



AREVA

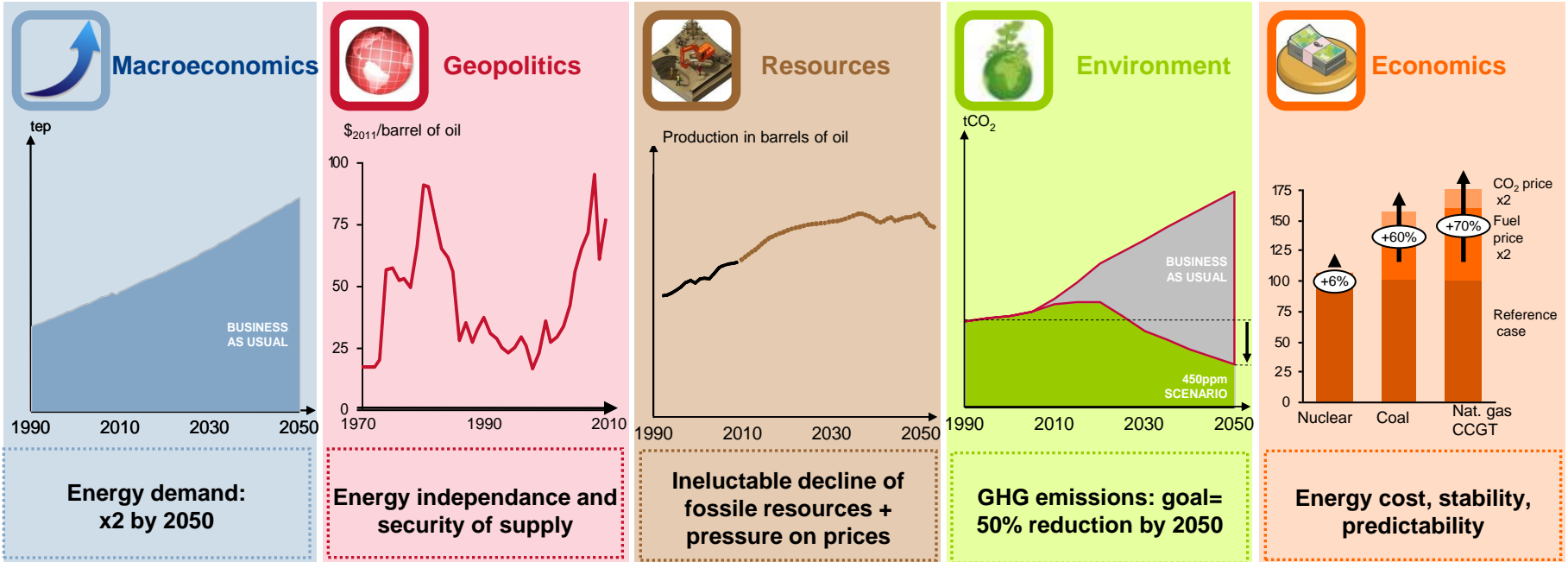
Forward-looking Nuclear Energy

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AREVA South America



Energy market: continued growth announced



Energy demand: x2 by 2050

Energy independence and security of supply

Ineluctable decline of fossil resources + pressure on prices

GHG emissions: goal= 50% reduction by 2050

Energy cost, stability, predictability

WEO 2012
2010 – 2035
Scenario

Global primary demand in energy*

+1.2% / year

Demand in nuclear energy*

+1.9% / year

Demand in renewable energies*

+2.4% / year

Source: IEA ETP: reference scenario 2012 - UNFCC, CERA 2009

* Billions of toe

After Fukushima, the Fundamentals for Nuclear Energy remain Unchanged

Drivers

Fundamentals

Need for more electricity production capacity

- ▶ Energy demand multiplied by 2 by 2050

Climate change

- ▶ Greenhouse gas emissions to be cut by half by 2050

Geopolitics

- ▶ Energy independence and security of supply imperative

Fossil resources

- ▶ Limited resources, short and mid-term perspectives show rising prices of fossil energies

Construction and operating costs

- ▶ Marginal impact on Gen 3 NPP new builds and limited impact on existing NPPs

Financing

- ▶ Access to financing restricted to new build NPP projects complying with the highest safety standards

