

Development of Carbon Certification & Sustainability Assurance for Biofuels

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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



Why are carbon certification and sustainability assurance important?

❑ Carbon certification

- A systematic method of measuring the greenhouse gas savings (carbon intensity) of biofuels

❑ Sustainability assurance

- A means of ensuring biofuel production does not cause other forms of environmental degradation or social inequity

❑ Needed to:

- Minimise unintended, negative consequences of biofuels market development
- Quantify consistently greenhouse gas savings on a well to tank basis
- Avoid lock-in to first generation technologies
- Incentivise low carbon intensity fuels



Well to Wheel GHG savings & production costs vary widely

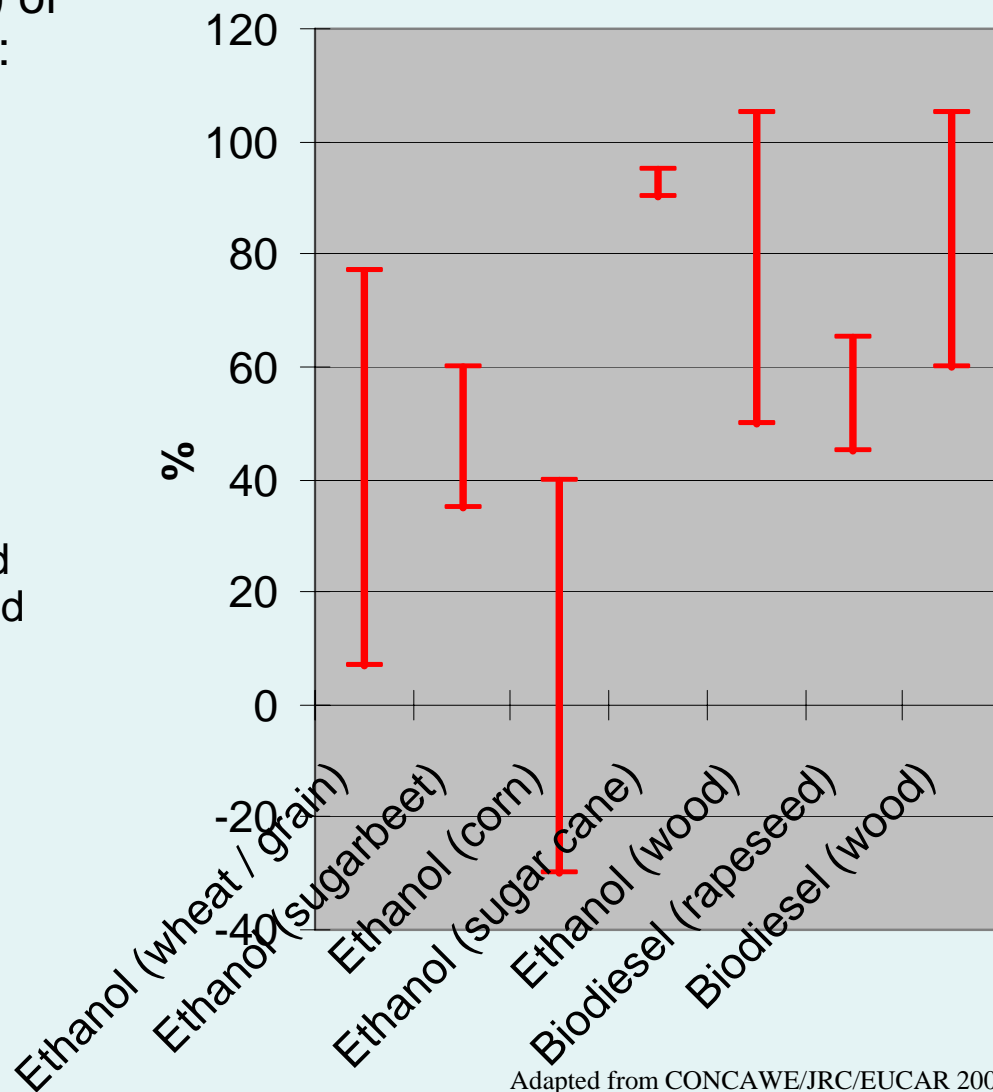
❑ GHG savings (& production costs) of biofuels vary widely depending upon:

- Feedstock
- Cultivation processes
- Production processes
- By-product use

❑ Certification of GHG savings requires development of a methodology appropriate for all fuels

- LowCVP members have reached consensus on the boundaries and methodology for C-balance calculations
- Further work has developed & tested a framework for C-certification

% WTW GHG savings compared to petrol or diesel



UK plans to introduce carbon and sustainability reporting within its Renewable Transport Fuels Obligation - RTFO

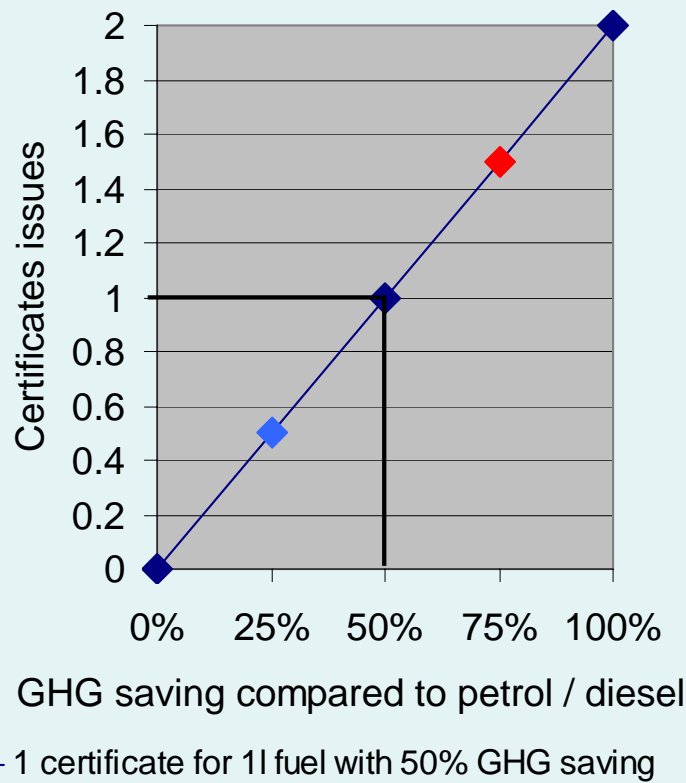
- ❑ Quota scheme for renewable transport fuels
- ❑ Will require all suppliers of transport fuels in UK to:
 - Sell a given amount of renewable transport fuel each year (for which they will receive certificates); or
 - Purchase certificates from another company; or
 - Pay a “buy-out” price estimated to be 38-45c/l
- ❑ Scheme scheduled to commence April 2008
- ❑ Target for 2010 – 5% (by volume)
- ❑ Obligated companies initially required to report on GHG savings and sustainability of supplied renewable transport fuels
- ❑ Proposal to provide incentives for higher GHG savings in Phase 2 – post 2010?



