

# *Development of Carbon Certification & Sustainability Assurance for Biofuels in the UK*

A Sustainable Path for Biofuels in the EU  
7<sup>th</sup> June 2006  
Brussels, Belgium

Greg Archer  
Director  
Low Carbon Vehicle Partnership

# Low Carbon Vehicle Partnership

*Accelerating a sustainable shift to low carbon vehicles and fuels in the UK*

*Stimulating opportunities for UK businesses*

**LowC<sup>VP</sup>**  
low carbon vehicle partnership



# Scope

- ❑ LowCVP biofuel related activities
- ❑ Attitudes of UK Government & business to carbon certification & sustainability assurance (CC & SA)
- ❑ UK proposals for an Renewable Transport Fuels Obligation (RTFO)
  - Feasibility of including CC & SA
  - Reporting mechanisms
- ❑ Design of carbon certification schemes
- ❑ Approaches to environmental assurance
- ❑ Issues and next steps



*In the UK, consensus exists about the importance of carbon certification and sustainability assurance (CC & SA) for biofuels in order to ....*

- ❑ Minimise unintended, negative consequences of biofuels market development
  - Maintain mainstream public and political support
  - To meet corporate CSR commitments and manage reputation risks
- ❑ Validate claims of greenhouse gas savings & sustainability
  - Avoid greenwash
  - Increase public support & understanding by reducing unsubstantiated, competing claims
- ❑ Provide incentives to supply lower carbon intensity biofuels
  - Avoid lock-in to first generation technologies



## *LowCVP Activities have sought to develop practical approaches to deliver CC&SA ....*

- ❑ Identify environmental impacts of biofuels production & UK capacity to supply biofuels from indigenous sources
  - [http://www.lowcvp.org.uk/uploaded/documents/BOARD-P-05-07\\_Biofuels\\_for\\_Road\\_Transport.pdf](http://www.lowcvp.org.uk/uploaded/documents/BOARD-P-05-07_Biofuels_for_Road_Transport.pdf)
- ❑ Achieve consensus amongst leading research groups on WTW GHG calculation boundaries and methods and outcomes for wheat to ethanol processes
  - [http://www.lowcvp.org.uk/uploaded/documents/Biofuels\\_WTW\\_final\\_report.pdf](http://www.lowcvp.org.uk/uploaded/documents/Biofuels_WTW_final_report.pdf)
- ❑ Produce a Biofuels Environmental Standard that can be operated by companies supplying fuels to mitigate impacts
  - To be published in June
- ❑ Develop practical systems for quantifying GHG savings from supplied fuels
  - <http://www.lowcvp.org.uk/resources/agendasandminutes/working.cfm?catid=3&catName=Fuels>
- ❑ Examined the feasibility of including CC & SA within biofuel obligations
  - <http://www.lowcvp.org.uk/uploaded/documents/RTFO%20-%20feasibility%20of%20certification.pdf>
- ❑ Develop practical systems for reporting GHG savings and sustainability
  - In preparation

*Carbon Certification & Sustainability Assurance within  
the Renewable Transport Fuels Obligation (RTFO)*

# *UK will introduce a Renewable Transport Fuels Obligation (RTFO) to boost supply of biofuels*

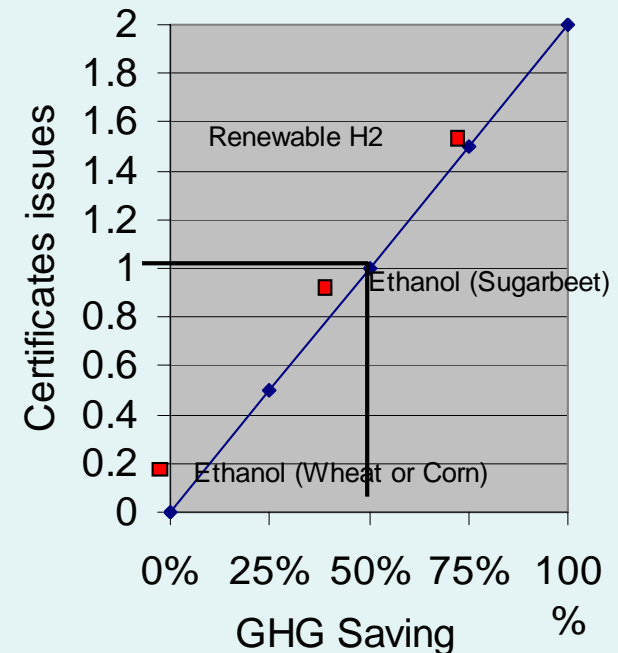
- ❑ Quota scheme for renewable transport fuels
- ❑ Will require all suppliers of transport fuels in UK to:
  - Sell a given amount of renewable transport fuel each year (for which they will receive certificates); or
  - Purchase certificates from another company; or
  - Pay a “buy-out” price of 22c/l – duty differential of 45c/l retained
- ❑ Scheme scheduled to commence April 2008
- ❑ Targets:
  - 2008/9      2.5% (by volume)
  - 2009/10    3.7%
  - 2010/11    5%
- ❑ **Obligated companies will be required to report on GHG savings and sustainability of supplied renewable transport fuels**



