

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

A Sustainable Path for Biofuels in the EU
7th 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

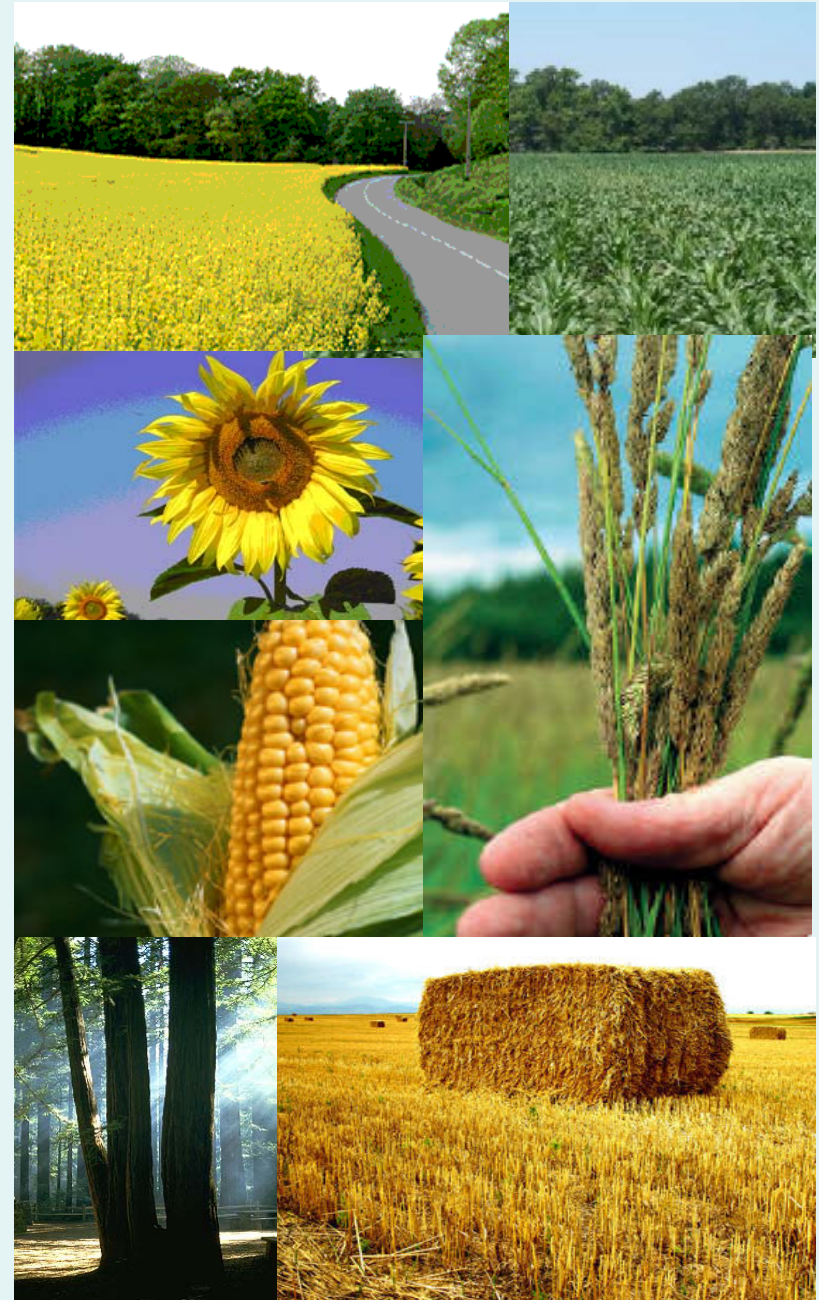
Stimulating opportunities for UK businesses

LowC^{VP}
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
- ❑ 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
- ❑ 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

