

# **ECAs for biofuels**

## **A stakeholder discussion document**

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October 2004



HM TREASURY





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# INTRODUCTION

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**1.1** Budget 2004 announced that HM Government would hold informal stakeholder discussions on a proposal to introduce an Enhanced Capital Allowance (ECA) scheme for the most environmentally-beneficial biofuels processing plants.

“Budget 2004 confirms that to focus support further on the very best biofuels technologies, the Government will be discussing with stakeholders the application of ECAs to support investment in the most environmentally beneficial biofuels processing plants”

**1.2** This purpose of this paper is to outline how an ECA scheme for biofuels could work and request views on this proposal from interested stakeholders.

**1.3** An ECA scheme is one economic instrument that can encourage businesses to invest in designated technologies that can benefit the environment through for example, reductions in greenhouse gas emissions or more efficient use of water. They also send a clear signal to markets that can encourage innovation and the development of new technology. An ECA scheme may also help to support other measures introduced to encourage more sustainable growth.

**1.4** The Government recently consulted on its broader biofuels policy as part of implementation on an EU Directive on the promotion of biofuels and other renewable fuels. A number of respondents confirmed that an ECA scheme would be a helpful Government measure to support the development of industry. However, some suggested that ECAs would only be attractive to very well established companies, and that they were more relevant for bioethanol than for biodiesel (mainly because of the higher capital costs associated with bioethanol production). This paper therefore aims to detail further those consultation responses. It is prepared as the basis for informal discussions with stakeholders over the coming months, and contact details for relevant officials can be found at the end of this paper.

**1.5** Further information on HM Government's policy on energy use for transport can be found in the documents listed at Annex B.



## Background

**2.1** Biofuels offer a number of benefits over conventional mineral fuels, which make them attractive as alternatives for the transport sector. The benefits include greenhouse gas reductions including reduced carbon dioxide emissions, which will contribute to domestic and international targets, the diversification of the fuel sector, potential (albeit limited) air quality benefits, and an additional market for agricultural products.

**2.2** The Energy White Paper (EWP) identifies liquid biofuels and hydrogen as the most promising candidates for tomorrow's low carbon transport fuels. In the longer term, significant use of biofuels could offer large carbon savings. Biofuels also have the advantage that, unlike other potential future low-carbon transport fuels such as hydrogen, they can be used as direct substitutes for conventional fuels without the need for new vehicles or refuelling infrastructures. In some circumstances, they can be used neat, but are more commonly used as a blend (usually up to 5 percent) with conventional fossil fuels.

There are a **variety of biofuels** potentially available but the main ones are outlined below.

**Biodiesel** is the only type of biofuel currently on sale in the UK. It can be used neat but is more generally used as a blend in conventional diesel. It can be produced from a number of sources including recycled waste vegetable oil and oil crops such as rapeseed and palm.

**Bioethanol** can be blended into petrol where it offers air quality as well as carbon benefits. Bioethanol can be produced from a number of crops including wheat and sugar beet. Future technologies may allow bioethanol to be produced from a variety of source materials including wood, grass, straw and green waste.

**Biogas** can be used instead of compressed natural gas to power gas vehicles offering excellent air quality benefits as well as carbon savings.

## Current policy and the UK Market for Biofuels

**2.3** The Government's approach to incentives for alternative fuels is contained in the Alternative Fuels Framework, published in the Pre-Budget Report 2003 (see Annex B). The Government's primary aim in deciding on duty rates for alternative fuels is the environmental impact, although other factors, including social and economic impacts, will also be taken into account when setting duty rates.

**2.4** The Framework also announced that the Government would give rolling three-year certainty to duty rates for alternative fuels, in order to provide the necessary stability, confidence and market conditions for investors.

**2.5** Within this framework, the UK has already taken a number of steps to promote the uptake of biofuels. The main support to date has been through fuel duty incentives. A 20 pence per litre duty incentive on biodiesel has been in place since July 2002, and a similar duty incentive for bioethanol will be introduced from 1 January 2005. This policy has seen sales of biodiesel increase rapidly, and sales are currently running at some 2 million litres a month.<sup>1</sup>

**2.6** The Department for Transport also recently consulted on setting targets for biofuels consumption in the UK for 2005 and 2010 (see Annex B). Part of this consultation invited views on a possible Biofuels Obligation, which would require fuel producers to blend a fixed percentage of biofuels within petrol or diesel.