## *Feasibility study examining inclusion of CC&SA within the proposed RTFO concluded....*

- ❑ A system of GHG Certification that rewards fuels with higher GHG savings is practical and probably legal
  - So long as GHG saving is the principal policy objective
  - Design and testing of the system would take several years
  - Uncertainty over the level of certificate awards would affect investment in new plant
- ❑ It may be legal to assign zero GHG savings to fuels grown in deforested areas
  - But challenge through the WTO would be likely and could delay the scheme introduction
- ❑ It is unlikely linking wider environmental impacts to award of certificates is liable to legal challenge
  - Scheme should be reviewed once operational to ensure adverse consequences are not significant
- ❑ Linking minimum social standards to award of certificates was likely to lead to successful legal challenge under WTO rules
- ❑ A voluntary (company operated) scheme could be effective in reducing wider environmental and social issues

**Linking certificates to GHG saving**



- ◆ 1 certificate for 1l fuel with 50% GHG saving
- Base-certificate

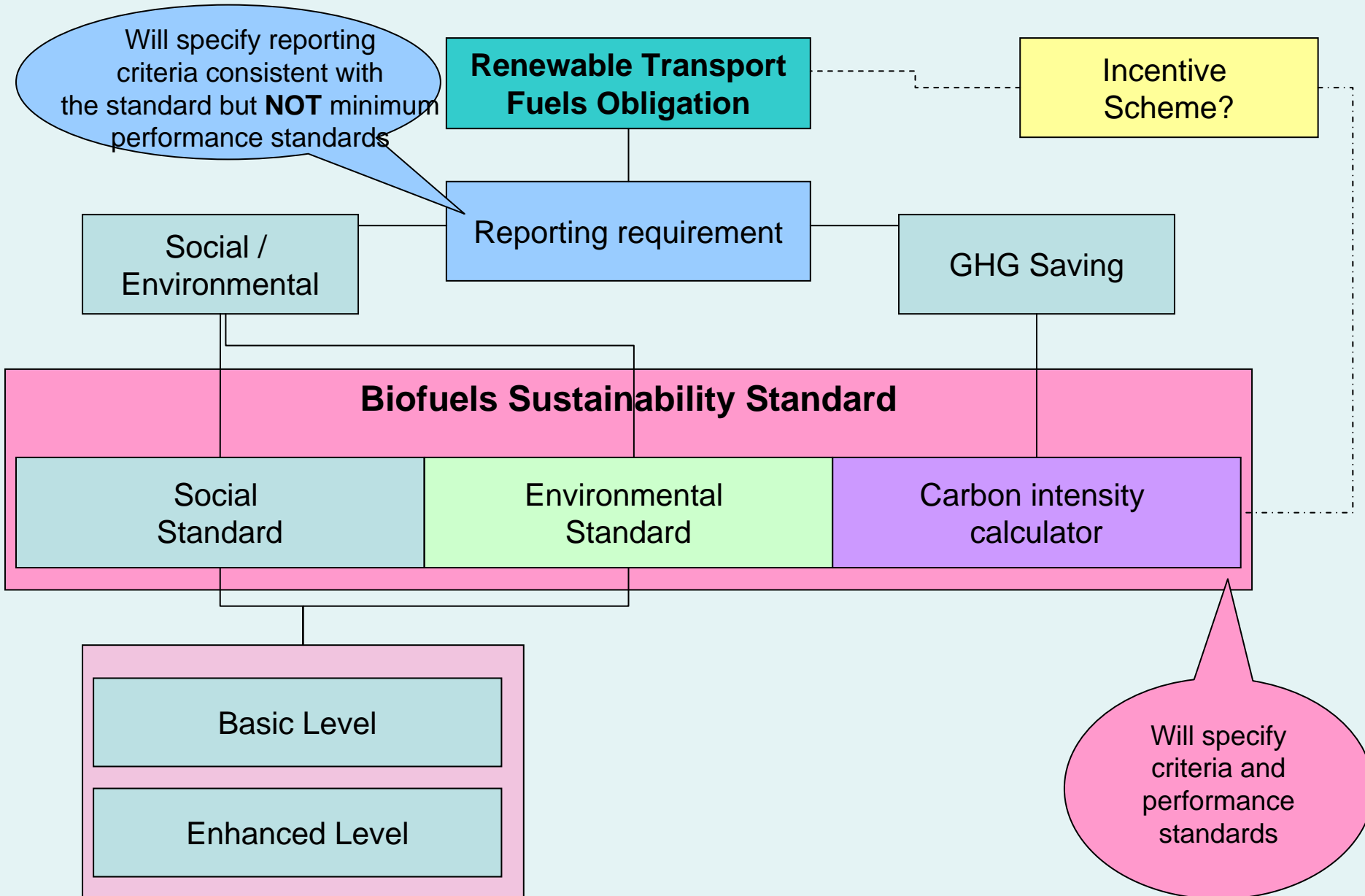


## *UK Government proposes to include GHG saving and sustainability reporting within the RTFO*

- ❑ Reporting requirement for C-certification appropriate for *testing* new systems, but without incentives based upon GHG saving:
  - The market will source predominately low cost fuels - with a low GHG balance
  - £ / t C saved will be higher
  - No incentive for higher GHG saving processes
  - No incentives for new (including 2<sup>nd</sup> Generation) technology
  - No protection for above and below ground carbon-rich environments
- ❑ Government has sent clear signals that incentives & targets will be based upon GHG saving in Phase 2 of the scheme post 2011/12
- ❑ Reporting requirements and methods for CC&SA under development



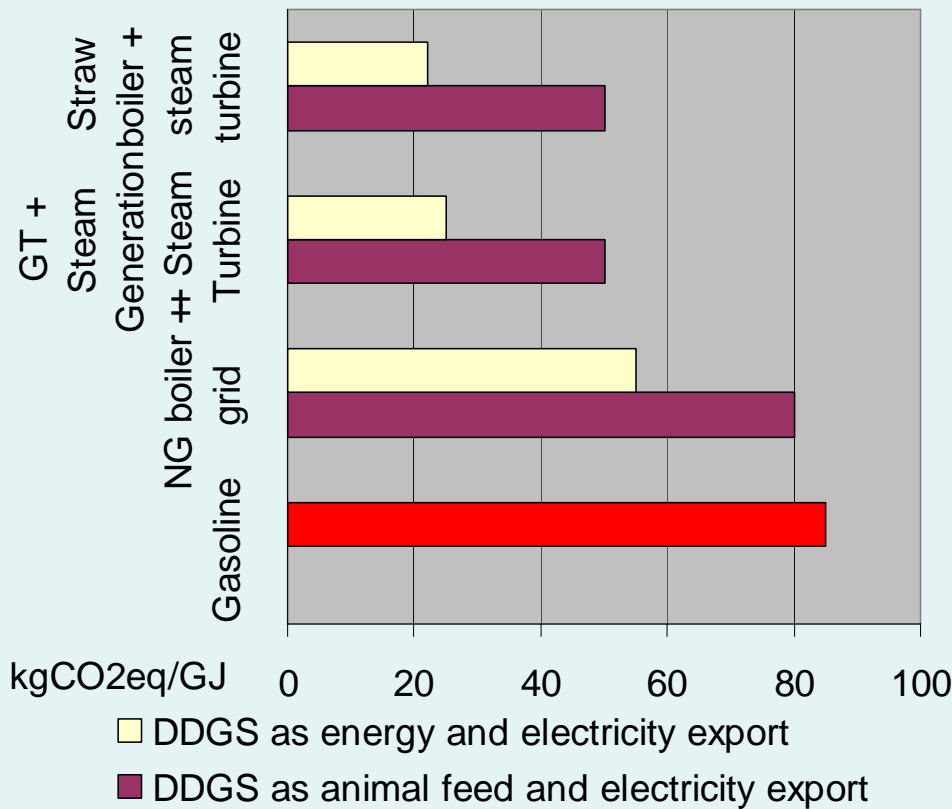
# *Inclusion of CC & SA within the RTFO?*



