ECSLA

EUROPEAN COLD STORAGE AND LOGISTICS ASSOCIATION

eurammon

refrigerants delivered by mother nature

Brussels, September 2008

RE: eurammon – ECSLA position on the recast of Regulation 2037/2000[1] on substances that deplete the ozone layer (the ODS Regulation)

Regulation (EC) No 2037/2000 (the ODS Regulation) is the European Communities' main instrument for implementing the Montreal Protocol.
These measures are widely praised as the most effective environmental rules to date for mitigating the climate change, due to the HCFC phase out calendar they have put in place.

As ODS are phased out, the EU has the opportunity to promote the introduction of environmentally friendly alternatives. This chance was missed during the CFC (chlorofluorocarbon) phase-out, which allowed the rapid growth of HCFCs (hydrochlorofluorocarbons).

The codecision procedure for the recast of the ODS Regulation will start shortly. Hence, it is the right moment to step back and think how Europe should deal with the substances that deplete the ozone layer in the time horizon of 2010, 2015 and, most importantly, beyond.

eurammon and ECSLA offer the following briefing to outline policy recommendations **in two areas** where the EU can further achieve climate and ozone savings:

I.	**The ODS Regulation should continue to phase-out HCFCs progressively.**
II.	**However, the EU has to act now to ensure that the potential climate benefits of the HCFC phase-out are realised, by promoting the uptake of climate friendly alternatives to HCFCs.**

[1] OJ L 244, 29.9.2000, p. 1.

KEY MESSAGES

1. The recast of the ODS Regulation should aim at establishing a regulatory framework that, while it preserves the ozone layer, does not put into question legitimate expectations of operators with regards to the scope of their obligations.

2. It is of vital importance that the phase out of HCFCs is done progressively, by respecting two major stages: In 2010, operators shall no longer use virgin HCFCs for servicing and maintenance of their installations. For the same purposes, between 2010 and 2015, only recycled HCFCs shall be used. From 2015 onwards, operators must find alternatives to HCFCs in order to be able to pursue their business activity, given that recycled HCFCs will also be banned, therefore operators will not be allowed to use them for servicing and maintenance any longer.

3. The refrigeration industry consider it essential to clarify in the text of the proposed Regulation that until 2015 there will be **two routes** for using recycled / reclaimed HCFCs in refrigeration and air-conditioning systems:
   a) First, by buying reclaimed HCFCs (re-processed by the refrigerant manufacturers) on the market in compliance with the proposed labelling requirements (as foreseen in **Article 11, paragraph 2, 1st sentence)**
   b) Second, by using HCFCs that have been recycled by the operator of such equipment (directly taken out of the equipment, occasionally purified on end-user site) see proposed text of **Article 11, paragraph 2, second sentence)**. In this respect, it is also vital that that any operator can directly use its own recycled HCFC in any of its other plants in the EU.
   c) Finally, it is important that operators who run single installations, can still have access to the recycled fluids market. Failing to do so, will result in a disruption of competition between players who count several installations in their business activity and those who only count one.

4. Sudden changes in the agreed timetable (2010,2015) will result in sending out the wrong signal to business operators, who will resort to the easiest substitution solutions, but not necessarily the most sustainable ones.

5. A reasonable timetable will encourage a smooth transition to new, environmentaly friendly technologies, which should be, *in fine*, the aim of the recast exercise.

6. The phase out of HCFCs should be seen as an opportunity to promote natural refrigerants as an alternative to synthetic, chemical refrigerants.

7. The phase out of HCFCs should not be done at all costs and without consideration of the negative consequences of environmentaly sub-optimal choices. Operators would need guidance with regard to the substitution solutions that would also make sense from an energy efficiency point of view.

8. For certain applications, natural refrigerants offer an ideal substitution solution to the phase out of HCFCs. However, natural refrigerants suffer from a deficit of promotion, a lack of harmonisation at European level as well as additional burdens at national level.