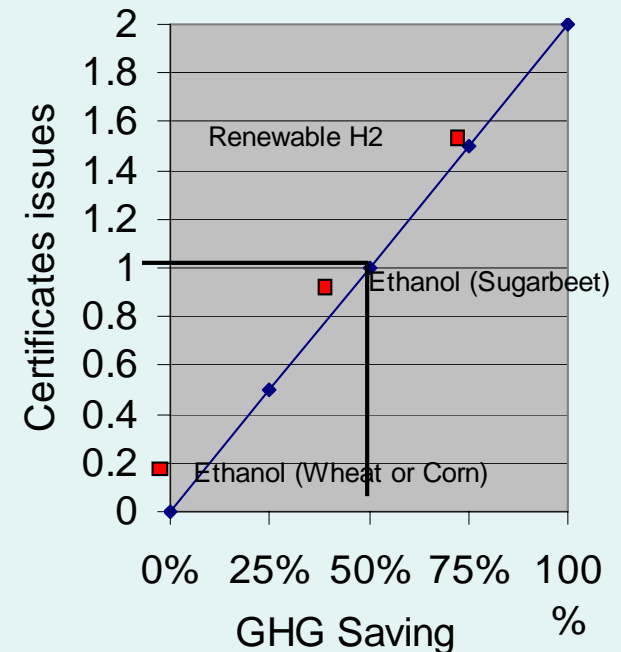
- ❑ Quota scheme for renewable transport fuels
- ❑ Will require all suppliers of transport fuels in UK to:
 - Sell a given amount of renewable transport fuel each year (for which they will receive certificates); or
 - Purchase certificates from another company; or
 - Pay a “buy-out” price of 22c/l – 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



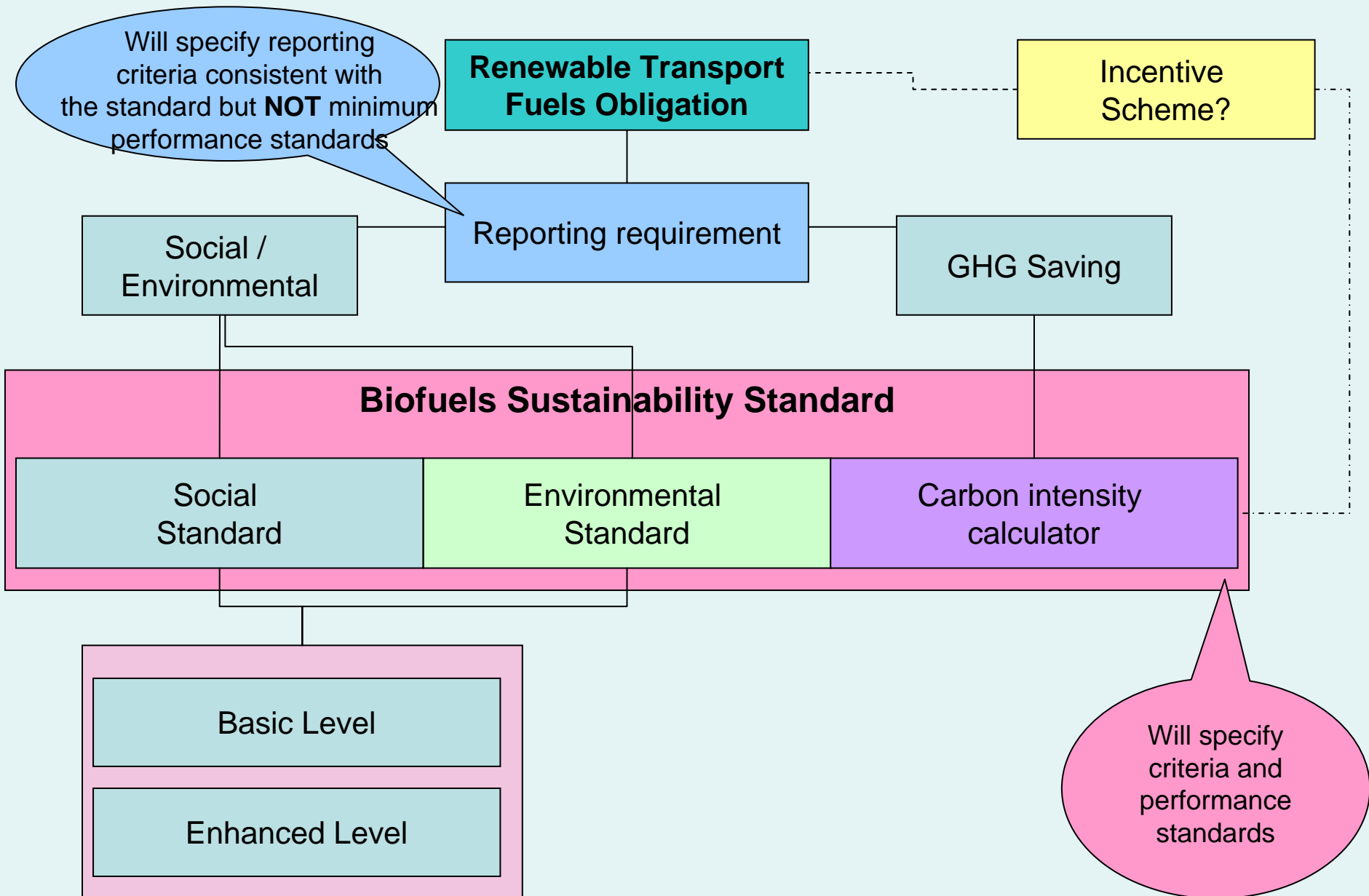
- ◆ 1 certificate for 1l fuel with 50% GHG saving
- Base-certificate

