High-level event on the Scientific Support to the Danube Strategy

Thematic Round Table on the Danube Air Nexus and the Danube Bioenergy Nexus

25th June 2014 from 14:30 to 16:00

Report from the Round Table

The meeting was chaired by Elisabetta Vignati, Head of Air and Climate Unit from EC-DG JRC, IES and co-chaired by Werner Ortinger, Head of Department for Renewable Natural Sources from Bavarian State Ministry of Food, Agriculture and Forestry.

Elisabetta Vignati - presented the outcome of the technical workshop concluding that there is a strong link between Bioenergy-Air Quality-Health, as increasing use of biofuels and solid biomass can lead to increased air pollution with consequences for human health; this should be addressed in a multi-sectorial approach. As political aspects she mentioned that:

1. to meet renewable targets means increase of usage of bioenergy and therefore increase emissions from these;
2. this should go hand in hand with an effort to use the most efficient, least polluting technologies;
3. more data regarding all aspects of the emissions of air pollutants from biomass burning in the Danube region and their impact on air quality are needed, as well as more information on biomass potential and use; and
4. it is important to find which data are available (e.g. from research projects or monitoring networks) and check the quality of data. A coordinated research effort across borders and across scientific disciplines and topics is needed.

Co-chairman (Werner Ortinger) – referred to the points mentioned by Mr. Heinz Ossenbrink, Head of Unit for Renewables and Energy Efficiency from EC-DG JRC, IET in his lunch-time presentation and added that there are different projects in Danube Region and different needs by countries and for this reason the country specificity should be taken into account and also he pointed that there is the need to improve the exchange of information.

Round table coordinators opened the floor for discussion

Szabina Torok, Head of division from HAS Energy Research Centre from Hungary - presented what is relevant for her country:

1. The importance of usage of biomass (especially in space heating); small facilities are difficult to control; it has been found that these emissions can have an impact on child diseases e.g. bronchitis.
2. She mentioned also some research efforts she found were needed: 1. measurements – not only PM10/PM2.5 but also their composition and possibly carbon 14 isotopes; 2. indicators for biomass burning; 3. proposal – 1 or 2 sites with a monitoring program for air quality specific for biomass burning (not for fossil fuel).
Radim Sram, Head of Department of Genetic Ecotoxicology from the Institute of Experimental Medicine AS CR from Czech Republic – pointed out that more research on the impact of air pollutants (particularly PAHs) on cancer is needed, as well as the impact of air pollutants on other health aspects, particularly respiratory diseases and fertility (the quality of sperm). The project should cover many countries in the Danube region in order to have a big spectrum, especially Austria, Croatia, Slovakia, Hungary, Romania, Moldavia and Czech Republic. Important are the studies which would identify new markers for the impact of air pollutants on new borne and pre-school age children. An issue to be investigated is the effect of the use of old technologies in some parts of the Danube region since the data from more countries would enable better quality of research.

Georgiy Geletukha from Scientific Engineering Centre "Biomass" from Bioenergy Association of Ukraine – pointed that the most important issue for increasing bioenergy usage is the improvement of framework. Mr. Geletukha also underlined that the profitability of bioenergy is important and, based on best experiences, he described four mechanisms:

1. Market price has to be competitive to fossil fuels (e.g. decrease subsidies for gas and provide subsidies for renewable energy).
2. Special regime for renewable energy sources on the electricity market (legislation regarding feed-in tariff system exists since 2009 but now it is being improved which will help to deblock the electricity sector which uses biomass).
3. Support for investment and subsidies (there are discussions on covering a certain percentage of bank loans with guarantees since the government has the priority of replacing gas with other technologies).
4. Regulation (there are political targets in % of bioenergy in new action plan which was prepared but is still in the legislative procedure).

