

# Appraisal of investments in nuclear power by a financial investor

SAEE annual meeting

November 10th 2010

Global Investments, the European Way  
PARIS LONDON NEW YORK FRANKFURT MILAN SINGAPORE ZURICH VIENNA



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## AXA Infrastructure's background

One of the leading European Infrastructure investors since 2005

- Started in 2005 with a €200m landmark investment in Sanef, the 4th largest European road privatization
- €1.5bn fund managed in 3 generations of funds, bringing together AXA Insurance companies and well established third party investors
- 14\* investments completed alongside strategic partners (Vinci, Abertis, ENEL, Techint, Sita Environnement, Kallista, Saur, Sanef, CDC and F2i among others)



\*Sita Northumberland and Sita Cornwall were completed separately.

Orange Countries with ongoing transactions

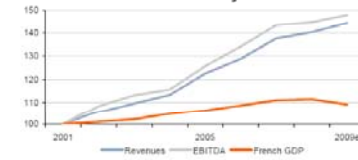
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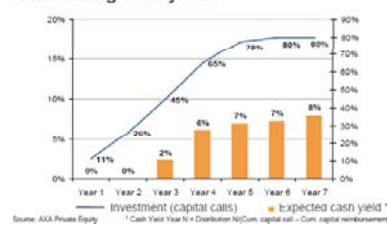
## A consistent investment strategy in infrastructure

- Target sectors: Core Infrastructure
  - Quality assets with low risk & low volatility for long-term stable returns
  - Resilience to economic cycles
  - Sector diversification: utilities, transportation, renewables, and social services
- Greenfield/ Brownfield
- Focus on key western European countries
- Industrial approach
  - Long term investment horizon (15 years)
  - Working from existing long term partnerships with industrial leaders
- Consistent financial profile IRR, yield
  - Yield oriented instrument
  - Regular cash-flows requirement
  - Inflation link

### Resilience to economic cycles



### Stable long term yield



## AXA Private Equity Infrastructure Transactions

Project	Sector	Country	Description
Sanef	Highways	France	Acquisition of Sanef with a consortium led by Abertis, the 4 <sup>th</sup> largest motorway in Europe
AWG	Water	UK	Acquisition of a minority stake in Anglian Water Group, the 4 <sup>th</sup> largest water company in UK
Saur	Waste/Water	France	Acquisition alongside Sécéc Environnement and Calses des Dépôts et Consignations of the 3 <sup>rd</sup> largest company in France in the field of water and waste management
Sita Cornwall & Northumberland	Waste	UK	30-year PFI waste management project awarded to a Sita UK-led consortium by the Cornwall City Council 28-year PFI waste management project awarded by the Northumberland County Council
Enel Rete Gas	Gas distribution	Italy	Acquisition of a 80% stake in Enel Rete Gas alongside F2I
Kallista	Wind Farm	France	Acquisition of 100% of Babcock & Brown French wind farms located in Normandy, Beauce, Oise and Alsace
TRE & Partners	Renewable Energies	Italy	Acquisition of a minority stake in a renewable energies holding (219 MW in operation and under construction, 188 MW under development) Option on a 549 MW pipeline of greenfield assets
Tozzi Windfarms	Wind Farm	Italy	Investment in 4 windfarms projects located in Puglia (136MW) alongside a family-owned Italian company, Tozzi Holding
ABB	Highways	France	55-year toll road concession, to operate an existing motorway section of approx.15km, as well as to design, build, maintain and operate a 29 km extension between Falaise and Sée
HISI	Hospital	Italy	Investment in a holding firm along with Techint and Capitalia dedicated to long term equity investment in PPP projects in the hospital sector
Synerail	Telecommunications	France	1950 Synerail stations (towers + control units) to be built to provide RFF railway network with radio-electrical coverage adapted to data and phone applications (trains to control and signalling center)
HSL-SEA	Rail	France	Construction and operation of a 300km high speed line between Tours and Bordeaux to reduce the journey between Paris and Bordeaux by 55 min
Trados M-45	Highways	Spain	20 years shadow toll concession of 15 km near Madrid already in operation, to manage and operate the concession.

