



EUROPEAN COMMISSION

Brussels, 05-03-2003
C(2003)640fin

**Subject: State aid N 299/A/2002 - United Kingdom
Green Fuel Challenge pilot project - Methanol**

Sir,

1. PROCEDURE

- (1) By letter dated 8 April 2002, registered on 12 April 2002, the United Kingdom notified its intention to introduce an excise duty exemption for a pilot project on methanol. By letters dated 2 May 2002 and 17 June 2002 the Commission requested further information, part of which the UK government provided by letters dated and registered 31 May 2002 and 7 October 2002. A meeting was held between the Commission's services and the UK authorities on 3 September 2002.
- (2) By letter dated 19 December 2002, the Commission requested additional information, which the UK authorities provided by letters dated 30 January 2003 and 5 February 2003.

2. DESCRIPTION OF THE MEASURE

2.1. The Legal Base

- (3) The UK government intends to stimulate the research and development of more environmentally friendly fuels by supporting pilot projects under the Green Fuel Challenge initiative through duty exemptions or reductions. The Green Fuel Challenge was announced in the November 2000 Pre-Budget report. The UK government identified a number of road fuels (including hydrogen, methanol, bioethanol and biogas) which could potentially offer significant environmental benefits in the medium to longer term. The UK

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government announced that it would support research and development into these alternative fuels, which demonstrated the benefits and would explore the production issues of the same. The information generated from these projects would also inform policy decisions on the longer-term duty rates for these fuels.

- (4) The UK legislation allowing for a differentiated duty rate to be applied to experimental fuel-testing pilot projects is contained within section 3, UK Finance Act 2001, inserting a new section 20 AB into the Hydrocarbon Oil Duties Act 1979.

2.2. The Notified Measure

- (5) The UK government wants to introduce the duty exemption on basis of Article 8(2)(d) of Council Directive 92/81/EEC. This article allows Member States to apply total or partial exemptions or reductions in the rate of duty to mineral oils or other products intended for the same uses which are used under fiscal control *"in the field of pilot projects for the technological development of more environmentally-friendly products and in particular in relation to fuels from renewable resources"*. The proposed state aid would thus consist of a 100% excise duty exemption, set at £ 0.4582 (€ 0.7013) per litre, on the methanol produced.
- (6) The total aid amount is measured as the tax revenue forgone and is estimated to be maximum at £ 3,666,000 (€ 5,610,652) during 5 years (2003-2007).
- (7) The project to be supported under the programme was selected following an open tender procedure in the framework of the Green Fuel Challenge. To meet the eligibility criteria, projects must adhere to the following strict requirements :
 - (a) Pilot : the pilot must be a non-commercial scheme, designed to (i) demonstrate the environmental performance of a fuel ; (ii) provide cost information relevant to consideration of longer-term duty rates ; and (iii) identify and assess any practical barriers that would have to be overcome before the fuel was viable ;
 - (b) Timescale : the pilot is limited to 5 years ;
 - (c) Clear output : the project must have a specific output relevant to the area that is being piloted, including environmental assessment with independently verified data, where appropriate ;
 - (d) Exit strategy : projects must have a planned date for project completion and a date when the pilot duty concession will end. Progress will be formally reviewed against an agreed work programme at regular, six monthly or less intervals. Any duty concession may be withdrawn at any time if, for example: (i) it is clear that the pilot is not delivering against the agreed work programme ; (ii) it becomes clear that against pre-determined criteria,

the pilot is delivering no environmental benefits and/or shows no prospect of delivering environmental benefits in the longer term; or
(iii) the pilot is being used for improper purposes.

- (8) A fuel-testing project was defined as a pilot project connected with the technological development of environmentally friendly fuels. The details of the project must be submitted to the Commissioners of Customs and Excise in advance of the duty concession and the Commissioners will provide the company with formal, written approval before the duty concession begins.

