07 May 2012

Comments on the EIB's Draft Greenhouse Gas Accounting Methodology

It is encouraging and commendable that the European Investment Bank (EIB) has developed draft methodologies in order to assess project greenhouse gas emissions from its projects. However it is crucial that the bank uses these to maximum effect. If Europe is going to meet its goal of reducing greenhouse gas emissions by 80-95% below 1990 levels by 2050, it is necessary to invest in clean energy infrastructure today in order to prevent the lock-in of dirty technologies.

Below, we provide recommendations on how to improve the methodology used to calculate GHG emissions from projects in order to support the EU's climate goals. Our comments primarily focus on how baselines are set and the treatment of scope 3 emissions. However first we discuss the way in which we believe the bank needs to use the outcomes from its GHG calculations.

Using the results of the GHG accounting to influence the bank's financing

At the recent workshop in Brussels on GHG accounting, it was discussed that the results would be taken into account during the development of sectoral strategies, for example, which is a useful step. However the bank needs to make a clearer commitment on how it will use the results on a project level.

First the EIB needs to ensure that it does not finance projects that result in an overall increase in greenhouse gas emissions, but it also means more than that. **Carbon neutral is no longer enough – significant GHG emissions reductions are needed**. The types of infrastructure that the EIB often finances tend to have a relatively long lifetime, so it is not sufficient merely to look at the EU 2020 targets – 2050 is a much more relevant timeframe for large projects in sectors such as transport and energy, but also for public infrastructure, industry and other sectors.

EIB staff have also outlined their concerns about adopting a policy of not financing projects with GHG emissions increases, on the grounds that in developing countries certain projects may be badly needed. We would emphasise here that while developing countries may not be required to meet binding GHG emissions reductions targets and do not bear the main moral responsibility for action on climate change, a recent scientific study suggest that greenhouse gas emissions must be be cut by more than 50% by 2050 relative to 1990 levels in order to have a 75% chance of limiting warming to 2° C or less[1] Thismeans that all countries need to ensure that they begin a transition to an energy-efficient, new-renewables-based economic system. Countries failing to do so will find themselves falling behind in the development, production and application of new technologies. Also, concerns such as fluctuating fossil fuel prices also provide clear reasons for making a rapid transition away from a fossil-fuel based economy. Therefore, we would very much recommend to the EIB to adopt a clear policy on how to use the results of its GHG accounting on the project level. **Projects with emissions increases should not be financed; nor should those which offer a**

[1] Meinshausen et al. (2009) Greenhouse gas emission targets for limiting global warming to 2°C, *Nature,* doi:10.1038/nature08019.

decrease in emissions of less than that required by the EU's 2050 targets and climate science.

Baselines

If the EIB would like to support the transition to a carbon-free economy then the best procedure/methodology for baseline setting would be to set it as the most environmentally friendly option available rather than the *most likely alternative* option that is currently proposed. One of the major criticisms of the Clean Development Mechanism (CDM) is that it supports the slightly better option, rather than the best option. If the EU is serious about reducing its carbon emissions to at least 80% below 1990 levels by 2050, then it is critical that investments in clean energy and infrastructure are made today that do not lock in unsustainable technologies.

Since the EIB is not supporting carbon offset projects, but would like to improve the climate footprint of its investments, it could be a leader by developing criteria to identify the best option socially, environmentally and economically, rather than the business-as-usual option. Criteria could include:

- Technological feasibility and efficiency
- The extent to which the project is compatible with or can be partly replaced by energy efficiency and conservation measures
- Greenhouse gas emissions
- Other environmental impacts: water and land use, pollution
- Social impacts
- Cost

Rather than focusing simply on cost, the EIB could take a more holistic view and weigh a number of factors against each other to find a baseline that encapsulates best practice and provides real added policy value to the bank's financing. The current practice of including in the cost calculation the price of emitting some of the pollutants does not seem to be sufficient to assess all the crucial impacts of the financing decision.

It is clear that using the most environmentally acceptable alternative is not the approach which the bank has foreseen in its draft GHG accounting methodology, however we believe that the massive challenge of addressing climate change requires a thorough examination of what may be possible, combined with going the extra mile to achieve it.

