

Controls on Ozone Depleting Substances

Training for the Turkish Maritime Administration on MARPOL Annex VI and the EU Sulphur Directive

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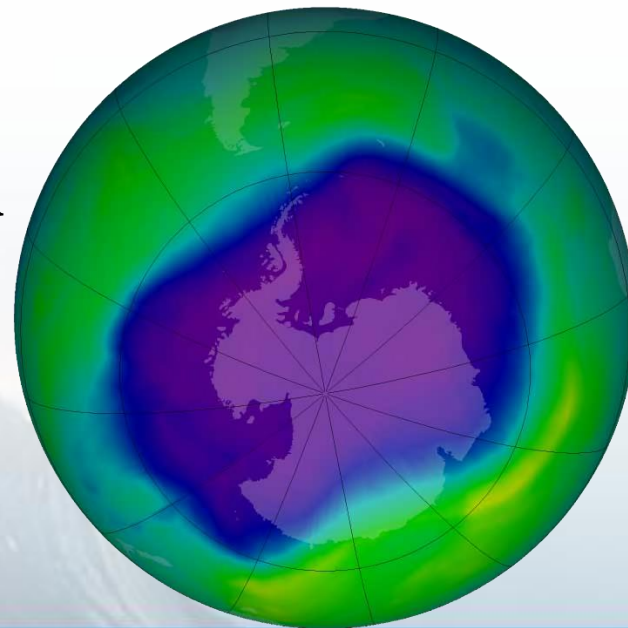
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*Istanbul,
12th – 15th January 2020*

International Control

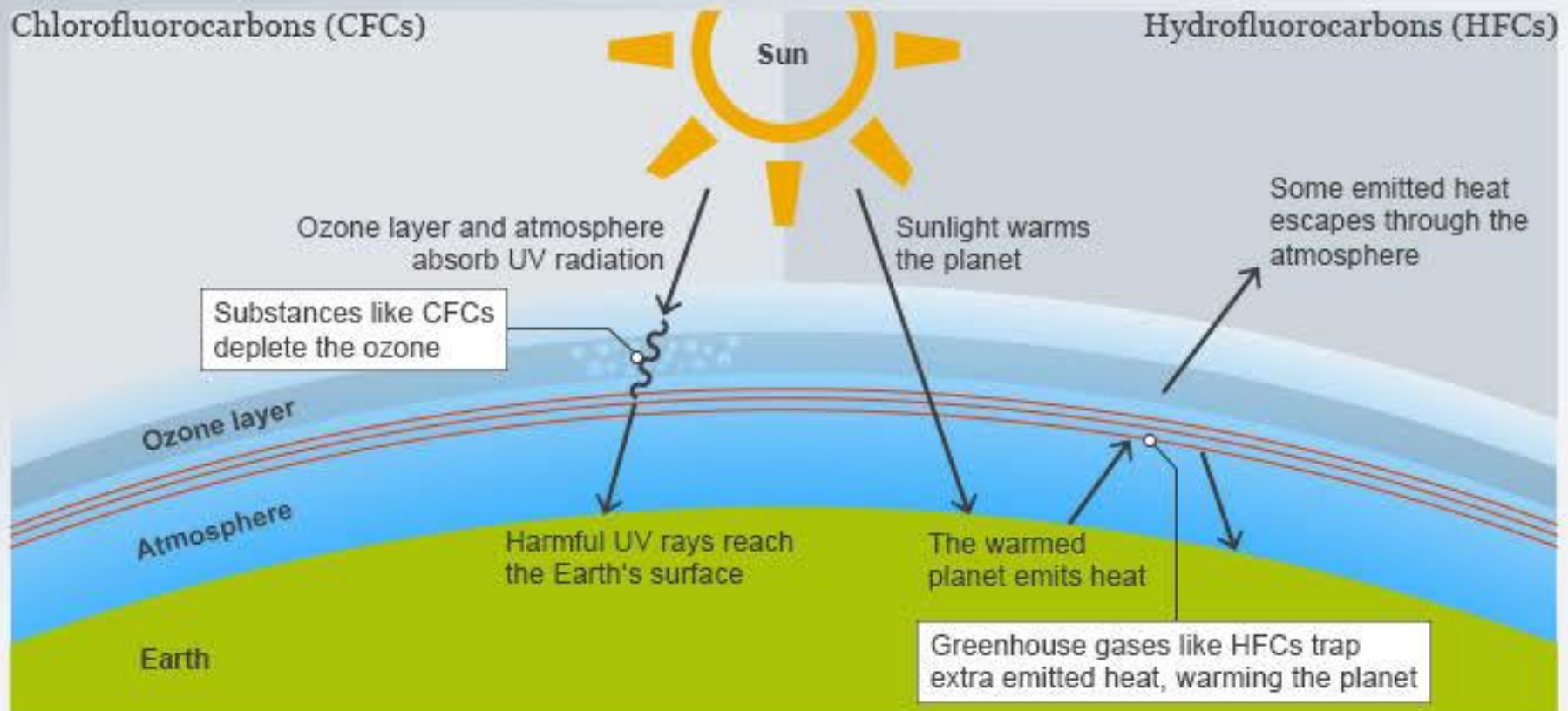
- **Montreal Protocol on Substances that Deplete the Ozone Layer** (a protocol to the Vienna Convention for the Protection of the Ozone Layer);
- **Phases out the production of numerous substances that are responsible for ozone depletion;**
- **It was agreed on 16 /9/ 1987;**
- **Entered into force on 1/1/1989; and**
- **Undergone eight revisions.**



