Minutes of the Kick-off Conference

"Finance for Innovation: Towards the ETS Innovation Fund"

Centre Albert Borschette, 20 January 2017

First session

The event was opened by **Jos Delbeke, Director General for Climate Action**. He informed about state of play of proposals on revised Directive on Emissions Trading Scheme (ETS) and the Effort Sharing Regulation (ESR), which are under discussion in both European Parliament and Council. A plenary vote from the Parliament is expected on February on the ETS proposal. The Council is also expected to discuss it in late February. It is reasonable to envisage that the ETS proposal will be adopted in 2017.

An important element of the Directive is the creation of the Innovation Fund (IF), endowed with at least 450 million allowances. The scope of the IF, compared to NER 300, would be expanded to energy intensive industries (EII). He underlined that this (20 January) event kicks-off the consultation series with stakeholders from industry and power sectors with the objective to obtain deeper feedback from the market before further scoping of the IF takes place. He stressed that the IF could become the biggest fund managed by the EU.

Wolfgang Eichammer, from Fraunhofer, presented the different market fundamentals of low carbon investments in energy and manufacturing sectors. He recalled the growing penetration of renewables worldwide, which already dominate electricity investments (70% share in 2015, according to IEA). Renewables are increasingly competitive, and have already coupled with other sectors (e-mobility, heat pumps). In manufacturing sectors, much was done already, but the most efforts are yet to come, from now to 2030. Those efforts would mainly address new chemical processes, carbon capture and storage/ use, and oxyfuel combustion. Investment decisions highly depend on carbon pricing, and most breakthrough technologies are yet to come, but technology acceptance is less of an issue in industry than in power sector. Both process and product innovations, as well as material substitution need to be pursued.

EII face the 2 valleys of death: technological and commercial. The key element for the former is the speed of innovation roll out. The latter is about financing risk: high risk of failure coupled with high financial needs. The magnitude of the IF, depending of the carbon price, will in any case not suffice to cover all the global EII investment needs. This underlines the importance of leverage, and implies risk sharing strategies, but also possible trade off between sectors that compete for money and within sectors.

Mirza Baig, from AVIVA Investors, presented insights on the development of green financial markets. Currently USD 21 Trillion of assets are managed under ESG standards, which represents a 30% share of the markets. The UN's Principles for Responsible Investment now includes over 1,400 signatories, managing over USD 60 Trillion worth of assets. Green bonds are taking a flying start: +100% from 2015 to 2016. The next stage is to move green credentials integrated across the whole market within credit rating on the bonds issued.

But uncertainties remain that prevent the market to fully get green:

- ✓ pricing of externalities (cost of inaction estimated from USD 4,3 to 13,8 Trillion by the Economist IU);
- ✓ preference for short termism across the investment value chain, which prevents forward looking assessments (stress tests) of investments;
- ✓ Lack of information to properly quantify risks related to climate change, and to recalibrate the capital reallocation.

Those three points underline that the global value at risk from climate change is huge. Aviva management established its strategic leadership on climate issue through a strategic plan in 5 pillars: (i) Systematically insert climate risk in impact assessment for investment decisions; (ii) Target £ 500 million/year in low carbon infrastructure; (iii) Support strong policy action on climate change; (iv) Active stewardship on climate risk, and (v) Implement a divestment strategy with coal companies.

Any investment decision is based on the risk-return paradigm. To ensure energy transition, we need a multi-stakeholders response.

- ✓ Public authorities need to lower political uncertainty (main source of cancellation of energy projects): long-term commitment at the EU and MS level is key for long-term capital.
- ✓ Low-carbon projects require standardised guidelines for low carbon technologies.
- ✓ Public support should aim at reducing CAPEX charges, which hamper profitability of projects.
- ✓ Project sponsors should guarantee a minimal return to ensure liabilities on the long term: use of insurance products and guarantees are thus important.
- ✓ The right balance between crowding in and crowding out must be found.

Questions & Answers

Some questions pointed whether the IF should allow funding for collaborative research, or maintain a certain level of competition and diversity of solutions within a sector.

It was further questioned how expensive FOAK projects can be funded in mature markets with little growth rates. To this, it was reminded that high returns are not the main drivers for long term investments compared to risk-balanced portfolios.

On the electricity costs/ OPEX risks, it was stressed that in the energy sector, technology costs are decreasing and prices are not rising. Other risks (regulatory, market, commercial) may be higher and would have to be bridged by the IF first.

On job creation, participants pointed to replication and roll out of innovation projects as the main opportunity.

When making choices, investors require proof of concept as a key criterion. But even for 30 years long portfolios, pension funds still expect returns on a 12months horizon. Preference for short termism is thus the main pitfall for climate finance development.

