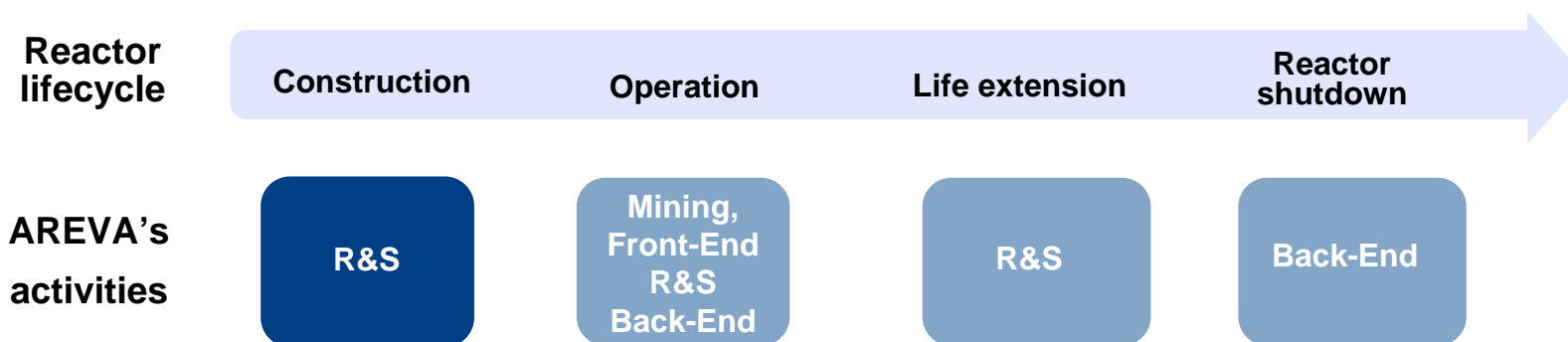


**Designed to benefit from nuclear accident lessons, they would have resisted Fukushima**

# Appendix 8: Integrated business model: an engine for growth



## Opportunities along the whole lifecycle of reactors

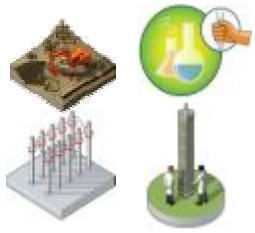


■ Installed base

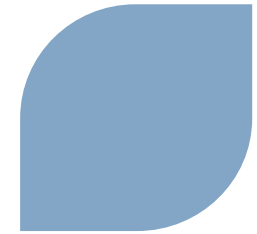
■ New builds



With a 2.2% annual growth rate by 2030, activities related to the operating of reactors offer significant growth potential



# Appendix 8: Front end of the cycle: guaranteed security of supply



## Mining

- ▶ More than 200,000 MTU delivered to date
- ▶ A diversified mining platform (geographic distribution, technologies, development stage)
- ▶ A dynamic exploration policy



## Conversion

- ▶ More than 40 years of industrial experience and more than 360,000 MTU delivered to date
- ▶ Comurhex II: a new conversion facility



## Enrichment

- ▶ End 2010: first production at the Georges Besse II enrichment plant
- ▶ Best centrifugation technology in the world (ETC)



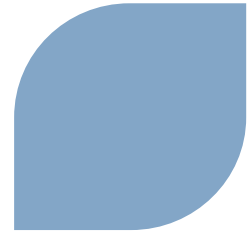
## Fuel

- ▶ More than 35 years of experience in boiling water reactors (BWR) and pressurized water reactors (PWR)
- ▶ More than 135 reactors worldwide use AREVA's fuel products