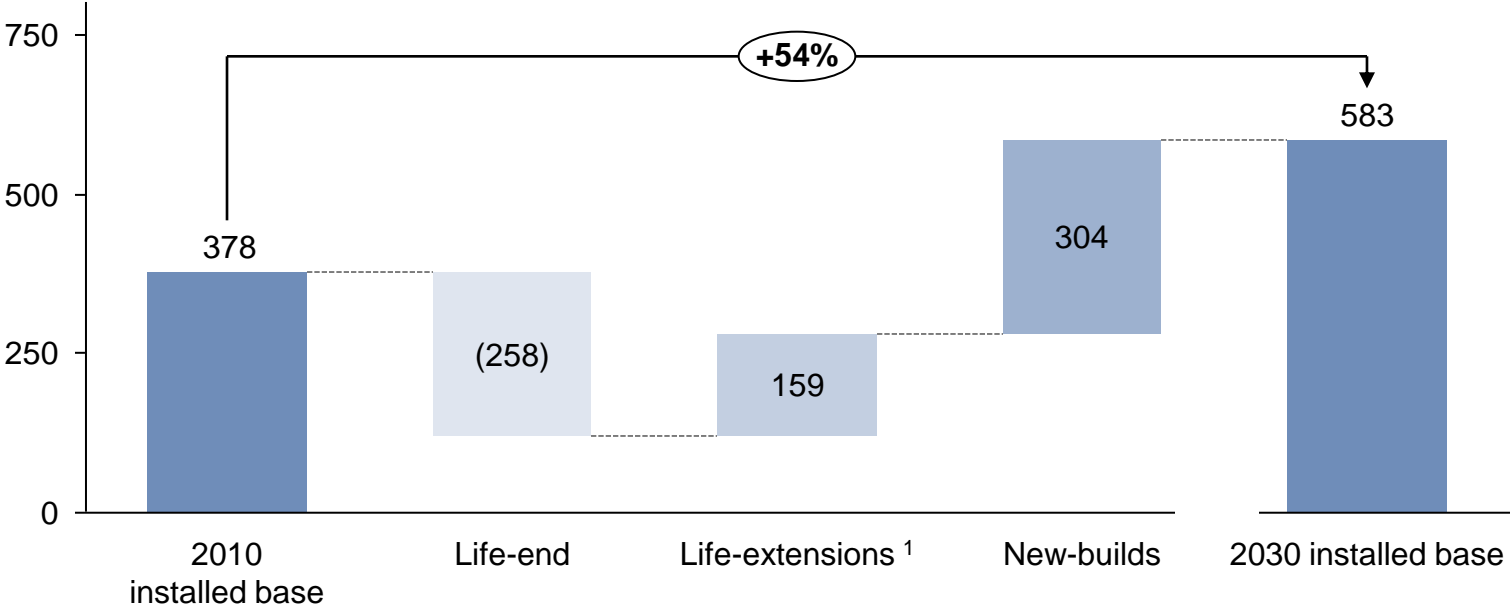
Public acceptance

- ▶ Public acceptance concerns favour nuclear technology leaders promoting highest safety standards

Global nuclear capacity is projected to increase by 54% by 2030

AREVA 2011 forecast of 2010-2030 evolution of the global nuclear installed base

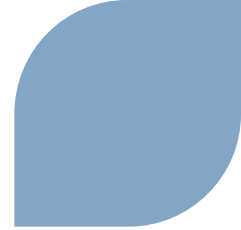
(Net output, GW)



1. Including power uprates



Major energy policy developments announced since Fukushima



USA

Construction/achievement of 3 reactors confirmed; 73 licenses to operate 60 years granted by August 2012, 80 years now being studied

United Kingdom

Introduction of the new energy bill in the UK which includes a tripling of funds by 2020 to support low-carbon power generation

France ("CPN" held in Sept. '12)

Support to nuclear industry (domestic and export); Closure of Fessenheim in 2016; Confirmation of the recycling solution