2.3. The Beneficiary

- (9) Zero-M is an SME¹ established in Chalfont St Peter, Buckinghamshire. Zero-M is a fuel technology company pioneering the research, development and introduction of new methanol based fuels systems. The Company was established in 2001 to commercialise the resulting concept of using methanol as both a renewable energy store and a transport fuel. The use of methanol as a transport fuel is expected to reduce the greenhouse gas emissions and dependence on fossil fuel.

2.4. The Project and the Company

- (10) The aim of the project is to prove the efficacy of methanol as a clean and practical mainstream transport fuel. The company predicts that the study will notably prove reductions in emissions of particulates NOx and CO₂. The pilot also aims to provide robust data relating to emissions, durability and reliability.
- (11) Methanol used in internal combustion engines offers potential reductions in emissions of the major air pollutants compared with existing diesel vehicles, and potential reductions in lifecycle greenhouse gas emissions compared with both diesel and petrol. The use of methanol as a road fuel can therefore be seen as a small but important part of the UK Government's contribution to meeting the Kyoto commitment to reduce greenhouse gas emissions.
- (12) Because comparatively little data are currently available on the environmental benefits of the use of pure methanol in internal combustion engines, Zero-M intends to provide an indication of the environmental impacts of using near 100% methanol blends in retrofitted (and perhaps also new) compression ignition engines. In particular, the pilot will produce data on tailpipe emissions of a range of regulated and non-regulated air pollutants and greenhouse gases. The pilot project will also provide information on the issues that arise from the handling and use of methanol as an alternative road fuel.
- (13) The pilot project specifically aims at testing engines and to developing engines that can use methanol better. It is expected that a cumulative total of

¹ OJ L 107, 30.4.1996, Commission Recommendation of 3 April 1996 concerning the definition of small and medium-sized enterprises

1390 vehicles will be involved in the pilot consisting of 530 taxis, 230 rigid commercial vehicles, 530 vans and 100 articulated lorries in London and the Home Counties. These vehicles will be phased in over the five years of the pilot as they are converted to methanol.

- (14) By testing the possibilities to use methanol in the UK's transport industry as a clean and efficient substitute for conventional diesel fuel, Zero-M aims to help bridge the gap between today's polluting fossil fuels and the zero emission hydrogen economy of the future. Hydrogen is emission free when used in a fuel cell vehicle, thus there are no NOx or CO2 emissions. Methanol is a leading candidate to provide the hydrogen necessary to power fuel cell vehicles.
- (15) The balance of methanol in the finished fuel will be between 83-93 per cent. The percentage will vary as the pilot is partly aimed at discovering the best fuel mixture to use.
- (16) Although methanol used by the Zero-M project will be made from natural gas, the UK authorities claim that the pilot project prime the development of new technology to test whether renewable methanol can be made viable.
- (17) The UK authorities confirm that the running and requirements of the project will be reviewed every six months. The project will be subject to strict record keeping and reporting requirements and Customs will have the power to end the project if it finds that the terms of the projects are not being complied with. The information required will include normal accounting documentation and the company will also be required to complete returns at the end of each quarter, including: (i) opening stock of experimental fuel; (ii) feeder stocks used during period; (iii) quantities of experimental fuel produced; (iv) disposals of (including losses) experimental fuel; (v) experimental fuel used in the premises; (vi) closing stocks of experimental fuel; and (vii) amount of duty that would have been due.
- (18) Zero-M estimates that the Green Fuel pilot project will lead to the creation of about 35 jobs during the course of the pilot trials.
- (19) According to the UK authorities, Zero-M costs directly linked to the R&D activity amounts to £8.235 million over the period 2003-2007. The main costs incurred are related to engine conversions, personnel and refuelling plants and are in compliance with annex II of the R&D framework.² The costs breakdown as well as the timetable for duty concession are further detailed in the following table :

² Community framework for State Aid for Research and Development, OJ C45, 17.2.96