Milan Martinov, Professor from the University of Novi Sad, Faculty of Technical Sciences from Serbia – mentioned that the central theme of EXPO Milan 2015 is "Feeding the Planet, Energy for Life" and said that it is good to combine the knowledge and research in fields of air and bioenergy, but that it would also be very important to include colleagues from water and soil into discussion. Mr. Martinov mentioned that there is the need to ensure data flowing, especially for a proper calculation of technical bioenergy potentials. According to Mr. Martinov, a crucial issue in production of energy crops is the preservation of soil fertility and sustainable use of biomass for society. Focus should be put on corn stovers that are very important as the recourse in the Danube region, especially in Hungary, Serbia, Ukraine and Croatia since the problem is harvesting, storage, transport and processing. It is recommended to start with biomass action plans with the bottom-up approach, from the level of communities in the beginning to national level at the end. This would enable to collect reliable data. But, prerequisite would be to develop more harmonized approach, which should include the vision of final use, e.g. small, medium and big consumers, with diverse demands on biomass characteristics (example, moisture content). It could be also productive EU project. Final outcome can be realistic potential of Europe. The vision of potential increase, e.g. with introduction of double cropping and growing of short rotation coppice, should be included. It is imperative to improve technologies (e.g. biogas production in this region) and working together. In summary, important aspects is the field of bioenergy are:

1. Soil and water
2. Potential of biomass
3. Use of biomass at an acceptable and sustainable price for society.
General discussion:

1. Gheorghe Duca, the President of the Academy of Sciences of Moldova mentioned that his country as a strong agricultural country has the potential to produce around 1 million t/year of biomass and there is an increasing interest in exploiting this opportunity (country strategy) to decrease the country dependence on import of energy; energy production from bioenergy is very important for a country without other energy resources. They have soil, resources and water and still, the investments in technology remain an issue and there is the need to improve technology.

2. Michael Mihatsch, Head of Department from Bavarian Ministry for Education, Science and Arts inquired the participants on the added value of this (JRC) initiative for their countries as part of the Danube region.

3. Milan Martinov underlined that sharing efforts with other countries in the region could foster the interest of developing many experiments, which are expected to be performed at a higher speed via international collaboration e.g. workshop oriented on exchanging information on energy production related to agricultural waste with specific technologies.

4. Georgiy Geletukha mentioned the example of cooperation with JRC in organising the upcoming roundtable in Ukraine on biomass from agricultural resources, an issue especially demanding because of biomass logistics.

5. Andreas Gronauer, Head of Institute for Agricultural Engineering from the University of Natural Resources and Life Science from Austria highlighted the multi-sectorial characteristic of this initiative (bioenergy), which should include also other aspects such as education, administration, free market, etc. It was appreciated that JRC brings together different sectors of our society.

6. Jean-Francois Dallemand, (Danube Bioenergy Nexus, JRC IET) mentioned that JRC cooperation regarding the Danube region in the fields of agriculture and environment had already started in the past. Nevertheless, cooperation between countries in Danube region in the field of bioenergy is a brand new challenge since there are countries like Germany and Austria which are world champions in usage of bioenergy but there are also some other countries with big potentials. Mr. Dallemand recommended that for the assessment of the impact of bioenergy development on air quality we should be specific regarding the bioenergy technology pathway used. Open stoves are not good technology and biomass should be used rather in modern plants. Mr. Dallemand also highlighted the importance of measurements to distinguish between the quantities of pollutants coming from biomass burning and those coming from other sources.

7. Elisabetta Vignati underlined that scientific contacts, collaboration, discussion on source identification and the way in which the biomass is burned are all useful and support us to perform good quality research.

8. Kristian Milenov, Executive Director of Agency of Sustainable Development and Eurointegration-Ecoregions referring to the message given by Mr. Walter Deffaa, Director-General for Regional and Urban Policy from EC- DG REGIO underlined the importance to evaluate the efficiency of using the money from regional funds and the necessity to develop indicators in order to evaluate the project results. It was recommended that the proper indicators regarding efficiency of measures should be defined within the Nexi. It was suggested that the monitoring of efficiency of funding activities- where the regional funds are spent and what is the efficiency- should be done.

9. Claudio Belis from EC- DG JRC, IES summarised that there are wishes to collaborate and this community can cover different scientific aspects (pollution connected to health), which is a unique chance for a multidisciplinary approach and to contribute and make a step forward; still the financial aspect of the funding of relevant research projects is not completely clear.
10. It was mentioned that the data availability is still an issue. Regarding financial aspects, a proposal in H2020 on this multi-disciplinary approach could be opportune.