UK Government will 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 2nd 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



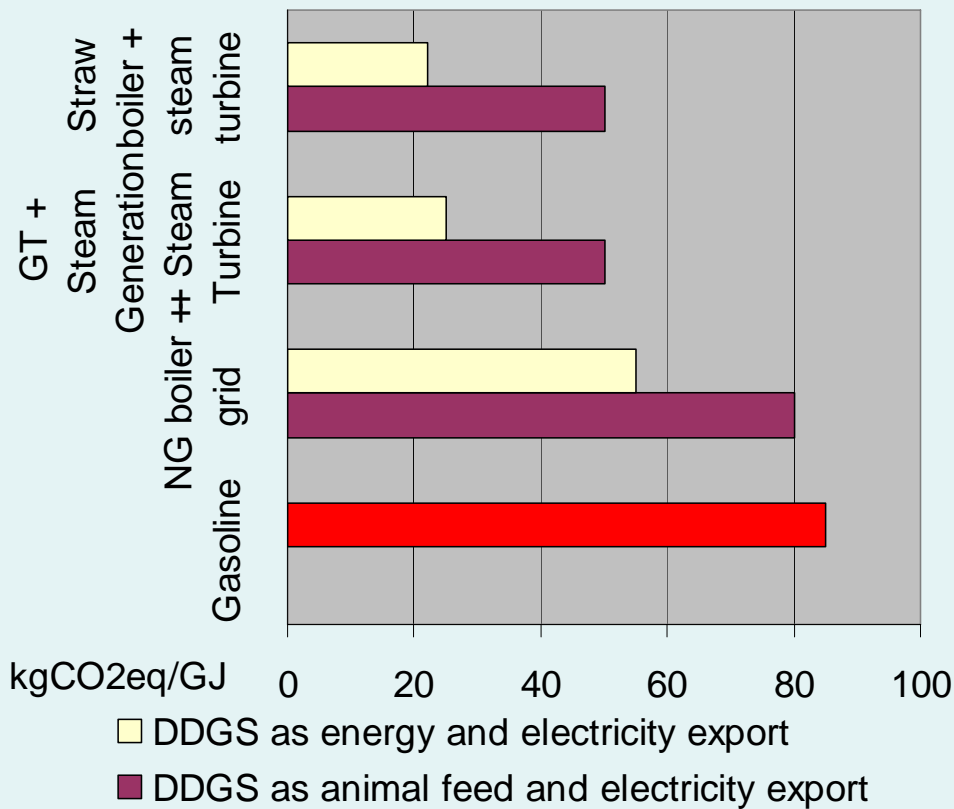
Inclusion of CC & SA within the RTFO?



