EIB lending in support of the energy sector

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Considerations on CEE Bankwatch report *Carbon Rising* – EIB energy lending 2007-2010 (December 2011)

At a glance

As the EU's Bank, the EIB's lending to the energy sector is **fully in line with the EU's energy policy** that consists of the pillars i) sustainability, ii) security of energy supply, and iii) competitiveness in energy supply.

The Bankwatch **report misrepresents the Bank's activities in the energy sector in several ways:**

- It tries to create the impression as if the Bank's major share of energy finance is in support of conventional fossil fuels power generation projects – while in fact in 2010 **renewable energy represents 76% of EIB lending to power generation projects**. The remaining share mostly went to efficient gas fired CCGT plants.
- The EIB adopted a new energy lending policy in 2007. This ensures a **restrictive approach to the financing of new coal and lignite fuelled power stations** – they must replace existing older and ineffective plants while providing a decrease of at least 20% in the carbon intensity and must be CCS ready. When the reports talks about "fossil fuels" it is mainly referring to EIB support for gas infrastructure and power stations.
- It focuses predominantly on the sustainability objective, **neglecting the EIB's support to the other two objectives** against which the Bank's lending has to be judged as well.
- It paints a **black and white picture,** playing renewable energy off against all other energy modes – for example, the energy saving and efficiency gains of highly efficient **cogeneration projects (CHP) are not taken into account**.
- It **underestimates the Bank's lending to renewables by not considering large hydropower projects and projects that produce energy from organic waste as renewable energy.**

I. General remarks

The report claims to "analyse the EIB's energy lending in the years 2007-2010" by categorising the EIB's 2007-2010 energy portfolio according to criteria based on the authors' own definition. Basis for the analysis are EIB financed projects in the energy sector during the mentioned time period.

Unfortunately, instead of providing a realistic account of the Bank's lending to the energy sector and how it developed over the last years, the **report misrepresents the Bank's activities** by applying a methodology and drawing conclusions that seem to aid the author's own objectives at the cost of an objective and contextual analysis.

The report, which was unfortunately not shared with the Bank before its publication, contains several **inaccuracies and misinterpretation** due to the mentioned methodological approach that has shortcomings and is not in line with EU or international accepted standards.

- The report seems to wilfully misrepresent EIB activities in support of EU energy policy. It tries to create the impression as if the Bank's major share of energy finance is in support of conventional fossil fuels power generation projects – while in fact **renewable energy represents 76% of EIB lending to power generation projects** in 2010. The remaining share mostly went to efficient gas fired CCGT plants.
- Further, the authors' methodology paints a black and white picture of good (renewables) vs bad (all other types) energy modes. A striking example is to categorise **highly energy-efficient cogeneration (CHP) projects** as simply lending to fossil fuels (based on the energy source used), thus labelling it as an "example" of dirty energy finance and completely ignoring the related (significant) energy saving and efficiency gains as well the EU-wide acceptance of its importance and potential (even among environmental groups).

- Lending to large **hydropower** projects and projects that produce energy from **organic waste** were **not** considered as renewable energy by the authors. Again, this is **not in line with EU and internationally recognised methodologies and underestimates the Bank's lending to renewables.**

In the following, the major issues of the report will be addressed followed by a detailed description of EIB activities in the energy sector for the period 2006 to 2010.

II. EIB lending and EU Energy Policy

The Bank's energy lending is **fully in line with EU policy**, which consists of three pillars:

- sustainability – including energy efficiency and renewable energy;
- security of supply – which includes investments in energy networks (e.g. electricity and gas transmission and distribution networks) and energy storage (e.g. gas storage projects); and
- competitiveness in energy supply.

