



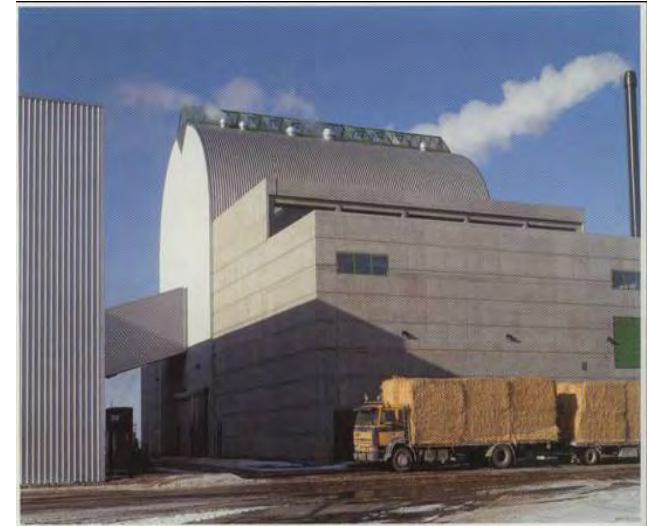
Bio-ethanol production in Central and Eastern Europe – the Hungarian experience

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EBP European Bio Power Llc.
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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

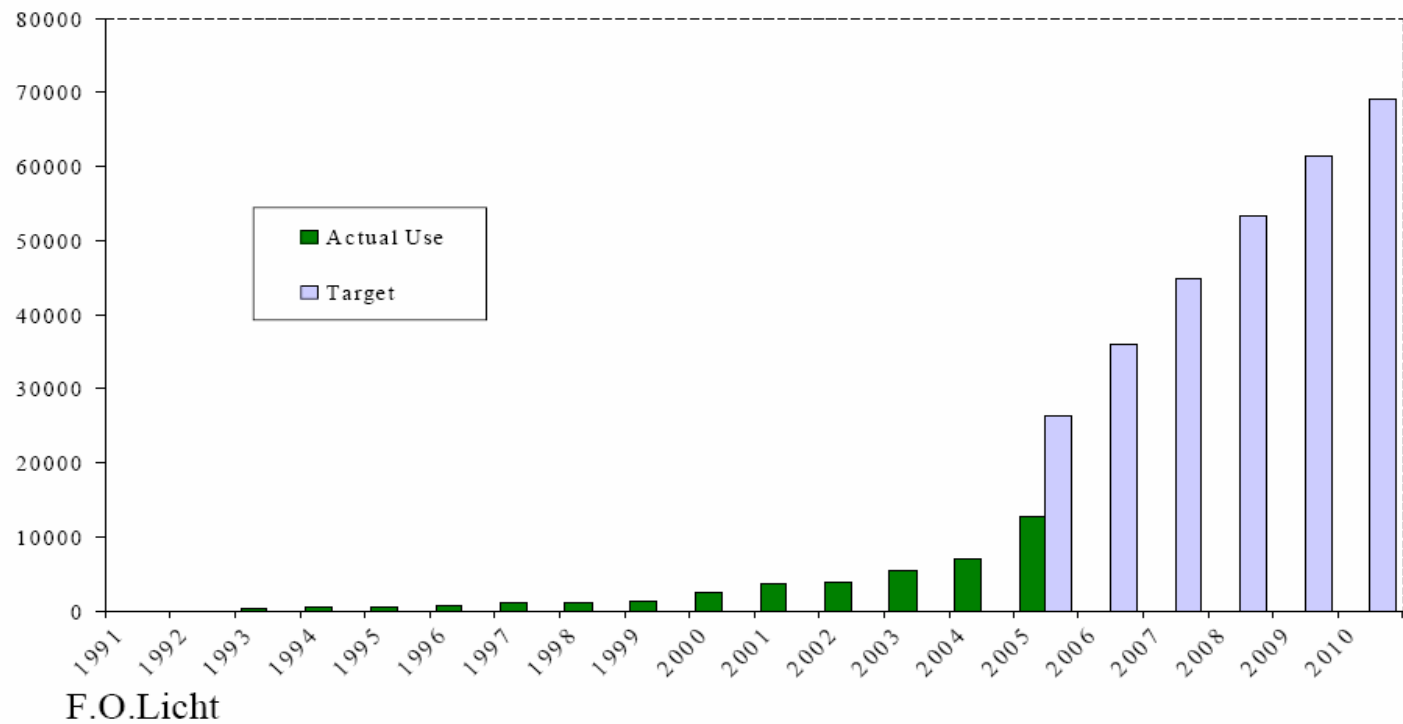
- Increasing worldwide demand for biofuels
- 2003 EU Directive for Biofuels and Strategy for Biofuels: transport fuels shall have a 10% renewable content by 2020
- Main goals:
 - reduction of greenhouse gases
 - security of supply
 - competitiveness
- Result: significant interest and growth in the biofuel industry