9. The EU decision makers are encouraged to express to European businesses their vision about the future of natural refrigerants at European level.

10. The recast of the HCFC Regulation should, to some extent, tackle the regulatory obstacles that prevent some EU Member States from realising the full potential of natural refrigerants.

I. **The decision to phase out HCFCs progressively, on the basis of an agreed timetable.**

The European refrigeration industry welcomed in 2000 the adoption of the ODS Regulation, and in particular its article 5, whereby virgin HCFCs should be phased out by 2010, while recycled HCFCs could used to refill installations until 2015.

A. The European Commission has rightly identified in its recent proposal[2] that the phase out dates of virgin HCFCs in 2010 and recycled HCFCs in 2015 should be maintained, in accordance with Regulation 2073/2000 currently in force. This decision is to be welcomed for several reasons:

a) First, the recast of the ODS Regulation should respect the phase out timetable of HCFCs agreed between the European institutions and stakeholders in 2000. The calendar has taken into account legitimate costly investments of the European industry on HCFCs that will be set off by 2015, but not earlier.

Any anticipated change means that these investments are lost, not recovered and new ones must replace them within very little time. Financial implications are obvious given that the refrigeration industry will need to reinvest on technology to avoid running out of business; but is there a guarantee that R&D are readily available for all players so that the transition is smooth for everyone and there is no disruption of competition? Most importantly, are all business operators on an equal footing with regard to investments on new technologies that are deemed to replace those that are not set off yet?

Thus, for the competitiveness of the European industry it makes an economic sense to phase out HCFCs progressively without penalising business efforts for a smooth transition. A sudden change will necessarily lead to solutions that have not been adequately reflected upon, with uncertain environmental benefit and will be economically unsustainable.

b) Any change in the agreed timetable must undergo a sound cost-benefit analysis and an environmental impact assesment that shows the added value of any change in the agreed timetable. No scientific evidence has proven that the environmental benefit of an earlier phase-out will be proportionate to the costs that the European businesses will need to face in order to comply.

c) Business operators have been encouraged to adapt to the current timetable, which has required significant time, efforts and investments. It would undermine the reliability and long-term certainty of EU legislation if companies were first asked to plan expenditures in reliance on the 2015 date, but then to accelerate the phase-out date by several years.

d) The overall environmental benefits of an earlier phase-out are questionable, given that such acceleration would trigger a shift towards HFC-based solutions. HFCs have a high Global Warming Potential and are responsible for climate change. Furthermore, it is uncertain whether HFCs will not undergo further restrictions, thus making their use questionable in the future.
Shifting towards HFCs is thus a bad scenario and EU policy makers should seek solutions that are future-proof, taking into account the degree of protection that the ozone layer and climate change must be granted.

[2] COM(2008) 505 final

B. Will two routes for using reclaimed / recycled HCFCs still be possible ?

The second sentence of Article 11, paragraph 2[3], seems to suggest that recovery of HCFCs by the operator himself and their susequent use in the same installation is the only feasible option for using recycled HCFCs.

Such an approach will have the most severe consequences for businesses as recovery in view to recycle for use in the same equipment is not the main supply route in business reality.

What happens in fact is rather the use of HCFCs from already phased-out equipment or from equipment with a phase-out in progress into other installations that will, in their turn, be phased out. To keep these plants running until their turn for phase out comes, the recycled HCFC will be used to compensate leaks (that of course must be minimised). So it must be allowed to re-use recycled HCFC in any plants, in any other factory, of any of the 27 EU member states.

