Opportunities and challenges for a sustainable development of Bioenergy
Bucarest, Romexpo Exhibitional Center, 22 April 2008

Strategy for meeting EU target on bioenergy production and consumption – Italian scenario and perspective

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Content


- The Position Paper of past Italian Government on Energy which includes target for biomass at 2020 (submitted to EC on September 2007)

- Meeting the Italian bioenergy targets: strength and weakness

- ITABIA’s contribution to bioenergy deployment
The new EU Directive on RES (draft 28 January 2008)

1. Aims

The package contains proposals to implement the decisions for 2020 agreed by EU leaders in March 2007:

- 20% of total EU energy consumption to come from renewables,
- 20% increase in energy efficiency,
- 10% of transport biofuels target,
- 20% reduction in EU greenhouse gas emissions.
- For Italy the target for share of energy from RES in final consumption of energy is 17%.
The new EU Directive on RES (draft 28 January 2008)

2. Tools

- mandatory targets for all member states;
- rules for guarantees of origins establishing the trade between member states, administrative procedures (removing barriers), electricity grid connections;
- sustainability criteria for transport biofuels.
The Position Paper of Past Italian Government on Energy
draft submitted to EC on September 2007

- Primary energy expected to be replaced by biomass at 2020: 16.42 Mtoe
  About 7% of total primary energy need
- Energy replaced in 2005: 3-5 Mtoe
- Gap to 2020: 11-13 Mtoe

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BIOMASS TYPES

- Solid biomass
- MSW
- ISW
- Biogas
- Biofuels and other liquid biomass
The Position Paper of Italian Government: total primary energy in Mtoe replaced by biomass

<table>
<thead>
<tr>
<th></th>
<th>Implementation at 2005</th>
<th>Potential available by 2020</th>
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<tbody>
<tr>
<td><strong>Electricity</strong></td>
<td></td>
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<tr>
<td>1TWhe = 0.2 Mtoe</td>
<td>1.23</td>
<td>2.9</td>
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<tr>
<td><strong>Heating</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Including non commercial biomass</td>
<td>1.88</td>
<td>9.32</td>
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<tr>
<td><strong>Biofuels</strong></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>0.30</td>
<td>4.2</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Including non commercial biomass</td>
<td>3.41</td>
<td>16.42</td>
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</table>

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Meeting the Italian bioenergy targets: strength and weakness

- Resources
- Legislation
- Implementation
Meeting the Italian bioenergy targets: strength and weakness

**Resources**

- **Strength**
  overall availability of all kind of biomass:
  
  24-28 Mtoe/y

  2020 target:
  
  16 Mtoe
Meeting the italian bioenergy targets: strength and weakness

Resources

Weakness

At present only 30%-50% of biomass can be gathered because of:

- Lacking of well founded chain agreement
- Cost of collection and transport
Meeting bioenergy targets: strength and weakness

Biomass resources details

- **Residues from**
  - Agricolture and agri-industry: 5 Mtoe
  - Forest and wood industry: 4.3 Mtoe
  - MSW: 0.3 Mtoe
  - Livestock residues: 10-12 Mtoe
- Firewood: 2 Mtoe
- Dedicated crops: 3-5 Mtoe
- **Total resources potential**: 24-28 Mtoe

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Meeting bioenergy targets: strength and weakness
Regulations

Strength

- More than 60 laws and decrees, having direct and indirect connection with bioenergy, are in force at present
Meeting bioenergy targets: strength and weakness

Regulations

Weakness

- Lack of long-term stability of regulations
- Delay in issuing the implementation decrees following the promulgation of laws
- Unclear definition of virgin, residual and wasted biomass
Two latest Acts

- **Law 81/2006 on Biofuels:**
  In April 2008 the Council of State issued regulation procedures concerning the obligation of the oil Co. to mix biofuels at 2% in 2008 and 3% in 2009 hopefully 4% in 2010.

- **Financial Law 2008 on New Green Certificates for Biomass:**
  The value of GC (122 €/MWh) is multiplied by a 1.8 coefficient, in case of short supply chains (biomass feedstock sourced within a radius of 70 km from the power plant).
Meeting bioenergy targets: strength and weakness

Implementation

Strength

- In Italy there is a solid industrial web, managing mature technologies such as: small household appliances, district heating, small cogeneration, power plants, trigeneration, biofuel processing.
Meeting bioenergy targets: strength and weakness

Implementation

Weakness

- Obstacles are encountered for project implementation owing to complex procedures for getting permits and gaining incentives
Details of main industrial systems

<table>
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<tr>
<th>Sector</th>
<th>N° plants</th>
<th>MW</th>
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<tbody>
<tr>
<td>District heating</td>
<td>100</td>
<td>380 th</td>
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<tr>
<td>Power plants</td>
<td>43</td>
<td>420 el</td>
</tr>
<tr>
<td>Biofuels capacity</td>
<td>10</td>
<td>1.300.000 t</td>
</tr>
</tbody>
</table>
MAIN PRE-CONDITIONS FOR A SUSTAINABLE DEPLOYMENT

1. Clear and consolidated legislation
2. Standardization and chains’ certification
3. Re-organisation of agriculture and forestry
4. Pushing on profitable projects
5. Stimulating demand
6. System approach
Itabia’s contribution to bioenergy deployment

In the last 3 years Itabia:

- Contributed to the preparatory phase of GBEP
- Joined the EU project RES-HEAT (Heat from Renewables)
- Is coordinating the EU project called BITES: Biofuels Technologies EU Showcase
- Co-founded and is co-chairing the Italian Platform on Biofuels
- Have signed an agreement with an agro-industry firm
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