Actual measurements demonstrate that F-gas containment is already working.

Brussels, 3rd March 2004 - The European Fluorocarbon Technical Committee (EFCTC) is disappointed by the inaccuracy of a recent study published by CAN Europe, which claims that F-Gas containment has already failed. The study misinterprets published data, fails to recognise the success of existing emission reduction schemes that are in place in Europe, and does little to help move the debate on F-gases, currently being considered by the European Parliament, forward. In 2003, CAN had to revise data that they published because it grossly exaggerated HFCs' contribution towards climate change.

The EU-wide Regulation on Fluorinated gases, proposed by the European Commission, which seeks to harness emission reduction, is strongly supported by EFCTC. Central to this Regulation is containment of fluorinated gases, from refrigeration and air-conditioning equipment. The approach proposed by the Commission is based on comprehensive data[1] from the containment programme already in place in the Netherlands[2]. This clear and practical evidence was also assessed as part of the final report of the European Climate Change Programme [3] but was unfortunately overlooked by CAN.

"Accurately presenting data is vitally important. Unfortunately in this case CAN has missed an important opportunity to encourage containment; a positive step that is already helping to protect the environment." Commented Dr Nick Campbell Chairman of EFCTC (European Fluorocarbons Technical Committee). "The Dutch refrigerant containment programme, known as STEK has been operational in the Netherlands since 1991, and clearly shows what can be achieved in terms of emission reduction. Leakage rates in the Netherlands, as a result of this programme, have significantly improved and are now on average around 5%. Importantly 92% of the installations have no emission at all".

Campbell continues: "It is important to note that STEK takes no account of the energy efficiency benefits that the use of F-gases can provide, which serve to offset the global warming impact of these reduced levels of leakage. Furthermore, amendments to the Commission proposal, taking into account training & certification, reporting of data and checking equipment, serve to further enhance containment measures developed in part from the Dutch Programme".

Automotive air-conditioning

EFCTC recognise that emissions from Mobile Air-conditioning deserve special attention. Although the global warming impact of today's systems is already 90% lower than equivalent technology used in the 1990's, the automotive sector is working hard to further reduce leakage - direct from their systems in use, during servicing and at end of life. This potential for improvement presented by 'enhanced HFC134a' systems has been recognised by the Commission in its recent proposal.

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[1] http://www.europa.eu.int/comm/environment/climat/pdf/eccp_containment_measures.pdf
[2] STEK, Utrecht, June 2001
[3] This programme proposed a range of cost-effective proposals to help the EU meet its emission reduction target under the Kyoto Protocol. The ECCP process carried out thorough assessment of the fluorinated gases and was undertaken by all the stakeholders, government, industry, environmental NGOs and academia.

Data presented by the Commission alongside the proposed Regulation shows emission rates of about 13 to 18%. These data are based on a range of studies including practical measurement of losses from 300 vehicles in the EU up to 7 years old[4]. This information is reinforced by atmospheric measurements from both the Northern and Southern hemisphere[5], which when compared with independently calculated emissions from all sources, are consistent with a rate of loss from Mobile Air Conditioning of a maximum of 14%.

The F-gas proposal and some of the Amendments presented by the Environment Committee conclude that conventional HFC 134a systems should be phased out in Mobil Air Conditioning but to a timetable that allows industry to select the most appropriate alternatives, including CO_2 and HFC 152a. The proposal and some amendments recognise that containment does have a role in reducing emissions, both by setting limits on emission rates, from conventional MAC systems and by encouraging the introduction of 'enhanced HFC 134a systems', with considerably lower leakage rates.

The 'containment has failed' paper presented by CAN exaggerates the Commissions emission data by 100%, for conventional MAC systems. It also neglects to take into account that emissions from 'enhanced 134a systems will be about half those of conventional systems.

