Bio-ethanol production in Central and Eastern Europe – the Hungarian experience

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Introduction of EBP

- Project development, licensing, execution and fully comprehensive coordination in the fields of:
  - Bio-ethanol production
  - Biomass power generation
  - Waste neutralization
  - Geothermal energy

- Consulting: preparation of business plans for renewable energy investments, preparation of feasibility studies, organization of financing and product off-take

- Co-operation with technical and financial investors

- Representation of:
  - ICM, Inc. – bio-ethanol technology
  - EPI, Inc. – biomass boilers
Why do we believe in renewable technologies and in biofuels?

- Energy independence
  - Decreasing dependence on imported energy sources which contribute to a negative trade balance

- Job creation and sustainable economical development
  - Creates and maintains thousands jobs, many in the agricultural sector
  - Huge export potential, with a positive impact on the balance of trade
  - Introduction of sustainable energy technologies in the region
  - Generates tax revenue for the governments

- Environmental protection and air pollution
  - In line with EU directives on biofuels, allows for the transport sector to begin utilizing non-fossil fuels and help reach internationally agreed goals on reduction of carbon emissions
  - Improvements in air quality can have a positive impact on public health
EnviroParks – EBP’s flagship project

- Engineering and permitting of four bio-ethanol plants and adjoining biomass power plants for SEKAB, participation in the construction
- Requires 1.5 million tons of corn and 600,000 tons of biomass annually
- Produces 600,000 cu. meters of fuel ethanol, 480,000 tons of DDGS (animal feed), green electricity, (liquid CO2)
- EUR 400 million investment
- Largest single environmental project in Hungary
The ethanol industry

• Increasing worldwide demand for biofuels

• 2003 EU Directive for Biofuels and Strategy for Biofuels: transport fuels shall have a 10% renewable content by 2020

• Main goals:
  • reduction of greenhouse gases
  • security of supply
  • competitiveness

• Result: significant interest and growth in the biofuel industry
Consumption of Fuel Ethanol Under the Bio-fuel Directive (1000 hl)
The potential of Hungary in bioethanol

- Strong agricultural traditions
- Availability of feedstock to supply a significant ethanol industry
  - Corn, wheat, grain sorghum
  - Future: ligno-cellulose
- Favorable location from a logistics point of view within the EU
Positive effects of the ethanol industry in Hungary – bio-ethanol and agriculture

- The entire ethanol industry at full development would create **30 thousand jobs**
- No need for intervention purchase of corn
- Ethanol industry can stabilize the agriculture in the future when subsidies phase out
- Long-term contracts (**10 years**) can secure income
- Positive rural development effects
- The by-products can replace imports and increase the competitiveness of animal farming
- Due to biomass and energy crop cultivation, there will be new ways to utilize rural lands
• Air pollution is directly linked to the following:
  • Weaker lung function
  • Respiration problems
  • Increased number of doctor’s visits
  • New and acute illnesses
  • Increased stays in hospitals
  • Increased utilization of medicines

• Improvement of air quality can help:
  • Lower health costs related to air pollution
  • Improved efficiency at work
  • Improved life quality
  • Reduced early death due to air pollution
Biomass potential in Hungary

• Favorable climate and soil conditions for low cost biomass production
• Hungary is poor in fossil fuels
• Ethanol plants and other heat-consuming facilities can be supplied by biomass power plants, thus producing 100% green ethanol fuel
• Biomass power plant CO2 emission is zero
• All by-products can be re-circulated into the environment, moreover, can be sold as valuable products
• Subsidized electricity price for green power is available
Planned bio-ethanol facilities by August, 2006
Bio-ethanol projects in the development or implementation phase as of May, 2007
Reasons for the „collapse”

- Availability and price of corn
  - Bad harvest in the world + EU intervention = higher market price
  - Uncertainties about projects – which one will be realized?
- Decreasing oil prices = decreasing ethanol prices
- Limited support of the government
  - Difficult budget situation – less subsidies available
  - Change of mindset: focus on small plants
Secrets of survival

• Select the right location
  – Logistics, availability of the raw material

• Choose the right size of the plant
  – Small vs. large vs. giant plants

• Think about the material flow
  – Incoming and outgoing materials

• Choose the right technology
  – Environmental and economic aspects
  – References

• Coordination of raw material supply with competitors (government’s role)
Our concept: integrated ethanol plants
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