Amounts in thousands of £	2003	2004	2005	2005	2007	Total
Personnel costs	200	300	400	400	400	1,700
Plant & Equipment costs						
Conversions of engines	210	1,130	1,770	0	0	3,110
Refueling Plant	140	410	405	30	0	985
Engine development	150	80	0	0	0	230
Additional overheads						
Finance costs	0	60	155	220	120	555
Distribution costs	50	100	150	0	0	300
Legal costs	50	50	50	50	50	250
Insurance	15	50	50	50	50	215
Office	25	30	40	40	40	175
Other operating expenses						
Emissions testing	135	60	60	60	60	375
Trial operation	100	100	100	20	20	340
Total costs	1,075	2,370	3,180	870	740	8,235
Duty forgone	116	834	883	905	928	3,666

3. ASSESSMENT OF THE MEASURE

3.1. Procedure

- (20) By notifying the aid before putting it into force, the UK Authorities complied with their obligation as set out in article 88 (3) of the EC Treaty.

3.2. State aid within the meaning of Article 87(1) of the EC Treaty

- (21) Since the exemption from paying the excise duty relieves the company concerned from an expenditure it would normally have to bear, the relief has to be considered as aid within the meaning of Article 87(1) of the EC Treaty and therefore its compatibility has to be assessed.
- (22) The object of the notified State aid measure is to stimulate R&D in the field of more environmentally friendly products and fuels. Therefore, this measure will be assessed in the light of the Community Framework for State aid for Research and Development³, hereafter "the R&D framework".

3.3. Compatibility of the aid measure

3.3.1. Introduction

- (23) In its communication to the Council and to the Parliament⁴, the Commission pointed out that to prepare for the implementation of the Kyoto Protocol, actions must be taken in all sectors and at all levels if the EU is to comply with its Kyoto commitment. Since CO₂ emissions from the transport sector

³ OJ C 45, 17.02.1996

⁴ Commission Communication to the Council and the Parliament, "Preparing for Implementation of the Kyoto Protocol", COM (1999) 230, 19 May 1999

are expected to increase by 39% in 2010 from the 1990 level and are therefore a main contributor to greenhouse gas emissions, the measure notified by United Kingdom is in line with EU policy objectives.

- (24) According to Directive 92/81/EEC⁵, total or partial exemption of duty to mineral oils under fiscal control can be granted in the field of pilot projects for the technological development of more environmentally-friendly products in so far as they do not give rise to distortions of competition.
- (25) Regarding the fossil fuel market, the proposed measure will not give rise to undue distortion of competition since methanol is not a substitute to conventional fuels in the transport sector. Moreover, methanol used in the pilot project will amount to a maximum of 8,000,000 litres over 5 years, or 0.02% of the methanol consumption in EU market, based on EU 2001 consumption of 7.6 million of tonnes in 2001⁶. The tax relief on methanol also concerns only a limited number of converted vehicles in London and the Home Counties.
- (26) The Commission also notes that the technical viability of converted gasoline engines running on nearly pure methanol in the transport sector has not yet been established. The project is innovative in the sense that it will address technical and practical barriers that have to be overcome before the technical feasibility of the use of methanol can be established. These include engine performance and reliability as well as health and environmental concerns for the transport, distribution and manipulation of methanol. The project will also provide new information on the environmental benefits of using methanol in such converted engines. The Commission estimates that this pilot project is also particularly innovative by the diversity of vehicles that are tested. This includes taxis, rigid commercial vehicles, vans and articulated lorries.
- (27) The project is limited to demonstrating the technical or technological feasibility of using nearly pure methanol in converted gasoline engines and assessing its environmental performance. The duty concession may be withdrawn if the pilot is not delivering against the agreed work programme, if there are no environmental benefits or if the pilot is being used for improper purposes.
- (28) From the above, the project is to be assessed as a pilot project that is aimed for the technological development of more environmentally-friendly products. It can therefore benefit from the exemption provided for in Article 8(2)(d) of Directive 92/81/EEC.
- (29) According to the UK authorities, Zero-M has been selected further to an open tender that was widely advertised and non-discriminatory. Applications from companies within and outside the UK have been submitted and all of

