KfW is a global player in the field of sustainability financing and as such has experience with financing projects especially in the fields of energy efficiency and renewables in Germany. Furthermore KfW has a long track record with regards to the implementation of programs based on EU facilities (SMEFF, MFF, PAP, EEFF) in Middle and Eastern Europe and ELENA in all IEE member states. Moreover KfW has financed several bank-based municipal and energy efficiency investment programs in EU Accession and Neighbourhood countries (Western Balkans, Turkey, Ukraine).

Thus KfW has refrained from answering all questions put forward by the EIB and rather concentrated on those in which KfW has most experiences.

1. Particularly in the current economic climate, is there a trade-off between promoting a competitive and secure energy supply and one which is environmentally sustainable? Where should the balance lie and what implications does this have for energy sector investments?

Independently from the economic climate tensions between the three overarching goals of each energy policy (security of supply, competitiveness and sustainability) exist at local, national and EU level. There is no single answer to the question put forward by the EIB as to the right balance. The right balance differs considerably depending on income, economic growth rate, level of employment and many other economic factors as well as the willingness of the consumers to accept higher prices and the overall competitiveness of the economy.

Developments in recent years, especially the economic crisis, have widened the gap between different Member states – a gap that shows inter alia in the ratings of Member states but also in other economic indicators such as levels of unemployment.

Looking at the economic climate in Germany, KfW for example notices a strong demand for its energy efficiency programs. This demand is not least due to...
interest rates that are at a historically low level and rising energy prices, both
effects leading to shorter pay back periods for the high upfront investments
needed in order to improve energy efficiency in buildings or in SMEs.

KfW furthermore focuses its activities on areas in which access to the capital
markets is more difficult, for example for long term investment. In doing so, KfW
not only respects the principle of subsidiarity but also contributes to additional
growth and job creation. The aspect of additionality, of financing projects that
would likely not be financed by the capital market, would become even more
important in times of economic slowdown. This principle should in our view also
apply at the European level.

Looking at the European scale, the EIB might need to develop a mix of strategies
in order to accommodate the large differences within the EU-27 states,
especially in light of the potentially growing North-South-Divide.

2. How does investment in the energy sector contribute to growth and
employment? Are investments in all energy sub-sectors equally
valuable? And how does investment in the energy sector rank relative to
other investments in the economy which support growth and
employment?

36 % of all renewable energy investments made in Germany in 2011 were
supported through KfW programmes, representing an investment volume of €
8,300 million. In 2012 this figure is very likely to be even closer to 40%.

As to positive effects of KfW’s promotion of renewable sources of energy, see the
attached summary. In addition KfW has financially supported the
renovation/building of 282,006 housing units in 2011 creating or securing
around 250,000 jobs, primarily in the construction sector. The demand for KfW-
funding in this sector has even increased in the first three quarters of 2012. The
leverage effect has been about 1:11 which means that for each Euro spent four
to five Euro in tax and other revenues have been generated for the state.

KfW has however not conducted a study comparing the growth or employment
benefits of investing in different sub-sectors nor has KfW as a promotional bank
with the purpose of filling gaps in the event of market failures a general overview
of such effects.

3. What impact do you consider the current economic crisis will have on the
energy sector (demand, policies, supply)?

4. The Bank’s economic justification for supporting emerging renewable
energy technologies, whose cost is significantly above that of
conventional and mature renewable energy technologies, is that
continued investments in these technologies will eventually lead to cost
reductions and will ultimately be the least-cost approach to meeting the
EU’s renewable energy targets. Do you agree with this approach? Is
there an alternative approach to the economic justification of these
technologies which you consider more appropriate?
We agree with the described approach in question 4 and in addition see solar power and wind as the renewables with the highest potential in Central Europe as biomass, water, and geothermal as well (due to too high risks), are limited.

5. **What evidence is there that the cost of emerging renewable technology is falling?**

A good example of cost reductions would be photovoltaics (see attached bsw-document, page 4)

6. **What level of investment in RE do you expect in the short and medium term?**

7. **What are the barriers to investment in renewable energy outside Europe? How might these be overcome?**

A global answer to this question is not possible. Hurdles and barriers differ greatly from one state to the next and require individual solutions or strategies. KfW has acquired a lot of experience in this area over the years and is ready to share this expertise with the EIB when concrete projects are being addressed.

8. **Do you agree that there is significant scope for investment in renewable heating and cooling?**

KfW has already developed several programs for investments in heating and cooling based on renewable sources of energy for SMEs, municipalities (e.g. IKK- or IKU-Energetische Stadtanierung) and the building sector. Thus KfW acknowledges the demand for financing, not least in order to fulfil the high KfW standards for new buildings and refurbishments (cf. answer to question 13). However CHP also does play a growing role in the heating sector. Thus the scope for heating and cooling from renewables depends very much on the existing / planned infrastructure in the surrounding area.