The EIB's lending in the energy sector supports all the three afore-mentioned pillars and dimensions of the EU's energy policy. The report focuses predominantly on the sustainability objective which is only part of the EU energy policy picture. The report therefore neglects the EIB's support to the other two objectives against which the Bank's lending has to be judged. **The report's notion that the Bank's lending is not in support of EU energy policy is therefore to be rejected.**

It is clear from the report that it does not accept EU energy policy with regard to investments in projects for security of energy supply *("EU policies give guidance on which infrastructure projects are priority for the EU [note: it is referred to TENs projects], but they fail to assess whether they are in line with EU long term climate goals, sometimes creating contradicting demands toward the EIB").* In essence, therefore the **report contradicts or puts into question considerable elements of the EU energy policies. In consequence EIB activities are evaluated by the report not against EU policy objectives but against a different set of objectives that reflect the authors' own set of priorities.**

III. Renewable Energy

Main criticisms in the report:

- EIB's target for renewable energy is not ambitious enough, including limited support to decentralized small-scale projects.
- EIB does not support sufficiently renewable energy in EUR-12 (new Member States) but focuses mainly on old Member States.
- EIB provides limited support to renewable energy outside the EU, with the exception of Turkey.

Comments:

- The way the report presents the information on EIB renewable energy lending does not take into account the **very significant increase in Renewable Bank's Corporate Operational Plan (COP)** in 2006.
- Renewable energy financing by the Bank grew twelve fold between 2006 and 2010 reaching 34% of total EIB lending to energy in 2010. The EIB is a major lender to renewable energy.
- As a result the **share of renewable energy in power generation financed by the Bank has increased from 30% in 2006 to 76% in 2010**.
- The market for small to medium size renewable energy is small in the EU. To support its expansion, the Bank has set up dedicated framework and global loans to reach this segment of the market. This type of financing has expanded significantly in the last few years. In addition Bank initiatives such as JESSICA can support financing of energy efficiency and renewable energy in urban areas.
- The report refers to a failure by the EIB to implement any of its commitments and targets related to financing of renewable energy sources in the EU-12 - new Members States.

- **There are no such commitments related to EIB financing of renewable energy in the EU-12.** The EIB's financing objectives in this respect within the EU are, in line with EU policy, applicable to the EU as a whole and not defined for only a particular group of Member States.
- **EIB renewable energy financing is in line with the level of overall investments in renewable energy in the EU-12.** Based on each EU member states' Renewable Energy Action Plans, of the total investment in the EU in renewable energy in the period 2010-20, **only 7%** will be within EU-12 with the remainder in the EU15. The split of EIB's RE lending between EU-12 (6%) and EU-15 (94%) is therefore in line with this overall split of investment.

- **Renewable energy projects outside the EU.** The key condition to develop renewable energy projects is the existence of a clear and stable support framework in support of such projects. Such frameworks do not exist or are weak in some countries outside the EU where the EIB operates. Where such frameworks exist, the Bank has supported the development of renewable energy, such as in Turkey, in some countries in the Southern Mediterranean and in Asia and Latin America.
- However, the Bank is actively involved in supporting the setting-up of such frameworks. For example, the bank has a leading role in the Mediterranean Solar Plan, in cooperation with the Union for the Mediterranean and the European Commission; and in the South Africa Renewable initiative, amongst others.

IV. Energy Efficiency

Main criticisms in the report:

- Energy efficiency has been largely neglected by the Bank. According to the report, only 5% of all the Bank's energy investments were in support of energy efficiency projects in 2007-2010.
- EIB financing of energy efficiency in the new Member States is limited, despite the large potential in these countries.
- EIB should not support combined heat and power (CHP), when using fossil fuels, notably coal. It should focus on small scale biomass.