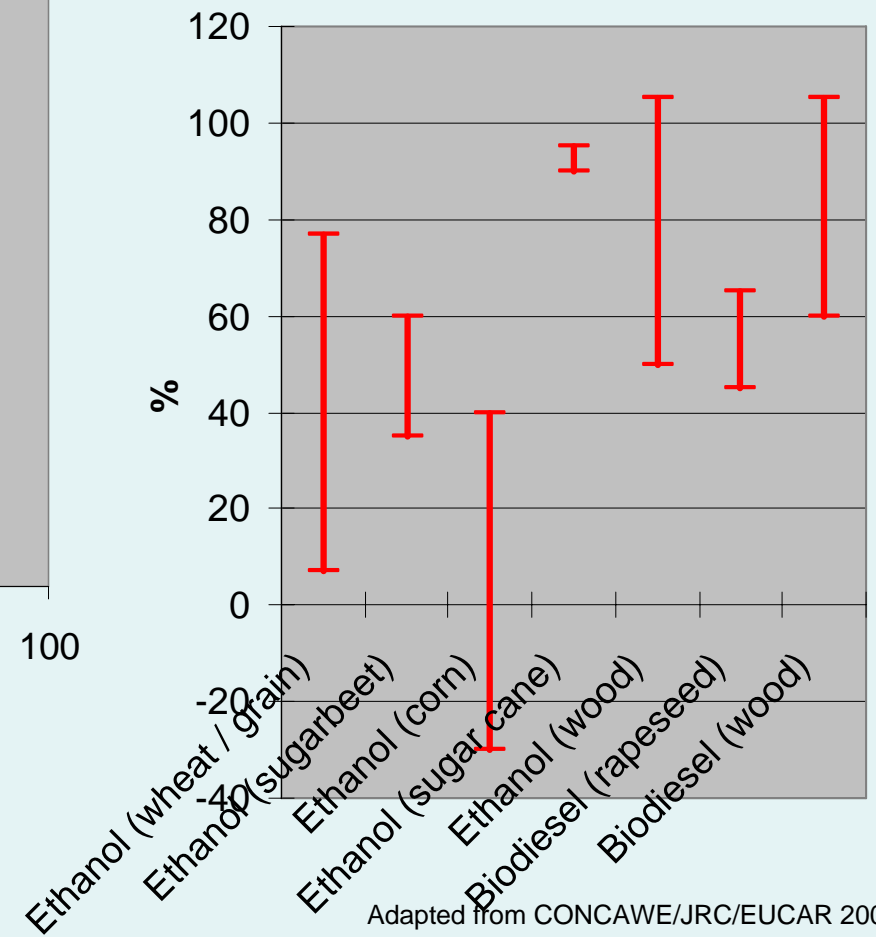
Carbon Certification

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

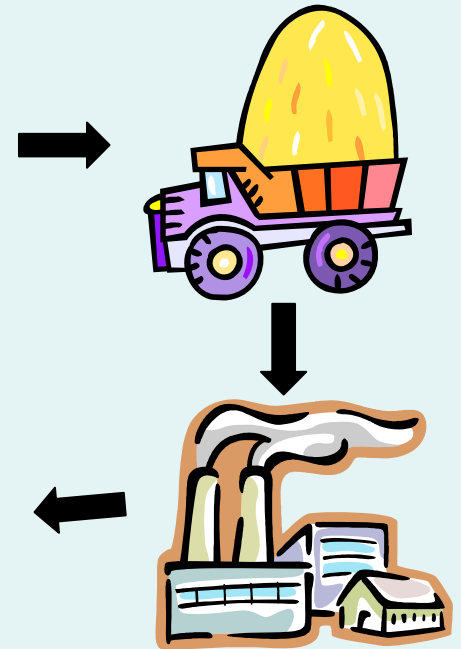
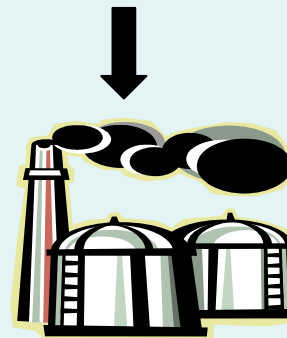