9. **What are the barriers to investments in this sector and how might these be overcome?**

Apart from the barriers mentioned in the answer to question 10, large hurdles are planning and investment securities for investors (availability of public funding taking the form of grants and/or low interest rates and unstable legal frameworks). Furthermore a large, perceived and/or real, risk concerns the cost-effectiveness of the investment.

10. **What do you think are the main barriers to energy efficiency investments? What might be done to overcome these?**

In general terms a stable and reliable framework for energy efficiency investment is in our view one of the key success factor. Not surprisingly there is a wide variety of barriers once different sectors and subsectors are analysed – and the barriers differ from one sector to the next.

Looking at the buildings sector for example different barriers exist for municipalities and for “private” owners. Among private owners experience and
research has shown that different incentives are required for different age groups. KfW is happy to provide further details to those found below upon request.

- With regards to privately owned buildings, KfW firmly believes that it is essential to focus on the high level of investment cost required to increase the level of energy efficiency. In our opinion, the long term availability of funds for a comprehensive development, implementation and offer of a sustainable structure of promotional programs (offering interest rate subsidy and/or grants) with special focus on the energy saving measures which are more ambitious than required by regulation is a very important precondition for stimulating investments in energy efficiency in the building sector. The source of funds could be public and in case this is not possible, there should be a reliable alternative source of funding available to the promotional banking institutions for the purpose of developing and carrying out professional promotional loan programs. The long term availability of promotional programs is in our opinion a very important basis for long term planning for private investors. In this context, the visible and sustainable political support is also of great importance. Funds should be made available on a national level in order to provide for a nationwide offer of promotional loan programs. We would also stress the importance of a stable set of regulatory framework conditions applying to the required levels of energy efficiency to be reached. Frequent changes in regulation contribute further to the already existing level of complexity in this sector.

- Especially for municipalities the main obstacle is their low financial income leading to an investment holdup amounting to € 100 Billion according to a recent KfW survey. Many German municipalities suffer from structural under-financing leading to budgetary restraints – and many are already subject to special budgetary constraints. In the short and medium term at least some municipalities will face stricter credit lending conditions due to Basel III rules (Leverage ratio, stronger risk selection by banks) or due to the Euro crisis in general (inflation, lower rating of the Federal Republic of Germany). Furthermore legal/administrative provisions sometimes make it difficult to invest, for example strict rules for heritage buildings or too ambitious standards. Given those constraints it is even more important to stress that municipalities need access to advantageous financing – as KfW offers it already today. Instead of rating each municipality, KfW applies a general debt ceiling (currently € 750 per inhabitant) so that conditions for all municipalities in Germany are identical. Measures that are being financed include renovating buildings, highly efficient energy supply including networks and storage as well as funding of studies for integrated energy concepts in planning phases in cooperation with the ministry in charge.

Further barriers include information deficits and missing adequate financial incentives in light of high expectations on short pay back periods. KfW has already addressed these issues, for example in its programs for SMEs where we successfully offer a combination of promotional loans and advice for enterprises. Furthermore the information deficit for energy efficiency measures in buildings might well decrease over of the years once the energy performance of buildings
directive has been fully transposed and the new energy performance certificates contribute to higher awareness.

11. What role can Energy Service Companies (ESCOs) play in developing energy efficiency investments?

12. What is the potential for energy efficiency outside Europe?

KfW is convinced that the potential for energy efficiency – and energy savings – outside of Europe is huge. In many states however other topics than energy efficiency/climate change dominate the political agenda – for various reasons. An important part of the task is thus to create or raise awareness for the advantages of energy efficiency / energy savings in the respective countries. Awareness is the basic prerequisite for all other steps that may include the adaptation of the legal framework and the setting up of programs to facilitate energy efficiency/saving investments.

13. Do you consider the criteria used by the Bank to categorise projects as Energy Efficiency projects appropriate (see Annex 1)? What alternative would you propose?

The criteria as set out in Annex 1, No. 2 for Energy Efficiency (page 15/16 Consultation Paper) which have to be complied with as a prerequisite for financing by the EIB, require for the projects a 20% reduction in energy consumption as a result of the project completion or energy savings in an amount of at least 50% of the investment costs.

As a general remark we like to stress that the criteria outlined are very general and it is not clear, to which sectors in particular they refer to or whether they apply to all sectors. It is furthermore left unclear whether the criteria address the building sector (refurbishment of existing buildings? Also new buildings?), industrial production, the traffic sector or all of them.

We think that due to the very different nature of all the possible sectors just mentioned, sector specific criteria are required in order to make sure that the nature of energy efficiency achieved is taken into account in an appropriate manner.

KfW has a decade long experience in contributing financing for energy efficiency projects in the housing sector.

The criteria used have been developed specifically for the building sector. They are based on the current legislation, i.e. the German Energy Savings Ordinance. The level of financing in terms of promotional loans or grants depends on the energy efficiency level achieved as a result of the investment/project.

