### Biofuels – Issues, Threats & Opportunities

ULTRA-LOW CARBON TRANSPORT
Hydrogen and biofuels stakeholder seminar
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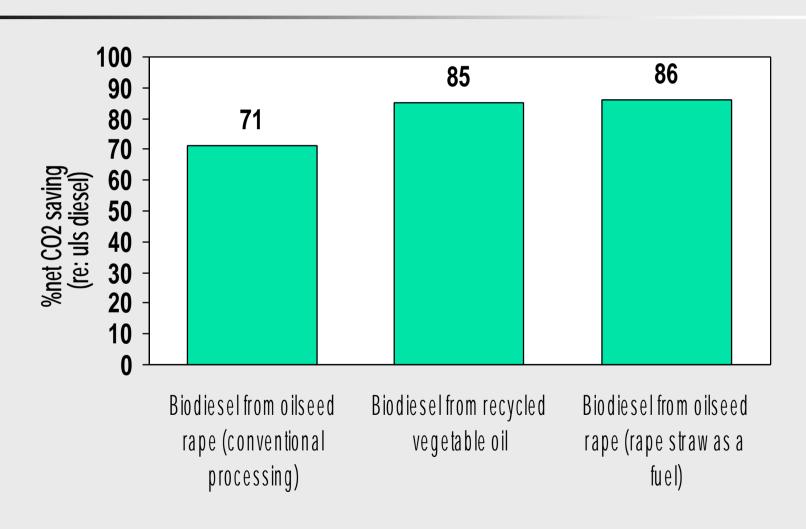
#### **EXISTING RESEARCH**

- net carbon (& total greenhouse gases)
- biofuels:
  - biodiesel from oilseed rape
    - recycled veg. oil
  - bioethanol from
- sugar beet
- wheat
- lignocellulosics
- comparative fossil fuels:
  - ultra low sulphur diesel
  - unleaded petrol

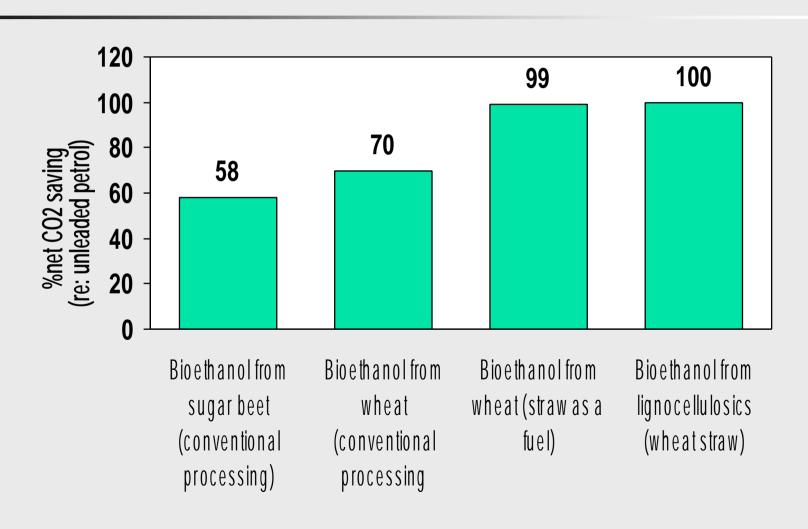
#### **NET CARBON EVALUATION**

- flowcharts for actual or proposed practice:
  - biomass production
  - conversion technology
- realistic allocation procedures for by-products
- standard spreadsheet calculations
- transparency

# NET CARBON SAVINGS FOR BIODIESEL



# NET CARBON SAVINGS FOR BIOETHANOL



### CONCERNS FOR FURTHER CONSIDERATION

- certification of net carbon savings
- encouragement of ultra-low carbon biofuels
- comparative vehicle performance and emissions tests
- consistent assessment (biofuels and hydrogen)