Comments:

- The Bank has "**mainstreamed**" energy efficiency into all its operations, e.g. within the assessment of the carbon footprint of project's Bank financed project. The figure the report refers to corresponds to the projects with a significant contribution to energy efficiency.
- The Bank only introduced rigorous criteria to define these projects at the end of 2007. Therefore, information on the projects with a significant contribution to energy efficiency is only available for the period 2008-2010[1].
- As for renewable energy, the report does not acknowledge the **significant increase in energy efficiency lending - from 730 MEUR in 2008 to 2.33 bn in 2010**.
- Current EIB lending to energy efficiency is **significant in comparison to actual overall investments** in the EU in this area. This is because, from the limited information available, investments in energy efficiency appear to be currently substantially lower than that in renewable energy. This is despite the fact that energy efficiency investment potential is larger than for renewable energy, notably in buildings.
- This appears to be because access to Bank finance is normally not enough in itself to stimulate investment in energy efficiency. It is necessary to address other barriers, such as lack of information. **Non-financial barriers to the development of the energy efficiency potential at local level** are e.g. weak regulatory frameworks in many Member States, limited experience and institutional capacity in preparing and implementing investment programmes. In this respect, **the Bank is promoting energy efficiency** and the supply of viable projects by managing the **ELENA facility** which supports the development of sustainable city energy programmes, in particular in support of the Covenant of Mayors initiative.
- Despite the high energy efficiency potential in the Member States, the level of investment in energy efficiency is still rather limited. **The EIB is supporting new initiatives in this area**, which is reflected by the share of new Member States in our total energy efficiency financing. This includes combining

[1] The figures given by in the report are thus not accurate, as they include 2007 where the information is not available.

EIB loans with grants from structural and cohesion funds (such as energy efficiency in private housing in Bucharest) or by developing financial engineering solutions, such as **JESSICA** instruments (Lithuania).

- Most energy efficiency investments are small-sized. The Bank can only finance these through appropriate intermediaries of some form or the other. A network of public and private institutions exists in the EU in certain countries to support the development of energy efficiency investments, and the Bank is working with these organisations and the banking sector. **Several framework or global loans at national, regional or local level have been developed targeting energy efficiency and renewable energy investments**. The EIB financing is often combined with grants (in particular structural and cohesion grants) and technical assistance.
- Concerning specific initiatives at EU level it is worth mentioning JESSICA (with an increasing number of operations targeting energy efficiency), the European energy efficiency), fund, the energy efficiency finance facilities or similar initiatives (Balkans, Turkey, and Eastern Europe under preparation), etc.
- The Bank supports **CHP projects**, when they meet the criteria defined in the high efficiency cogeneration directive. **This may include** combined heat and power (CHP) **using fossil fuels.** The expansion and rehabilitation of district heating is also supported when the heat is mainly based on high efficient cogeneration and or using renewable energy sources.

