QUESTIONS OF THE CONSULTATION

1. Background questions

Q1: Do paragraphs 15-27 above provide a reasonable characterisation of the long term energy transformation? Are there additional dimensions that the Bank should consider when reviewing its Energy Lending Policy?

In general, the characterization of the long term energy transformation by the EIB appears correct. In particular, the energy system must and should be decarbonised entirely at the latest by 2050, which as correctly stated in paragraph 17: “follows that by the middle of the century, if not earlier, fossil fuels such as coal, crude oil and even natural gas will no longer be used to any significant extent”.

However, the paragraph 24 and 25 appear to fall short. Indeed, stating as a principle that the heating sector will be increasingly electrified seems to miss the point that the heat demand currently far outweighs that of electricity, representing a huge additional challenge to decarbonisation (especially when cost-effective renewable heat solutions are available). The focus of the bank on electrification poses a risk of path dependency. We argue that a mention of the “decarbonisation of the heating and cooling sector through the deployment of renewable solutions, such as renewable heat solutions (solar thermal, geothermal, biomass, ambient...), including enabled by efficient devices driven by renewable electricity” presents a more cost-effective vision of the future. Indeed, as stated in paragraph 25, a wild electrification of the heating sector would represent a major strain on the electricity sector, increasing the need for flexibility, and potentially preventing decarbonisation by justifying the maintenance of fossil fuel assets online.

Moreover, the paragraph 25 should also refer to the flexible and dispatchable renewable electricity generation (geothermal, solar thermal electricity, ocean energy, biomass), which is key in enabling the decarbonisation and the security of supply of the electricity sector.

Q3: Within the broad areas of renewables, energy efficiency and energy grids, are there particular areas where you feel the Bank could have higher impact?

Considering the broad area of energy efficiency, and in particular its intersection with the decarbonisation of the supply of energy for heating (as in many cases energy efficiency investments are linked to a better use of energy consumed in the form of heat), the Bank should do a more thorough work of considering investments as part of an energy system, and to consider to possible lock-in effects of emissions that ensure investments in energy efficiency that do not consider the decarbonisation of the energy supply itself.

Q4: How can EIB reinforce its impact towards ensuring affordability, addressing social and regional disparities and support a just energy transformation?

A key factor that the EIB should focus on to ensure and support a just energy transformation is to solve the problem of access to capital (or investments in general) of those most vulnerable energy households, not able to properly heat or cool their homes, by investing in the capital intensive energy sources that provide significant savings in the long term. For instance, alongside energy efficiency investments of a public housing block, the development of a large shallow geothermal system should be explored. The Bank has a huge potential in developing the financial instruments that would allow citizens faced with energy poverty to access renewable energy to heat and cool their homes cheaply and efficiently, by solving the problem of access to capital. Instruments such as ELENA have proven this is possible, but more should be done, especially to bring the supply of energy in line with a decarbonised energy system by 2050 at the latest.
2. Theme Energy Efficiency

Q7: Do you have lessons learned to share in order to improve the financing of energy efficiency in SMEs? Is technical assistance an important dimension? If so, do you have any views as to which type of technical assistance that is the most effective to provide?

Technical assistance at the local level has proven effective in fostering investments in energy efficiency. A major challenge for the coming decade in the Bank's efforts in terms of technical assistance is to better integrate renewable and energy efficiency, to avoid locking in a fossil supply of energy as much as possible. This is particularly important in the case of programmes such as ELENA, as they concern local authorities whose project can provide spillover effects. An integrated approach actively striving towards a decarbonised, efficient and renewable vision should underline all of the EIB's “climate actions”.

3. Decarbonisation of Power and Heat

Q8: Declining costs and competitive auctions are transforming a number of renewable markets (e.g. onshore wind, utility-scale PV). How can the Bank best support these relatively mature technologies? In the context of increasing market integration, is there a need for financial instruments to help attract long-term private finance?

Tailored financial instruments have proven effective in acting as a bridge towards increased market maturity of renewable energy technologies. These instruments, to be effective, however need to be suitable to the specific characteristics of a given type of renewable technologies. For instance, in the case of geothermal energy, instruments for mitigating the geological resource risk have proven particularly effective in accompanying geothermal technologies toward market maturity. The EIB could, in partnership with public budgets (e.g. structural funds...), other development banks or private actors, establish such schemes, notably for innovative technologies where it may lead to an outsize impact in bringing them closer to competition in the market.

In the case of geothermal energy, the geological risk has indeed proven to prevent many investments altogether, and to significantly increase the cost of other projects, while in countries where a sound instrument was set up, it had a much lower impact on the cost of capital for geothermal projects (which are extremely CAPEX intensive, and much of the CAPEX has to be spent before the level of resource risk significantly decreases, making project financing more challenging).

The analysis of the EIB should not however stop at the LCOE when assessing the cost and the value of supporting a given renewable energy technology. Indeed, the capacity of a geothermal power plant is not directly comparable to that of a variable source of renewable power, as geothermal plants can operate baseload, provide flexibility to the grid, and also provide heat to communities, further reducing GHG emissions for a same impact. The Bank should strive to unlock the market potential of such underutilized technologies with many co-benefits, and implementing specifically tailored financial instruments such as geological risk mitigation schemes in the case of geothermal energy, can significantly contribute to the EU's long-term climate and energy targets.

Q9: Does the EPS for power generation remain an appropriate safeguard? Do you agree that adjustment should be made to support flexibility and adequacy? In light of recent developments in renewables, the Paris Agreement and the Sustainable
Development Goals, would an exemption to the EPS for power plants in least developed countries continue to be justified?

