International financing of energy efficiency projects: AFD

Wided Ben Naceur
AFD Tunis
avril 2014
I- AFD Role and Missions

II- AFD Energy Strategy

III- Exemples of Project (China, Tunisia)
AFD is central to French development aid
AFD Role and missions

- public development finance institution supervised by three ministries (Foreign Affairs, Economy and Finance and Overseas) accounting for two-thirds of France’s bilateral foreign aid

- In 2011, AFD authorized €6.9 billion of funding for development projects (including €1.1 billion to French Overseas Provinces) to improve living conditions, support economic growth, protect the environment and help fragile and post-crisis countries

- AFD Group includes Proparco, a subsidiary dedicated to private sector projects

- AFD also administers the French Global Environment Facility (FFEM) which co-finances projects that reconcile development with the environment

- AFD Group offers a wide range of financing instruments: loans (sovereign, non-sovereign, concessional or non-concessional), grant and subsidies, guarantees, private equity (Proparco)

- Beyond funding, AFD can mobilize French expertise, establish effective partnerships and contributes to international discussions about aid and global issues.
AFD deploys an increasing share of French foreign aid
AFD operates in most of the developing world
€7 billion for developing and emerging countries and France’s Overseas Provinces
Africa is AFD’s main priority

**SUB-SAHARAN AFRICA**
- **EUR 2,014Mn** of funding approvals
- **69%** of the French State’s budgetary effort

**LATIN AMERICA, CARIBBEAN**
- **EUR 1,214Mn** of funding approvals
- **2%** of the French State’s budgetary effort

**NORTH AFRICA, MIDDLE EAST**
- **EUR 1,218Mn** of funding approvals
- **14%** of the French State’s budgetary effort

**ASIA**
- **EUR 1,010Mn** of funding approvals
- **10%** of the French State’s budgetary effort

**FRENCH OVERSEAS PROVINCES**
- **EUR 1,478Mn** of funding approvals

*(French State allocates 4% of its budgetary effort to multiple regions)*
AFD works in a wide range of sectors

Share of total volume of funding approvals

- Infrastructure and urban development (of which energy)
  - Agriculture and food security
  - Environment and natural resources
  - Water and sanitation
  - Social sectors (education, health, fight against AIDS)
  - Other and multi-sector
  - Business, Industry & Trade

Shaping sustainable futures
AFD has a complete range of financing tools.
AFD Energy strategy

Results of the Group’s activity in the energy sector (2007-2011)
The three pillars of AFD Energy strategy (2012-2016)
Results of the Group’s activities in the energy sector (2007-2011)

Sustainable energy
(renewable, efficient and low in CO2)

3 pillars

Secure Energy

Accessible Energy

Results in the energy sector

First CIS Energy 2007 - 2011

- Proparco commitment authorizations
- AFD commitment authorizations
- Commitment authorization in energy to total commitment

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Cadre d'Intervention Sectoriel Energie 2012

29/04/2014 12
## The results – Standardized indicators (on AFD Energy projects)

<table>
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<tr>
<th>Standardised Indicators</th>
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<th>Value (2007-2011)</th>
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<td>IA 53. Reduction in greenhouse gas emissions (CO2)</td>
<td>Tonnes / year</td>
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- **2.4 GW** of new renewable generating capacity (hydropower, geothermal, windpower)
- Access to energy: almost **two million people** (Kenya, Burkina Faso, Rwanda, Mozambique, Morocco, Senegal…);
- Reduction in greenhouse gas emissions, of around **9 million tons of CO2 per year**,
- Energy-saving projects mostly carried out using lines of credit (not taken into account at this stage of the analysis.) ;

=> **Analysis and impact assessments will continue throughout the 2012-2016 period.**
Three pillars have been confirmed and updated

1. Prioritising renewable energies and energy efficiency
2. Closing the energy fracture and improving access in rural and suburban areas
3. Protecting and strengthening energy systems

A cross-cutting support component

Strengthen sustainable energy policies and capacity building for stakeholders in the energy sector
1st pillar: Prioritising renewable energies and energy efficiency

- Renewable Energies (REN)
  - Optimise local resources, diversify the energy mix, improve the carbon footprint;
  - Some sectors are already competitive: geothermal, hydropower, wind power, bioenergy;
    (For hydropower: accent placed on small/medium scale hydropower, refurbishment of dams and environmental and social due diligence procedures)
  - Emerging solar sectors (Photovoltaic and CSP).