Ethanol market in Europe

Consumption of Fuel Ethanol Under the Bio-fuel Directive (1000 hl)



F.O.Licht



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

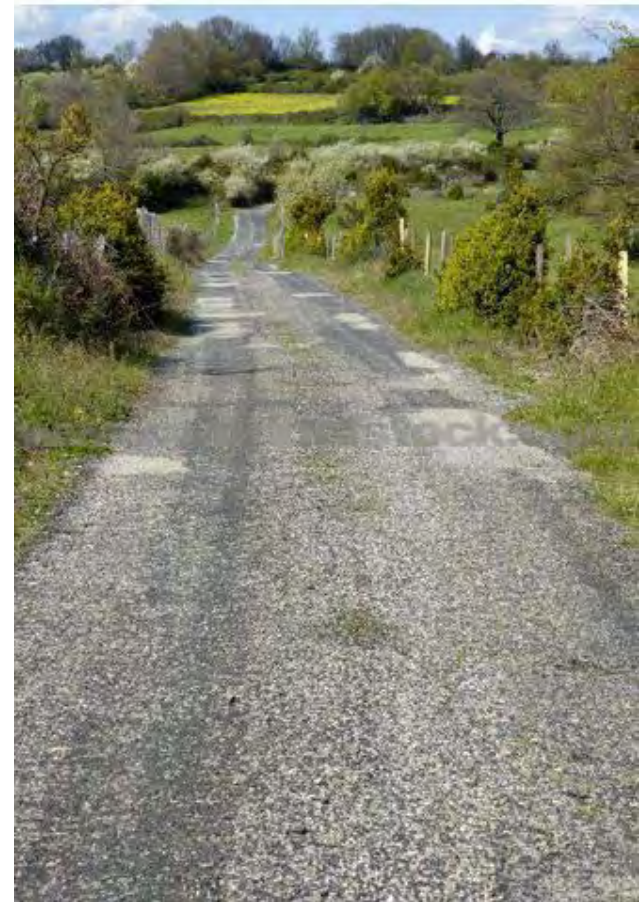




Advantages of the ethanol industry

Ethanol and health

- 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