⁵ OJ L316 of 31.10.92, Council Directive 92/81/EEC of 19 October 1992 on the harmonization of the structures of excise duties on mineral oils

⁶ Source : Methanex 2001 annual report

them have been judged fairly on the basis of giving the best value for money according to published criteria. The Commission therefore considers that the aid given to Zero-M is set to the minimum for implementing the project.

- (30) The Commission notes also that the project will lead to the creation of about 35 jobs during the course of the pilot trail.

3.3.2. *Compliance with the R&D framework*

- (31) Annex I of the R&D framework defines three stages of R&D activities, respectively known as "*fundamental research*", "*industrial research*" and "*precompetitive development activity*". Zero-M's pilot project falls within the category "precompetitive development" as it concerns a pilot project not for commercial gain.
- (32) The proposed costs cover personnel, plant and equipment, as well as additional overheads and other operating expenses directly linked to the R&D activities. They are in line with the eligible costs set in annex II of the R&D framework. Moreover, Customs and Excise will monitor those costs every six months to make sure that the duty concession is not used for improper purposes and that costs remains in compliance with annex II of the R&D framework.
- (33) According to point 5.5 of the R&D framework, the permissible gross aid intensity for precompetitive development activities is set at 25%. The UK authorities have confirmed that Zero-M is an SME in accordance of the Community SME definition. Consequently an extra 10-percentage point can be given (point 5.10.2 of the R&D framework). Moreover, since the results of the project will be published and made available upon request on third parties, the Commission allows a further increase of 10-percentage points according to point 5.10.4 c of the R&D framework. The Zero-M project can therefore benefit from a maximum aid intensity of 45%.
- (34) As regards the incentive effect of R&D aid, the Commission assumes, according to point 6.4 of the R&D framework, that the aid provides a necessary incentive if the recipient is an SME.
- (35) Based on a reference discount rate of 5.42%, the project has a discounted gross intensity of 42.86%, within the 45% ceiling allowed for the project.
- (36) Since the aid remains within the maximum aid ceiling, as defined in section 5 of the R&D guidelines, and since the incentive effect of aid is implicit for SMEs, the measure can benefit from the exemption of EC Article 87 (3) (c) according to section 3.6 of the R&D framework.

4. **Decision**

- (37) On the basis of the foregoing assessment, the Commission considers that the present aid is subject to the exemption of Article 87 (3) (c) of the EC Treaty, destined to facilitate the development of certain economic activities without affecting trading conditions to an extent contrary to the Community interest. The Commission has accordingly decided to consider the State aid consisting

in an excise tax reduction in favour of the pilot project to be compatible with the EC Treaty. However, the Commission underlines that the assessment has been made based on the facts that the project is strictly limited to a pilot project and limited in time, with no possibility of extension. Therefore, this decision does not prejudge the line the Commission may take in the future.

- (38) The UK authorities have made a commitment to monitor closely that the project meets the requirements of the agreed pilot. In an event of non-compliance, the authorities will amend or cancel the granted tax exemption. The Commission would also like to remind the UK authorities that prior notification must be given of any change in the conditions under which aid is granted. Moreover, the UK authorities are requested to submit an annual report on the implementation of the project.
- (39) If this letter contains confidential information, which should not be disclosed to third parties, please inform the Commission within fifteen working days of the date of receipt. If the Commission does not receive a reasoned request by that deadline, you will be deemed to agree to the disclosure to third parties and to the publication of the full text of the letter in the authentic language on the Internet site: http://europa.eu.int/comm/secretariat_general/sgb/state_aids/. Your request should be sent by registered letter or fax to:

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Yours faithfully,

For the Commission

Mario MONTI

Member of the Commission