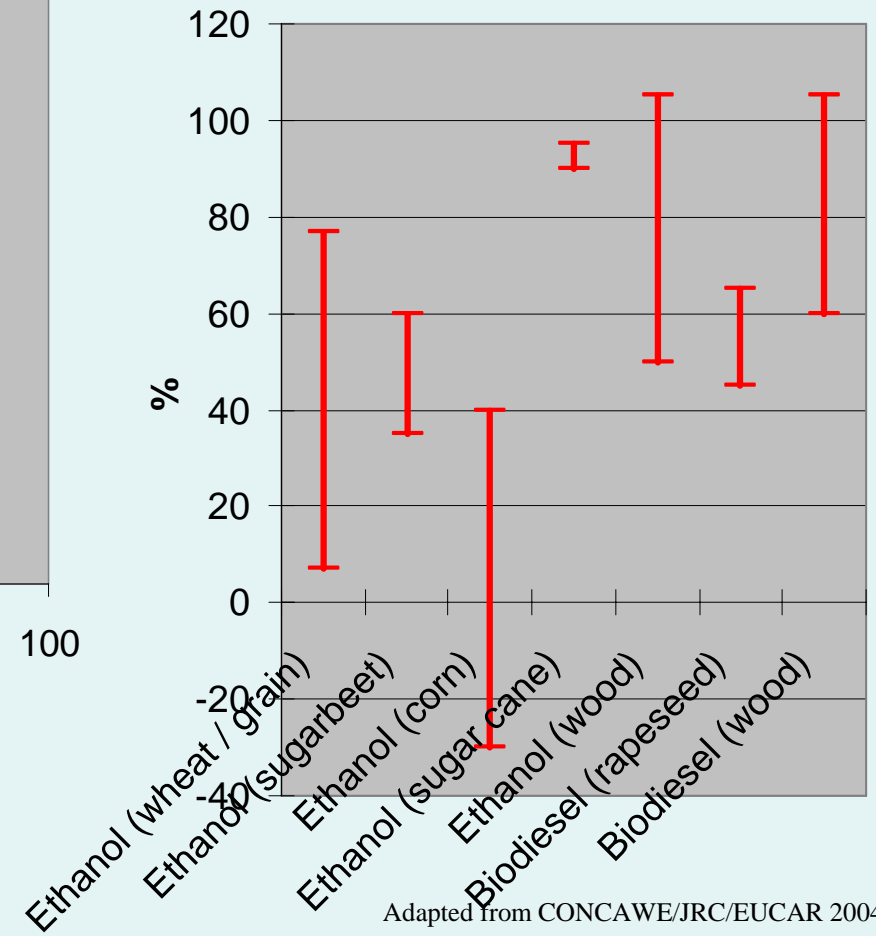
# *Carbon Certification*

*Well to Wheel GHG savings & production costs vary widely depending upon feedstock, cultivation & production processes & by-product use*

### WTW GHG emissions for wheat to ethanol

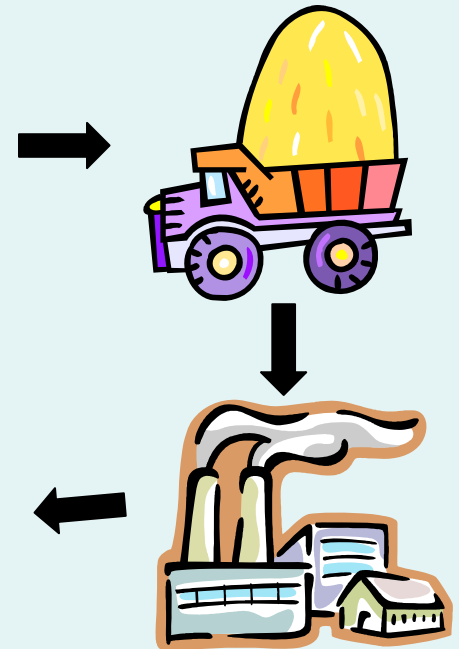
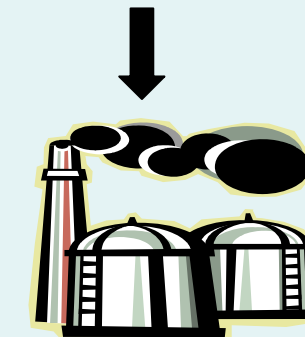