Germany

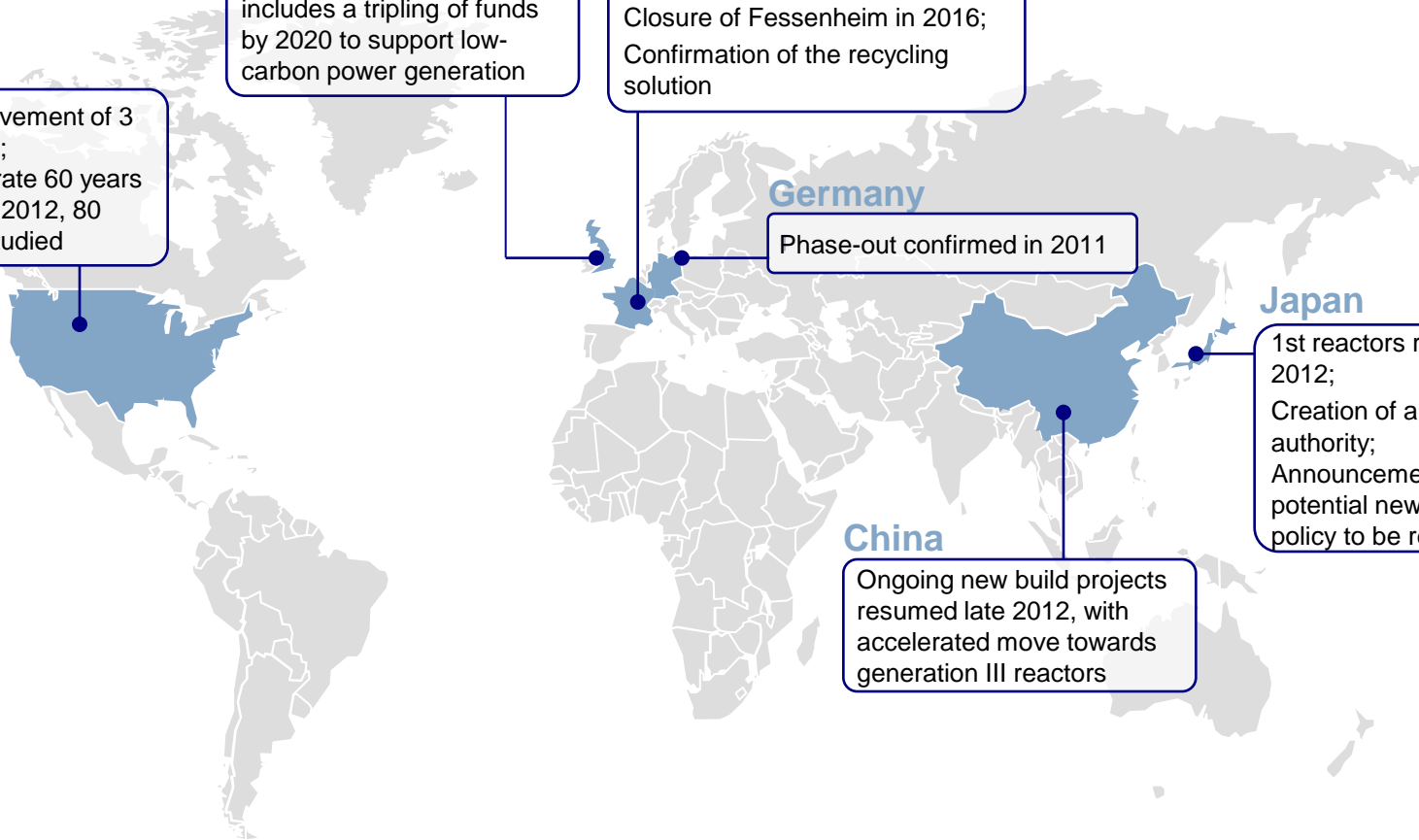
Phase-out confirmed in 2011

China

Ongoing new build projects resumed late 2012, with accelerated move towards generation III reactors

Japan

1st reactors restarted in 2012; Creation of a new safety authority; Announcement of a potential new energy policy to be re-assessed



Safety is the Cornerstone of our Strategy

Safety of our Customers

Supporting utilities in demonstrating and upgrading the safety of their fleet



AREVA
Safety Alliance



AREVA
Forward Alliance

Safety of our Operations

Maintaining the highest level of safety throughout the lifecycle of our nuclear facilities



Nuclear safety
& radiation protection

Reduced accident frequency rate (number of accidents per million hours worked) from 6.6 in 2004 to 1.7 in 2011