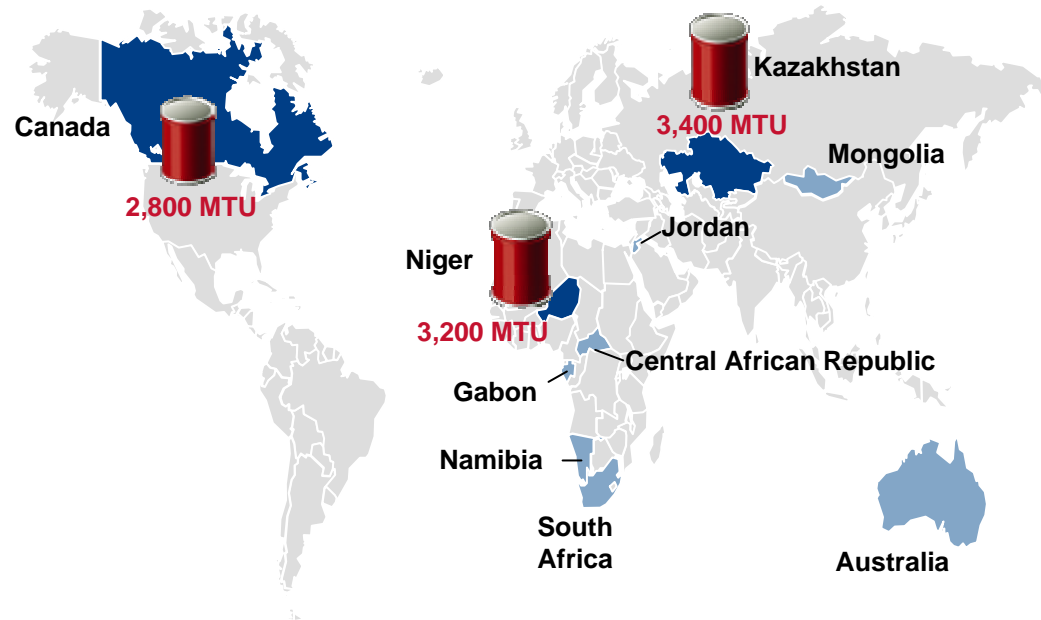




# Appendix 8: Mining: number two in volume, number one in performance



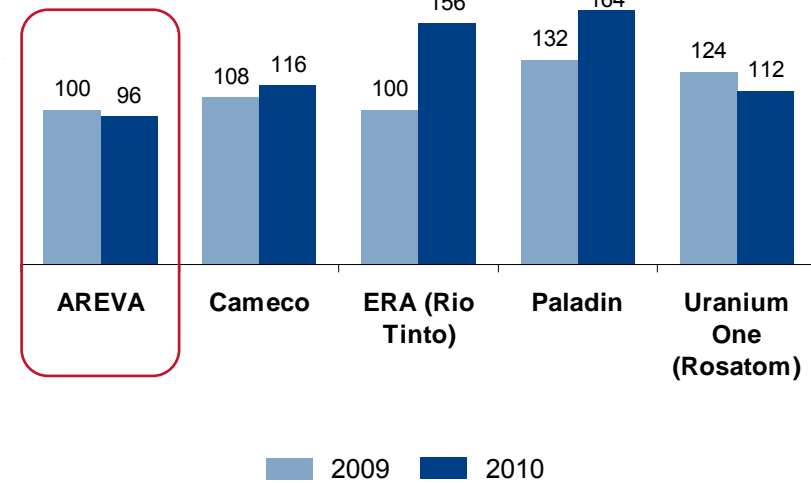
## A diversified mining portfolio



- 2010 production in metric tons of uranium (MTU)
- Production area
- Exploration area

## The most efficient cost base in the market

Cost of sales in \$/lb – Baseline: 100  
Production costs + royalties + transportation



Sources: AREVA analyses and annual reports 2009 and 2010





# Appendix 8: Global leadership for the construction of Gen III+ reactors

Percentage of completion in %  
(AREVA scope)