### % WTW GHG savings compared to petrol or diesel



*On-going work is defining carbon certification system requirements & operational practice that will initially be used for reporting purposes*

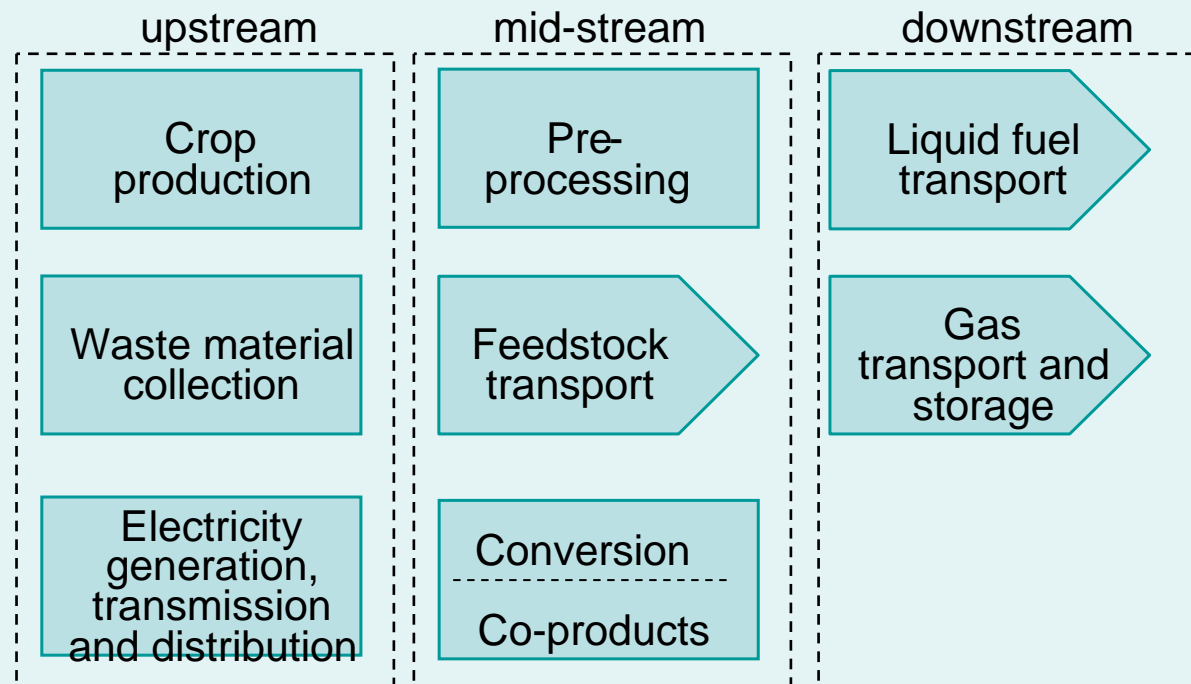
- ❑ Field to forecourt (well to tank) calculation
- ❑ Quantifies emissions at each stage of the production pathway
- ❑ Consistent for different biofuel pathways
- ❑ Transparent
- ❑ Applicable to indigenous supplies and imported fuels
- ❑ Flexible & manageable data requirements. Capacity to:
  - Calculate GHG emissions based at each step in the pathway using real data for individual, or multiple batches; or
  - Use default values to estimate emissions at each step & cumulatively
- ❑ Auditable
- ❑ Consistent with Greenergy Scheme