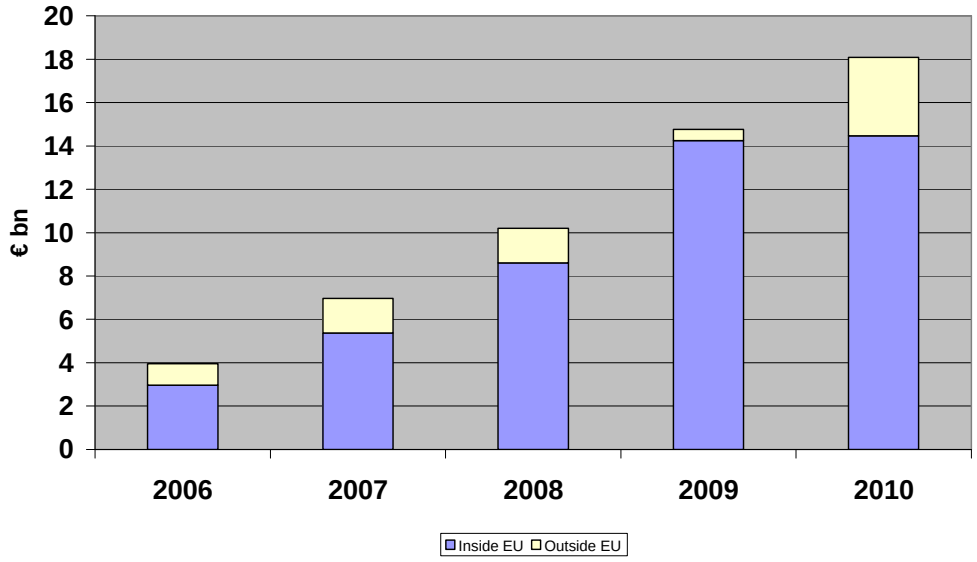
V. Refinery projects

- The report is critical of the EIB financing of the refinery sector arguing that this is supporting EU's dependency on imported oil **whereas in fact the contrary is true.** Refinery projects financed by the Bank during the period in question consisted of (a) energy efficiency projects (e.g. construction of CHP that are often constructed within a refinery to provide electricity while integrating the heat in the refinery process); or (b) projects aimed at meeting more stringent fuel specifications; or (c) conversion projects aiming at increasing the production of middle distillates at the expense of lower value products.
- The conversion projects do not increase the overall refinery capacity and they **reduc**e the EU's dependency on imported fuels as they will lead to a **reduction in imports of diesel**, a product which is currently imported to the EU at the expense of gasoline, a product which is in excess in the EU.

ANNEX- EIB Energy lending between 2006-2010

As the long-term lending arm of the European Union, EIB support to the energy sector is driven by the three goals of EU energy policy: sustainability, competitiveness and security of supply. Since being recognised as a priority target for EIB in 2006, the Bank's financing of the sector has grown rapidly from EUR 4 bn to over EUR 18bn in 2010. This is illustrated in Figure 1, showing the volume of support over the period 2006 to the present, distinguishing between activities within the Union and outside.

Figure 1: EIB support to the energy sector (2006 - 2010)



This note is structured as follows. Firstly, it highlights the composition of EIB energy lending in recent years, identifying key trends, including the sharp growth in renewable lending. Secondly, it provides further details on the Bank's approach to two markets: (i) renewable energy sources and energy efficiency and (ii) carbon-intensive power generation, including from coal and lignite power stations.

1. Trends in the composition of EIB energy lending

Figure 1 illustrates clearly how the volume of EIB support to the energy sector has grown sharply since 2006 – a rise of approximately 350 percent. The rate of growth accelerated in 2009, notably against the backdrop of a crisis-hit market.

This aggregate result, however, masks several important underlying trends. Before turning to the details, it is worth stressing that the EIB only supports energy projects falling within 5 priority areas:

(i) renewable energy,

(ii) energy efficiency,

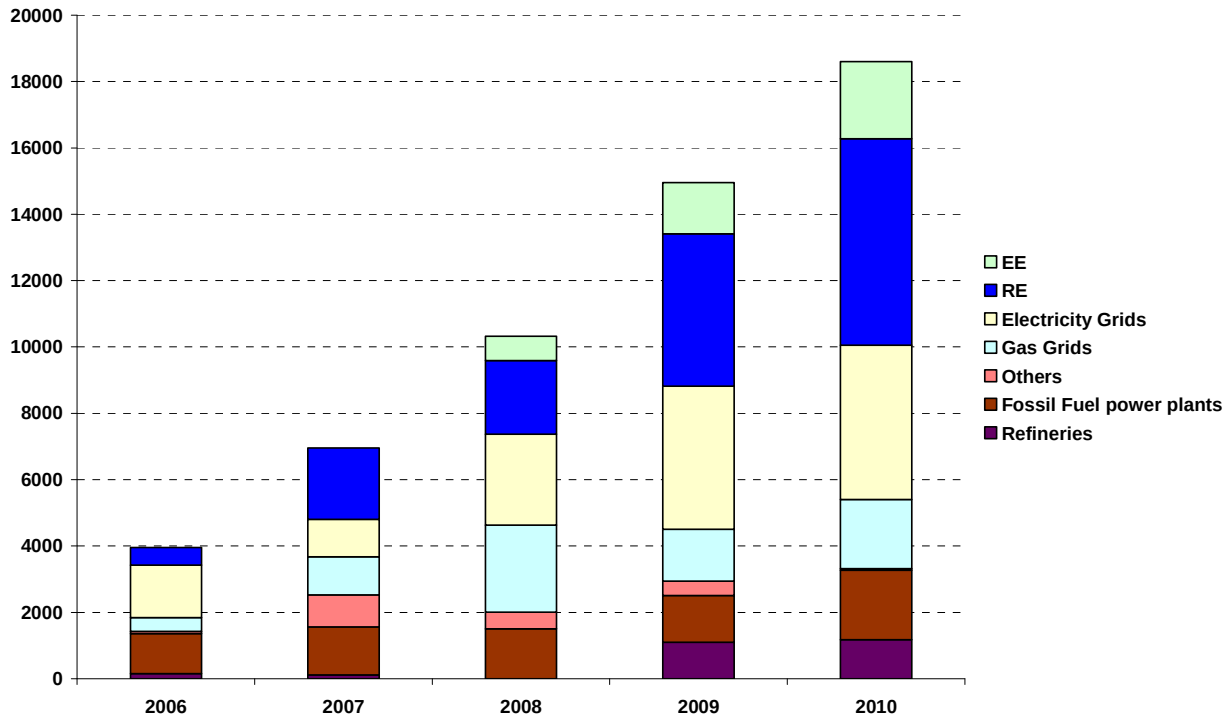
(iii) research, development and innovation