Safety of our Products

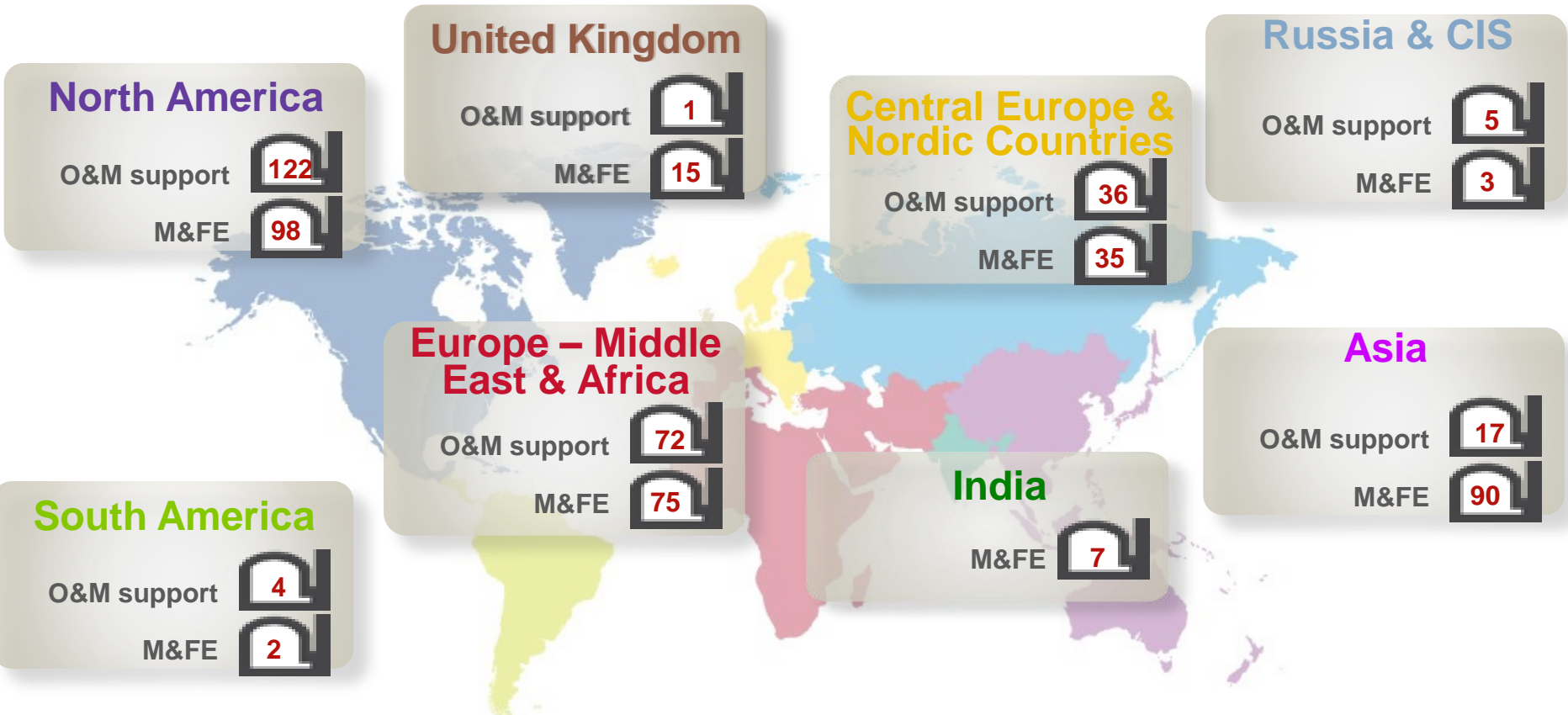
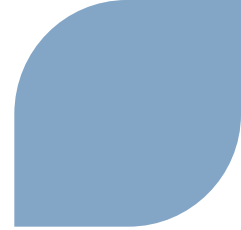
A wide new-generation reactor portfolio that offers the highest safety features

EPR
by AREVA

KERENA
by AREVA

ATMEA

360 + Nuclear Reactors are served by AREVA



AREVA serves 360+ reactors



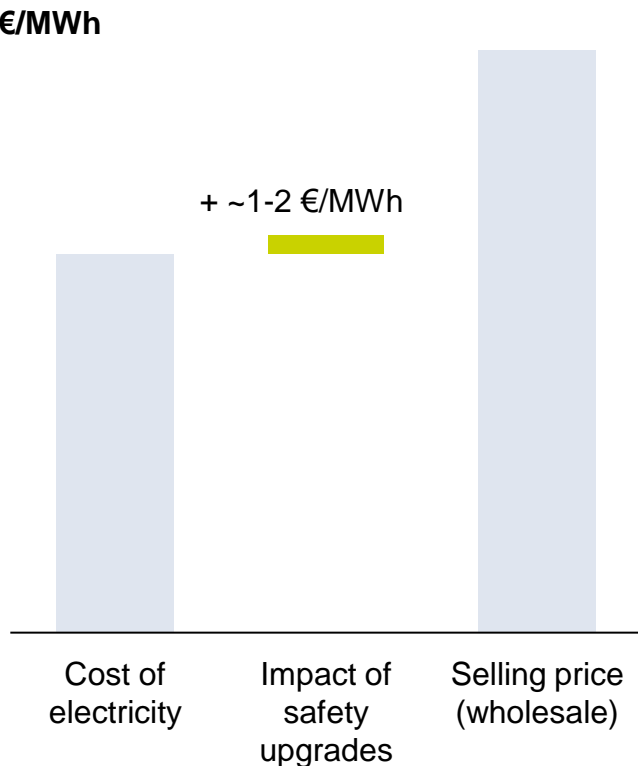
Reference year: 2010



Post-Fukushima safety upgrades investment will only have a marginal impact on the profitability of nuclear