- Efficient energy use, per sector of application
  - Efficient industry;
  - Energy efficient buildings (new build and existing);
  - Lower petroleum consumption in transport;
  - Low energy-use cities.
2nd pillar: Reducing the energy fracture and improving access in rural and suburban areas

- Rural and suburban electrification
  - 1.3 Bn people in the world do not have access to electricity (electrification rate in Africa 31%, 14% in rural areas)

![Number of people without electricity in 2009 and 2030](source AIE 2011)

- Traditional domestic fuels
  - 2.7 Bn people use traditional biomass for cooking
  - Actions focused on the management of natural forests and the supply of urban centres

- Production of biocarburant on a limited scale associated with rural plantations.
  - The primary objective being to create value for small-scale rural farmers
3rd pillar: Securing and reinforcing energy systems

- Upgrading and modernising electric power grids
  
  *Strengthen/extend grids, regional interconnections, introduction of smart grids.*

- Valorize natural gas, in line with the Group’s climate strategy
  
  *Support the transition to renewable energies*
  
  *Study in 2012 on how the Group should proceed*

- Develop independent power production (IPP)
  
  *Complementarity between Proparco / AFD on IPP (renewables or highly efficient combined-cycle gas plants)*
Cross-cutting pillar of strengthening sustainable energy policies and supporting stakeholders with their implementation

- Support for drawing up sustainable energy policies
  - Dialogue with ministries and public institutions in charge of energy on how to define and implement sustainable policies;
  - Support for partnerships and exchange programmes on themes that can optimise French expertise (e.g.: smart grids).

- Support for stakeholders and operators in the sector
  - Planning and structuring sustainable investments;
  - Auditing and drawing up recovery programmes for the African power sector (improvement of power company performance…)

- Professional Development
  - Partnership with UPDEA to identify training needs for African electricity companies and strengthen their training centres by pooling human resources.
Objectives of the Energy strategy

■ Volume of commitments in excess of **1.5 billion euros per year** for the next three years.

■ Divided between three strategic pillars;
  ● Renewable energies and energy efficiency: commitment target of more than **2 billion euros** over the next three years;
  ● Secure power supply: aim to commit **2 billion euros** over the next three years.
  ● Accessible energy: continue to award grants to **two or three projects per year**.

■ Underpin the group’s climate strategy objectives, for which Energy is a major means of applying these objectives, with 50% of commitments to pro-climate projects.

■ Maintain a substantial technical assistance aspect, for the preparation or support of investments.
Strengthening energy partnerships and knowledge production

- European partnerships
  - Increased importance of partnership with the European Commission, particularly via loan/grant blending;
  - Mutual recognition of procedures initiative and issue of European co-financing (BEI, KFW, arrival of the EBRD) for large-scale energy projects;
  - Joint operations with other aid agencies (DFID, GIZ).

- International donors and other development partners
  - World Bank, essential for large projects, particularly with a strong environmental and social impact.
  - Regional Banks: ABD, IDB, AfDB, …
  - National and regional banks from the South: BOAD, DBSA, CAF, …

- French stakeholders
  - DGT/Project Assistance (FASEP…), ADEME, INES, CIRAD, major power companies and SMEs to develop an energy package suited to emerging and developing countries
  - Pursuit of knowledge production activities
    - Operational studies; ESMAP; Research on low-carbon growth; Internal training
First results (2012-2013): Energy commitments

- Commitments stabilized around 1.5 billion euros in 2012-2013
  - 20% of AFD total commitment
  - Around 20% of energy commitments are made through Proparco

- Over 8.4 billion euros committed to energy since 2007

Results in the energy sector

<table>
<thead>
<tr>
<th>Year</th>
<th>Proparco commitment authorizations</th>
<th>AFD commitment authorizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>55</td>
<td>513</td>
</tr>
<tr>
<td>2008</td>
<td>151</td>
<td>588</td>
</tr>
<tr>
<td>2009</td>
<td>1846</td>
<td>295</td>
</tr>
<tr>
<td>2010</td>
<td>1624</td>
<td>293</td>
</tr>
<tr>
<td>2011</td>
<td>1678</td>
<td>281</td>
</tr>
<tr>
<td>2012</td>
<td>1142</td>
<td>388</td>
</tr>
<tr>
<td>2013</td>
<td>1092</td>
<td>299</td>
</tr>
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First CIS Energy 2007 - 2011  
Second CIS Energy 2012 - 2016

Commitment authorization in energy to total commitment
First results (2012-2013) : Objectives of the Energy strategy (2)

- Over 90% of the projects helps alleviate the impact of energy consumption on the climate
  - 2013 projects will spare the emission of 3 700 000 Tons of CO₂ each year.

- Strong technical assistance and support to investment
  - Since 2012, AFD implemented studies, feedbacks and promotion of good practices on Renewable energies in Sub-Saharan Africa (solar, wind, hydroelectricity,…) and rural electrification
  - Beginning in the end of 2013, AFD promoted a facility study of 3 million euros to develop renewable energy and Energy efficiency projects and the structuration of SE4ALL investments in sub-Saharan Africa. It will:
    - *Produce studies to contribute to countries’ energy strategy*
    - *Bring technical expert assessments to help foresee SE4ALL investments and action plans*
    - *Form and strengthen technical agents’ abilities*
From 2007 to 2013, AFD has granted 2 billion Euros to develop energy efficiency projects.
In 2012 and 2013: the commitments “Energy” mobilized mainly on sub-Saharan Africa and sustainable energy.