---

**Olkiluoto 3**

**82% complete**  
**(Supply of a turnkey power plant)**



**Flamanville 3**

**56% complete**  
**(Supply of a Nuclear Steam Supply System)**



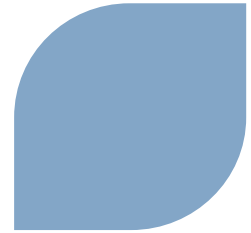
**Taishan 1 & 2**

**63% complete**  
**(Supply of 2 nuclear islands)**





## Appendix 8: Reactors and Services: unique lessons learned on EPR projects



		Evolution between OL3 and Taishan	
Engineering	Number of engineering hours on the Nuclear Steam Supply System scope	-60%	
Construction	Duration of construction (from 1st concrete to dome installation)	-50%	
Procurement	Average procurement time (reliability of procurement planning)	-65%	
Total	Total construction time (from 1st concrete to 1st divergence)	-40%	



**50% of the Taishan personnel had participated in OL3 or FA3 projects**



# Appendix 8: Back End: offering a comprehensive range of solutions



## Recycling

- ▶ **Recycling: MOX and uranium**
- ▶ **Unique know-how and technologies deployed at an international scale** (Japan, United-States, United-Kingdom, China)
- ▶ **Undisputed leadership** (more than 75% of the global treatment market)



## Storage

- ▶ **Design and manufacturing of storage solutions**

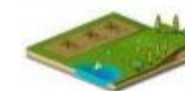
## Logistics

- ▶ **Design and manufacturing of transport for nuclear materials: 31% market share**
- ▶ **Transport solutions and management: 7,000 transports completed**
- ▶ **Global footprint: transport license in 27 countries**



## Nuclear Site Value Development

- ▶ **1,500 specialists**
- ▶ **Dismantling of AREVA sites: 5 ongoing projects in France**
- ▶ **Participation in several projects for customers in France and abroad**



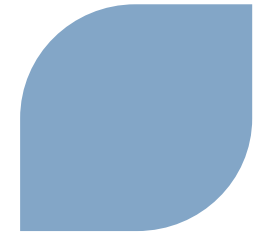
## Cleanup

- ▶ **Services provided to more than 90% of all French nuclear sites**





# Appendix 8: Renewable energies: a targeted offering



## A portfolio of technologies meeting customer needs

## Expertise demonstrated in actual projects

### Offshore wind

- ▶ **Most powerful wind turbine** in operation (5MW)
- ▶ **Leader on the high-rated wind turbine market**
- ▶ Investor confidence
- ▶ Ramp-up of industrial production

- ▶ **Alpha Ventus** (30 MW)
- ▶ **GT1** (400 MW)
- ▶ **Borkum West II** (200 MW)
- ▶ Exclusive ongoing negotiations for several projects



### Solar (CSP)

- ▶ **Fresnel technology** adapted to arid areas
- ▶ **10-15% lower electricity cost** than parabolic trough technology

- ▶ **Kogan Creek** (44 MW expansion)
- ▶ **Liddell** (3 MWe)
- ▶ **Kimberlina** (5 MWe)
- ▶ **Solar Dawn** (250 MWe)\*



### Bio-energies

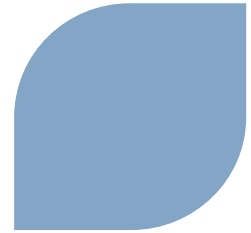
- ▶ **100 plants** in service worldwide
- ▶ Installed base: almost 3 GW

- ▶ **Coriance** (12 MWe)
- ▶ **Bertin** (380 MWe)
- ▶ **Bolognesi Partecipacoes** (modernization, 330 MWe)