(iv) security and diversification of internal supply (including TEN-e), and

(v) external energy security and economic development for Neighbourhood and Partner Countries.

Figure 2 shows how these overall objectives break down into different types of projects:

Figure 2: Composition of EIB energy finance



Notes:

- data for EE projects start from 2008 following the adoption of stringent EIB criteria for the definition of energy efficient projects – see footnote 2 below
- "Others" include pumped storage facilities, waste to energy and district heating.

The figure reveals that a large proportion of the growth in EIB energy lending can be explained from the renewable energy sector (light green) and electricity grids (yellow), which in many cases include connections to renewable energy sources. In more detail:

1. Renewables: Lending to renewable energy has grown dramatically over the period – from under EUR 500m in 2006 to EUR 6,200m in 2010. As a result, the share of renewables lending in the overall EIB energy portfolio has grown from below 10 percent in 2006 to 34% in 2010. The majority of this lending, as presented in more detail below, is directed to wind and solar power generation within the Union. The Bank has become a key source of finance to the market in these sectors, both on a corporate and project finance basis;
2. Energy efficiency: In 2010, the Bank lent EUR 2.3 bn for energy efficiency projects, covering both the demand side (public and private buildings) and the supply side (CHP, district heating). This volume has more than tripled since 2008 – the first year from which the Bank's stricter, consistent classification of energy efficiency projects[2] can be meaningfully applied to compare results. The Bank has also mainstreamed energy efficiency considerations into all the projects it appraises;
3. Energy grid infrastructure (including TEN-e). Over the period 2006 to 2009, EIB support to energy grids - mostly electricity and gas grids including gas storage and LNG importing terminals - rose three1/2-fold from just under EUR 2bn to EUR 6.7bn. On average over the period, lending to energy grids forms approximately one half of the EIB lending portfolio;
4. Power generation. In 2010, approximately 80% of the total volume of EIB finance to power generation projects concerns renewable sources. This compares with 30% in 2006. This is driven, on the one hand, by the growth in renewable lending, but also, on the other hand, by the more restrictive approach adopted by EIB in early 2007 to screen coal and lignite fuelled power stations.

