

TOWARDS A BIOBASED ECONOMY IN EUROPE: A ROLE FOR CEI

**Presentation by
Giorgio Rosso Cicogna,
CEI Alternate Secretary General**

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- **Energy** is top priority for **CEI**
- **Advanced Biofuels** are the most attractive option for any eco-friendly energy strategy: they also address **priorities** in Science, Innovation, Environment, Agriculture (same mantras that are repeated in Bruxelles...)
- In fact, Advanced Biofuels are the best equation **combining**:
 - Energy requirements (reducing dependence on fossil fuel imports)
 - Environment protection (reducing CO2 emissions)
 - Rural development and food security
 - Far-reaching global market opportunities (to sell technology)
- CEI Member Countries have large agriculture and forestry sectors
- Our strategic challenge for Advanced Biofuels:
from waste to energy!

- **Advanced Biofuels** are efficiently produced from **different feedstock** without competing with food or cash crops for fertile land and water, and reducing global greenhouse gas emission in the process. Examples of such feedstock:
 - Crop residues, plentiful where there is an agricultural production
 - Residues from sustainably harvested forests and undergrowth
 - Algae or other spontaneous vegetation
 - Municipal solid waste (where separate collection is efficient)
- By definition, therefore, Advanced Biofuels leave behind the controversies related to the First Generation (**food vs. energy**)

Promoting Advanced Biofuels is a priority for CEI

In 2012, CEI commissioned to Bloomberg / New Energy Finance a comprehensive Report on Advanced Biofuels as a most relevant aspect for a Bio-based Economy in today reality.

The Report on the CEI Region is based on a very conservative approach, considering the long-term projection (until 2030):

- **Only** agricultural waste as feedstock (no forestry residues, no urban waste no algae, etc.)
- **Only** existing conversion technology (vs. substantial breakthrough expected soon)
- **No change** in current land-use patterns and in yield growth rates

The residue potential scenario as highlighted in the Bloomberg Report is already striking ...

Potential benefits of Advanced Biofuels in the CEI region according to the **residue potential scenario** which considers **only agricultural waste as feedstock** (for which **cost-efficient technology is available**), converting all agricultural residue ready available (i.e. 17,5%):

- **Job creation**, 580.000 man-years of employment in the years 2012-2030 and up to **36.000 permanent jobs** predominantly in rural areas (collecting and transporting residue and operating biorefineries)
- **Innovation and economic growth**, with an ethanol potential in 2030 of 30 billion litres per year, requiring a total **investment of €40 billion** in 2012-2030 for a total **revenue of +/- €260 billion** in 2012-2050
- **Energy security**, moving from high dependence on foreign oil towards greater fuel self-sufficiency for transport
- **Environment Protection** through a reduction of CO₂ emissions (around 40%) by replacing 61% of fossil gasoline in 2030 with next generation ethanol converted from agriculture residue.

- The development of Advanced Biofuels is complemented by that of biorefinery, i.e. production of added value biochemical materials, which will be the basis for a **new chemical industry**
- Today chemical industry heavily depends on by-products of oil refinery: by-products of Advanced Biofuels will bring a **revolution** which also will require more R&D efforts and imply new opportunities
- The prospects of **additional income for farmers** – therefore a consistent rural development and a consequent environment protection - must also be a crucial element in the evaluation for a strategic choice in favour of Advanced Biofuels. This will bring more investment by farmers and increased yield growth rates.



The biobased economy is an envisioned future where **biorefineries** replace **oil refineries**, and **renewable raw materials** replace **fossil fuels** as primary feedstock for materials, fuels and chemicals.

Prospects for EU-27 according to another Bloomberg Energy Report
“Moving towards a Next Generation Ethanol Economy” (2012)

- Security:** The EU-27 can replace 68% of its annual gasoline consumption by 2030 with advanced biofuels
- Jobs:** Creating almost 1.18 million jobs between 2010 and 2030 mainly in rural areas
- Economy:** European players would be the major beneficiaries, including 60 billion EUR domestic engineering, construction and feedstock market
- Environment:** Saving CO₂ and reducing GHG emission from gasoline related road transport by 54%

Foster “**radical innovation**”, from R&D and deployment to market pull, to deliver biobased products superior, or at least comparable to, non-biobased products in terms of price, performance and availability, and environmental benefits”

Feedstock: fostering a sustainable biomass supply and building new value chains

Biorefineries: optimising efficient processing through R&D and upscaling in large-scale demo/flagship biorefineries

Markets, products and policies: developing markets for biobased products and optimising policy frameworks

- **Public contribution:** up to **€1bn** for a period of 7 years (2014-2020)
- **Private contribution:** 'Founding Members' committed investments of **€2.8bn** in collaborative research, development and demonstration of biobased technologies
- **Other players:** oil majors? banks?
- In addition, the PPP should further **leverage and facilitate access to funding** from other companies and funding sources such as national agencies, research institutions, private foundations or venture capital firms.

FOUNDING 'CORPORATE' MEMBERS



- CEI Ministerial Meeting on Science-Technology
- CEI Ministerial Conference on “Renewable Energy in a Biobased Economy – The Option of Advanced Biofuels”

Overall composite attendance from Ministries of Science-Technology, Energy, Environment, Agriculture, Economic Development:

- 13 Ministers, Deputy Ministers and State Secretaries
- 16 Director Generals and High Officials from Ministries
- 5 Qualified representatives of the European Commission
- 13 invited stakeholders from Industry and Scientific Communities

- CEI participation to EU **funded projects** already submitted or to be submitted (see Final Communiqués)
 - first, having the overall objective to ensure a sustainable market through a reliable biomass supply and logistics (through an innovative computerized decision support tool),
 - second, intended to support the European Biofuels Technology Platform in relation to the CEI Region,
 - third, aimed at establishing a Danube Research and Innovation Cooperation Network

- Promotion/awareness building activities concerning Public-Private Partnership on the Biobased Economy in cooperation with the promoters of the PPP: at this stage mainly an EU-27 Action which will produce a great impact on all CEI Member States (including non-EU Members)
How ready are they?

The question is: how can all of us contribute to get ready to mobilise the necessary resources, now?

THANK YOU FOR YOUR KIND ATTENTION

**Giorgio Rosso Cicogna
CEI Alternate Secretary General**

asg@cei.int

www.ceinet.int

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