Any other interpretation would basically amount to an indirect ban of recycled HCFCs by 2010!

eurammon and ECSLA consider it essential to clarify in the text of the proposed Regulation that until 2015 there will be **two routes** for using recycled / reclaimed HCFCs in refrigeration and air-conditioning systems:

a. First, by buying reclaimed HCFCs on the market in compliance with the proposed labelling requirements (as foreseen in **Article 11, paragraph 2, first sentence)**

b. Second, by using HCFCs that have been recycled by the operator of such equipment (see proposed text of **Article 11, paragraph 2, second sentence)**. In this respect, it is also vital that that any operator can use its own recycled HCFC in any of its other plants in the EU. Finally, it is vital that operators who run one single plant are not impeded in their business activity due to the limitiations linked to the use of recycled refrigerants. Indeed, these operators need to have access to recycled refrigerants in order for their operations to continue without disruption and thus not to suffer from a disruption of competition vis à vis their competitors.

(Amendment xx)
Article 11, par.2

2. By way of derogation from Article 5, until 1 January 2015, reclaimed hydrochlorofluorocarbons may be placed on the market and used for the maintenance and servicing of existing refrigeration and air-conditioning equipment, provided that	2. By way of derogation from Article 5, until 1 January 2015, reclaimed hydrochlorofluorocarbons may be placed on the market and used for the maintenance and servicing of existing refrigeration and air-conditioning

[3] *"Article 11 Use and placing on the market of hydrochlorofluorocarbons and of products and equipment containing or relying on hydrochlorofluorocarbons"*
2. By way of derogation from Article 5, until 31 December 2014, reclaimed hydrochlorofluorocarbons may be placed on the market and used for the maintenance and servicing of existing refrigeration and air-conditioning equipment, provided that the container [is] labelled with an indication that the substance has been reclaimed. Until 31 December 2014, **recycled** hydrochlorofluorocarbons may be used for the maintenance and servicing of existing refrigeration and air-conditioning equipment **provided that they have been recovered from such equipment** by the undertaking concerned.

the container labelled with an indication that the substance has been reclaimed. For the same purpose, until 1 January 2015, recycled hydrochlorofluorocarbons may be used **provided that** they have been recovered by the operator from such equipment.	equipment, provided that the container labelled with an indication that the substance has been reclaimed. For the same purpose, until 1 January 2015, recycled hydrochlorofluorocarbons may **also** be used **in the same conditions as reclaimed hydrochlorofluorocarbons.**

Justification

It is essential that operators who have at their disposal recovered or recycled HCFCs are able to use them freely in any refrigeration facility across the EU. The plant logbook will provide legal evidence with regards to the origin as well as the re- use of such recycled substances.

II. Promoting the uptake of climate friendly alternatives to HCFCs.

Thanks to technological innovations and thanks to their effectiveness, natural refrigerants[4] have become established as an efficient, safe solution for use in a wide range of industries[5]. The most economically relevant among them are ammonia, carbon dioxide and hydrocarbons.

Natural refrigerants do not deplete the ozone layer (Ozone Depletion Potential, ODP) and either have no global warming potential – like ammonia – or only a negligible GWP. This puts them beyond comparison from a climate perspective.

In addition, natural refrigerants offer very high performances allowing to achieve low temperatures and thus the energy consumption of an operator decreases. This is particularly important nowadays, when the energy efficiency of European industries has become a priority.

Furthermore, using natural refrigerants is worthwhile from an economic standpoint as well. The refrigerants themselves are inexpensive and available in vast quantities. The great efficiency of natural refrigerants and the plants that use them have a positive effect on operating costs. Ammonia, for instance, is acknowledged as the most efficient refrigerant of all. Add to that the inexpensive disposal of natural refrigerants once a plant has reached the end of its life.

The European initiative eurammon puts its expertise at the service of opening up new areas of application for natural refrigerants and is open to anyone interested in refrigeration, the natural way. The initiative's members – amongst them global players, research institutions, academic representatives and consultancies – research and develop innovative, future-proof solutions and push ahead with their implementation. Particular attention is being paid to the increase of efficiency and the reduction of energy consumption. eurammon is regularly hosting the Natural Refrigeration Award supporting young scientists and motivating them to do further research into refrigeration with natural refrigerants.