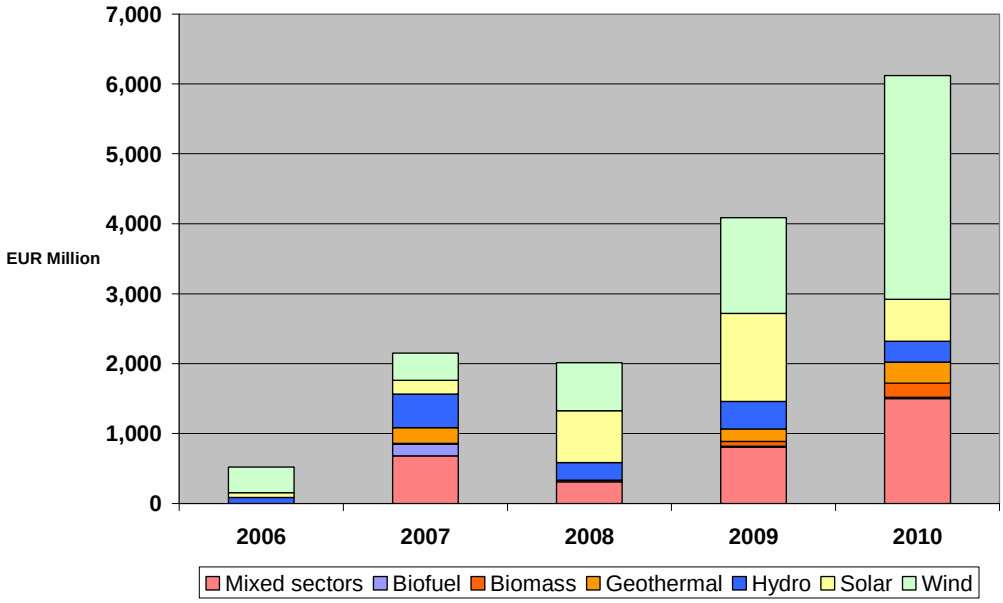
[2] See Clean Energy for Europe: a reinforced EIB contribution, April 2007 (http://www.eib.org/about/publications/clean-energy-for-europe.htm?lang=-en) for more details on the definitions applied.

Indeed, since then, at least 20 potential operations have failed this test, and hence not been supported by the Bank.

2. Focus on renewable and energy efficiency lending

Figure 2 above demonstrates the sharp growth in EIB support to the renewable sector in recent years. This aggregate result is broken down in Figure 3, confirming that EIB support is focussed largely on manufacturing (wind, solar in particular) and power generation: wind (on and off-shore), solar (CSP and PV) and hydropower.

Figure 3: Composition of EIB renewable energy finance



The Bank has played a major and growing role in providing finance to the **renewable energy sector**, with lending signatures **increasing from over EUR 0.5 bn in 2006 to over EUR 6 bn in 2010**. Wind has been the most important sector, attracting about a third of bank financing to the renewable sector, followed by hydro (although this has mostly been outside the EU). Bank lending data show support for the full range of renewable energy activities and the significant role played by the EIB in the start-up phase of both CSP and offshore wind.

The EU has set a collective target to consume 20% of its energy from renewable resources by 2020. Member States are required to adopt National Renewable Action Plans, outlining their roadmap to achieve this target. Based on a review of the submitted plans to date (which cover more than 90% of EU energy consumption), Member States expect to slightly exceed the overall RE objective and achieve a 21% of energy from renewable sources by 2020. To achieve this, renewable energy will account for 36% of the EU's electricity generation, 23% of heat and cooling (cooling is included in this category in the plans, but is very modest compared to heating), and 11% of transport fuels. Renewable energy for electricity generation and heating will each account for about 45% of total renewable energy consumption, and the supply of each will have to double from today's levels. The Bank estimates that it will be necessary to invest over 420 bn EUR between 2011 and 2020 for renewable electricity generation.

The Bank's financing of the different renewable energy technologies has broadly reflected overall investment patterns, as has the geographical distribution of EIB projects. In the coming years, the special role of the EIB in supporting emerging technologies is likely to continue. The geographical distribution should widen as less mature markets develop in-line with the Member States' plans.