**2.7** The Government is also discussing with stakeholders the possible benefits of input-based taxation for biofuels.

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<sup>1</sup> Details of monthly sales figures are available via [www.uktradeinfo.com](http://www.uktradeinfo.com).

## ENHANCED CAPITAL ALLOWANCES

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**3.1** Capital allowances allow the cost of capital assets to be written off against the taxable profits of a business.

**3.2** First-year allowances (FYA) is the name given to specially increased rates of allowances. They are some times also called Enhanced Capital Allowances (ECA). FYAs allow a greater proportion of the cost of an investment to qualify for tax relief against a business's profits of the period during which the investment is made. They bring forward the time tax relief is available for capital spending, and can encourage investment through a cashflow boost. Schemes include 100% ECAs for designated energy-saving technologies, water-efficient technologies and cars with low carbon dioxide emissions.

### How may a scheme work?

**3.3** To focus support on the best installations and maximise the benefits to the environment, a scheme for 100% ECAs could be targeted on biofuel manufacturing installations that achieve an “environmentally beneficial” level of performance in terms of greenhouse gas savings. The ECA scheme for energy-saving technology provides a model where spending on a Combined Heat and Power (CHP) installation that has been certified as “Good Quality” can qualify for ECAs. More detailed and technical information on this scheme is provided at Annex A.

**3.4** In the case of a Biofuels ECA, the key requirement would be a qualifying standard based on a life cycle assessment (LCA) of a production plant that delivers greenhouse gas savings over and above traditional methods. Traditional production methods for biodiesel and bioethanol, including the growing of UK crops, deliver greenhouse gas equivalent savings of around 55%. If, for example, straw from the feedstock is used to produce the energy for the process then the GHG saving increases to over 70%. ECAs could be targeted at biofuel manufacturing plants delivering this enhanced environmental benefit. As with the CHP model, qualifying plants would need to be clearly defined. ECAs could be targeted on qualifying plant and machinery where the production of the biofuel uses renewable by-products from any form of biomass or any other renewable (such as the straw from oilseed rape, forestry woodfuel by-products, sewage sludge etc) or any other renewable source (such as wind, tidal, solar etc) to produce the energy to run the process. Generic data exists which could form much of the evidence to demonstrate the greenhouse gas savings necessary to meet the qualifying standard.

**3.5** A Biofuel Technology List could list the plant and machinery making up a biofuel installation that could qualify for ECAs. Where a plant meets the published standard of environmental benefit, Defra would issue a “certificate of environmental benefit” which would allow the business to claim ECAs on the spending incurred on the equipment on the List. If the design of the plant changes during development, the development ceases, the scheme is not built in accordance with the certified design or the on-going monitoring showed that production plant no longer met the required standards the certificate would be withdrawn. Where a certificate is revoked, it would be treated as never having been made and any ECAs claimed would be recovered.



# 4

## QUESTIONS

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1. Who might be interested in investing in biofuel manufacturing plant?
2. To what extent, would Enhanced Capital Allowances provide a worthwhile benefit to encourage investment in the most environmentally-beneficial biofuel plant and why? Would the same considerations apply to biofuel companies who were not able to utilise the ECAs themselves?
3. What data/evidence do you have to support any arguments for the introduction of an ECA scheme for environmentally-beneficial Biofuels?
4. How would ECAs interact with other measures to encourage investment in biofuel manufacturing plant?
5. A definition of "environmentally-beneficial biofuel plant" and the plant and machinery that can make up such an installation are key to any ECA scheme delivering benefits to the environment.
  - What do you see as the critical factors, issues and considerations that should be included in a definition?
  - How would these factors translate into a detailed statutory definition of "environmentally-beneficial biofuel plant", for the purposes of an ECA scheme?
  - What level of carbon savings can be effectively certified and monitored?
6. Are there any other comments you wish to make on this proposal?