Against the context of the review of the ODS Regulation, eurammon , ECSLA would like to highlight some limitations that affect the use of ammonia in the EU and could prevent the European refrigeration industry from making the most out of this reform.

[4] For more information on the attributes of natural refrigerants, see Annex to this letter.
[5] Whether in the food and beverage industry, in air-conditioning, in sport and recreation facilities, the chemicals and pharmaceuticals industry or in automotives – refrigeration plants using natural refrigerants have proven themselves as an environmentally friendly, economical and reliable solution for producing cold energy.

Indeed, if someone tries to depict the divergence between the national legislations of EU Member States in the field of ammonia, one will soon reach the conclusion that all possible scenarios are in place: from the strictest to the most liberal ones.

Ammonia Regulations are traditionally based on trust between the company and the authority. In some countries, the national authority keeps considerable control over the procedures, whereas in other countries the company is much more involved in the process and takes initiatives[6].

Unfortunately, there is no European policy with regard to the use of ammonia. Member States across the EU regulate its use on a purely national basis and without coordination with other countries.

All in all, stricter rules are often linked to the fear of toxicity hazards linked to ammonia leakages, while milder rules do not seem to take the hazard factor into consideration. As a result, building permits for plants are more or less difficult to obtain, administrative requirement vary greatly from one country to the other and the resulting administrative and financial burden affects a business differently, depending on the country where it is located. The product as such is more or less sucessful in a market, as a result of the national policy for the prevention of risks.

This paradox is all the more difficult to understand and to justify for three reasons:

- First, because the substance itself is marketed with the same properties in all EU Member States. Therefore, ammonia is not more or less dangerous across the different European countries.

- Secondly, in case of accident, the human organism is not more or less protected against ammonia on the basis of how strict conditions for the use of ammonia apply in the country. An ammonia accident has the same adverse effects regardless of the administrative limitations that tend to prevent its use.
- Finally, from a user's point of view, ammonia as a natural refrigerant needs to be placed higher on the European political agenada, due to the forthcoming entry into force of prohibitions affecting existing synthetic refrigerants (HCFCs) widely used by the European refrigeration and food and drink industries.

As mentioned previously, HCFCs will be prohibited in 2015 and users need already to start thinking about alternatives available in order to adapt their installations and control their stocks of refrigerants.

Alternatives to HCFCs should present an environmental benefit and also offer energy performance garantees for its users, in order to counterbalance the current adverse effects from the use of HCFCs.

In broad lines, the alternatives available are in one hand F-gases (HFCs) that have a high global warming potential and on the other hand natural refrigerants, like ammonia.

However, given the restrictions linked to the use of ammonia, operators are "trapped" either with no viable solutions (like F-gases) or with Regulations that restrict the use of ammonia.

In order to underline the importance of natural refrigerants, one needs to remember that they have significantly less greenhouse impact. The environmental benefit from the use of ammonia is thus unquestionable.

[6] For a brief overview on the diverging national policies in the field of ammonia, see Annex to this letter.

Finally, encouraging the use of natural refrigerants and of ammonia in particular, will enhance the competitiveness of European industries from the side of end users as well as from the side of manufacturers.

From the users' point of view, the energy savings potential of natural refrigerants is indisputable, given that ammonia also has a potentially beneficial impact on power consumption of refrigeration systems.

A broader use of ammonia, manufactured (or readily available) across the EU, will put an end to the de facto barriers to trade, a perspective which is very much welcome by the ammonia industry. The ammonia industry will eventually take full benefit from the smooth functioning of the Internal Market and the trade of ammonia.

The panaroma of the EU Regulations affecting the use of ammonia is clearly unsatisfactory. The phase-out of HCFCs foreseen in 2015 should become a reason to encourage at European level action that will liberalise its use.