Impact of post-Fukushima safety upgrade investment on nuclear profit margin

€/MWh



- ▶ Investment required for post-Fukushima safety upgrade packages has been estimated in 2012 between **€100m and €200m per unit** by the European Commission
- ▶ Such safety upgrades would only increase the cost of generating electricity from nuclear power between **1 and 2 euros by MWh** and would not jeopardize its competitiveness

* Main assumptions: remaining plant lifetime 30 years / plant output 1,000 MWe / works spanned over 5 years / load factor 85% / WACC 8%



AREVA
Safety Alliance

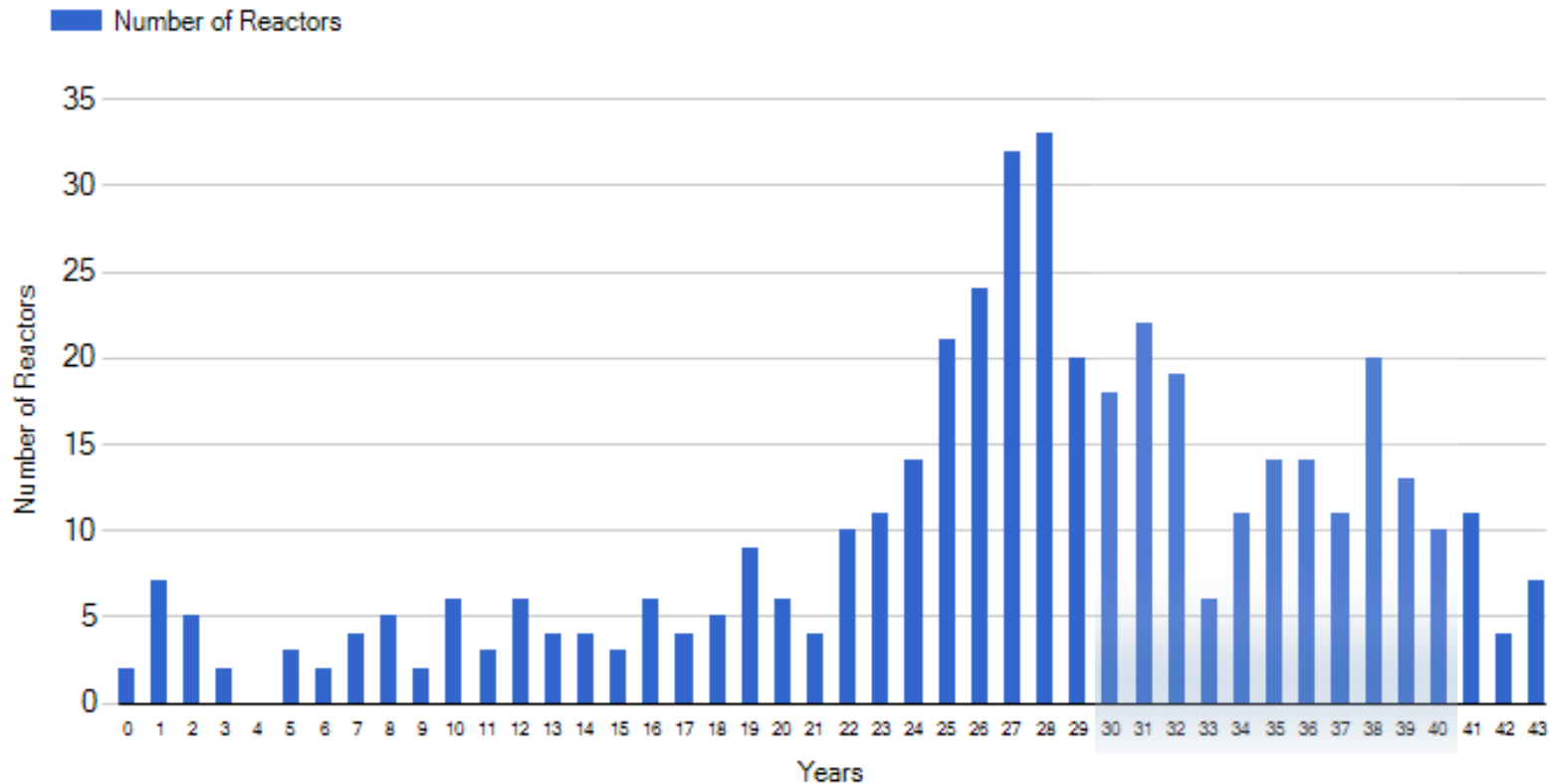
From Safety Alliance to Forward Alliance



