Highlights of the workshop presentation by Prof André Faaij

Brussels, March, 26th 2013

Energy system, carbon emissions and savings

1. Staying within the 2°C temperature increase will need a change in energy systems; deploying the bioenergy potential will be essential energy option;
2. IPCC review and 2050 projections leading to UN approved results, gave a very balanced message: there is a technical potential for bioenergy production, which is enough to deliver the 500 EJ needed;
3. Conflicts may arise concerning land-use, but good governance, good agricultural management can allow handling LUC risks;
4. The main contributors, historically, to land-use change arise from subsistence farming (important footprint for very little food produced) and fuel woods; their share amounts to two thirds of the contribution;
5. When the chain is well managed, almost all systems can deliver carbon savings, including first generation biofuels;
6. The amount of GHG emissions varies on the primary assumption, i.e. palm oils production shows high emissions due to land use change, because of the assumption that palm is grown on peat land; should palm be grown on different land, carbon emissions are negative; clever land zoning can make a positive contribution to GHG savings;
7. Fossil reference excludes upstream emissions, which if accounted for would raise the level up to 120g/MJ and when looking at marginal increase the figure could jump to 200g;

iIUC modelling

1. iLUC modelling (baseline plus shock) is essentially applying a top down approach; all the bottom up elements, like advancements in agriculture, zoning, management of forests are not part of the options;
2. Over time iLUC evolves and has shown a reduction (as illustrated in a corn ethanol example); there are currently efforts underway to revamp models, use new data and refine them; however, this does not mean that the quantification of iLUC uncertainty would offer higher certainty;
3. If we do not intervene in agriculture in Africa, forests will be lost, independent of whatever the iLUC response on biofuels in Europe is;
4. ILUC modelling provides half of the picture so far, excluding regional specificities and qualitative approach.
5. So far one can wonder whether the right questions have been put to scientists; policy-makers have asked for quantifying iLUC, rather than about qualifying what contributes to iLUC and what could be specifically addressed;
6. Changing perspective would imply going away from a focus on iLUC to mitigation of iLUC; in practice, it would make more sense to control the extent of iLUC (through increased efficiency in agriculture and throughout the chain, integrating food, feed and fuel production) and to control the type of iLUC (through land-use planning, exclusion of high carbon stock, use set aside, degraded and marginal land); mitigation of iLUC can be translated into an extended sustainability criteria;
7. Globally calculated iLUC factors say nothing about what a producer could do to his field locally, which would help to reduce iLUC. They only say what could go wrong and give a signal. Being open to a mitigation route would allow those that do something different from the baseline (zoning, productivity increase, etc) to show and quantify the improvement and bring it back or translate it into the region; iLUC penalty is by definition uncontrollable and the situation from a producer perspective unchangeable.