



European Regulation of Mobile Air Conditioning and Global Implications

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Outline

- Introduction
- The law in the EU
- Some implications in the rest of the world
- Conclusions



Introduction

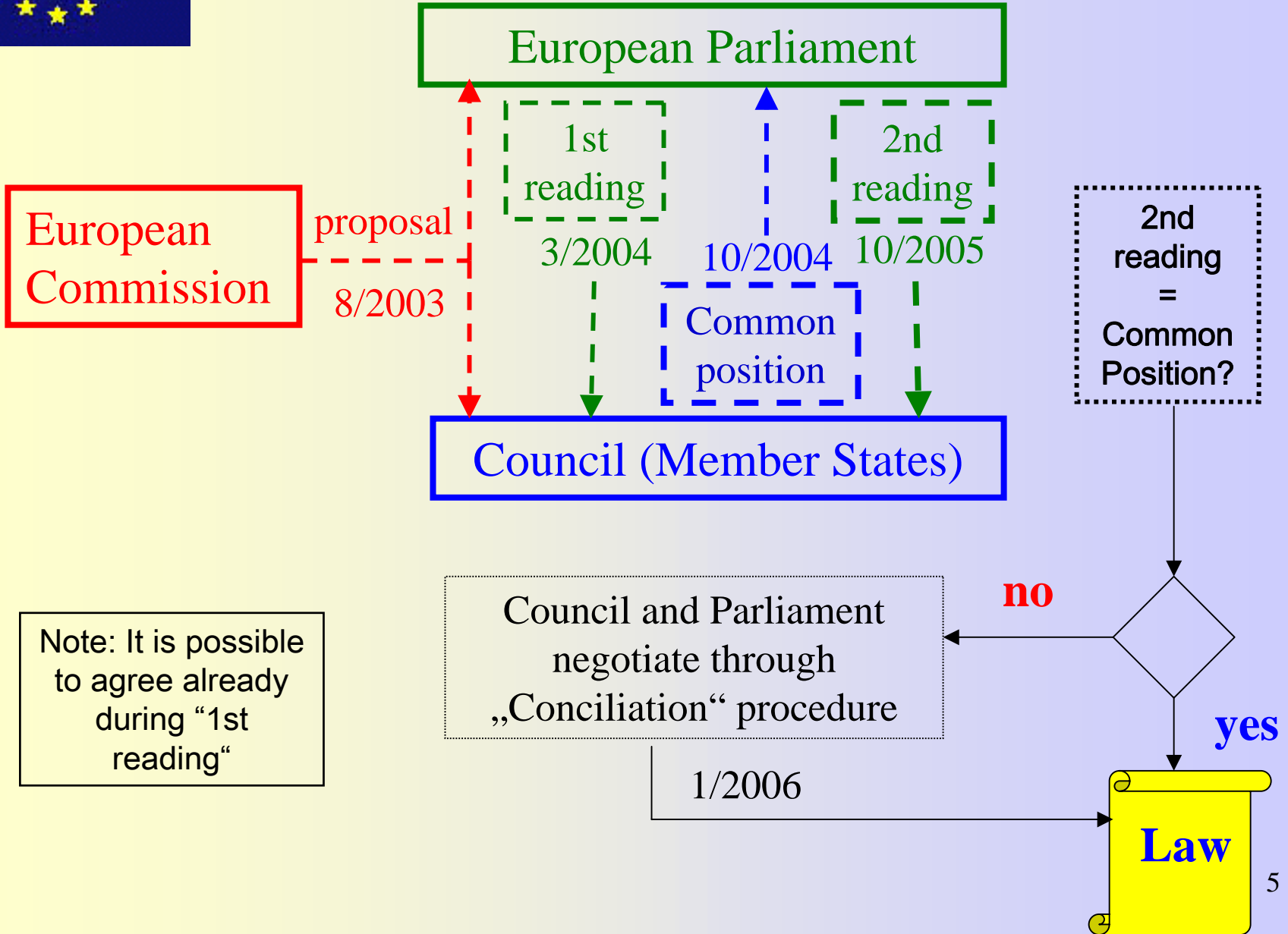


Introduction: Preparatory steps

- We request the European Commission to "*study and prepare measures in reduction of all greenhouse gas emissions from air conditioning in vehicles*". **European Council, 10 October 2000**
- "*How to Reduce Greenhouse Gases from Mobile Air Conditioners in the EU?*" **VDA Winter meeting January 2002**
- "*Options to Reduce Greenhouse Gas Emissions due to Mobile Air Conditioning*" (MAC Summit) in Brussels February 2003
- **Study:** *Establishing the Leakage Rates of Mobile Air Conditioners, 2003*
http://europa.eu.int/comm/environment/climat/leakage_rates_final_report.pdf



