



European Commission

Enterprise Directorate General

**Phasing out HFC-134a from Mobile Air Conditioning in the
largest car market in the world
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IMPLEMENTATION OF THE R134a PHASE OUT

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Agenda

- **Drivers of MACs policy**
- **CARS 21 recommendation**
- **Proposal for an EC Directive**
- **EC proposal on leakage test method**
- **US Standard SAE J2727**
- **Conclusion**

Drivers of MACs policy

Kyoto protocol:

- **Aimed at reducing the overall emissions of green house gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.**
- **Adopted by decision of the Council on 25 April 2002**

Drivers of MACs policy

- **EU commitment: 8% reduction of GHG emissions below their 1990 level by 2008-2012**
- **EU Member States are applying measures and policies to reach that target.**
- **Latest data show that GHG emissions from EU25 are 5,5% below their levels in 1990**

Drivers of MACs policy

ECCP (European Climate Change Programme)

- 2nd phase launched in October 2005
- Main objective: Set a framework for the EU climate change policy beyond 2012
- Climate change is a global problem a global action is needed 
- The first proposal to limit GHG emissions from MACs was launched in August 2003 (ECCP-1st phase)

CARS 21 recommendation

- Efforts to increase the **international harmonisation** of motor vehicle regulations should be maintained with a view to involving key vehicle markets and to extend harmonisation to areas not yet covered.
- In the specific case of MACs, the stakeholders concerned in different economic regions should co-operate so as to avoid or minimise the potential effect of regulatory isolation.

Proposal for an EC Directive

- **Subject matter:**
 - type approval of vehicles as regards emissions from, and the safe functioning of, air conditioning systems fitted to vehicles
 - Retrofitting or refilling of such systems

Proposal for an EC Directive

- **Applicability:**
 - **passenger cars (M1) and lower class commercial vehicles (N1 class I).**
 - **fluorinated greenhouse gases (HFCs) with a global warming potential higher than 150**
 - **Mobile air conditioning system (MAC) containing fluorinated greenhouse gases (HFCs) with a global warming potential higher than 150**

Proposal for an EC Directive

- **Requirements:**
 - evaluation of the leakage rate from 12 months from the date of adoption of the measuring method or 1 January 2007, whichever is later
 - Limit values: 40 or 60 g/year in case of single or dual evaporator systems
 - phasing out from 1 January 2011 (new types of vehicles) and from 1 January 2017 (all vehicles)



Proposal for an EC Directive

- from 1 January 2011 (new types) and from 1 January 2017 (all) vehicles shall not be retrofitted with MACs designed to contain HFCs with a global warming potential higher than 150



Proposal for an EC Directive

- From the above mentioned dates no MACs will be refilled with HFCs with a global warming potential higher than 150 with the exception of refilling of air conditioning systems containing those gases, which have been fitted to vehicles before that date.

EC proposal on leakage test method

- **General requirements**
 - testing of single components or systems
 - When testing components, the individual results are added to get the system value
 - Use of a sealed chamber
 - Correlation to real driving conditions
 - Calibration of the enclosure and analyser is necessary

US STANDARD SAE J-2727

- Provides a R134a MACs Leakage Chart and defines a system rating based upon the technology used
- It is not intended to define the refrigerant emissions
- Once the european requirements are included in the future SAE standard (J-2763) that standard would be recognised as a valid alternative to the implementing European directive

Conclusion

- **Climate change is a global problem, so global action is needed**
- **International harmonisation: EU, USA, Japan ?**
- **Avoid or minimise the potential effect of regulatory isolation: CO₂ in MACs should be permitted in USA and Japan**



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THANK YOU
for your attention

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