CLARIANT’s public review on:
“The European Investment Bank reviews its Energy Sector Lending Policy”

EIB’s energy policy prioritizes the financing of renewable energy projects as these technologies are at varying stages of development, the Bank divides the commercially proven technologies in this sector into three categories:

- Mature renewable technologies: include onshore wind farms, hydropower, conventional geothermal, and biomass for energy
- Emerging renewable energy technologies: include photovoltaic (PV), solar thermal power and offshore wind
- Highly innovative renewable technologies: such as wave power generation and 2nd generation… are not considered to be commercially proven and are therefore still at demonstration phase.

The EIB review on its Energy Sector Lending Policy shows a major concern about financing of advanced biofuels projects, as stated in the paper: “highly innovative renewable technologies such as wave power generation and 2nd generation biofuels, are not considered to be commercially proven and are therefore still at demonstration phase…these projects can be considered for financing as R&D projects and are assessed on the same basis as other innovation projects, including likely future technical and commercial viability”.

Keeping in mind the RED objective to develop more highly sustainable energy sources for the 2020 targets and the fact that the EIB has not supported a single project in the category of advanced biofuels, we at Clariant are highly concerned about the position taken by the EIB with regards to lack of prioritization/importance given to the advances biofuels in its review of Energy Sector Lending Policy. Given the advances of technology demonstration and high importance of the industry sector to fulfill the set 2020 targets, we recommend a technology status revision by the EIB and demonstrate stronger financing commitment into the development of this technology sector: we therefore urge the EIB to review its Energy Sector Lending Policy since we believe that investment support is a key instrument that would contribute to the goal of broadening the feedstock base and paving the way to commercialization of advanced biofuels at industrial plant sizes.

CLARIANT’s commitment into advanced biofuels

Based on our expertise in the fields of biocatalysis, strain and enzyme optimization, we have developed the sunliquid® technology, clearing the way for second-generation biofuels: our process converts lignocellulosic agricultural residues, such as cereal straw, into cellulosic ethanol or other bio-based chemicals in a way that is highly efficient, economic, energy-neutral and highly sustainable.

After having invested in a pilot plant up and working since 2009 and a demonstration plant operating since July 2012, the sunliquid® process is now fully developed being designed for industrial plants with a production capacity up to 150,000 tons of cellulosic ethanol per year.

The issue that these technology solutions are now facing, being pushed by the current Directive and its revision (see below paragraph), is that the coming decade is likely to be more challenging for the sector as a result of the financial and economic crisis and reduced direct financial support from governments resulting in probable reduced investments in advanced biofuels in the short term. Investments will need to recover if member states are to achieve their binding 2020 targets and investments in advanced biofuels are critical to achieving the long term decarbonisation of the energy system: a stable and clear pathway to industrial support is key to keep the investor’s confidence stable.
**Regulatory environment and proposed actions**

The RED Directive established mandatory targets to be achieved by 2020 for a 20% overall share of renewable energy in the EU and a 10% share for renewable energy in the transport sector: the so-called “double counting mechanism” was introduced with the hoped aim to diversify and to incentivize highly sustainable biofuels (lignocellulosic biofuels fall into this category). On October 17th 2012 the EU Commission released the legislative proposal COM(2012)595 with the aim to start the transition to biofuels that deliver substantial greenhouse gas savings when also estimated ILUC emissions are taken into account: capping of first generation biofuels and incentivizing advanced biofuels with the introduction of four-times counting mechanisms is part of this new proposal. While this proposal establishes a supportive framework for cellulosic fuels it does not implement clear, stable and long-term industrial investment support mechanisms for advanced biofuels leaving room for interpretation and uncertainty, with final adoption of the proposal on EU level and details of national implementation of the frameworks as a crucial success factor.

A dedicated, ramping up target for advanced biofuels in a long term and stable policy framework is the only option to secure the commercial deployment of advanced biofuels by 2020 and beyond. On the supply side, production incentives and investment funding mechanisms for industrial project into advanced biofuels which are completely missing in the current EIB’s energy policy review, are crucial for advanced biofuels to start the journey from pilot/demo sized to industrial deployment towards competitiveness.

Sustainable ethanol is key to pave the way for future investments into advanced ethanol and the bio-based economy in Europe in support of economic growth, job creation and rural development in times of economic uncertainty. The latest science on ILUC clearly signals that conventional ethanol significantly reduces GHG emissions compared to fossil fuels even when indirect effects are accounted for.

We support the targets within the RED and FQD as the best combination of measures to increase the use of renewables in transport while reducing the sector’s carbon footprint however we think and propose that a dedicated mandatory target for true iLUC-free advanced biofuels (including straw, bagasse, palm fruit empty bunches, algae etc) would be an effective instrument to support the introduction of advanced biofuels. The proposals to cap conventional biofuels and quadruple count advanced biofuels will de facto undermine the EU target of 10% renewables in transport and consequently the objective of the FQD to decrease the carbon intensity of all fuels.

In the long term, a mandatory target for true advanced biofuels should increase after 2020 up to 2030 to build and maintain investor’s confidence while post 2020 the EU should reward only net GHG positive biofuels (after taking ILUC into account) and set targets according to net GHG performance.

However in order to meet the above mentioned targets and help scale up existing production technologies at pilot or demonstration scale to industrial size and bringing down production costs for first commercial plants, investment support is necessary. It is clear that a sub-target would increase energy security due to the additional feedstock options and production technologies but investor’s confidence must be guaranteed.

**Investor confidence and support**

The insecurity with respect to the current biofuels policy and also with respect to the implementation of incentives to advanced biofuels industrial projects in particular, results in a situation of very low investor confidence in the market: investments in biofuels plants within the EU could now be considered a risk investment due to the current political uncertainty and legislative unclear framework for mid to long term investments.

With an instable political and regulatory framework, double counting or higher counting (such as the proposed four times counting mechanism for advanced biofuels) instruments have showed to be insufficient to bring advanced biofuels such as cellulosic ethanol to the industrial market.

Different instruments can be used for the promotion of advanced biofuels allowing a diversification away from traditional feedstock such as sugar, starch and virgin vegetable oils all linked to the food chain. Different measures could be combined as stated previously e.g. using measures on the demand side like a mandatory sub-target for advanced biofuels in combination with measures on the supply side like investment support: the
latter is being already applied in the USA in form of sub quotas for lignocellulosic ethanol and in form of loan guarantees to facilitate the financing of new plants.

Investment support for the construction of commercial plants is the key and missing instrument that would directly support innovative technologies like lignocellulosic ethanol into industrial scale production: financing support is being considered to be one of the most important barriers to large-scale commercialization of advanced biofuels.

Investment support creates incentives for investors, mitigates risk and contributes to an enabling investment framework, this instrument would lead to a successful market introduction with relevant amounts of advanced biofuels, assuming that clear policy commitments and regulatory framework conditions for advanced biofuels are in place.

Energy security would be increased and the impact on GHG emissions would be highly positive (e.g. lignocellulosic ethanol from straw has a very positive GHG balance according to the RED default value): as already mentioned in the introductory paragraph, we therefore urge the EIB to review its Energy Sector Lending Policy since we believe that investment support is a key instrument that would contribute to the goal of broadening the feedstock base and paving the way to commercialization of advanced biofuels at industrial plant sizes.