# *Detailed calculation method to be defined by a "Carbon Certification Unit" that will .....*

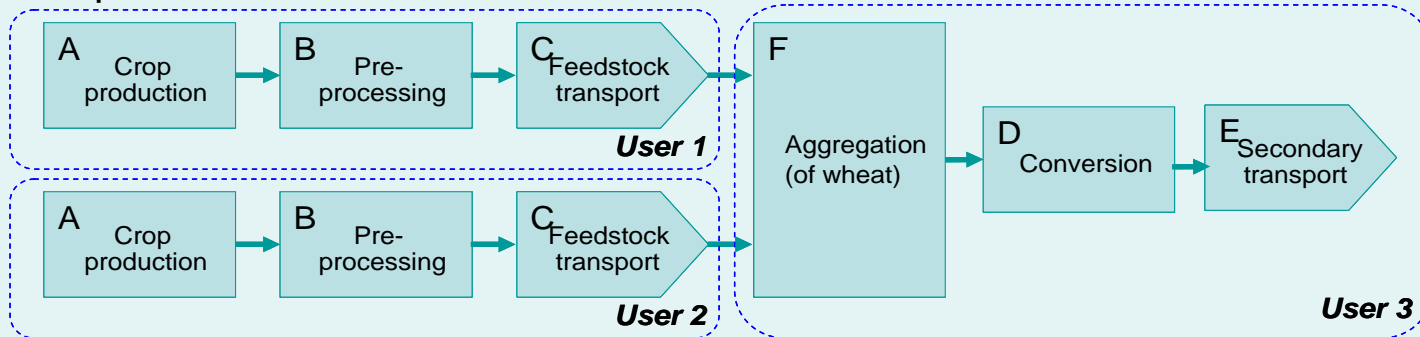
- Be funded by Government
- Produce and update methodology structure description
- Define default data used within the methodology
- Produce and periodically update user guidelines
- Provide guidance to companies on applying the methodology
- Make available calculation tools to assist companies

8 modules will be used to calculate C-intensity for any biofuel chain

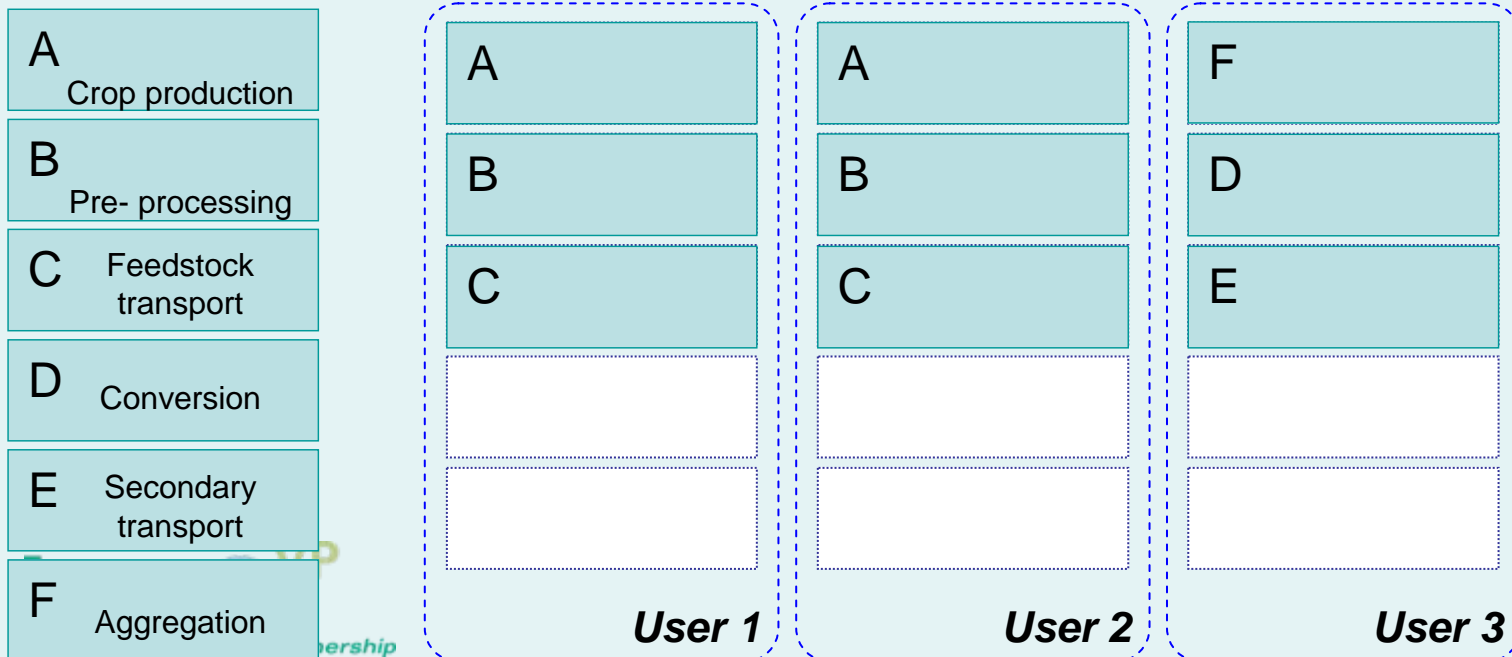


*Approach allows different users to input data at each stage of the chain to calculate the carbon footprint*

