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UK experience of the Renewable Transport Fuel Obligation (RTFO) and policies to promote the development of waste-derived and advanced biofuels

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www.gov.uk/dft

- Policy overview
- The Renewable Transport Fuel Obligation
- Use of wastes
- Support for advanced biofuels

Biofuels policy - overview

- Renewable Energy and Fuel Quality Directives targets: 10% renewable energy in transport and 6% GHG reduction in fuel emissions in 2020.
- UK: transposed both Directives through amendments to the Renewable Transport Fuel Obligation (RTFO) Order 2007 and Motor Vehicle GHG Regulations. RTFO: **road transport fuel suppliers must ensure 4.75% of fuel comes from renewable sources.**
- Only biofuels that comply with **sustainability criteria** are included; guaranteeing minimum GHG savings compared to fossil fuels.
- Current provisions **do not** address indirect land use change (ILUC) impacts of biofuels. EU negotiations ongoing since 2012 expected to conclude early next year.

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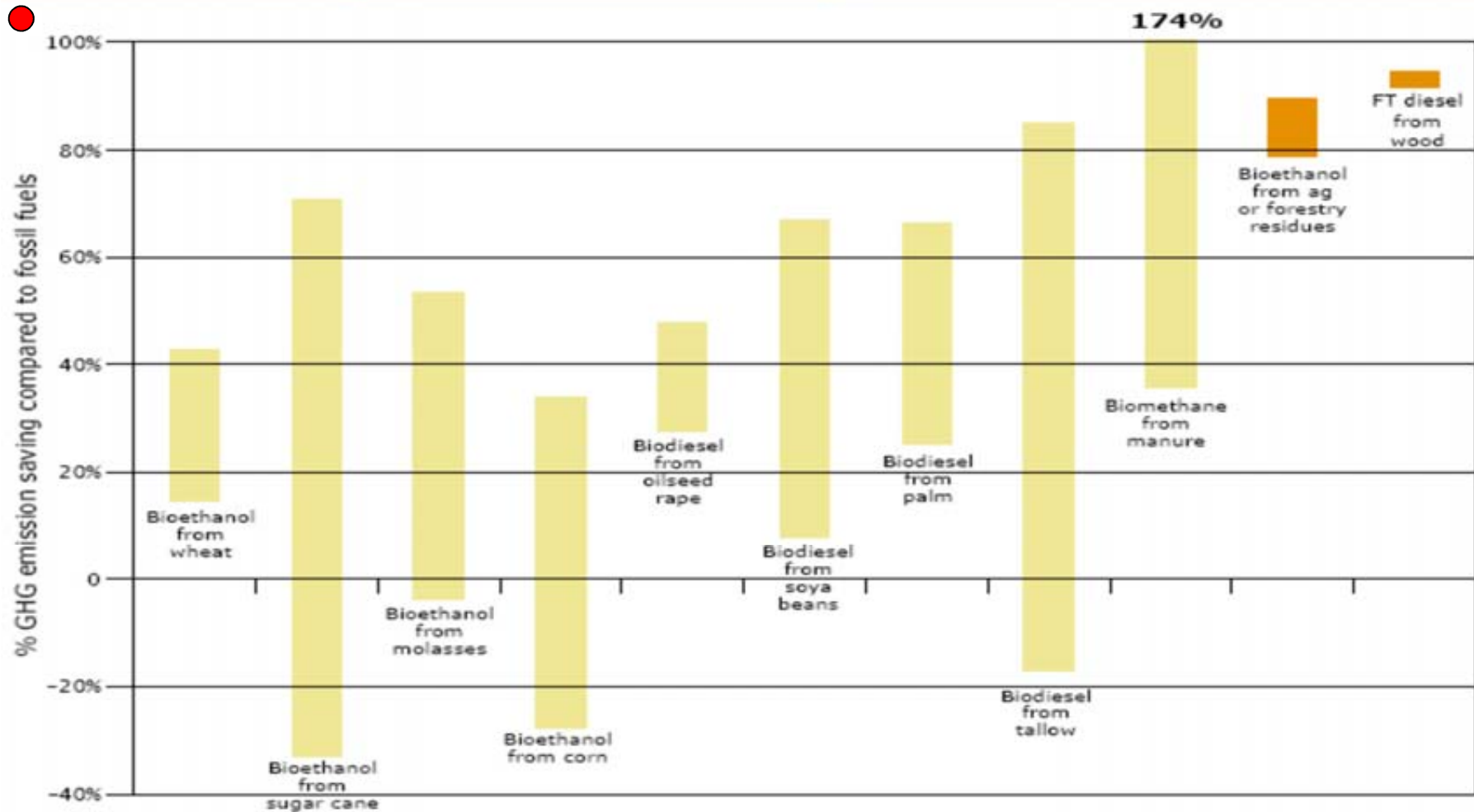
- **Renewable Transport Fuel Obligation**: UK's regulatory tool for encouraging biofuels
- Implemented in 2007 following initial duty rebate for biofuels in response to European Biofuels Directive
- Intended initially to cut carbon
- Amended in 2008 to deliver Renewable Energy Directive