An EPS remains an effective if partial criteria as a safeguard for the Bank’s investments. However, this EPS should:

- Be reviewed to be more exclusive and ensure projects financed by the Bank, considered to still be operating in 2050 are consistent with the requirement of a decarbonised energy system at this date;
- Be applied for projects beyond Europe, as renewable projects are also possible in third countries, and there is no justification for the Bank continuing to finance fossil projects with detrimental impacts outside the EU if it does not do so within. Moreover, the Bank as a public financial institution should act to meet the Sustainable Development Goals, which include mitigating climate change and protecting the health of populations (air quality...);
- The EPS should not be calculated on the basis of emissions during operation only, but on the basis of a robust life-cycle analysis.

3. New energy technologies and business models

Q10: Are there ways in which the Bank could provide more targeted support to distributed resources (demand response, small-scale generation and storage projects)? Are new business models or technologies emerging in this context, with specific financing needs? Is the Bank’s portfolio of financial products and instruments adequate to support this technological transition?

The Bank’s portfolio falls short in addressing the needs of mid-scale projects, such as for instance innovative geothermal energy projects. More targeted instruments for such projects with high risks could be developed by the Bank, notably with a focus on risk mitigation.

Q11: The Bank has developed a number of products – both financial and advisory - targeted to supporting innovative energy projects. Do you have a view on these instruments? Can the Bank improve or better target the financing needs of the energy demonstration sector?

The Bank’s instruments for supporting innovative energy projects have proven broadly effective. However, they are limited by the complexity of the application procedure, which may prevent some actors aiming to demonstrate innovative technologies to seek the Bank’s support. More could be done to streamline the process, while retaining the quality of the assessment and oversight.

Although EIB instruments for innovative technologies have proven valuable tools in fostering clean energy innovation, space remain for the introduction of instruments tackling specific aspects of renewable innovation. For instance in the case of geothermal energy, instruments could address the technology/resource risk nexus.

Q12: Some renewable technologies or applications remain relatively expensive. Should the Bank continue to finance such projects, even in the absence of an innovative component?

In the case of some renewable technologies, non technological factors impact the cost of the energy source. This renders development costly in new markets, but experience acquired in projects supported by the Bank can allow uptake at scale of such technologies. Moreover, in some cases such as that of geothermal, a given renewable technology may appear more expensive compared to other technology solutions, but may also provide additional benefits that are not reflected in analysis such as LCOE. For instance a geothermal electricity project may provide grid
services (which have a value estimated at nearly 30EUR/MWh according to some studies\(^1\)), as well as supply heating and cooling through cogeneration. The IEA is for instance exploring instruments such as Value Adjusted LCOE to consider these aspects\(^2\). The EIB should consider these elements when assessing whether to invest in renewable projects. Moreover, the value provided by the project to the community (e.g. enabling businesses by providing cheap heat, creation of local jobs, extraction of strategic minerals such as lithium from brine...) should be considered by the bank, especially considering its role as a public development financial institution.

4. Securing the infrastructure needed during the transformation

Q13: In light of the long-term nature of the network development plans, which type of projects should the Bank focus upon? In addition to PCIs, should the Bank prioritise newer investment types, for instance in digital technologies?

The Bank should support energy infrastructure projects that are consistent with a decarbonised energy system in 2050 at the latest. This means:

1) Financing enabling infrastructure for renewable energy: district heating networks for enabling access to renewable heat resources, electricity infrastructure;
2) Ensure the reliability of the system by increasing flexibility resources: for instance by investing in flexible renewable electricity power production, investing in heat storage technologies such as Underground Thermal Energy Storage;
3) Not locking in the energy system towards dependency on carbon intensive energy sources (fossil fuel infrastructure should not be financed by the EIB).

Q14: What is your view on the investment needed in gas infrastructure to meet Europe’s long-term climate and energy policy goals, while completing the internal energy market and ensuring security of supply? What approach could strike the right balance to prevent the economic risk of stranded assets?

Investment in gas infrastructure should not be a focus of the EIB for security of supply or decarbonisation, as renewable energy sources are the primary solution for a secure and decarbonised European energy system.

Q15: Should the Bank refrain from supporting hydrocarbon production, in addition to exploration? If so, should gas be treated the same as oil? Within and outside the EU?

The bank should not be supporting hydrocarbon production at any rate, and the exploration and production, and infrastructure for the transport of natural gas should not received funding from the Bank. Investments by the EIB in large scale infrastructure projects in the next decade, are sure to impact the structure of the energy system in 2050 as they would still be in operation in two to three decades. Yet, the EU economy must be carbon neutral at the latest in 2050, which

\(^{1}\) AURORA Energy Research
entails a decarbonisation of the energy system. Therefore the EIB cannot continue supporting projects that risk locking in carbon emission in the energy infrastructure of the EU.

5. Supporting transformation outside the EU

Q16: Where can the Bank most usefully focus its support – either financial or advisory – to meet the Sustainable Development Goals outside the EU and better support the scaling up of renewables, energy efficiency and electricity grids in a developing country context?

Investing in projects that allow for the economic development of communities is crucial for the EIB’s activities beyond the EU. For instance, geothermal projects in Kenya may be a factor of economic development through the provision of electricity at a much cheaper cost than the grid average, but also the provision of renewable heat to greenhouses for key Kenya high value exports such as roses. The focus on community integration should be key.

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