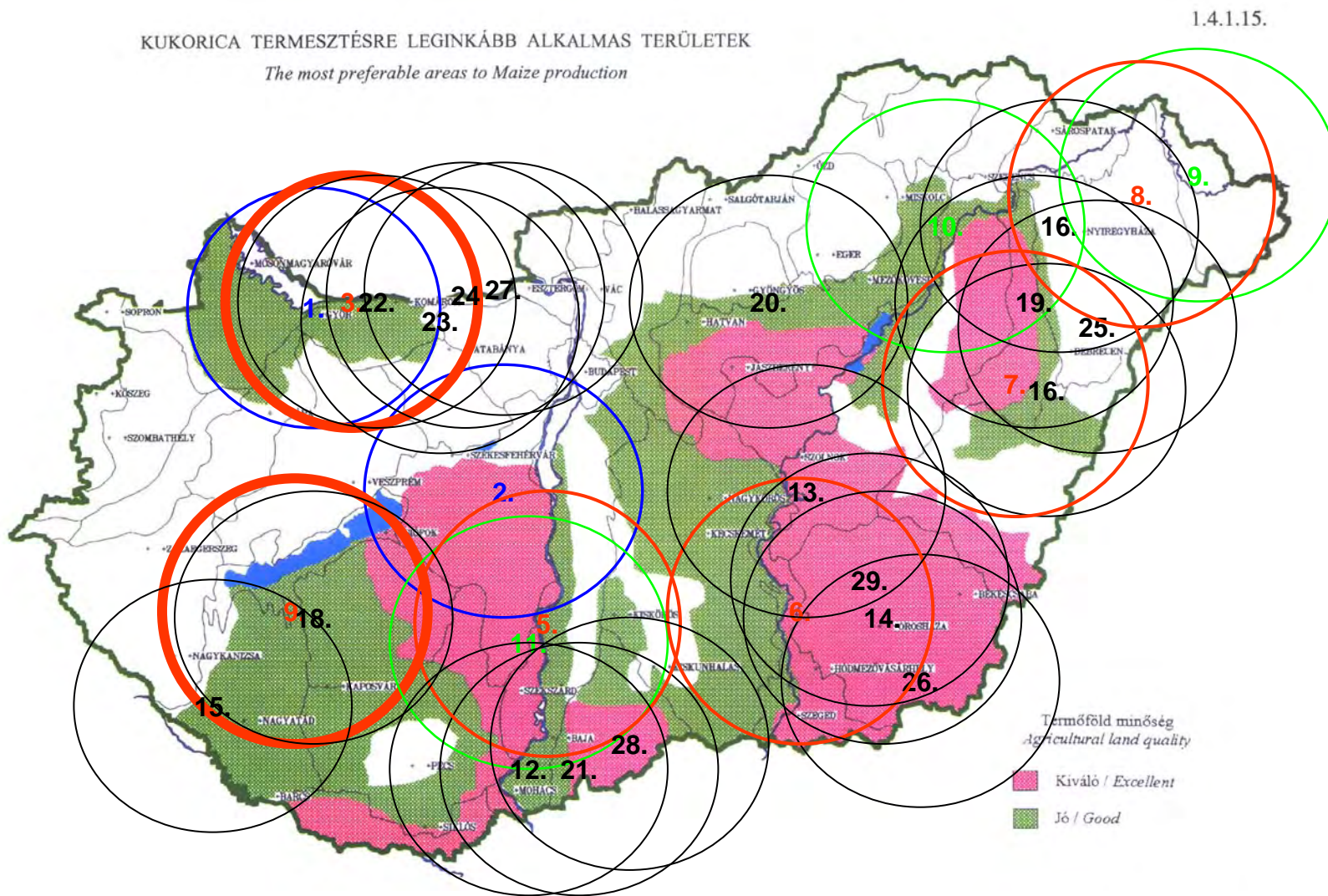
Biomass potential in Hungary

- 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



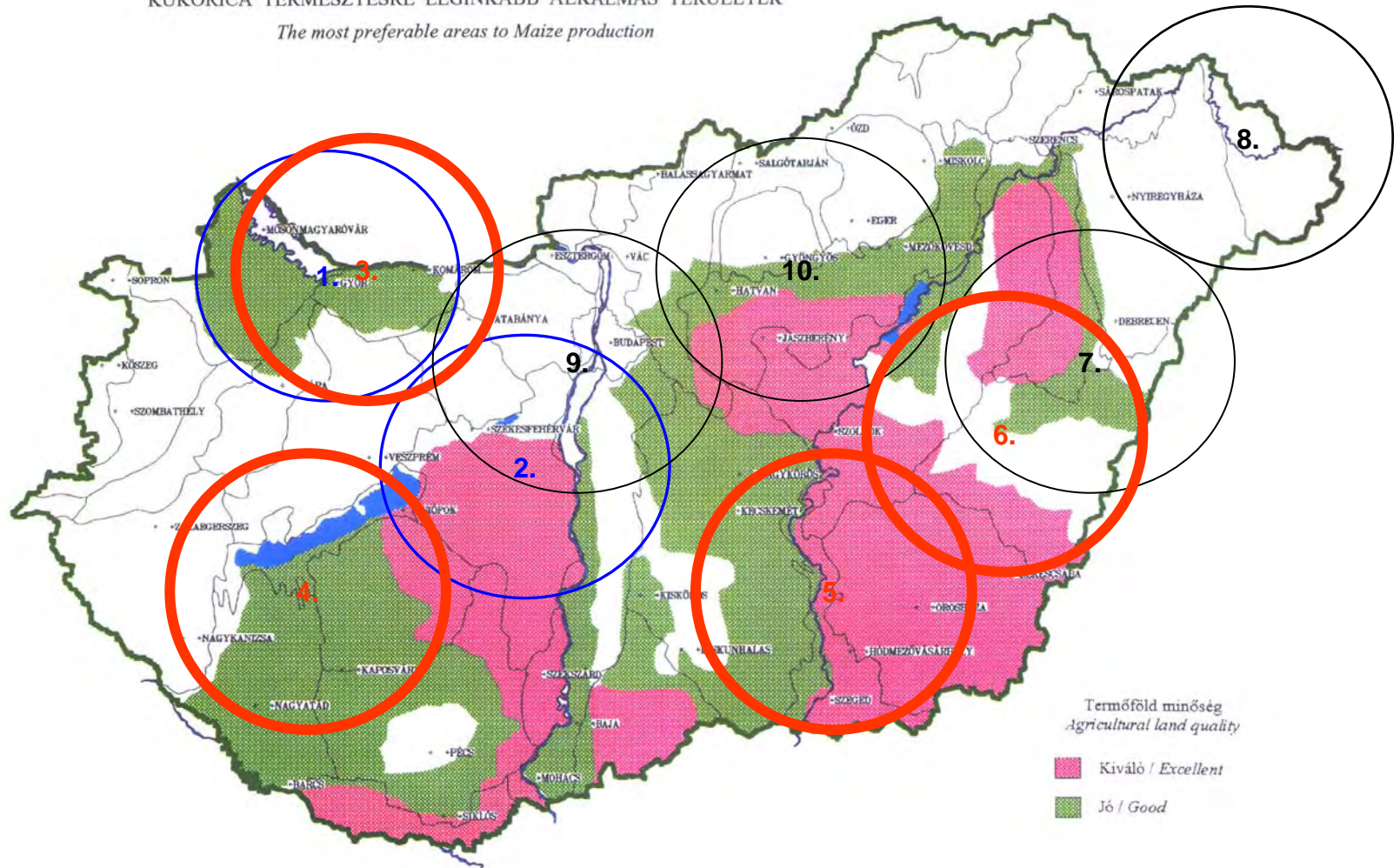


Bio-ethanol projects in the development or implementation phase as of May, 2007

KUKORICA TERMESZTÉSRE LEGINKÁBB ALKALMAS TERÜLETEK