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Not all biofuels are equal

Figure 2.2: Estimated GHG savings of current biofuels





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Solution: regulate for sustainability



- RTFO designed originally to cut carbon
- Offers some protection: habitat loss, deforestation
- Sets minimum level of sustainable biofuel from fuel suppliers:
 - 35% minimum GHG saving
 - Not made from land with high biodiversity value
 - Not made from land with high carbon stock
- Had voluntary targets since the outset (2008)
- Mandatory sustainability was introduced in December 2011

Compliance: voluntary schemes

- Suppliers can report a consignment of fuel through a “VS” to demonstrate compliance
- VS provide the main route of compliance
- VS should be recognised through the EC process
- UK only accepts EC approved schemes

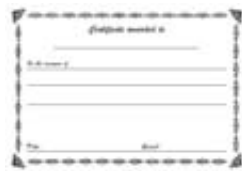




How is the RTFO met?

- Suppliers of over 450,000 litres of fuel have to meet their obligation
- They do this by:

Supplying
biofuel and
earning
certificates



Buying certificates
from others who
have supplied the
fuel



Paying the
'buy-out'
price



Biofuels 2013/14 RTFO results (provisional)

- **1,744m litres of biofuel** supplied (up from 1,340m litres in 2012/13);
- 2013-14: **3.5% of UK road transport fuel biofuel**; 78% data so far verified (2013-14).
- 49% of fuel was made from a waste/non-agricultural residue feedstock.
- 21% of the fuel was sourced from UK feedstocks.
- An **aggregate greenhouse gas saving of 70% compared to fossil fuels** was achieved. This figure excludes emissions from indirect land-use change.
- **99% of fuel** was sourced from a voluntary sustainability scheme. International Sustainability and Carbon Certification (ISCC) most common (89% of fuel).

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Definition of a waste

- If materials are used that already have other uses in the economy we get the same displacement effects that have caused such issues with crops.
- RTFO has an application process where we look at how the material is produced, and what its value and alternative uses are.
- Seeing more and more interest in different materials, particularly as UCO sources diminish.



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Waste materials double-count

- Recognition of benefits of waste based biofuels in RED
- Introduced in UK December 2011
- Waste based fuels ~50% of biofuels supplied into UK in 2012-13





- In the RTFO we use a “list” system (positives and negatives) to add new waste materials.
- The policy is to encourage waste-derived fuels in the UK, as well as to help harmonisation across EU Member States

Table 3 - Wastes & processing residues		
Material	Description	Valid from
Waste wood	The treatment of waste wood in the RED GHG calculations makes clear it is to be treated as a waste/residue. The Environment Agency's statement (see the link below) provides guidance on the distinction between forestry residues and waste wood: http://www.environment-agency.gov.uk/static/documents/Research/PS_005_Regulation_of_wood_v3.0.pdf	15/12/11
Used cooking oil (UCO)	Commonly called 'UCO' or 'WCO' (waste cooking oil), this is purified oils and fats of plant and animal origin. These have been used by restaurants, catering facilities and kitchens to cook food for human consumption. They are wastes as they are no longer fit for that purpose and are subsequently used as either feedstock for the production of biodiesel as fuel for automotive vehicles and heating or as a direct fuel. The following documents underpin the Environment Agency's regulation of the process of producing biodiesel from UCO: http://www.environment-	15/12/11

Wastes – positive and negative

Policy Benefits

- GHG saving
- no / lower ILUC
- no biodiversity threat
- no / lower food conflict