Beyond the sheer lending volumes, it is useful to illustrate some of the recent initiatives of the Bank in this field. One prominent example is the establishment of the **Marguerite Fund** in late 2009 by EIB, along with five other long-term public investors (http://margueritefund.eu). The target volume of the fund is EUR 1.5bn to be invested as equity over the next 4 years. A core target market for the fund is renewable energy projects.

The Bank also works upstream with project promoters to develop projects. In the field of energy efficiency, the Bank launched in late 2009 the **ELENA Facility** – European Local Energy Assistance

(www.bei.org/elena). This Facility, financed from the EU CIP budget line, provides support to public bodies to structure large-scale energy efficiency programmes. A total of eleven technical assistance operations have been approved (20.5 MEUR) in Spain, the Netherlands, Italy, Greece, Portugal, UK, Sweden for a total investment supported of EUR 1.6 bn.

EIB is also active outside of Europe. Several examples can help illustrate this. In 2009, the Bank, together with the European Commission and KfW, structured a tranched debt fund in the Western Balkans and Turkey, targeting energy efficiency and renewable projects – the so-called Green for Growth fund (http://www.ggf.lu). Other subsequent investors include EBRD, IFC and the German Development Agency. The EIB Group also continues to manage the Global Energy Efficiency and Renewable Energy Fund (GEEREF - http://geeref.com/) which invests through regional funds in targeted projects in developing countries and countries in transition. Since 2007, the Bank lent EUR 1000m to China to support its climate change strategy; in 2008, a framework loan for EUR 140m was signed with India, mostly dedicated to renewable energy investment. The Bank is currently monitoring a significant pipeline of clean energy projects outside the Union. Finally, it is worth stressing that the Bank also administers technical assistance programmes outside the Union to assist promoters to develop viable projects, including, for example, the Mediterranean Solar Plan[3].

3. Fossil fuel power generation

As approved by the EIB Governors[4] in April 2007, under restrictive conditions, the Bank continues to support power generation from fossil fuels. Figure 4 presents the respective share of EIB lending to power generation from renewable energy sources and fossil fuel. As can be seen EIB support to RE has grown significantly and in 2010, **EIB lending to RE represented 76% of its lending to power generation projects.**

Figure 4: Share of EIB support to power generation

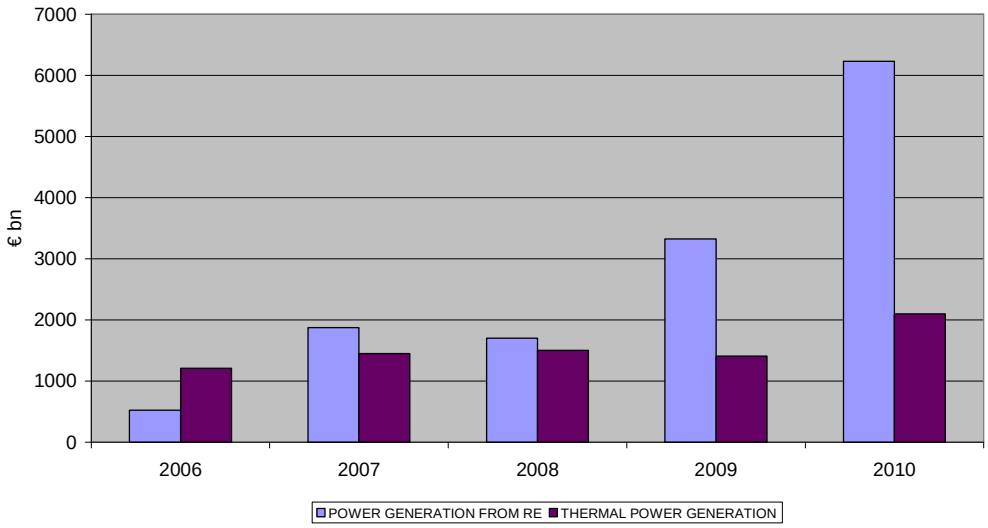
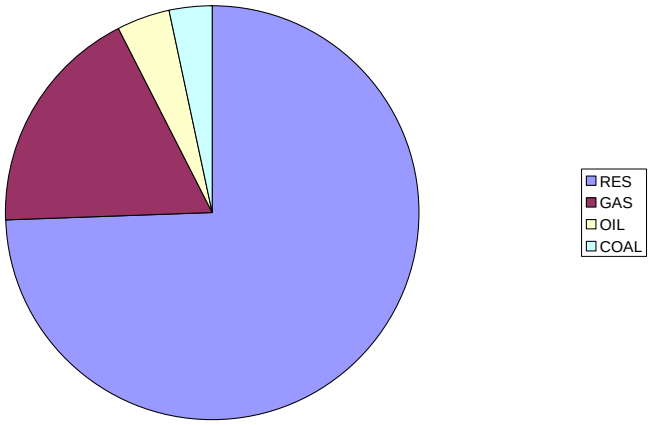