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## A core infrastructure asset

- High initial investment costs
- Long-term investment
  - Long construction period (from circa 7 to 12 years)
  - Long exploitation period: circa 70 years
- Highly regulated asset
  - Site location
  - Commissioning
  - Waste management
  - Decommissioning provisions
  - Stringent regulation on safety issues
- Good visibility on future cash flows
  - Low operation & maintenance costs
  - Low sensitivity to fuel prices
  - New 3rd generation reactors will improve efficiency and cost-effectiveness
- Track record: safety, incidents, construction delays etc...

*Some intrinsic characteristics of nuclear plants could match with infrastructure investment's criteria*

## Main financing issues for investors

- Conception
  - Implication of **technology choice**
  - Long time required for obtaining authorizations can incur **high legal costs**
- Construction
  - Most important risk in nuclear project: **risk of delay and cost overruns**
  - **Long construction period**: need for financial investors to be remunerated during construction
- Revenues
  - **Long exploitation period**: higher exposure to market fluctuation and/or change in regulation
  - Need to secure **long term contracts** in deregulated electricity markets
- Maintenance & decommissioning
  - Uncertainty over the **cost of decommissioning** and over time period involved
  - Responsibility over **radioactive waste** unclear in many countries
  - **Provisions** required to be set aside for decommissioning
- Political and reputation risks
  - Risk of **delays or cancellation** of nuclear projects

*These key issues need to be addressed to make nuclear projects eligible for infrastructure investors*

## Key mitigants

- Risk sharing agreements
  - Private / Private
  - Public / Private
- Off-take contracts
- Quality of counterparties
- Market regulation
- Contractual structures
  - PPP
  - Concession

*Long term visibility of these projects will be critical for investors*

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## AXA Private Equity

Global investments through strong local presence



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## AXA Private Equity

Global Investments, the European Way

### Global reach throughout the Private Equity asset class

- Managing and/or advising \$25 bn\*
- Full coverage of the asset class: secondary funds, buyout, mezzanine, infrastructure
- Top quartile returns since inception
- Strong local franchises with more than 200 professionals based in 8 offices

### Long term Private Equity investment philosophy

- Reliable support to entrepreneurs for sustainable growth and value creation
- Commitment to stringent corporate governance values
- Proprietary AXA Private Equity access to top corporate managers and GPs
- Deep institutional and business network with access to AXA Group's global network

### Transparency: commitment to regular and detailed reporting to investors

- Frequent and personalized reporting
- Close and trustworthy relationships with investors

### Solid and diversified client base

- With 200 institutional investors around the world
- Repeated commitments across generations of funds

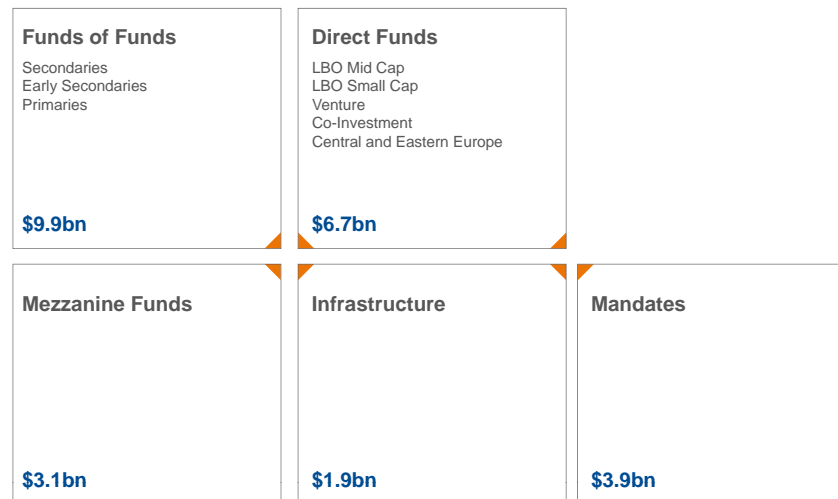
\*As of September 30th, 2009; Exchange rate €1 = \$1.4590

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## AXA Private Equity

Activities as of September 30th, 2009



As of September 30th, 2009; Exchange rate €1 = \$1.4590

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