Refrigerant Containment is key whatever the choice

An emphasis on containment is essential whatever refrigerant is chosen. HFCs have a global warming potential if released, hydrocarbons are flammable, ammonia is toxic if released and carbon dioxide (CO_2) operates at significantly elevated pressure. For refrigeration and air-conditioning systems, using any these refrigerants, to operate effectively, safely and efficiently, emissions must be minimised. If refrigeration and air-conditioning companies are to develop technology to meet the demands of society it is important that they have a choice of refrigerant to meet those needs.

[4] Final Report on Establishing the Leakage Rates of Mobile Air Conditioners (B4-3040/2002/337136/MAR/C1) Prepared for the European Commission (DG Environment) by Winfried Schwarz (Öko-Recherche) & Jochen Harnisch (Ecofys) 17. April 2003.

[5] The information here was used in *Scientific Assessment of Ozone Depletion 2002* and is published in *Atmospheric Environment 37(7)*, 889-902, 2003. 2 McCulloch, A., P. Midgley and P. Ashford. Releases of refrigerant gases (CFC-12, HCFC-22 and HFC-134a) to the atmosphere.

Although there have been a choice of refrigerants available for many applications for some time, HFCs are considered by many as the most appropriate choice based on overall technical performance, environmental impact and safety, in the vast majority of applications. As global warming gases their responsible use has long been recognised. An emphasis on containment within the Commission Proposal and in the amendments being considered by the Parliament's Environment Committee will enable freedom of choice to use the most appropriate refrigerant whilst ensuring their emission is significantly reduced.

END.

[Attachment: See Note to Editors]

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Note to editors:

1. The 'containment has failed' paper is a misinterpretation of a recent publication by McCulloch et.al. This actually concluded that significantly less HFC would be used to replace the same amount of CFCs. From this paper three key points should be recognised:

    a. Use of HFCs is considerably lower than the CFCs they have replaced. "An 80% reduction in CFC requirement has been substituted only to the extent of 25% by HFC-134a. This is consistent with improved technology to curtail leakage and so enable lower system charges that, in turn, translate into less demand[6]."

    b. HFCs are being made to work much harder as technology is developed. Smaller charge sizes are being used, meaning more refrigeration and air-conditioning is being achieved for each tonne of gas being used.

    c. The current emission rates are 10-15% annually for all refrigeration and air-conditioning (including MAC), not the 25% claimed in the containment has failed' paper.

2. Extracts from STEK, Utrecht, June 2001

    a. <u>Competence of personnel</u>
    Since the technicians in practice have to realize the emission reduction goals, it was foreseen as an important precondition that the competence of all personnel in the market should be brought to a higher level of awareness and skills. Therefore an education and examination program was set up. Professional examination organizations carry out the examination of the personnel which is required as a part of the certification of the companies operating in both stationary and mobile markets.

    b. <u>Reduction of leakage due to technical requirements and preventive service</u>
    Technical measures were formulated after scientific studies to determine the reasons for leakage from refrigeration and air-conditioning installations. These causes for emissions were translated into regulations focussed on the improvement of design, and the handling of installation and maintenance.

    c. <u>Administration</u>
    Every installation in the Netherlands with a content of refrigerant of more than 3 kilograms has a logbook. In this logbook the handling of refrigerant is recorded, both by the amount used as well as the nature of the repair or service carried out. The owner of the installation is responsible for his logbook. The amount of refrigerant is recorded in the service engineer's own records as well. Because of the administration and reporting of refrigerants it is possible to generate figures on emission rates.

    d. <u>Emissions</u>
    From leakage rates of 30% at the early 90's, emissions in the Netherlands now are at the average level of 4,8 %. This is a remarkable achievement from the industry. The research indicates that 92% of the installations have no emission at all in the reference year 1999, and it's 8% of the installations, which cause the emissions.

[6] McCulloch, A., P. Midgley and P. Ashford. Releases of refrigerant gases (CFC-12, HCFC-22 and HFC-134a) to the atmosphere. Atmospheric Environment 37 (2003) 889-902.