Furthermore, experience with the CDM has shown that setting the baseline as the economically most plausible scenario is problematic for two primary reasons: non-financial factors often impact the decision to develop large infrastructure projects and there is considerable uncertainty in the input of the investment analysis which allows a project to choose values strategically.[2] A number of

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2 Haya, B. and P. Parekh, Hydropower in the CDM: Examining Additionality and Criteria for Sustainability, University of California, Berkeley, Energy Resources Group Working Paper, November 2011 & Lazarus, M. and C. Chandler, Coal Power in the CDM: Issues and Options, Stockholm Environment Working Paper, 2011.

assumptions must also be made that are difficult to verify[3]. For example if a coal-fired power plant is considered to be the most economically viable power generation option, it requires making assumptions about the price of coal in the future, which is highly uncertain. Another issue with the socio-economic analysis relates to the time frame used. While in the short term investing in coal may be cheaper, in the long run it may be more expensive if one considers rising coal costs and externalities such as pollution and human health impacts. Therefore the longer the timescale used, the less robust the analysis.[4] [5]

However, even if one accepts the idea of taking the most likely alternative as the baseline, there is still reason to question whether the EIB has really taken the most likely alternatives as the baseline in the project examples it has published so far.

In the case of electricity generation, the baseline consists of a combination of the technology that is being replaced and the most likely technology chosen for the new project if demand growth is less than 5% (pg. 15, EIB Methodology). The setting of the baseline does not appear to be set conservatively and requires further justification and clarification. If there is little or no demand growth, why is a new plant being constructed? It is likely to replace infrastructure that has reached the end of its lifetime. Therefore it is not appropriate to compare emissions from the new plant with the existing infrastructure. Even if the plant is replaced with the same technology today, it will be more efficient, thus any new plant compared with the baseline will look 'better' in comparison.

It appears that a CCGT plant is used to construct the baseline technology for all of Europe for electricity generation projects. However it is not clear whether this is necessarily the best baseline, either in terms of reaching the 2050 targets, or in terms of assessing the most likely alternative.

If for some reason the EIB considers that assessing the most sustainable alternative option is not feasible, another, although less far-sighted proposal, would be to use the average emissions per GWh of electricity produced in the capacities installed in the EU within last 3 years, as this would give a picture of the real alternatives being applied across the EU currently. For example, the most

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3 Schneider, L. (2007), Is the CDM fulfilling its environmental and sustainable development objectives? An evaluation of the CDM and options for improvement, Oeko Institut.

4 On the other hand, it is positive that the bank does have a legal requirement test and the life-expired asset test. This means that a baseline cannot chosen that does not fulfill legal requirements. For example, the baseline cannot be set to an older technology that has been banned by law or doesn't fulfill environmental regulation. Otherwise the baseline emissions would be higher than what is likely. Similarly the baseline cannot be a plant that is nearing the end of its life, as older plants have higher emissions. Thus these two rules are aimed at preventing inflated baselines.

5 Thus the EIB should also publish the methodology used to establish a project's Economic Rate of Return. We would also note here that the approach being taken for energy and transport is rather clearer than for the other sectors. However, as it appears that the EIB is using a standardised baselines approach, the bank should also publish its baseline methodologies for other sectors.

recent plants covering 20% of total electricity generation are used to calculate the build margin by the CDM in order to account for changes in technology and fuel source of newer plants[6].

As part of the question of baseline setting, whichever of the approaches the EIB takes, (most sustainable alternative; most likely alternative as proposed by the EIB; or most likely alternative on the basis of installed capacity in the EU in the last 3 years) the bank also needs to address the question of demand management. In other words, it should not focus only on a baseline alternative that would satisfy the existing demand in the absence of the planned project, but should also look at whether part of the demand could be managed through demand-side energy efficiency measures vs. energy production, modal shift in transport vs. new roads and airports, reducing waste production vs. waste disposal facilities etc.

It should be mentioned here that the EU is not currently on track to meet its 2020 energy efficiency target. Thus it is crucial that all institutions redouble their efforts to ensure that opportunities to increase energy efficiency are not being missed.

Scope 3 Emissions

The EIB justifies its decision to not account for scope 3 emissions in the majority of cases because their quantification is not technically feasible and they are a limited contributor to total emissions. Neither of these holds true.

Naturally estimating scope 3 emissions is not always straightforward and requires balancing accuracy and completeness. While it may have been true a few years ago that access to data needed to evaluate scope 3 emissions was not readily available, and there were methodological issues related to double counting of emissions among the various scopes, many of these issues have been resolved. **In fact the Greenhouse Gas Protocol released a comprehensive Scope 3 Accounting and Reporting Standard this past October**. The Scope 3 Accounting and Reporting Standard also provides guidance on identifying the scope 3 emissions that should be accounted for to ensure that major emissions are accounted for, while making the exercise manageable and not too cumbersome.