### Example fuel chain



Different users select the modules relevant to their stage of the wheat-to-ethanol chain

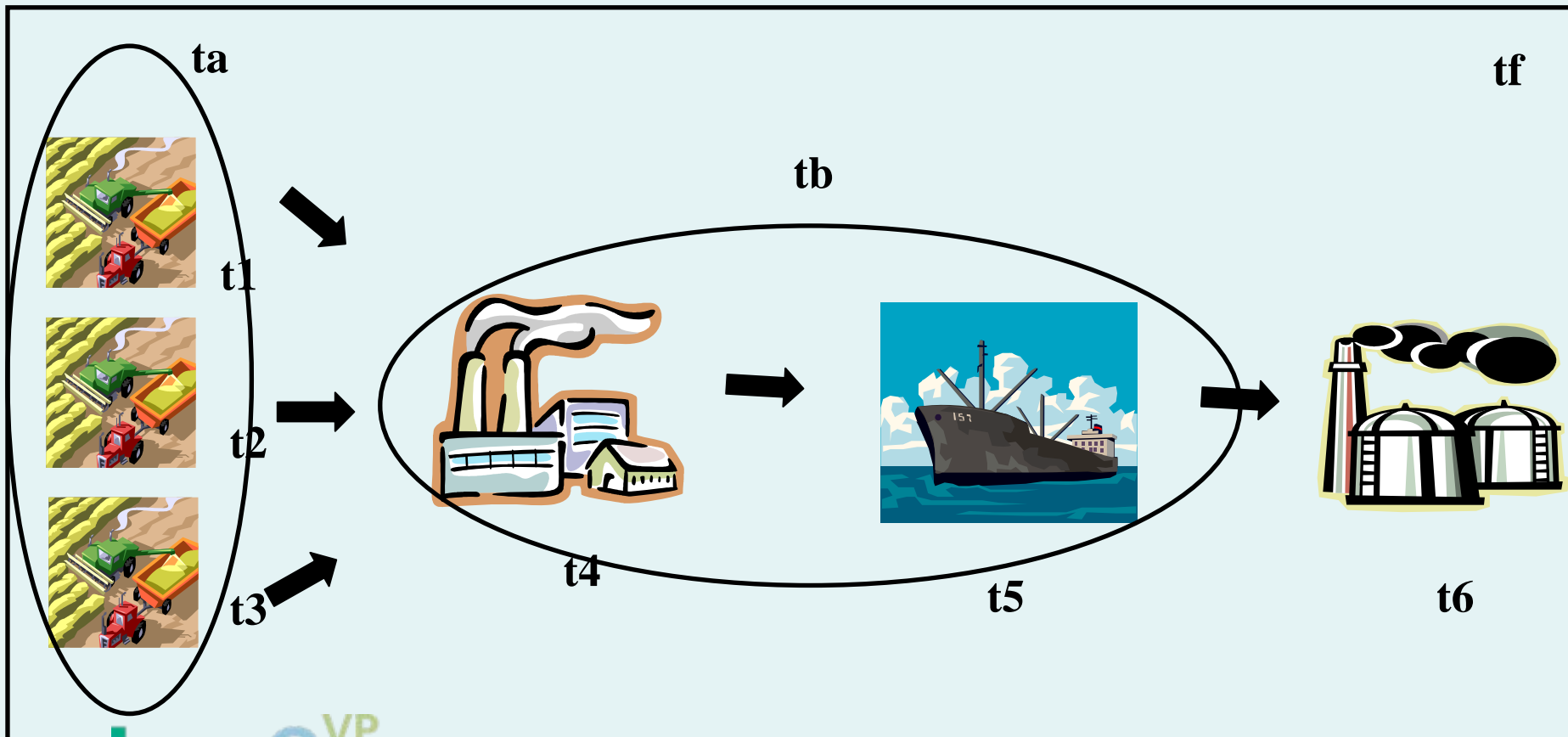


*Flexible calculation method allows detailed calculation at each stage of the production process – or use of default factors to estimate emissions*

- $T = t1 + t2 + t3 + t4 + t5 + t6$
- $T = ta + tb + t6$
- $T = ta + t4 + t5 + t6$
- $T = Tf$