Montants 2012 par région et par axe

Montants 2013 par région et par axe
First results (2012-2013) : Standardized indicators

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<th>Value 2012 (ex-ante)</th>
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<td>370 000</td>
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<td>9 450 000</td>
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<td>MW</td>
<td>2 400</td>
<td>715</td>
<td>530</td>
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<td><strong>IA 19.</strong> Energy saved</td>
<td>GWh</td>
<td>26 000</td>
<td>7 883</td>
<td>2400</td>
</tr>
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<td><strong>IA 53.</strong> Reduction in greenhouse gas emissions (C02)</td>
<td>Tonnes / year</td>
<td>8 700 000</td>
<td>1 090 751</td>
<td>3 700 000</td>
</tr>
</tbody>
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- **In 2012-2013:**
  - Financing of 1200 MW of renewable energies
  - Access to energy for 420 000 people

- **2013 particularities:**
  - 9 450 000 underwent an improved electric power service mostly thanks to two important projects:
    - *A large electric interconnection between Ethiopia and Kenya (4 350 000)*
    - *The modernization of the distribution network in Rio Grande do Sul, Brazil (3 500 000)*
  - Greater savings in CO₂ emissions
## Example 2013: Biomass cogeneration power plant in China

<table>
<thead>
<tr>
<th>Project</th>
<th>Content and financing</th>
<th>Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sector:</strong> renewable energy / biomass</td>
<td><strong>Context</strong></td>
<td><strong>Impacts</strong></td>
</tr>
</tbody>
</table>
| **Country:** China | - Great increase in energy demand and fossil fuel consumption and pollution in China  
- Important biomass resources underused in the country. Great quantities of residues from forest exploitation and agricultural exploitation  
- Strong policies and incentives in the sector to bring total production from biomass to 20 GW by 2020 | - Valorization of local biomass through the power plant and the local industry (ashes)  
- Additional income for forestry workers  
- Environment:  
  - 300 000 tCO2 saved each year and 2500 tons of SO2/y as coal power plant are completely dismantled  
  - 30MW of renewable energy |
| **Grant year:** 2013 | **Construction of a 30 MW cogeneration power plan + supporting equipment:**  
  - Biomass consists of a 80% forest residues and a 20% harvest (around 190 000 tons a year)  
  - One power line to connect the power plant to the network (29.5 km, 66kV)  
  - A collecting system of the biomass 60 km around the power plant site  
  - Reform of the heat network devoted to a 650 000 m² area. |  
| **Cost of the project:** 50.7 Million € | |  
| **Partner:** Yichuan NRDC | **Content and financing:**  
  - 50.7 M€ between an AFD sovereign loan (35 M€), Yichun NRDC (8.7 M€) et Bank of China (7M€) |  

Shaping sustainable futures

Cadre d'Intervention Sectoriel Energie 2012

29/04/2014
**Example Tunisia: Credit line financing EE/RE/Clean up projects in the industrial sector**

<table>
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<tr>
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<tbody>
<tr>
<td><strong>Sector:</strong> renewable energy /energy efficiency</td>
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<tr>
<td><strong>Country:</strong> Tunisia</td>
</tr>
<tr>
<td><strong>Implementation period:</strong> (2009-2012)</td>
</tr>
<tr>
<td><strong>Cost of the project:</strong> 44.3 Million €</td>
</tr>
<tr>
<td><strong>Partners:</strong> UBCI /BIAT/ANME/ANPE/</td>
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<tbody>
<tr>
<td>▪ Great increase in energy demand and fossil fuel consumption and pollution in Tunisia</td>
</tr>
<tr>
<td>▪ National energy efficiency strategy and strong policies and incentives to reduce energy consumption in the industrial sector</td>
</tr>
</tbody>
</table>

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<th>Content and financing</th>
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<tr>
<td>▪ AFD credit line of 40 M€ to finance energy efficiency / cleaner production and pollution abatement investments in SMEs</td>
</tr>
<tr>
<td>▪ AFD grant for technical assistance package (1.3 M€) to both ANPE and ANME</td>
</tr>
<tr>
<td>▪ EU grant (3 M€) to finance additional incentives for the AFD’s credit line</td>
</tr>
<tr>
<td>▪ Technical eligibility criteria of EE projects financing energy efficiency/clean-up production investments in SMEs</td>
</tr>
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<td>Funded projects contribute to:</td>
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<tr>
<td>▪ Install 20 MW cogeneration power plant</td>
</tr>
<tr>
<td>▪ Reduce energy consumption in SMEs by almost 540 GWh/year</td>
</tr>
<tr>
<td>▪ Reduce CO2 emissions by more than 112 Ktons of CO2 per year</td>
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<td>AFD is exploring new commitment opportunities to support the updated <em>National EE and RE strategy</em>, notably in the fields of buildings and SME’s EE and RE</td>
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Thank you for your attention