According to the Greenhouse Gas Protocol, double counting from scope 3 emissions occurs when two entities from the same value chain account for emissions from the same source as scope 3. For example, a manufacturer and a retailer both account for the transportation of goods between them as scope 3 emissions. This is inherent to scope 3 accounting. As long as the purpose is not to receive carbon credits and scope 3 emissions are not aggregated across companies, the GHG Protocol does not view this as a major problem. Another way to tackle this problem is to

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6 Tool to calculate the emission factor for an electricity system, EB 63, Annex 19, available at http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v1.1.pdf/history_view

split/prorate scope 3 emissions.[7] In the example above, the scope 3 emissions would be split between the manufacturer and the retailer 50/50.

It is also not true that scope 3 emissions are negligible. Scientific studies show that scope 3 emissions are significant[8], with one study suggesting that scope 3 emissions can be as high as 75% of an entity's total emissions (see Figure 1 – at the end of the document).[9] A study that estimated scope 1 through 3 emissions of all 491 economic sectors in the United States with the aid of a life cycle analysis mathematical model found that scope 3 emissions comprise at least 75% of total emissions from two-thirds of sectors providing goods and services[10]. The 10% of sectors with low scope 3 emissions (less than 20%) are well-known sources such as power generation, cement manufacturing or transportation sectors (shipping).

For example, the manufacture of a car only accounts for 15-25% of total emissions from a car.[11] The primary source of emissions are those from consumers. But when a car maker looks beyond simply reducing emissions due to the manufacturing of the car and extends it to emissions produced during use by the consumer, the manufacturer can realize that retooling cars to more efficiently burn fossil fuels or having cars run on other sources of energy can lead to much larger climate benefits. This information allows companies to innovate and remodel their business rather than making small incremental changes. Knowledge is power. Therefore the EIB should also require scope 3 emissions and adopt the framework developed by the Greenhouse Gas Protocol for reporting scope 3 emissions.

Specifically airport and ports expansion capacity should be accounted for, including scope 3 emissions. Similar to rail or other transport projects it should be possible to use a model to estimate modal shifts and induction. Large fuel transportation projects such as major oil and gas pipelines should also have Scope 3 emissions accounted for. The complications inherent in trying to account for Scope 3 emissions from eg. municipal level distribution gas networks could be avoided by including only larger pipelines with a clear impact on a country's energy mix.

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7 Lenzen, M., J. Murray, F. Sack and T. Wiedmann (2007) Shared producer and consumer responsibility – Theory and practice, *Ecological Economics*, 61, 27-42.

8 Huang, Y. A., C. L. Weber and H. S. Matthews (2009) Categorization of scope 3 emissions for streamlined enterprise carbon footprinting, *Environmental Science and Technology,* 32, 8509 – 8515.

9 Matthew, H.S., C.T. Hendrickson, C.L. Weber (2008) The importance of carbon footprint estimation boundaries, *Environmental Science and Technology,* 42, 5839-5842.

10 Matthews, H. S., C. T. Hendrickson and C. L. Weber (2008) The importance of carbon footprint boundaries, *Envrionmental Science and Technology,* 42, 5839-5842.

11 See http://www.carbontrust.co.uk/policy-legislation/international-carbon-flows/automotive/Pages/10.aspx

There are some sub-sectors included in the EIB's industry sector investments which have relatively large Scope 3 emissions and should be measured where they exceed the EIB's threshold. These include: paper products and printing, petroleum and basic chemicals, plastics, non-metallic minerals, metal and fabricated metal, machinery manufacturing, and vehicle manufacturing. In particular we would like to emphasise **vehicle manufacturing due to the relatively larger support it receives by the EIB**. Also wholesale, retail and warehousing developments may have sufficiently large Scope 3 emissions to be included in the EIB's GHG analysis.