% WTW GHG savings compared to petrol or diesel



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

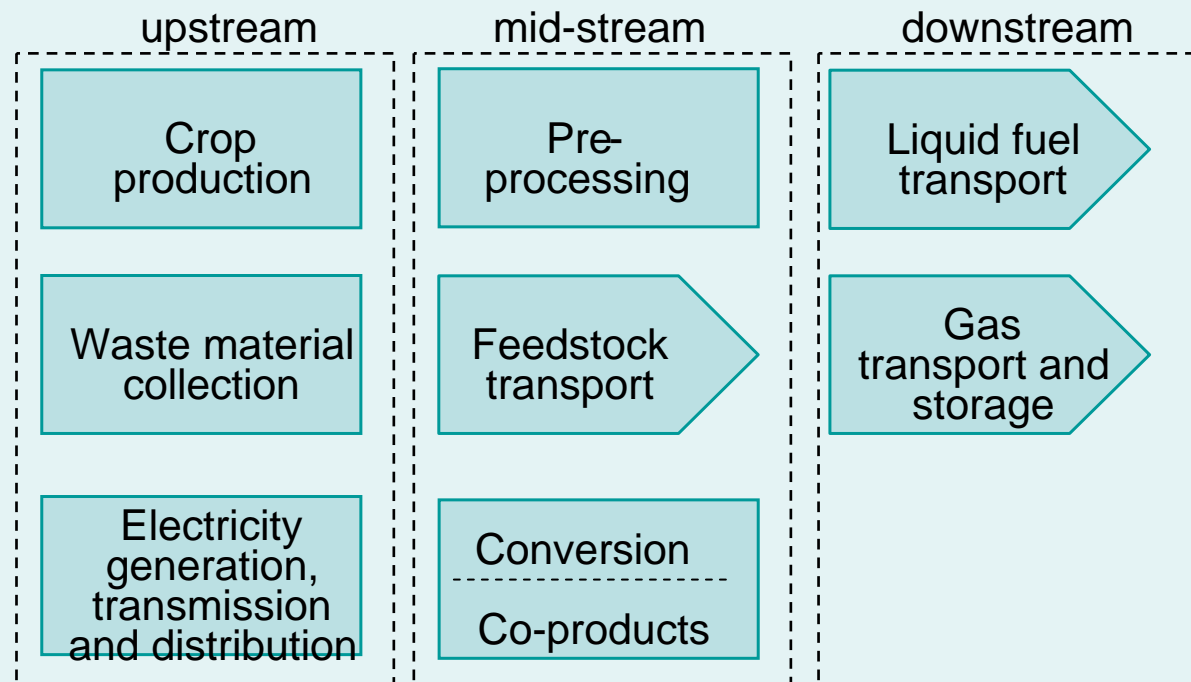
- ❑ Field to forecourt (well to tank) calculation
- ❑ Quantifies emissions at each stage of the production pathway
- ❑ Consistent for different biofuel pathways
- ❑ Transparent
- ❑ Applicable to indigenous supplies and imported fuels
- ❑ Flexible & manageable data requirements. Capacity to:
 - Calculate 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