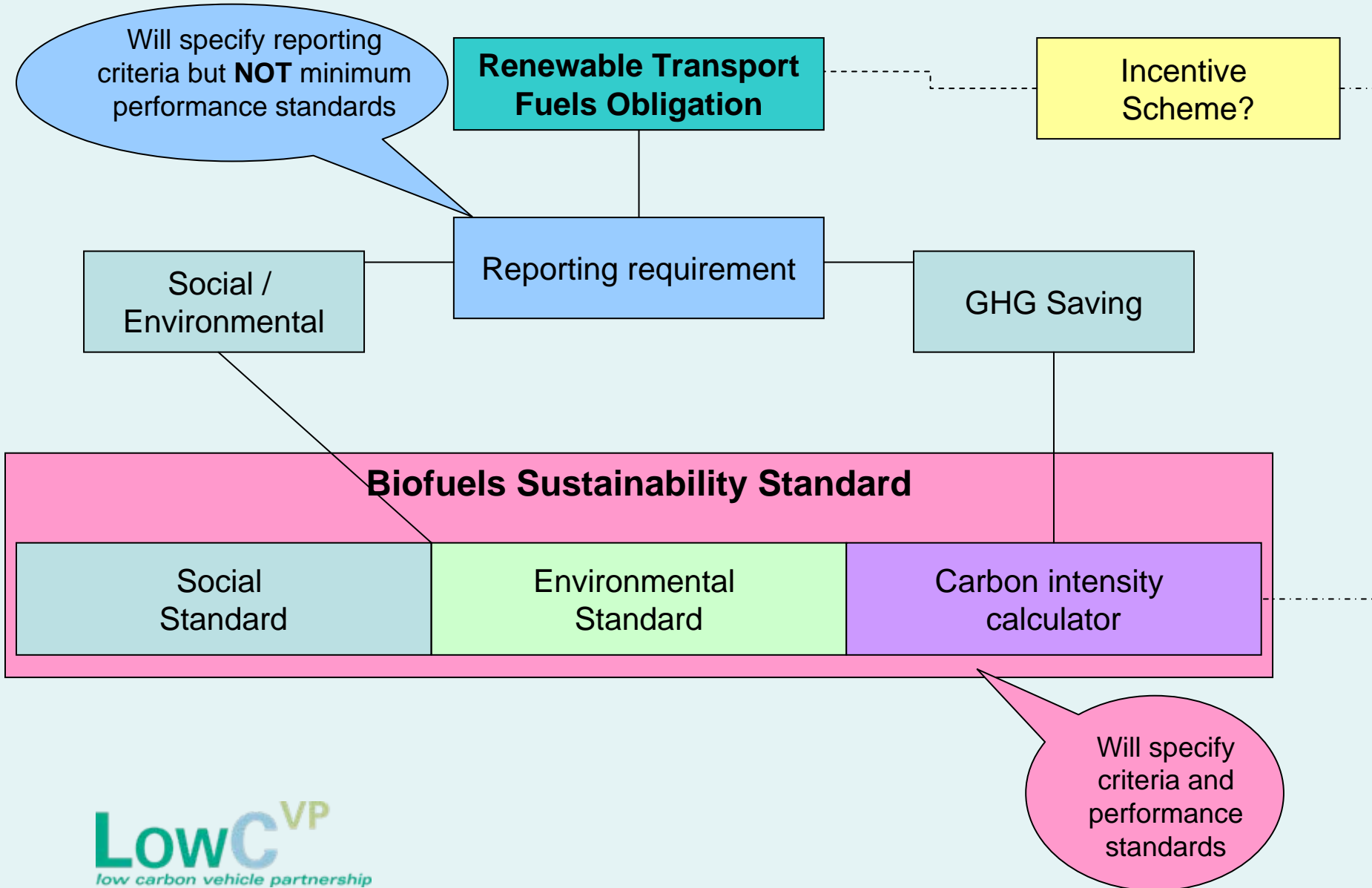
How can carbon certification and sustainability assurance be included within the RTFO?

- Initial reporting requirement will assess the scale of sustainability issues and quantify GHG saving
 - Reporting will encourage corporate social & environmental responsibility from fuel suppliers
- Robust sustainability reporting & assurance systems are needed to manage adverse social / environmental impacts
 - Mandatory requirements may breach trade rules
- A future incentive scheme would link award of RTFO certificates to the C-intensity of the biofuel
- Reporting of GHG saving is appropriate for *testing* new systems, but without incentives:
 - The market will source predominately low cost fuels - with a low GHG balance
 - £ / t C saved will be higher
 - Higher GHG saving processes are not encouraged
 - No incentives for new (including 2nd Generation) technology

Incentive scheme would link award of certificates to GHG saving

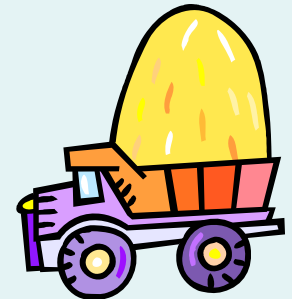


On-going LowCVP studies are developing reporting tools, criteria & (optional) performance standards



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



Summary

- ❑ Carbon certification & sustainability assurance are essential elements of biofuels market development to:
 - Minimise unintended, negative consequences of biofuels
 - Quantify & incentivise greenhouse gas savings
 - Avoid lock-in to first generation technologies
- ❑ Transparent, flexible, practical methods for quantifying biofuel carbon intensity are being developed
- ❑ Trade rules may preclude excluding fuels produced unsustainably (but do allow reporting)
- ❑ 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
- ❑ UK (& LowCVP) happy to share outcomes of research & receive constructive input from elsewhere

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