SECOND SESSION

Monica Peña, from EIB, estimated that the investment needs to match with the 2030 roadmap are around EUR 209 Bn per year over 2021-2030. EIB offers a variety of instruments all along the projects development phases, from technical assistance to EIB own lending, depending on the perception of risk. EIB is limited to a certain level of risk financing, and projects need to be evidenced by reasonable and justifiable business case. Innovation of process is more effective than innovation of products, and it is easier to measure and monitor GHG reduction potential.

Tomas Wyns, from i2-4c, considered that EII are entering the challenging period for industrial low carbon innovation. He presented the state of play in several sectors and identified what are the most promising technologies. He then exposed his views on how the IF should be designed. Although the main selection criteria should be CO_2 abatement, others need to be integrated: high value added potential, capacity to create new markets, replicability and spill overs to other sectors… IF should ideally be a one stop shop investment platform that provides different finance layers solutions to every stage of project developments. Moreover, the IF design should be matching with MS industrial strategies, and should guarantee flexibility towards more transparent State Aid rules. Finally, it should combine with other sources of funding, such as procurement funding for low carbon products.

According to **Theo Henrar**, **from Tata Steel,** its endless recycling potential makes steel a natural candidate for circular economy. Yet, the ETS doesn't fully capture the sector's potential (with EU players as world champions) and lack of credits may lead to carbon leakage. Investment needs are high in the sector, and the low EBITDA (7% currently, against a target of 15%) hampers breakthrough technologies to enter the market. A number of projects show great potential to reduce $C0_2$ emissions by combining energy efficiency and CCS. But as TRL increases, co-finance becomes more difficult because financial needs exceed support schemes limits. This prevents operators from upscaling the demonstration project to equivalent operating facilities' size (typically 2 to 3 Mt/year).

He pleaded for a one stop shop provided by the EC, acknowledging that technology improvements go step by step, process by process, not at one go. Hence, a milestone approach is preferred to an output-based one. Up-front clarity on funding is a key element, and helps reducing administrative burden form fragmented sources of funding. Finally, a clear risk-sharing framework with MS is expected.

Hans Bünting, from Innogy, presented the three drivers of innovation for renewable energy markets, which are decarbonisation, decentralisation, and digitalisation. Innovation in the energy sector is a reality, and cost of electricity goes down, enforced by market competition. Some renewables such as hydro and biomass can still expand, but the core growth technologies are solar and wind. Nuclear, power-to-heat and CCS are among promising technologies, but currently not available at market prices. To go beyond incremental changes, the private sector needs support schemes such as the IF to lead projects to technology risk neutrality (and risk-sharing for existing technologies). This can be achieved either by direct grants, and/or tenders. Public support must help lowering bureaucracy costs and enhance international cooperation.

Investment needs depend on (i) political stability (clear targets and roadmaps); (ii) marked-based instruments (ETS) rather than national support schemes; (iii) potential for GHG reduction spill overs to other sectors. One of the key aspects is replicability and spill overs to other sectors. The IF must

consider integration and sector coupling for technologies, notably in the field of digitalisation (which turns electricity generation to energy services).

Questions & Answers

Many participants stressed that funding upon outcome (ex-post) could be disincentive to project sponsors, because it failed to de-risk innovation. Risk sharing objectives are more easily attained with a milestone approach.

Designing IF as a toolbox could cover all kinds of needs through a set of diverse financial instruments, hence better addressing sector specifics. Upfront funding was favoured by some as a means to cover research and construction costs. It could also increase the interest of financing institutions and trigger leverage.

Some participants advocated for increased share of public support, particularly for risky and capital intensive technologies such as CCS, and for IF thresholds to be more technology demand-based. It was recalled that EIB is bound by the 50% lending limit.

Earmarking innovation upon closed categories was highlighted as a major shortcoming for cross innovation and spill overs. On the other hand, earmarking was highlighted as an effective way to prevent a reduced number of technologies to capture the most of the fund.

Wrap-up and closing remarks

The Commission pointed that the IF is more complex than the NER 300 because of its broader scope and larger size. Therefore, it is important to understand where its niche sits, where is the real demand, where are the extra financing needs and opportunities. The Fund is planned for operation around 2020, also depending on the architecture of the future MFF.

Following this kick-off conference, 4 sectorial roundtables will be organised on a monthly basis. CCS will be not addressed in a separate roundtable but will be cross cutting; however a specific discussion on CCS infrastructure could be added at the end of the process. These roundtables will be led by moderators with industrial background. Feedback from the roundtables will constitute an input to the report gathering sector recommendations on the IF. The report, which will be an important input to the design of the IF, will be presented during a final event which would be held in June. Participants are invited to express their interest to participate.