11. Aleksandra Fucic, Scientific Adviser from the Institute for Medical Research and Occupational Health from Croatia – discussed on the fact that there is a good communication only “horizontally” and stressed on the importance of enhancing also the “vertical communication” since our efficiency will have the impact on general population.

12. Jens Hjorth, Coordinator of Danube Air Nexus from EC- DG JRC, IES and Elisabetta Vignati discussed on the funding policy of the project and on the answer given by the Director-General for Regional and Urban Policy during the Opening session.

13. Bernhard Schneider, Project Manager from Energieagentur der Regionen from Austria – referring to the financial aspect, described a country-specific mechanism to produce energy with cheap cost cover. According to Mr. Schneider, there is already a time gap because of top-down approach and it would be wise to use the bottom-up solutions as this affects the social acceptance of projects.

14. Marilena Muntean, from EC- DG JRC, IES, Air and Climate Unit– underlined that the evaluation of the EU policy in the field of bioenergy, biomass in particular, related to the associated emissions and health effects is an added value of this JRC scientific work.

15. Jean-Francois Dallemand – stressed the need for a certification system for biomass burning technologies that should consider also emission of air pollutants. In the bioenergy community only GHG pollution is communicated and there is the need to include other pollutants.

16. Laura Gribaldo, Scientific Officer from EC- DG JRC, IHCP, CAT Unit – discussed on the necessity to design a project plan (e.g. assess the impact of biomass burning on air quality and health) with short-term, mid-term and long-term deliverables, milestones and clear indicators together with those participants that are interested, and ask DG for Regional and Urban Policy for funding.

17. It was pointed out that it’s time to transform biomass potential to business potential since now it is hard to convince the investor to support biomass as a real business opportunity because of very complex chain in energy production.

18. Julian Wilson, Policy Co-ordinator from EC- DG JRC, IES – regarding data collection, explained that there is an opportunity in the coming months to identify data that are available and data that are still missing to accomplish the tasks within the project. Mr. Wilson pointed out that it would be useful to discuss with DG for Regional and Urban Policy on how much we gain from health when investing in modern technology to burn biomass.

19. Ordan Chukaliev, Professor from the Faculty of Agricultural Sciences and Food from FYROM- pointed out that JRC presented a very good unified methodology in mapping which was applied to all regions in Europe, but that the missing element is the formulated methodology on how to calculate the potential on local level. Mr. Chukaliev mentioned that the portal which was developed for the Czech Republic should be seen as the best practice and that JRC should develop a similar tool for all countries. Mr. Chukaliev warned that agricultural sector has a major share of biomass, but that the communication with representatives from agricultural sector is missing. In the meeting we had no experts from this sector to explain on subsidies in agriculture in relation to biomass business. The main question is whether the production of energy from agricultural products is a good business opportunity or should it be subsidised.

20. Kresimir Sega, Senior Scientist from the Institute for Medical Research and Occupational Health from Croatia – said that there is a need for educational effort for wider population in order to make energy sources acceptable in the scope of safe environment and to enhance understanding (Biomass burning-air pollution-health) and acceptance.
21. Andreas Gronauer mentioned three important elements regarding bioenergy:
   - lack of acceptance at local level
   - characteristics and specific potentials of each kind of biomass
   - technology aspects (production- pretreatment- final use)- there are different needs on local level which implies different concepts and different technologies.

Co-chairman (Werner Ortinger) – Summarised all the discussions

Summary conclusions:
- The added value of the Danube Strategy is the common platform, the information exchange and the common funding of each partner.
- Air Nexus and Bioenergy Nexus should take into consideration to exchange the information more intensive in the frame of Danube Strategy; collaboration between Air nexus and Bioenergy nexus is considered as a need.
- Biomass activities must become interesting as a business opportunity. Biomass must come out from development (or potential studies) to business.
- Need for more and better data.
- Indicators on efficiency of measures should be established in each Nexus.