For more information, please contact:

ECSLA

Ms Christianna Papazahariou

Secretary General

info@ecsla.be

+32 2 762 7780

eurammon

Dr. Karin Jahn

Managing Director

karin.jahn@eurammon.com

+49 69 6603-1277

Annex

Part 1: Attributes of Natural Refrigerants

Ammonia has been successfully used as a refrigerant in industrial refrigeration plants for over 130 years. It is a colourless gas, liquefies under pressure, and has a pungent odour. Ammonia has no ozone depletion potential (ODP = 0) and no direct global warming potential (GWP = 0). Thanks to its high energy efficiency, its contribution to the indirect global warming potential is also low. Ammonia is flammable and is toxic to skin and mucous membranes. However, its ignition energy is 50 times higher than that of natural gas and ammonia will not burn without a supporting flame. Due to the high affinity of ammonia for atmospheric humidity it is rated as "hardly flammable". Ammonia is used all over the world as fertiliser. It is toxic, but has a characteristic, sharp smell which gives a warning below concentrations of 3 mg/m³ ammonia in air. This means that ammonia is evident at levels far below those which endanger health. Furthermore ammonia is lighter than air and therefore rises quickly.

Carbon dioxide has a long history in refrigeration, extending back to the mid 19th century. It is a colourless gas that liquefies under pressure, with a slightly sour odour and taste. Carbon dioxide has no ozone depletion potential (ODP = 0) and negligible direct global warming potential (GWP = 1) when used as a refrigerant in closed cycles. It is non-flammable, chemically inert and heavier than air. Carbon dioxide is an element in the respiration process and becomes narcotic and harmful to human health only in high concentrations. Carbon dioxide is available in abundance.

Hydrocarbons such as propane or butane have been in operation for many years. Hydrocarbons are colourless and nearly odourless gases that liquefy under pressure, and have neither ozone depletion potential (ODP = 0) nor significant direct global warming potential (GWP = 3). Thanks to their outstanding thermodynamic characteristics, hydrocarbons make particularly energy efficient refrigerants. They are heavier than air and have an anaesthetic and asphyxiating effect in high concentrations. Hydrocarbons are flammable and are capable of forming explosive compounds with air. Hydrocarbons are available cheaply all over the world; thanks to their ideal refrigerant characteristics they are commonly used in small plants with low refrigerant charges.

Part 2: Brief overview on divergence of national policies on ammonia

To summarize, it can be noted that the Scandinavian countries have very similar Regulations, with only minor differences. There is no obstacle building an ammonia refrigeration plant and a lot of care is taken for its maintenance.

France has the strictest start up requirements. Thre are strict limitations and many burdens created by the authorities, resulting in many obstacles to building a plant. It should be noted however, that for plants already operating a special qualification for the personel is not required, even though most of the accidents are due to human error. In addition, there is a legally fixed inspection timetable, that requires an inspection every five years for installations between 150kg to 1500 kg. An annual inspection is required for installations that are larger than 1500 kg.

In Germany, the situation is less complicated but varies considerably all over the country. Bavaria's State Regulation can be given as an example: In comparison to France, it can be seen that authorisation is required only when the charge exceeds three tons of ammonia (vs. 150 kg in France); public information when it exceeds 30 tons (vs 150 kg in France). One can thus conclude that major requirements do not apply to small and medium plants in the State of Bavaria, whereas in France almost all plants undergo very stringent scrutiny.

eurammon is a European association of leading, multinational companies in the refrigeration sector, as well as individuals and institutions in natural refrigerants, committed to advocating the increased use of natural refrigerants. eurammon is linked with international associations and institutions around the world through a network of cooperations and memberships. The industry initiative sees itself as a centre of expertise on the use of natural refrigerants and is fuelled by the strong personal commitment of its members.

ECSLA is the voice of the European cold storage industry. ECSLA represents a large majority of refrigerated storage facilities throughout the European Union, close to 45 million cubic meters.