KfW has established a widely known energy efficiency label, the so called “KfW Energy Efficiency Houses”. They include the KfW energy efficiency houses 40, 55 and 70 for new buildings and 55, 70, 85, 100, and 115 for the building stock. The numbers can be read as follows: it is assumed – in simplified terms – that a KfW-efficiency house 40 consumes no more than 40% of the primary energy compared to a new building as set out in the efficiency standards of national
Energy Savings Ordinance. The more ambitious the energy efficiency level achieved, the better the financing conditions. The energy efficiency refurbishment program also covers heritage buildings.

Furthermore, KfW finances energy efficiency measures in municipalities including efficient heating (highly efficient CHP according to the definition given by directive 2004/8/EC) and refurbishments of buildings (here again the criteria 55, 70, 85 or 100 apply, the last one for heritage buildings only).

A third major pillar of KfW’s engagement in energy efficiency is energy efficiency measures for SMEs. New investments will have to lead to a specific reduction of end energy use compared to the average in the concerned industry sector by at least 15% in order to secure KfW funding. Investments into the replacement of one or several components must lead to a specific reduction of end energy use of at least 20% compared to the annual average in the previous three years.

The above mentioned examples show, that KfW has developed and applies sector specific criteria for the different promotional programs.

Especially those criteria used in the building sector are typically more ambitious than those used by the EIB. More ambitious criteria in the building sector make sense in our view, given the usually long payback periods, the large upfront costs and the large saving potentials. In our view it also makes sense from a policy perspective, given that not all sectors are equally well positioned to ensure large gains in energy efficiency. Given the EU has set itself the overall 20% target for 2020, it does make sense to have higher standards in certain sectors.

Should the EIB also consider developing own, European wide, standards, awarding Member states that are late starters, should be avoided.

14. Is the traditional model for electricity transmission and distribution changing? What implications does this have for future investments in electricity networks?

15. What is the future role of smart grids, offshore grids and energy storage solutions?

KfW is convinced that decentralised electricity/energy storage as well as smart load management are of vital importance to manage an increasingly volatile, decentralised, and fluctuating electricity production and thus to ensure security of supply. Thus KfW supports investments in this sector, inter alia through its own IKK- / IKU programme for municipalities.

16. Gas is an important bridging fuel source in the transition to a low carbon economy: to what extent and under what conditions should gas-fired generation be supported?

Cf. answer to question 15. According to different studies it will be necessary to maintain decentralised production capacity from conventional sources of energy also in the future in order to ensure security of supply. Currently the cost-effectiveness of the necessary investments into those power plants is an issue.
of concern. The design of the future market model will be of central importance in this respect, for example the answer to the question as to how this stand-by of power plants will be remunerated. KfW through its programs also helps municipalities to build up a modern energy system.

17. What role will coal and lignite fired generation have in the EU power system in the medium term, with or without CCS, and how is this consistent with the EU’s Climate Action goals and its security of supply objectives?

18. What will be the role of local coal supplies as input for highly efficient CHPs?

19. What evaluation criteria should the Bank use to assess the economic, environmental and financial viability of coal and lignite fired generation?

20. What is the scope for the development of shale gas resources in the EU?

21. Do you expect the share of natural gas in EU primary energy consumption to grow further?

22. What would be the best approach to increase security of gas supply and reduce import dependency?

23. Given the large uncertainty on future gas demand, what is the risk that investment in natural gas infrastructure may be stranded?

24. What role do you expect nuclear power to play in the European energy market?

25. As nuclear power stations are ageing, should their life be extended (where possible) or should they be replaced with other generation sources?

26. What will be the impact on electricity generation and climate action of the reconsideration of nuclear policies within EU member states, in particular after the Fukushima accident?

The German Government proclaimed the Energiewende and - after the Fukushima incident - intensified policies for a fundamental turnaround in the German energy system towards renewables. KfW is prepared to offer a total volume of up to 100 bn Euros volume promotional loans for the German Energiewende.

27. Which are the key innovative energy technologies under development? The development of which key innovative low-carbon energy technologies should receive most financial support?

Financial support for key innovative technologies is indispensable. KfW however, as a (promotional) bank, favours a technology-neutral approach. Differentiated
stimuli should have their origin from other players, in particular governmental research programs.

28. Which barrier(s) are hindering the deployment of innovative, low-carbon energy technologies most significantly?

29. Should financial support be spread across a large number of small research projects or be selective and concentrated on a few promising large research projects?

30. In a developing market context, where should the balance lie between meeting local energy needs at least cost and reducing global greenhouse gas emissions – the trade-off between affordable energy for all and sustainable energy for all?

31. What should be the role of the EIB in promoting new technology and helping to transfer existing technologies to new markets?

KfW does not usually promote specific technologies – unless the owners (the German State (80%) and the Länder (20%)) ask for KfW to do this. Thus KfW has got a specific program for offshore wind financing for example. But KfWs general approach is to further energy efficiency and energy savings – and here the approach is based on best results. Such a technology neutral approach might be worth considering also for the EIB.

32. Where can sources of low-cost finance be more effectively used by the private sector to develop energy projects?

33. What are the main barriers to developing sustainable energy sources in developing markets?

See answer to question 7.