Deciding on the Directive on MACs and on F-gas Regulation in the EU



Note: It is possible to agree already during "1st reading"



Introduction: Regulatory steps

- **Commission's Proposal COM(2003)492 on 11 August 2003**
- **Adoption in conciliation between European Parliament and the Council on 31 January 2006**
 - Directive relating to the emissions from air conditioning systems in motor vehicles and amending Council Directive 70/156/EEC
 - Regulation of certain fluorinated gases
- **Why a relatively slow process?**
 - Enlargement: Operating in 20 languages introduced considerable delays
 - Articles (7, 9 and 10) regulating F-gases in MACs were split out into a separate Directive based on **type approval**
 - The Directive and the Regulation were a package: Delays concerning the regulation of certain fluorinated gases delayed also the Directive on MACs
- **Note: Separate stream of work with regard to CO2 emissions due to energy consumption**
 - Should energy consumption be part of test cycle?
 - Increasing information to the consumer through labelling



European, Japanese Korean and US manufacturers set global *de facto* standards

- Leakage of HFC in the OECD countries may be much lower than in non-OECD (non-Annex 1) countries
- Thus, the European Commission is part of the *Mobile Air Conditioning Climate Protection Partnership*



The law in the EU



Directive: Phase-out of HFC-134a

- Inform which refrigerant is used (*Art 4.2*)
- Phase-out of HFC-134a will start on 1 January 2011 for all new models (*Art 5.4*)
- From 1 January 2017 no new vehicle sold in the EU can use HFC-134a or any other Fluorinated gas with a global warming potential higher than 150 (*Art 5.5*)
- Update of GWP according to IPCC (*Art 8.2*)
- No loopholes
 - Retrofitting not allowed after 1 January 2011 (*Art 6.1*)



Directive: Containment of MACs with HFC-134a

- No « gas and go » for existing MACs (*Art 6.3*)
- Leakage rate after the test procedure has been approved (12 months for new models 24 months for all cars) (*Art 5.2 and 5.3*)
 - less than 40 grams per year for single evaporator cars
 - less than 60 grams per year for dual evaporator cars
- Directive covers also safety of MACs (*Art 7.4.(a)*)



Regulation of F-gases: Aftermarket affected

- « Do not vent »
 - Recover F-gases during service
- Establish minimum requirements for service personnel
- Use of non-refillable containers no longer possible



Further regulation through « End-of-Life Vehicle » Directive 2000/53/EC

- Art 6, Annex I
 - *Remove separate collection and storage of air-conditioning system fluids and any other fluid contained in the end-of-life vehicle, unless they are necessary for the re-use of the parts concerned*
- Guidance Document
 - europa.eu.int/comm/environment/waste/pdf/guidance_doc.pdf
 - Recover all fluorinated gases covered by the Kyoto Protocol
 - No such requirement for CO₂ in the guidance document