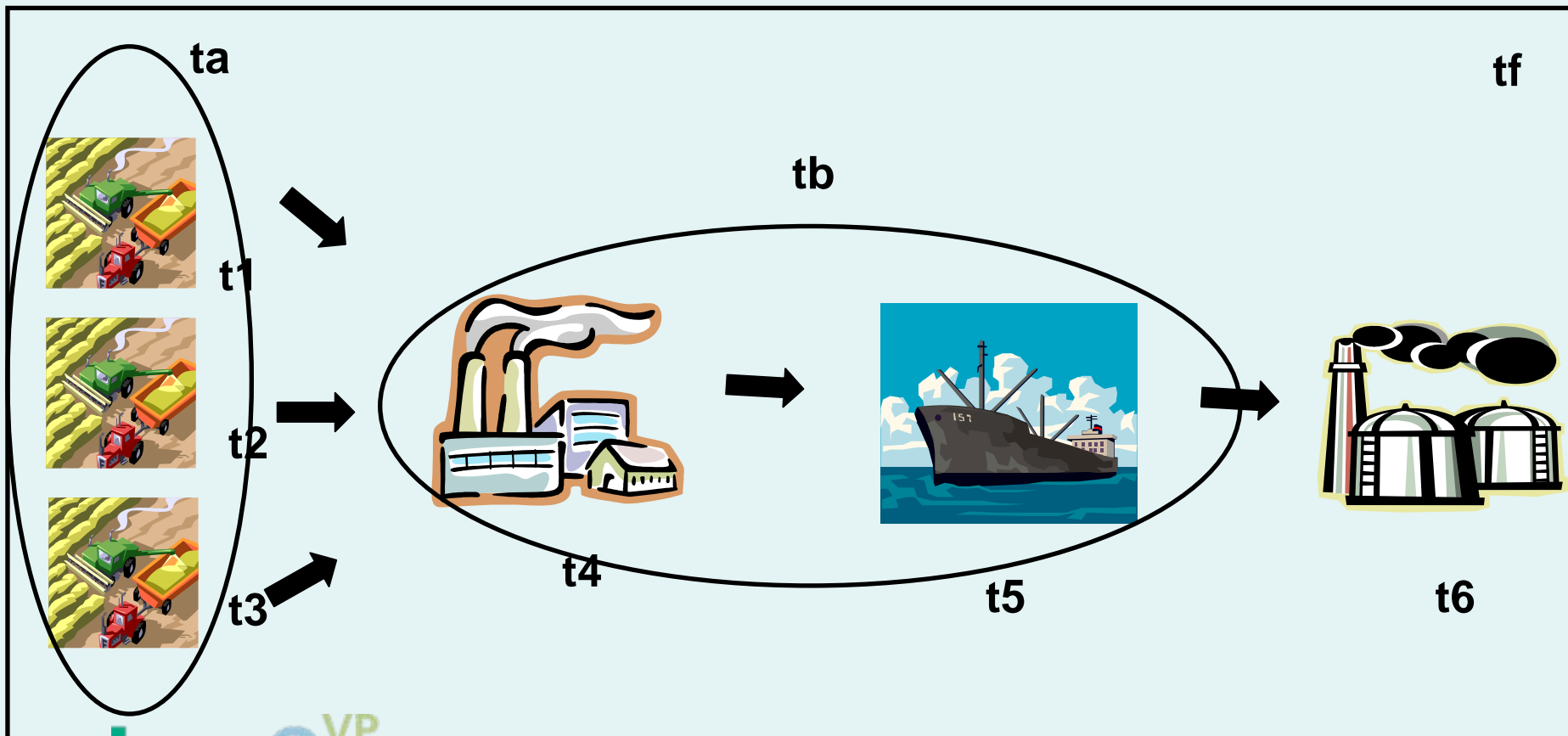


Flexible calculation method allows detailed calculation at each stage of the production process – or use of default factors to estimate emissions

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



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 Criteria

❑ **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

Environmental principle	RSPO (Palm)	Basel (Soy)	ACCS	LEAF	Rain-forest Alliance	EUREP-GAP IFA
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

secretariat@lowcvp.org.uk