AREVA
Forward Alliance

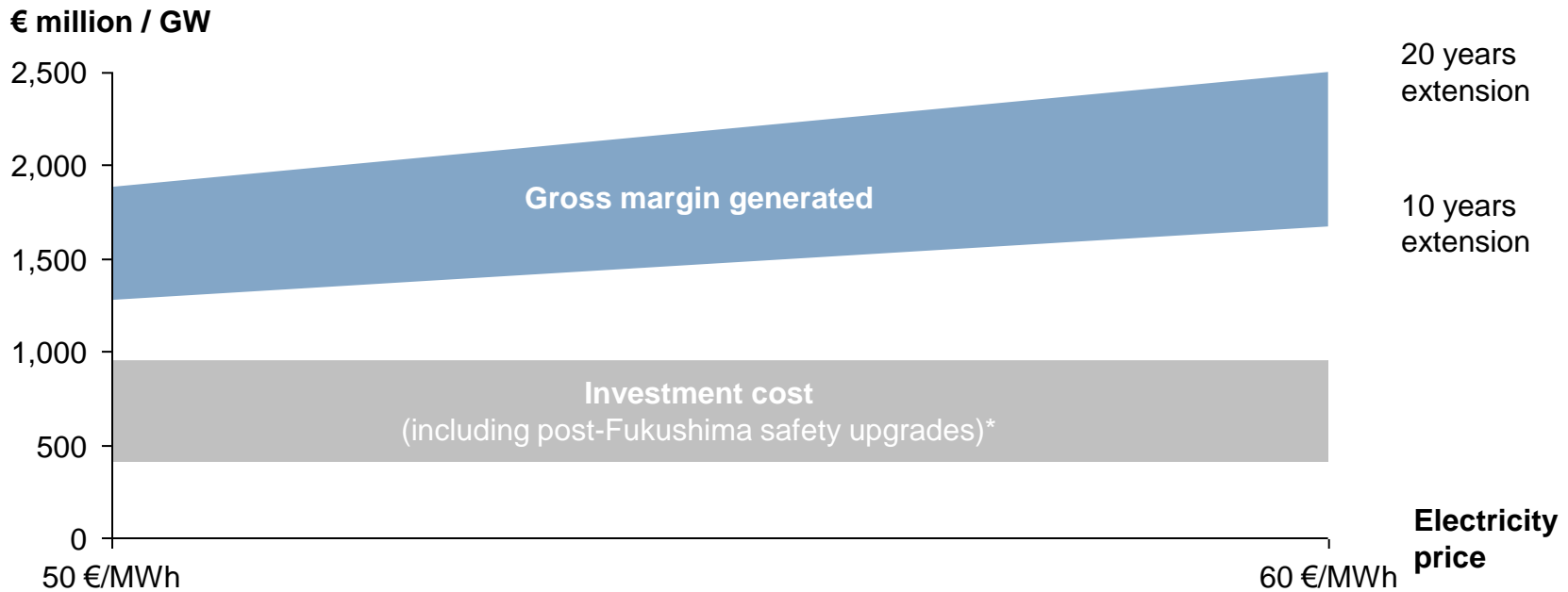
- ▶ In the next decade, 150+ new reactors will be operated after license renewal

Total Number of Reactors: 437



Extending the lifetime of a nuclear power plant for 10-20 years is highly profitable

Life extension project value creation for an amortized nuclear plant of 1,000 MW



Revenues generated by nuclear power plants' lifetime extension programs exceed the costs incurred for implementing them

* source: OECD, NEA "The Economics of Long-term Operation of Nuclear Power Plants" 2012, EDF 2012

AREVA and ATMEA1

Nuclear New Build Perspectives for EPR and ATMEA1

ONGOING NEGOTIATIONS

(BILATERAL)