Producer benefits

- double counting
- low cost feedstock
- lower sustainability requirements

Regulatory risks

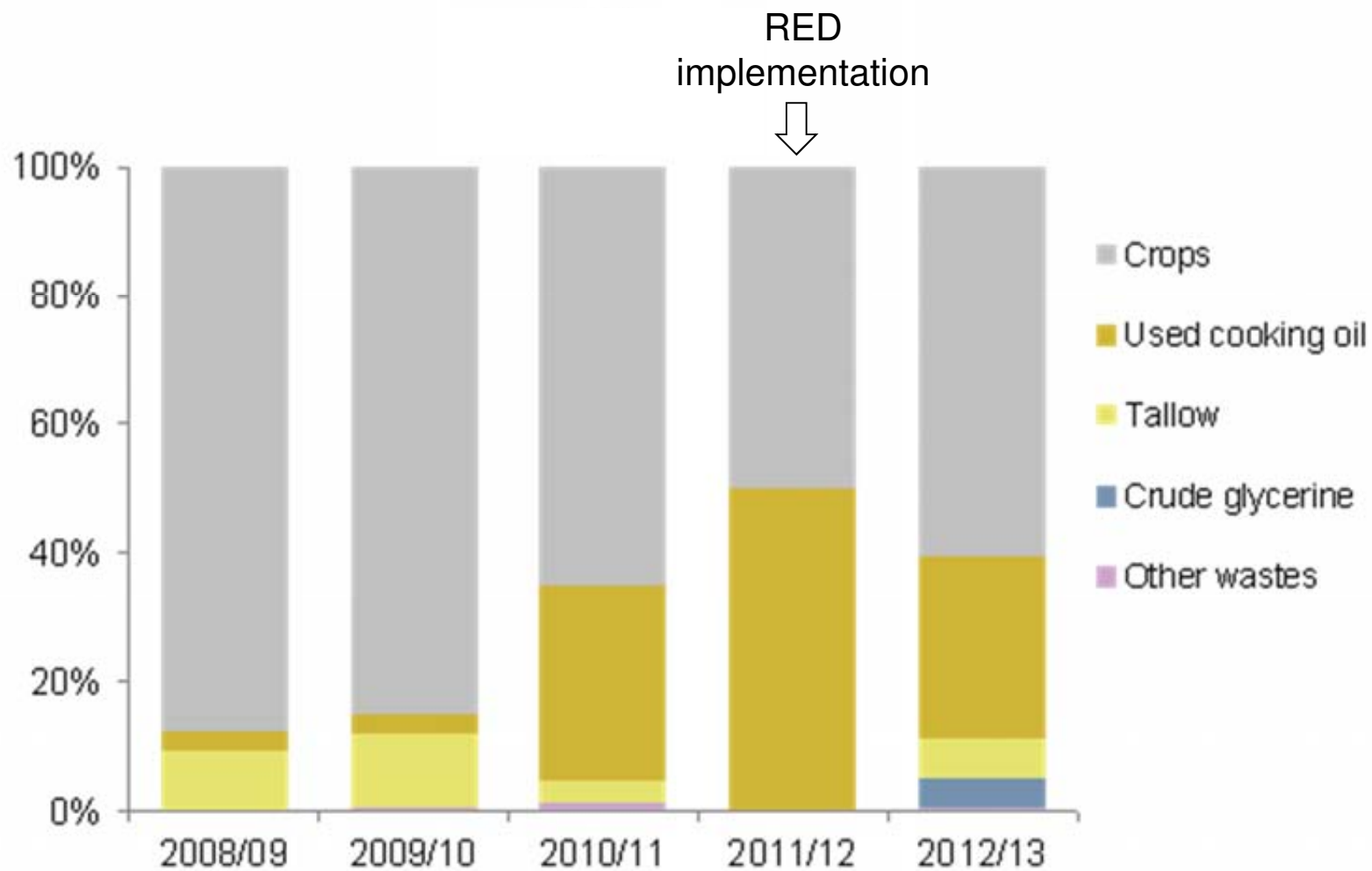
- incentive for fraud
- not waste might mean unsustainable feedstock
- no physical tests