Figure 5 below presents a more detailed breakdown in EIB support in 2009-2010 between renewable energy and various fossil fuels.

[3] The Bank administered a study: "Financing Renewable Energy Projects under the Mediterranean Solar Plan" financed by the FEMIP Trust Fund.
[4] See http://www.eib.org/about/publications/clean-energy-for-europe.htm?lang=-en

Figure 5: Share of EIB support to power generation in 2009-2010



Gas has significantly lower carbon intensity than coal – modern plants fuelled by coal or lignite normally produce twice as much CO_2 per kWh as Combined-Cycle Gas Turbines (CCGT) using gas. Gas remains widely recognised as an important "bridging" energy source, in particular until emerging renewable technologies mature from pilot/demonstration phase into cost competitive alternatives[5]. Recent progress in extracting unconventional gas may reinforce this role. CCGT – with lower fixed costs and higher operating costs than coal – may also be a more competitive base-load complement to intermittent renewable supply than coal.

Nevertheless, **coal and oil-fired plants remain in principle eligible for EIB support primarily due to security of supply considerations**. Oil remains a preferred choice in some small islands, where interconnections have not yet been constructed and natural gas is not available. Coal and lignite plants remain relevant to some Member States, with cheap indigenous supply.

Under the 2007 policy decision, the following "screening criteria" are used to assess whether a potential operation may be financed by the Bank:

(i) New commercial coal/lignite power stations should use best available technology and be "carbon capture ready". They should be cost effective, taking into account CO2 externalities, i.e. be able to exploit CCS once that technology becomes commercially available. In order to avoid a shift towards carbon intensive electricity generation, new plants should replace existing coal/lignite power stations while providing a decrease of at least 20 per cent in the carbon intensity.

(ii) Retrofitting projects for existing coal/lignite power stations should be relatively small investments, so that they do not delay plant replacement in the medium term, and they should aim at substantially reducing pollution, including by increased energy efficiency.

As mentioned above, applying these criteria has resulted in **at least 20 potential operations being screened out for Bank support.** It is likely that many others are not even presented to the Bank. Two recent operations met these restrictive criteria:

- In Germany, a EUR 397m loan in 2007 has been used to develop, construct and operate a 750 MW advanced coal power plant in Federal State of North-Rhine Westphalia (EUR 397m); and,
- In Slovenia, a EUR 550m loan (split between 2007 and 2010), has been used to construct a state-of-the-art lignite-fired cogeneration power plant and associated infrastructure in the city of Šostanj. The project largely replaces inefficient lignite-fired generating units (410 MW), as well as catering for electricity demand growth and supply the local district heating system.

A potential solution to the negative impact of carbon-intensive power production is from Carbon Capture and Storage (CCS). The Bank will play an important role in supporting the EU NER 300 programme which will support demonstration plants in a range of CCS technologies and innovative renewable technologies.

[5] For example, "Energy Revolution: A sustainable pathway to a clean energy future for Europe" http://www.greenpeace.org/international/en/publications/reports/energy-revolution-a-sustainab