The most preferable areas to Maize production

1.4.1.15.





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

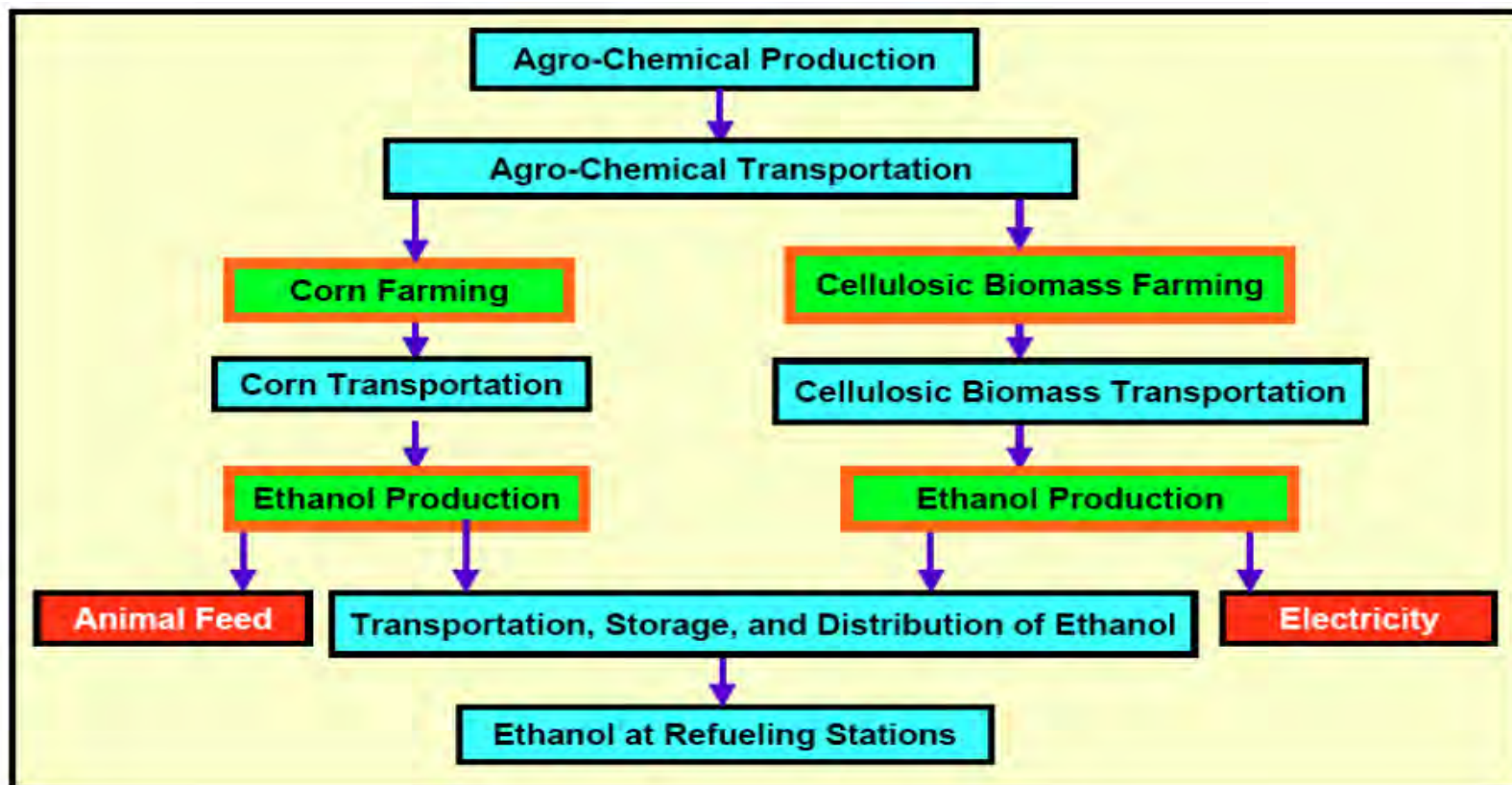


Secrets of survival

- 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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