Other Comments/Questions

Presumably the justification for the projects listed in the top row of Table 1 of the EIB methodology is that their gross and net emissions are expected to be below the thresholds. Yet, there may be situations in which this is not the case – for example certain financial intermediaries sub-projects (including private equity investments), or property investments with high traffic generation such as shopping centres may cause emissions increases of more than 20 000 tonnes CO2e per year. Therefore all sub-projects should be screened, followed by a more thorough analysis if it appears that a certain sub-project may exceed the thresholds. Section 6.1 of the methodology mentions that it is difficult to collect data on sub-projects, however if the bank starts to use financial intermediaries for example for energy efficiency credit lines it will have to find a way to measure the results of these investments if they are to be meaningful. In addition, it should be possible to at least find enough data to screen the projects that are likely to exceed the threshold and then just make the detailed calculations for those projects.

Recommendations

- Develop a clear policy on how the bank will use the GHG accounting results to prevent financing for projects which will increase emissions or not decrease them sufficiently to be in line with the EU's 2050 climate goals, especially for projects within the EU and countries with aspirations of joining the EU.
- Adopt baselines based on the most environmentally, economically and socially sustainable option rather than the most likely one in the absence of the project.
- Develop a clear set of assumptions regarding the potential for demand side energy efficiency and demand management to mitigate the need for at least some of the project capacity and include them in the setting up of the baselines used.
- Make accounting of scope 3 emissions mandatory, especially for airport and port expansion projects, and industry projects such as car manufacture.
- The baseline methodology for each sector should be published.
- The Economic Rate of Return methodology should be published.

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TABLE 1. Summary of Industries

industry	abbreviation
Agriculture	Ag
Mining	Mine
Power Generation	Power
Food, Beverage, & Tobacco	Food
Textile, Apparels, & Shoes	App
Forest Products & Printing	For
Petroleum & Basic Chemicals	Petro
Chemical Products & Drugs	Chem
Plastics & Rubber	Plas
Non-Metallic Minerals	Min
Metals	Met
Fabricated Metal	F. Met
Machinery Manufacturing	Mach
Electronics & Electrical Equipment	EE
Transportation Vehicle & Equipment	Veh
Other Manufacturing	O. Mfg
Transportation	Transp
Wholesale, Retail, & Warehousing	Wh/R
Information, Financial, Insurance, Real Estate	IFIR
Professional Services	Prof
Education	Edu
Healthcare & Social Assistance	Health
Entertainment	Enter
Other Services	O. Srv

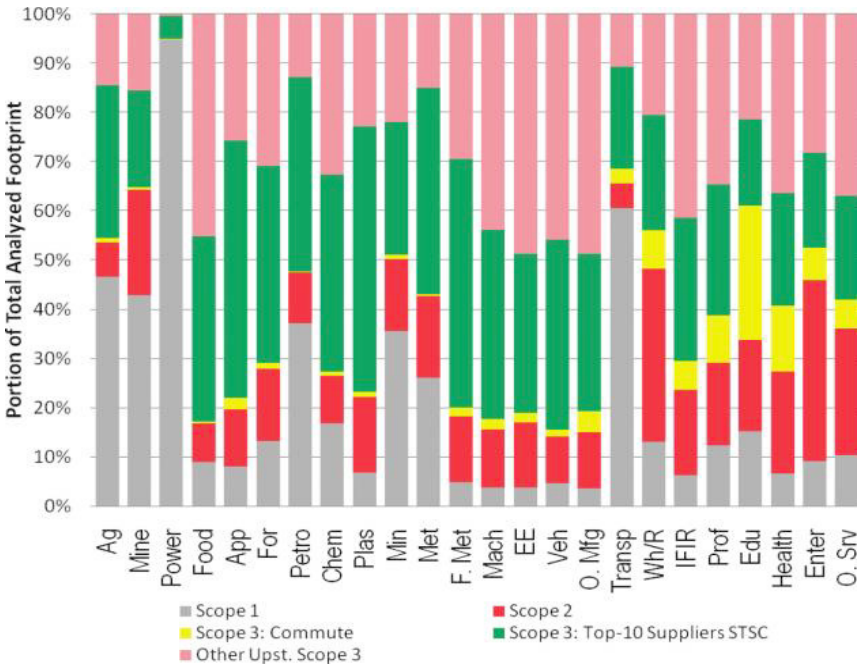

Figure 1: Breakdown of emissions by scope 1, 2 and scope 3 emissions.
Source: Huang, Y. A., C. L. Weber and H. S. Matthews (2009) Categorization of scope 3 emissions for streamlined enterprise carbon footprinting, *Environmental Science and Technology,* 32, 8509 – 8515.