EDF
Hinkley Point C
Units 1-2



CGNPC
Taishan 3-4



NPCIL
Jaitapur 1-2



Turkey
Sinop Project,
4 units

ONGOING BIDS



Fennovoima
Pyhäjoki



TVO
OL4



JAEC



CEZ
Temelin 3-4

BIDS TO COME



Saudi Arabia



Poland - PGE



UK - GDF Suez – Iberdrola



South Africa - ESKOM



Sweden - Vattenfall



Vietnam - EVN



Argentina - NA-SA



Malaysia - MNPC



UAE - ENEC



USA - EDF / PPL / Duke Energy



Hungary



Canada



Global leadership for the construction of Gen III+ reactors (EPR)

Percentage of completion in %, as of June 30th 2012
(AREVA scope)

Olkiluoto 3

82% complete
(Supply of a turnkey power plant)



Flamanville 3

62% complete
(Supply of a Nuclear Steam Supply System)



Taishan 1 & 2

79% complete
(Supply of 2 nuclear islands)



EPR: unique lessons learned on projects

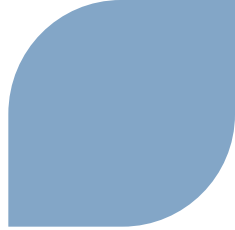
Evolution between OL3 and Taishan

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%

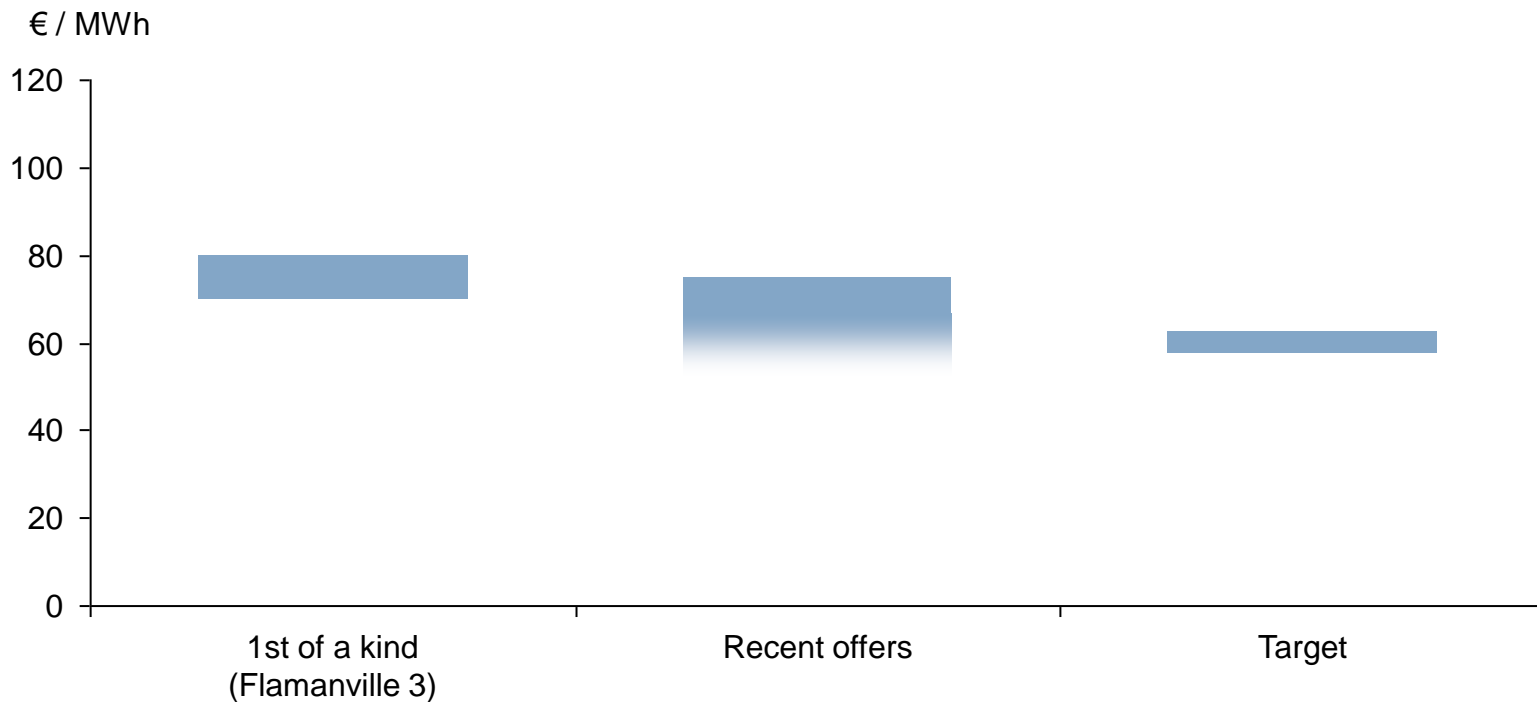


50% of the Taishan personnel had participated in OL3 or FA3 projects

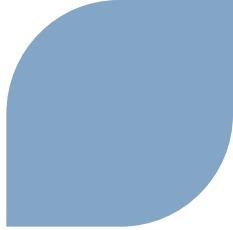
1st of a kind projects are not representative of the EPR cost, which keeps decreasing offer after offer



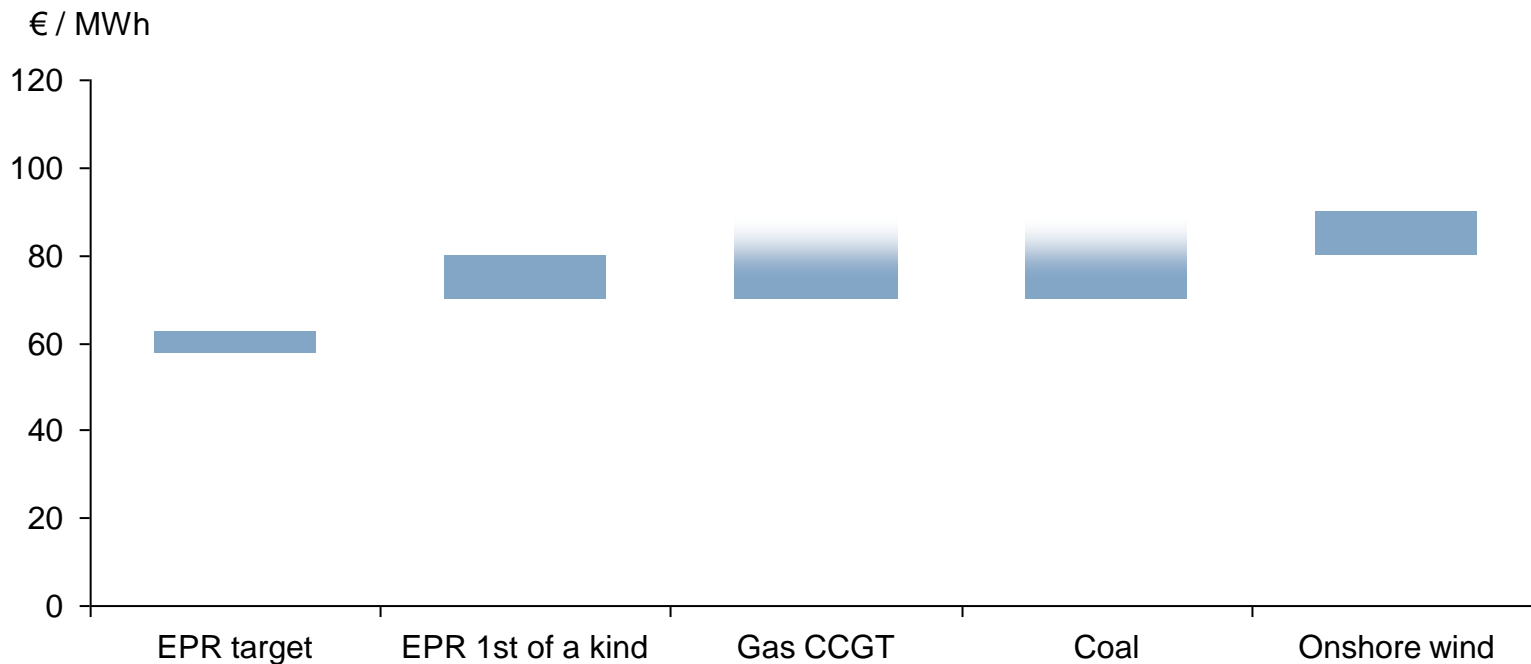
Evolution of EPR levelised cost of electricity in Western Europe



EPR is competitive against other power generation technologies



Levelised cost of electricity of various technologies in Western Europe



CONCLUSION

▶ **2 years after Fukushima incident, AREVA has a brilliant future in nuclear energy:**

◆ **New builds with EPR and ATMEA**

◆ **Installed Base with fuels, services, life time extension...**