# 5

## NEXT STEPS

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**5.1** Officials from relevant departments (HM Treasury, Defra, DfT and the Inland Revenue) will be discussing this proposal informally with stakeholders over the next few weeks, and will also be happy to receive any written representations from stakeholders.

**5.2** Should you wish to contribute to those discussions, please contact [Laura.Butler@hm-treasury.gov.uk](mailto:Laura.Butler@hm-treasury.gov.uk)



# A

## EXAMPLE OF A ECA

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### Capital allowances - Rates of allowance

**A.1** Capital allowances allow the costs of capital assets to be written off against a business's taxable profits. They take the place of depreciation charged in the commercial accounts. Commercial depreciation is not allowed for tax. The main rates of allowances for expenditure on plant and machinery are: -

**A.2** 25% a year on the reducing balance basis for general spending on plant and machinery

**A.3** 6% a year on the reducing balance basis for plant and machinery with a useful economic life when new of more than 25 years (long-life assets).

### ECAs and Good Quality CHP

**A.4** The ECA scheme for energy-saving technology provides a model where spending on a Combined Heat and Power (CHP) installation that has been certified as "Good Quality" can qualify for ECAs. Broadly speaking, energy-saving plant and machinery is that listed on the Energy Technology List<sup>2</sup>.

**5.3** For the purposes of ECAs, CHP is energy-saving plant and machinery if it is certified as "Good Quality CHP" under the quality assurance scheme for CHP (CHPQA<sup>3</sup>), and has been granted a "certificate of energy efficiency". The CHPQA administrators are responsible for assessing whether CHP is "good quality" and issuing the certificates of energy efficiency. Certificates for CHP installations are issued following the CHP Quality Assurance standard.

**A.5** The Energy Technology List lists the plant and machinery making up a certified CHP installation that can qualify for ECAs.

### Certificates of energy-efficiency

**A.6** A certificate of energy-efficiency may be issued by the Secretary of State for Environment, Food and Rural Affairs, or by a person authorised by him. Alternatively, certificates of energy efficiency may be issued by the Devolved Administrations, or by persons authorised by them, if the plant or machinery is to be used in their region. The certificate verifies that the particular plant and machinery, or plant and machinery that is or will be constructed to a particular design meets the specified energy-saving criteria.

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<sup>2</sup> Available of the ECA website [www.eca.gov.uk](http://www.eca.gov.uk).

<sup>3</sup> The CHPQA programme (<http://www.chpqa.com>) is carried out on behalf of the Department for Environment, Food & Rural Affairs, in consultation with the Scottish Executive, the National Assembly for Wales, and the Northern Ireland Department of Enterprise, Trade and Investment.

## Revocation of certificate of energy-efficiency

**A.7** A certificate of energy efficiency can be revoked in certain circumstances. For example, this could happen for CHP if the equipment is certified at the design stage and the:

- design of the CHP scheme changes during development, (although this need not prevent the revised design from being certified), or
- the development ceases, or
- the scheme is not built in accordance with the design certified under CHPQA.

**A.8** Where a certificate of energy efficiency is revoked, it is treated as never having been made. No ECAs are due, and any ECAs that have already been given can be recovered by whatever assessments and adjustments may be needed.

**A.9** More detailed information can be found on the ECA website ([www.eca.gov.uk](http://www.eca.gov.uk)) and the CHPQA website (<http://www.chpqa.com>).

# B

## FURTHER INFORMATION

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**B.1** The Alternative Fuels Framework is contained in Pre-Budget Report 2003, at chapter 7 ([www.hm-treasury.gov.uk/media//27D6D/pbr03chap7\\_145.pdf](http://www.hm-treasury.gov.uk/media//27D6D/pbr03chap7_145.pdf))

**B.2** The Department for Transport's consultation document on the Biofuels Directive can be found at [www.dft.gov.uk/roads/biofuelsconsultation](http://www.dft.gov.uk/roads/biofuelsconsultation)

**B.3** The Energy White Paper can be found at [www.dti.gov.uk/energy/whitepaper/index.shtml](http://www.dti.gov.uk/energy/whitepaper/index.shtml)