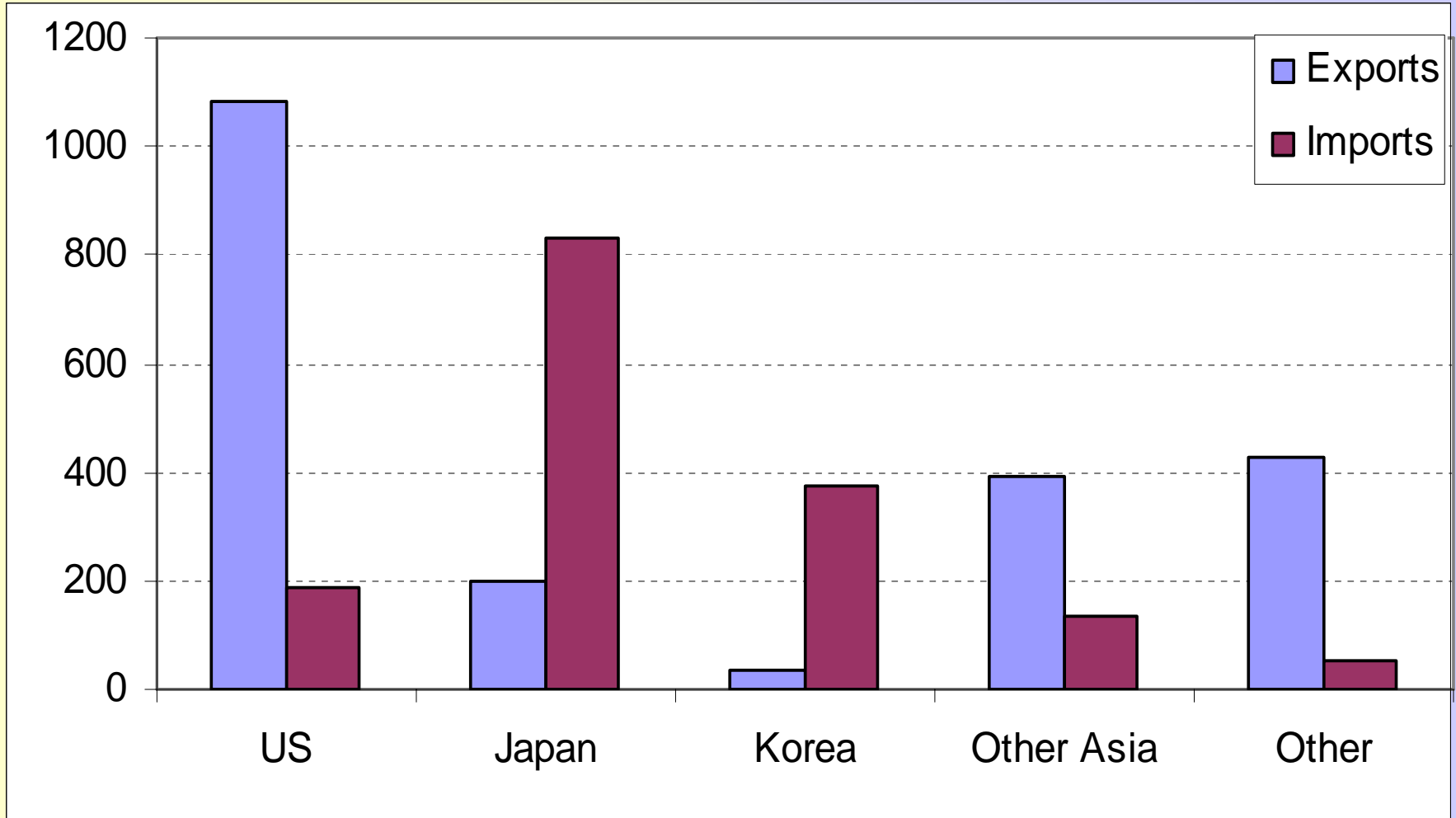


Implications



EU imports over 2 mn and exports over 1.5 mn cars outside Europe

(thousands)



Source: ACEA (2002 data) ¹⁴



Implications

- EU is the market place of some 17 million cars each year
 - Imports over 2 mn cars from Japan, Korea and others
 - Exports almost 2 mn cars
- Concerns all who sell cars in the EU irrespective where these are produced
- About 2 million alternative MAC systems will enter EU market in 2011 or earlier
- By 2017 some 15 million new alternative units with an estimated annual sales of €4-5 billion



American, European, Japanese, Korean and other car manufacturers in the EU

- If no sales outside the EU, technical adaptation, including the decision on which alternative refrigerant to use
- If exports, decide whether to use the alternative refrigerant or HFC-134a outside the EU
 - Are there any unintended barriers outside the EU?
- If imports cars to the EU, situation as for non-EU manufacturers



American, European, Japanese, Korean and other car manufacturers outside the EU

- Need to comply with EU legislation
 - Leakage rate test as part of type approval
 - Phase out of HFC-134a from 1 January 2011
- Same treatment for all producers
 - No differentiation between origin of production
 - WTO compatible
- If bulk of production sold in the EU, need to decide if the rest would also be using alternative refrigerant
 - Servicing of vehicles may become an issue
 - Cooperation between car manufacturers to ensure servicing in non-EU countries?

Conclusions

- Most far reaching legislative package affecting Mobile Air Conditioners in the world
 - Brings MACs under the EU's « type approval » system
 - Ambitious but cost-effective and balanced law
- Long transitional period in phase out
- Technologically neutral
 - Established a maximum global warming potential of 150
- Treats all manufacturers equally
- Crafted to allow maximum regulatory co-operation
 - For instance in leakage rate tests possibilities for cooperation exist



Vielen Dank