

Bioenergy Research What's happening?

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- ◆ Irish Bioenergy Industry needs strong research support
 - ▶ Increase efficiencies
 - ▶ Provide solutions for practical problems
 - ▶ Develop new technologies
 - ▶ Provision of training



Bioenergy Research

◆ Questions:

- ▶ What expertise is available?
- ▶ What experience is available?
- ▶ How is bioenergy research funded?
- ▶ How can our bioenergy research infrastructure be improved?



Presentation Outline

- ◆ Research carried out in Teagasc
- ◆ Research carried out in third level
- ◆ Linkages
- ◆ How research is funded
- ◆ Suggestions for improvement

Teagasc Research

- ◆ Long history of bioenergy research in Teagasc
- ◆ Commenced in the 1970s in the aftermath of the first oil crisis
- ◆ Continues today after an almost unbroken record of work in this area



Teagasc Research

- ◆ 1970s: Short Rotation Coppice species selection, agronomy, harvesting, storage, combustion, economics
- ◆ 1980s: Anaerobic digestion
- ◆ 1980s: Grass fractionation
- ◆ 1990s: Liquid Biofuels



Teagasc Research

RERC

- Economics of energy crops

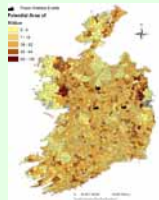
Forestry Research

- Clusters for thinning



Moorepark

- Anaerobic digestion of pig manures



Grange

- Anaerobic digestion



Kinsealy

- Willow diseases



Oak Park

- Energy Crops
- Liquid Biofuels
- Combustion/CHP
- LCA



Johnstown Castle

- Grass biorefining
- Land Use Change to Energy Crops



◆ Funding

- ▶ Teagasc
- ▶ Department of Agriculture Stimulus Fund
- ▶ COFORD
- ▶ European Funding

◆ Collaboration

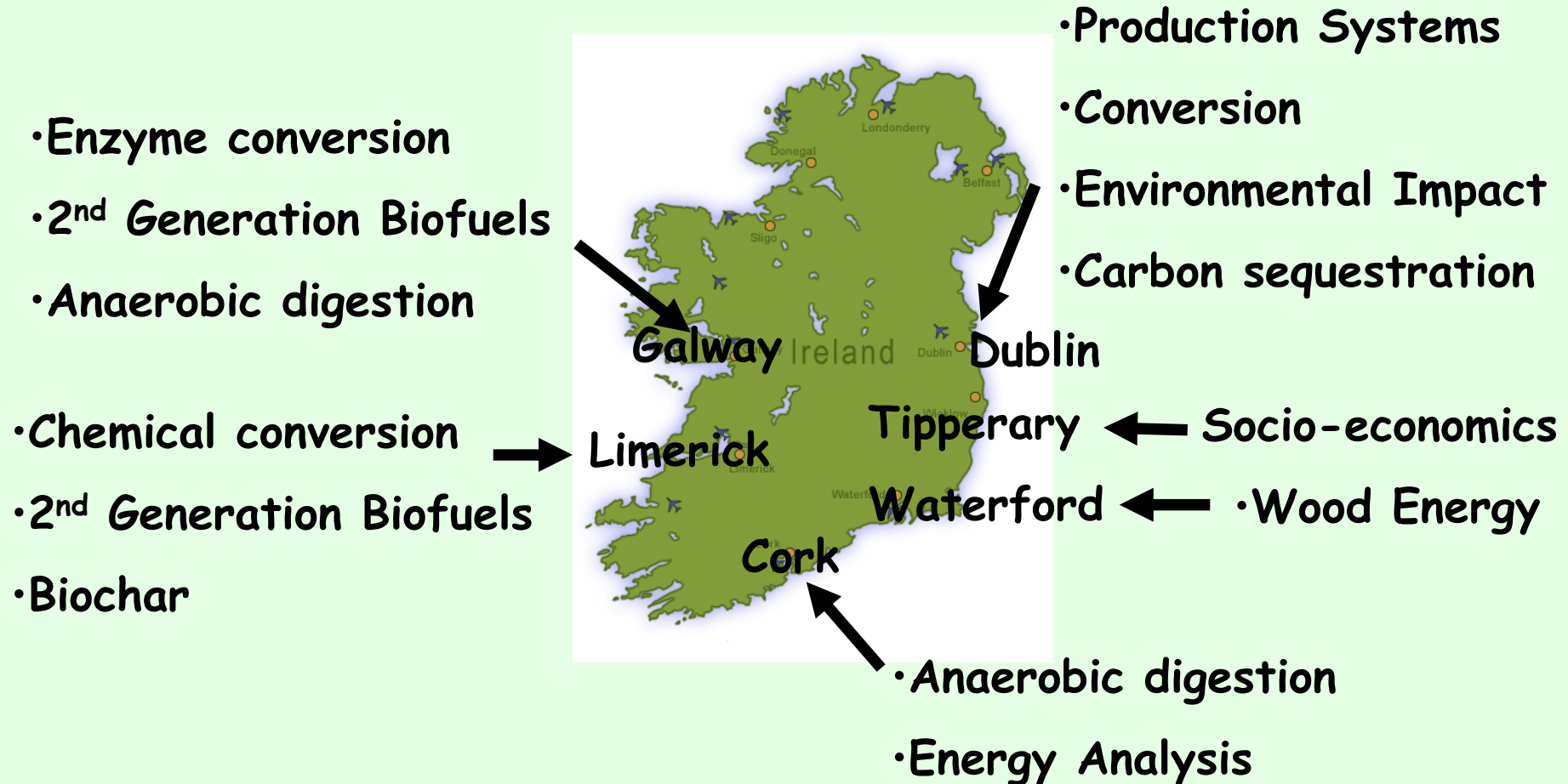
- ▶ UCD, TCD, UL, UCG, UCC, WIT, CIT, AFBI



- ◆ Long history of bioenergy research
- ◆ Willow Agronomy
- ◆ Willow Disease Control
- ◆ Renewable Energy Centre-Hillsborough
 - ▶ Anaerobic digestion
 - ▶ Biomass Combustion



Academic Research



Funding Agencies

- ◆ Department of Agriculture-Stimulus
- ◆ Coford
- ◆ DCMNR-Charles Parsons Fund
- ◆ EPA
- ◆ SEI
- ◆ Enterprise Ireland
- ◆ SFI
- ◆ European Funding

Research Funding

- ◆ Several national (government) bodies are funding bioenergy research
- ◆ Collaboration between funding bodies is rare
- ◆ Result:
 - ▶ Duplication of research
 - ▶ Lack of focus
 - ▶ Uncertainty-planning for the future
 - ▶ Value for money?

Recommendations

- ◆ *National Bioenergy Research Strategy*
- ◆ Long term plan of the research needed to support and stimulate the industry
- ◆ All potential funding agencies working with researchers and industry
- ◆ National priorities communicated to Europe to influence European funding priorities

Conclusions

- ◆ Long history of bioenergy research in Ireland
- ◆ Lot of research ongoing
- ◆ Core of expertise and experience in key areas
- ◆ ***National Bioenergy Research Strategy*** needed to ensure that
 - ▶ funding is spent wisely
 - ▶ Long term support is in place