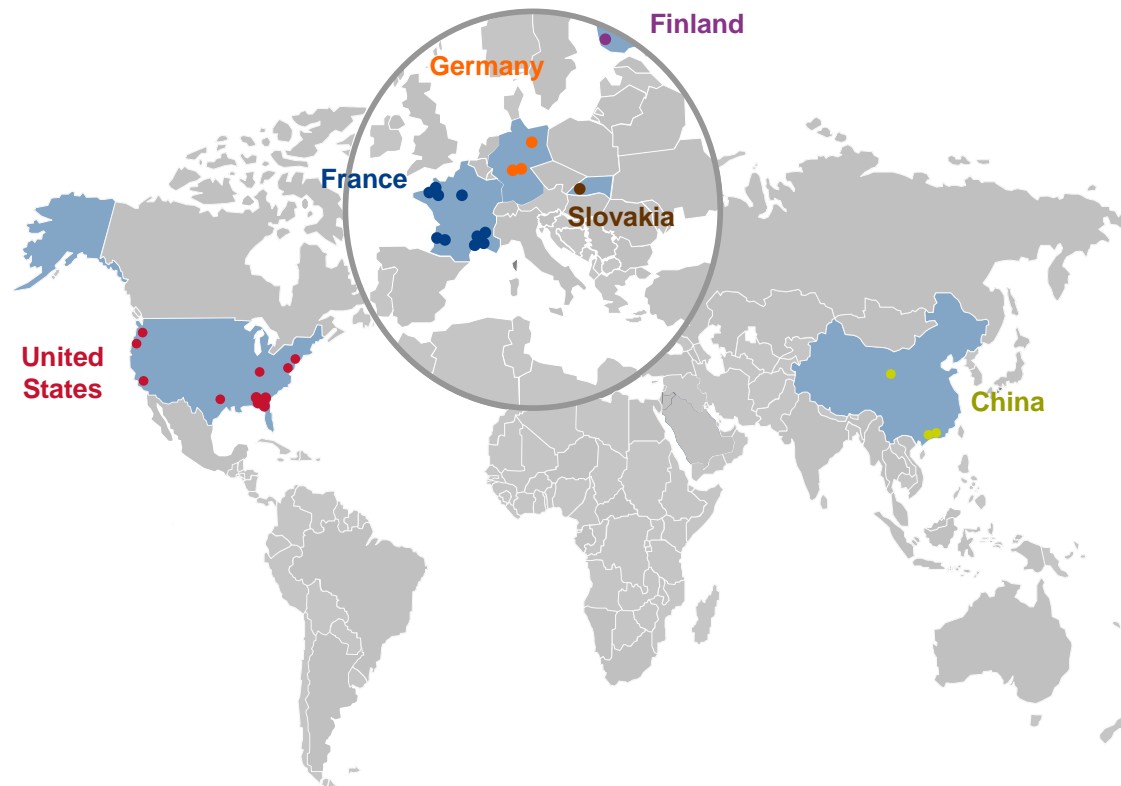
\* Exclusive negotiations, not included in backlog as at the end of September 2011

# Appendix 9: An engineering force without equivalent



## Map of engineering and project resources

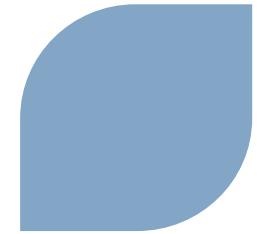
---



**6,500** professionals  
**740** experts  
**2,500+** projects in hand

**Partnerships with the world's leading research laboratories**

# Appendix 10: Human resources: developing the Group's talents



## Training / knowledge transfer

- ▶ Keeping 1.5 million hours of training per year (1 week per employee)
- ▶ Taking in 1,500 work/study positions in France in 2012

## Mobility

- ▶ Making professional and geographical mobility easier
- ▶ Developing AREVA METIERS

## Skills / expertise

- ▶ Developing the expertise of the 5,100 engineers and 740 experts
- ▶ Strengthen knowledge transmission

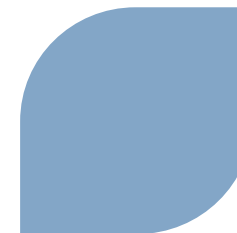
## Respectful and innovative social dialogue