**Uncertainty**





# *Environmental Assurance*

# *LowCVP Biofuels Environmental Meta-Standard*

- ❑ Provides
  - A basis for reporting the environmental performance on biofuels (RTFO)
  - A single standard against which companies sourcing biofuels in the UK and overseas can operate
- ❑ Addresses principal environmental issues only
  - 7 principles
  - 17 criteria
  - Each criteria measured by specific indicators
- ❑ Encompasses both cultivation and fuel production
- ❑ Basic and enhanced indicators
- ❑ Builds upon and assures performance through existing production schemes
  - E.g., RSPO, Basel, ACCS
- ❑ Developed by a UK-based multi-stakeholder group
  - Practical but challenging
- ❑ Work-in-progress
- ❑ Parallel standard addressing social issues to be developed

# *Environmental Principles and Indicators*

## ❑ **Conservation of Carbon**

- Protection of above-ground carbon
- Protection of soil carbon

## ❑ **Conservation of Biodiversity**

- Conservation of important ecosystems & species
- Basic good biodiversity practices

## ❑ **Sustainable Water Use**

- Efficient water use in water critical areas
- Avoidance of diffuse water pollution

## ❑ **Waste Management**

- Waste management complies with relevant legislation
- Safe storage and segregation of waste

## ❑ **Maintenance of soil fertility**

- Protection of soil structure and avoidance of erosion
- Maintain nutrient status
- Good fertiliser practice

## ❑ **Good Agricultural Practice**

- Use of inputs complies with relevant legislation
- Use of inputs justified by documented problem
- Safe handling of materials

## ❑ **Planning, Records & Improvement**

- Environmental plan for production unit
- Records maintained for operations, training and environmental impacts
- Improvement cycle based on planning and records

## *Cross compliance of standard requirements and existing schemes - Draft - work in progress*

<b>Environmental principle</b>	<b>RSPO (Palm)</b>	<b>Basel (Soy)</b>	<b>ACCS</b>	<b>LEAF</b>	<b>Rain-forest Alliance</b>	<b>EUREP-GAP IFA</b>
Conservation of Carbon	X	X	X	✓	✓	X
Conservation of Biodiversity	✓	✓	X	✓	✓	?
Sustainable Water Use	✓	✓	✓	✓	✓	✓
Maintenance of Soil Fertility	✓	✓	✓	✓	✓	✓
Good Agricultural Practice	✓	✓	✓	✓	✓	✓
Waste Management	✓	✓	?	✓	✓	?
Planning, Records & Improvement	✓	✓	?	✓	✓	?

## *Sustainability assurance schemes do not offer a panacea to mitigate harm ...*

- ❑ Existing agricultural assurance schemes are focused on food safety
- ❑ Environmental assurance in forestry has not led to tangible reductions in deforestation or improvements to management outside the certified areas
- ❑ Environmental assurance is unlikely to solve socio-environmental problems such as conflict over resources.
- ❑ Environmental assurance schemes do not protect and may discriminate against smallholders
- ❑ Scheme credibility is highly variable and dependent upon NGO participation and consultation
- ❑ Environmental assurance schemes are not an effective substitute for good governance and regulation of natural resources

## *Next steps*

- ❑ Multi-stakeholder forum to finalise components of the environmental standard
- ❑ Preparation of reporting guidance
- ❑ Agree ownership of the standard (BSI?)
- ❑ Negotiation with existing schemes for assurance of supplementary criteria
- ❑ Encourage international support for the approach
- ❑ Development of Social equivalent



## Summary

- ❑ Carbon certification & sustainability assurance are essential elements of biofuels market development to:
  - Minimise unintended, negative consequences of biofuels
  - Quantify & incentivise greenhouse gas savings
  - Maintain public and political support
- ❑ Transparent, flexible, practical methods for quantifying biofuel carbon intensity are being developed
- ❑ Trade rules may preclude excluding fuels produced unsustainably (but do allow reporting and operation of company standards)
- ❑ The UK will include reporting requirements for GHG saving and sustainability within its RTFO
  - Intention to develop incentives for low carbon intensity fuels in phase 2 post 2011/12
- ❑ LowCVP happy to share outcomes and welcomes constructive input as work develops

# The Low Carbon Vehicle Partnership

**020 7340 2690**

**[www.lowcvp.org.uk](http://www.lowcvp.org.uk)**

**[secretariat@lowcvp.org.uk](mailto:secretariat@lowcvp.org.uk)**