



# EFCTC NEWSLETTER

## An update on fluorocarbons and sulfur hexafluoride

ISSUE 11 - March 2004

### EFCTC POSITION ON CONTAINMENT

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*[“Actual measurements demonstrate that F-gas containment is already working”](#)* was the message from EFCTC, following the publication by a recent study published by Climate Action Network Europe – an environmental NGO - which claims that F-Gas containment has already failed.

Success for static refrigeration from the [STEK](#) system in the NL, potential for improvement in mobile air-conditioning presented by ‘enhanced HFC134a’ systems as recognised by the Commission itself, atmospheric measurements of HFC-134a, together demonstrate the inaccuracy of CAN Europe data. EFCTC concludes that emphasis within the proposed Regulation by the European Commission and future Amendments by the EU Parliament must instead be given on containment, which is essential whatever refrigerant is chosen, will enable freedom of choice to use the most appropriate refrigerant, and will ensure that emissions are significantly reduced.

### QUALITY OF LIFE IMPROVEMENTS FROM AIR CONDITIONING, HEATING AND REFRIGERATION

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A video produced by the [US Air-Conditioning and Refrigeration Institute](#) describes how air conditioning, heating and refrigeration systems can save energy, reduce global greenhouse gases emissions and make life better for people around the world.

It explains how innovative energy-efficient equipment using safe refrigerants has made possible products and services that range from fresh food shipped from distant markets to refrigerated medicines and vaccines, 24-hour surgical suites, computer chips, productivity enhancing buildings and protection from killer heat waves.

Francois Billiard, director of the [International Institute of Refrigeration](#), estimates that five billion people will benefit from comfort cooling and refrigeration. One key benefit is provided by keeping vaccines refrigerated. It is noted that “Tragically, nearly 30 million children around the world are at risk for deadly but preventable diseases, largely because they lack access to refrigeration necessary to preserve vaccines. Thanks to new technologies and energy efficient machines, the potential is there to save millions of young lives”.

Ref: <http://www.ari.org/pr/2004/01-04-Video.html>



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### **WORLD'S LARGEST CLIMATIC WIND TUNNEL USING HFC REFRIGERANT**

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The new Vienna Climatic Wind Tunnel, the world's largest vehicle testing station, operated by the RTA Company (Rail Tec Arsenal), is used to test vehicles under extreme weather conditions.

For the 6.2 MW cooling unit, able to ensure the rapid cooling of test sections, 25 tons of refrigerant R-507 are used. Because of important safety measures, Ammonia was considered too expensive for this project (Private communication).

The larger tunnel, 100 m long, is long enough to accommodate a train consisting of a power car and two carriages. The highest air speed is close to 300 km/h. The air passes through a heat exchanger, where it can be cooled down to  $-50^{\circ}\text{C}$  or heated up to  $+60^{\circ}\text{C}$ .

Ref: <http://www.rta.co.at/en/kommunikation/main.html>

Article « Climate Chamber simulates Snow and Sun » [http://www.rta.co.at/download\\_pdf/rg.pdf](http://www.rta.co.at/download_pdf/rg.pdf)

Article in French "La plus grande soufflerie climatique du monde"  
[http://www.rta.co.at/download\\_pdf/rt.pdf](http://www.rta.co.at/download_pdf/rt.pdf)

Other wind tunnels are using HFC refrigerants. For example, the US NASA Heavy gas wind tunnel has a charge of nearly 160 tons of HFC-134a.

### **ASERCOM POSITION ON HYDROCARBONS REFRIGERANTS**

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**ASERCOM**, the Association of European Refrigeration Compressor and Controls Manufacturers, has recently posted its updated position regarding Hydrocarbons as Refrigerants (See [Safety Page](#)).

ASERCOM stresses that, due to the limited level of experience with HCs in commercial refrigerating systems, and for air conditioning and heat pump application, warranty obligations might have to be limited.

Indeed, in such applications:

- potentially higher leakage rates necessitate improvements of system design/installation regardless of refrigerant
- significant product liability issues exist due to the safety risk associated with the flammability of hydrocarbons
- clear and complete safety regulations still have to be established on a legally binding and preferably harmonized basis

Source: <http://www.asercom.org/files/HCstmt-logo-09-03.pdf>



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### HFCs AND THE MITIGATION FROM CO<sub>2</sub> EMISSIONS FROM THE BUILDING STOCK

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A new study provided by EuroAce advocates the extension of the scope of the recent Directive 2002/91/EC on the Energy Performance of Buildings, which is limited to new and existing buildings, with a total surface area over 1000 m<sup>2</sup>.

The study claims that the present legislation will save only 34 Million tonnes of CO<sub>2</sub> out of 678 Million tonnes total annual emissions from buildings by 2010, while applying it to existing small residential buildings would more than double this saving to 70 Million tonnes by 2010, an amount equivalent to around **20% of the EU's remaining reduction commitment** under Kyoto.

Especially in Southern European countries, cooling demand becomes increasingly important for the overall energy consumption of a building due to higher requirements regarding thermal comfort.

In the light of the renewed debate about the effects on competitiveness of meeting Kyoto targets, it should be worth considering again this "**probably best solution in the whole energy efficiency debate**".

Insulation can indeed be an argument for all players, including Polyurethane (PU foams) and Extruded Polystyrene foams (XPS foams), as their LCA can demonstrate their advantage in terms of climate change impact. Besides published LCA assessment of PU foams<sup>2</sup>, an XPS producer claims that, compared to CO<sub>2</sub> blown foams, HFC blown foams thermal efficiency is improved by nearly 20%.

See also the EFCTC brochure [HCFs for thermal insulation A solution addressing the climate change challenge](#) in five different languages.

[http://www.euroace.org/reports/R\\_160204.pdf](http://www.euroace.org/reports/R_160204.pdf)

<sup>1</sup> the European Alliance of Companies for Energy Efficiency in Buildings

<sup>2</sup> HFC-365 mfc and high performance rigid polyurethane insulation. Life cycle assessment Elastogran-Kingspan - Solvay Fluor - Synthesia Española - Summary and full LCA report available from project partners.

**More on our web site:** <http://www.fluorocarbons.org>

**See also:** [news](#) – [links](#) to relevant web sites

**New brochure:** "[Greenhouse gases emissions: what has led to their most significant reduction?](#)" Available in English, French, German, Italian, Spanish.

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