- ▶ Persevere in our commitment to a contractual policy
- ▶ Examples in 2011:
  - ◆ European agreement on management of professions
  - ◆ Mining BG becomes a subsidiary
  - ◆ Adaptation of operations at the sites

## Culture of diversity and equal opportunity

- ▶ Renewing the Diversity Label received in 2010
- ▶ More than 25% women in engineers and managers staffs
- ▶ 25% women in the executive committees
- ▶ Negotiating an agreement on quality of working life
- ▶ Increasing the employment rate of the disabled to 4% in 2012

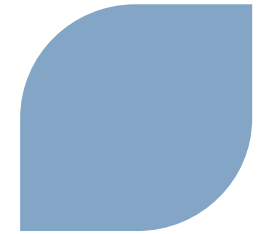
# Appendix 11: A performance plan managed and monitored



Pillars	Key performance indicator
Safety Security	<ul style="list-style-type: none"> <li>▶ <b>Number of accidents (Frequency rate)</b></li> <li>▶ <b>Number of nuclear incidents</b></li> <li>▶ Severity rate</li> <li>▶ Radiation exposure</li> </ul>
Economic Competitiveness	<ul style="list-style-type: none"> <li>▶ <b>Operating Cash Flow after investments</b></li> <li>▶ <b>Backlog margin</b></li> <li>▶ Operating Income</li> <li>▶ Opex savings</li> </ul>
Customer Operations	<ul style="list-style-type: none"> <li>▶ <b>On-time delivery / BU</b></li> <li>▶ <b>Productivity / BU</b></li> <li>▶ Costs of non-quality</li> <li>▶ Orders in-take</li> <li>▶ Customer satisfaction</li> </ul>
Technology	<ul style="list-style-type: none"> <li>▶ <b>Added value: NPV of R&amp;D portfolio</b></li> <li>▶ Number of projects going to industrialization</li> <li>▶ % of on time stage gate milestones</li> </ul>
Human Resources	<ul style="list-style-type: none"> <li>▶ <b>People engagement survey</b></li> <li>▶ Number of inter-BU mobility</li> <li>▶ Talent development / Promotion</li> <li>▶ Diversity index</li> </ul>

Level 1 KPI  
Level 2 KPI

# Appendix 12: Safety and security above all



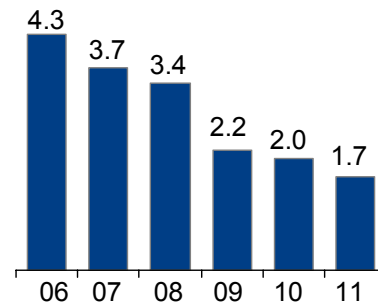
## Improvement of the safety / security indicators

### Nuclear safety

- ▶ **Level 2 incidents:**  
**2 in 2009, 1 in 2010**
- ▶ **Taux de prévention des événements (TPE\*) :**
  - ◆ 0.18 in 2009
  - ◆ 0.16 in 2010
  - ◆ 0.16 in 2011

### Occupational safety

**Frequency rate**  
(number of accidents per million hours worked )



## Benchmark (2010 data)

### Nuclear safety

- ▶ **TPE\* EDF: 0.1**

### Occupational safety

- ▶ **Renault: 2**
- ▶ **Lafarge: 1.57**
- ▶ **DuPont de Nemours: 0.7**

\*TPE = number of INES level 1 event / number of INES level 0 event

## Ambition

### ▶ Safety target

- ◆ 0 level 2 events on the INES scale from 2012
- ◆ Promote improvement of reporting metrics: TPE target at 0.12

### ▶ Security target

- ◆ 0 occupational accident
- ◆ Frequency rate: 1.5 in 2013

### ▶ Maintain the target of dose reduction (number of people over 14 mSv)

### ▶ Reinforce the confidence of external stakeholders

- ◆ Zero non-compliance to the regulation
- ◆ Integral respect for commitments to the authorities
- ◆ All the sites under the AREVA Safety Health Security Environment standards by 2015