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A LONG-TERM STRATEGY FOR ECOFRIENDLY ENERGY

One of CEI's priorities is to foster *Ecofriendly Sustainable Energy*.

To this end, CEI has been organizing Energy Fora (in Austria, Albania, Ukraine) and many other multilateral events concerning Energy since 2005:

Through its Trust Fund, established by Italy at the EBRD (London) in 1992, it has been very active in supporting technical assistance in the Energy field (energy efficiency in particular): 8 projects for almost €2 million, generating a total investment of €318 million (€232 million EBRD).

Moreover, through the CEI Know-how Exchange Programme (KEP), 6 projects in the field of biomass, low-cost photovoltaic solar cells, use of RES in municipal heating systems and energy management system have been supported with a total amount of €220.000.

CEI has also supported a pilot project on electricity and heat production from biomass (BIOM-ADRIA 1 and 2) in Serbia with an investment of approximately €5 million (out of which € 3.5 million from the Swiss Agency for Development Cooperation).

Among possible eco-friendly renewable energy sources, *Next Generation Biofuels* should be an attractive option for any long-term strategy: particularly the case for the 18 CEI Member States, all with important agriculture and forestry sectors.

In fact, Next Generation Biofuels are the best equation combining energy requirements, environment protection, rural development and global food security and far-reaching global market opportunities (to sell technology). They ought to be taken into account especially because they are right around the corner, foreseen in five years time, which is a very short time in view of a long-term sustainable strategy.

Therefore, CEI's short-term objective is to disseminate scientific knowledge and technology know-how (demonstration and pilot plants). In order to reach this goal, the following elements are needed in house research and advanced training (fellowships):

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- Capacity building through workshops, seminars, e-learning
- Networking for joint research projects and demonstration activities
- Orienting and organising human resources and
- Catalysing all financial resources available in support of an ambitious regional project

Next Generation Biofuels are efficiently produced from different feedstock without competing with food or cash crops for fertile land and water, thus reducing global green-house gas emission (e. g. crop residue, plentiful wherever there is an agricultural production; residue from sustainably harvested forests and forest undergrowth; algae or other spontaneous vegetation).

Furthermore, the fact that many world players are turning to Next Generation Biofuels: oil majors, top research and technology centres, Petrobras in Brazil is to be kept in mind.

Therefore, a strategic project in the framework of CEI also mobilizing the existing CEI Network of Centres of Excellence and the CEI University Network would constitute a favourable step in this direction.

Although dramatic breakthrough in basic and applied research are still needed, demonstration and/ or pilot plants are already being built around the world.

Investments in the development of Next Generation Biofuels and in particular in research and development, with adequate resources is a crucial issue for Countries in Eastern Europe and the Balkans. They cannot simply wait several years to buy future technologies, without giving up autonomy of decision on national/regional priorities and strategies. In this regard, human resources are available, but must get organised.

A network of centres of excellence or of adequate scientific and/or technological competence involving all the CEI countries to launch a major joint R&D project ought to be promoted. A virtual critical mass of several hundreds scientists and researchers could be directly involved very soon.

This project would be open to all CEI countries for 100 fellowships and collaborative research activities and would provide research grants to all the labs available to support joint R&D projects. There would be an integration with research activities of European labs / industrial partners as well as an establishment of regional Centres of Excellence and for technology transfer.

Finally, a portfolio of bankable projects for pilot plants from different feedstock, with indication of the grant component would be necessary in order to ensure their sustainability at the present stage.

The development of Next Generation Biofuels is complemented by that of biorefinery, i. e. production of added value biochemical materials, which could be the basis for a new chemical industry (which currently depends on the by-products of oil refinery); the prospects of additional income for the farmers must also be a crucial element in the choice in favour of Next Generation Biofuels.

In summary, what ought to be kept in mind is that:

- Technology for First generation Biofuels is already available: a current opportunity in a phase of transition (CEI Project in Belgrade);

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- Agriculture is and will continue to be a major economic factor, but simply burning agricultural waste does not represent a long-term solution;
 - Waste to energy is the challenge of Next Generation Biofuels;
 - CEI is co-sponsor with RCC (Regional Cooperation Council) in SEDRI (Sustainable Energy Development Regional Initiative)

A CEI workshop with decision makers, scientists and technologists could be organised in the near future, since CEI is ready to contribute by catalyzing different instruments of financial support according to the status of its Member States towards the EU.

This is even more feasible if we consider the fact that according to EU legislation, by 2020 Biofuels must reach 10% of total fuel consumption for transportation in its territory. This would constitute an extraordinary business opportunity for Next Generation Biofuels.