- potential to undermine the policy



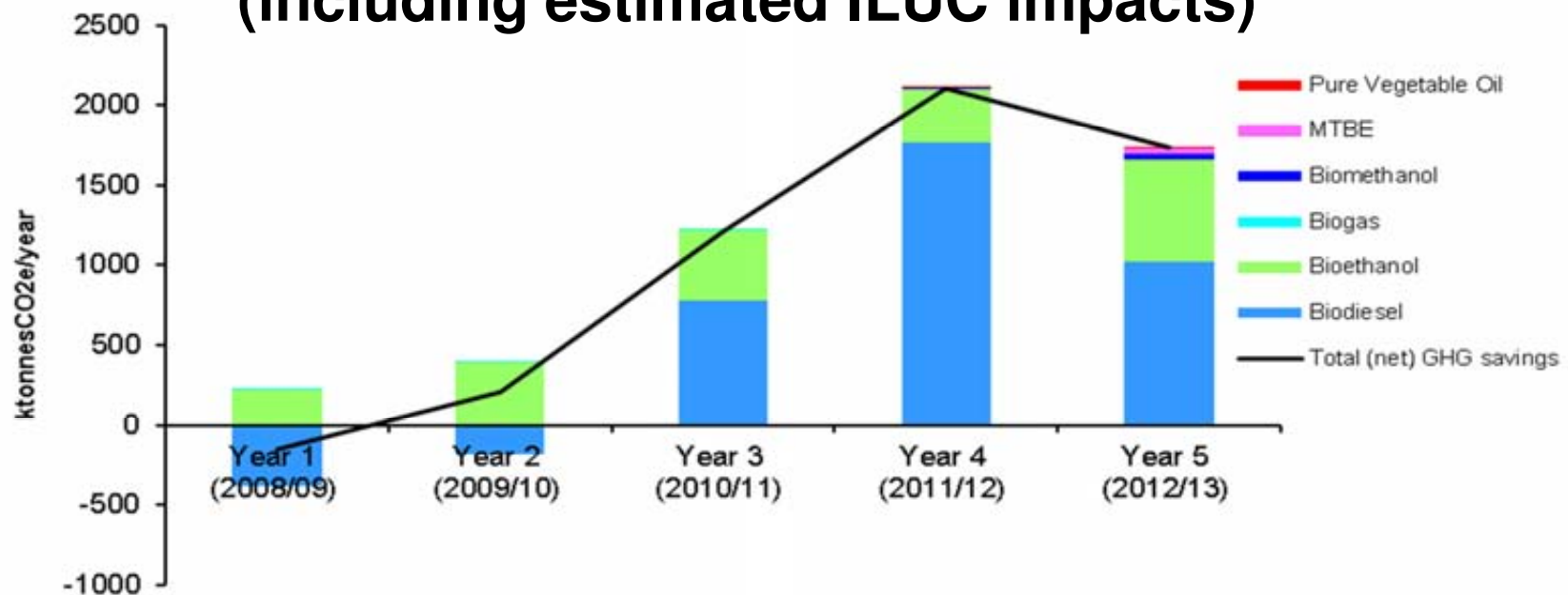
. . . fewer crops, more waste





Double counting impact on GHG savings

Total biofuel GHG savings (including estimated ILUC impacts)



Average RTFO GHG Savings (including estimated ILUC impacts)

Year 1	Year 2	Year 3	Year 4	Year 5
-5%	5%	33%	55%	60%



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Overview

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Investing in Advanced fuels

£25m advanced biofuel demonstration competition

- To support development of at least one UK plant from 2015-18
- Launch later this year, expressions of interest, then formal bids to be assessed spring 2015 and contracts awarded next summer

Call for evidence on other means to encourage UK advanced biofuels – policy mechanisms, transport sectors



New green fuels in the spotlight

“. .it's crucial we develop sustainable low-carbon fuels so that we can keep Britain moving while meeting our emissions targets. Britain has a wealth of expertise in this field . . . We are asking for evidence on what this high-tech sector can do to decarbonise transport and create new, green jobs.”

Baroness Kramer

<https://www.gov.uk/government/news/new-green-fuels-in-the-spotlight>

UK Demonstration competition

- Designed to demonstrate advanced technologies at a significant scale.
- Opportunity for UK to develop capability in advanced biofuel production
- **The cost of providing capital support for an advanced fuels industry is likely to prove worthwhile whatever the precise nature of the EU target framework.**

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Looking ahead:

- Focus on wastes and advanced
- General election 2015
- Finalise policy options for 2020



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