How ozone-depleting substances and greenhouse gases affect the atmosphere

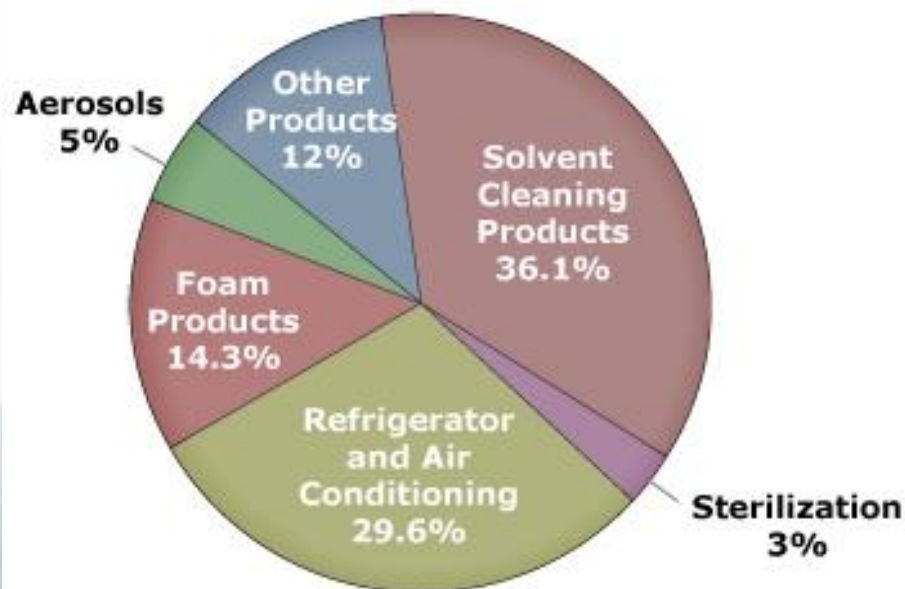
Chlorofluorocarbons (CFCs)

Hydrofluorocarbons (HFCs)



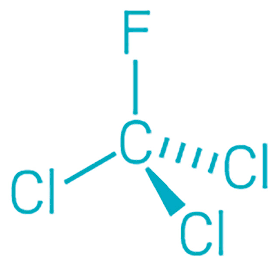
Ozone Depleting Substances

- **Montreal Protocol**
- **Deliberate emissions of ODS shall be prohibited**
 - Maintaining, servicing, repairing and disposing of equipment
- **New installations shall be prohibited from using ODS**
 - except those using HCFC's - 1/1/2020
- **Need appropriate reception facilities**

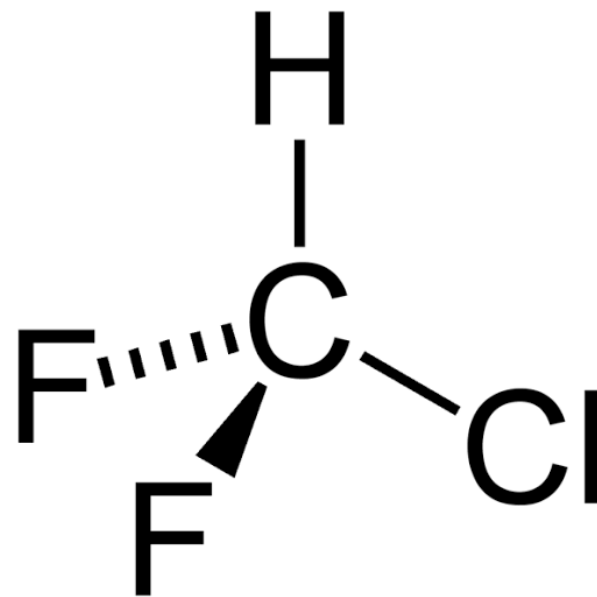


Ozone-depleting substances that may be found on board ship include, but are not limited to:

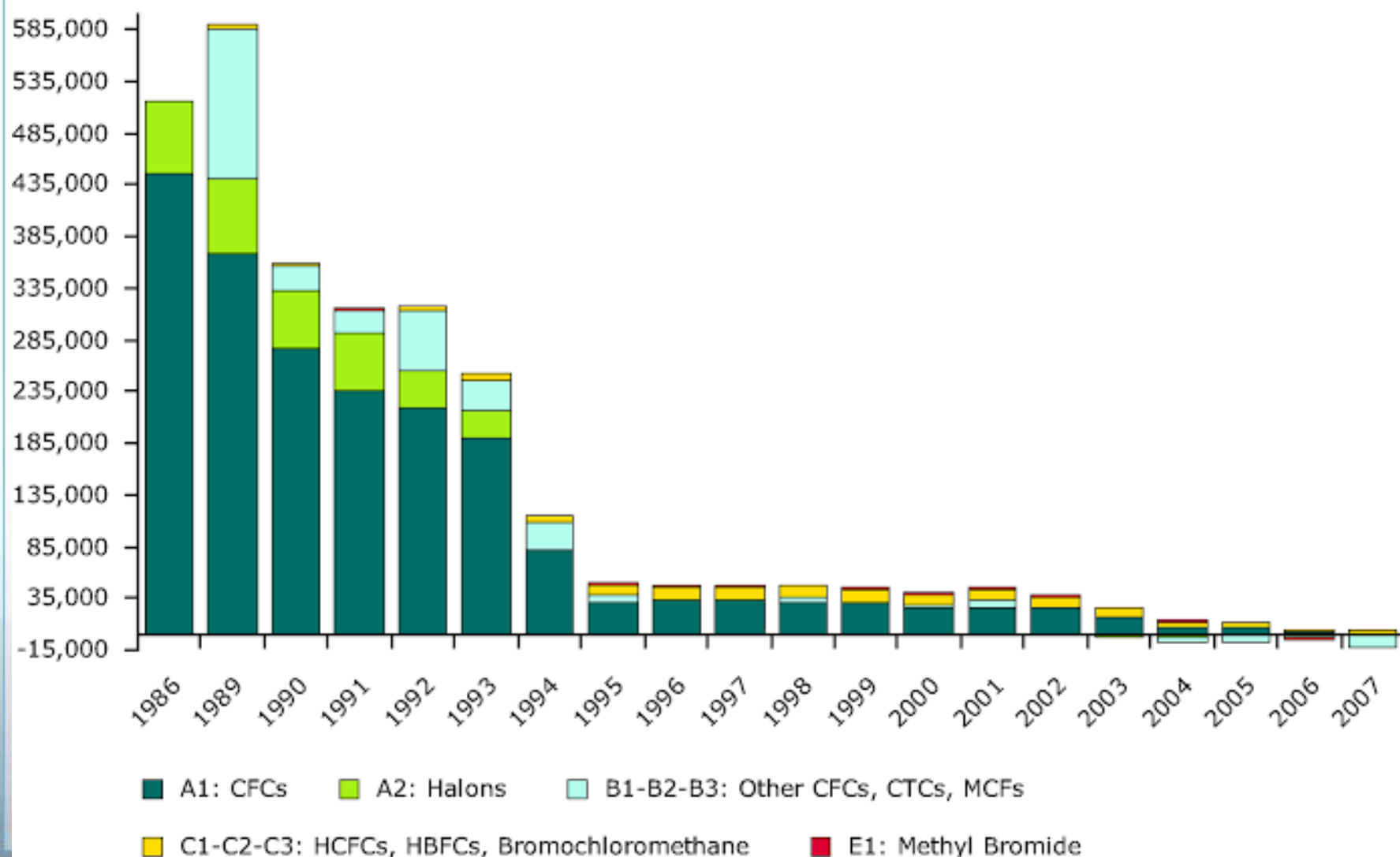
Halon 1211	Bromochlorodifluoromethane
Halon 1301	Bromotrifluoromethane
Halon 2402	1,2-Dibromo-1,1,2,2-tetrafluoroethane (also known as Halon 114B2)
CFC-11	Trichlorofluoromethane
CFC-12	Dichlorodifluoromethane
CFC-113	1,1,2-Trichloro-1,2,2-trifluoroethane
CFC-114	1,2-Dichloro-1,1,2,2-tetrafluoroethane
CFC-115	Chloropentafluoroethane



Trichlorofluoromethane (CFC-11)



Production in ODP tonnes



CFCs and halons used

- **in older refrigeration and fire-fighting systems;**
- **portable equipment;**
- **the blowing agent in some insulation**

The controls in this regulation do not apply to permanently sealed equipment

- **without charging connections or removable components;**
- **typically covers items such as small, domestic type, refrigerators, air conditioners and water coolers.**

Ship needs:

- **an IAPP Certificate;**
- **an ODS Record Book records supply, recharging, repair, discharge and disposal operations.**

Volatile Organic Compounds

- (1) If the emissions of volatile organic compounds (VOCs) from tankers are to be regulated in ports or terminals.
- (2) A Party to the Protocol of 1997 which designates ports or terminals under its jurisdiction in which VOCs emissions are to be regulated shall submit a notification to the Organization. This notification shall include information on the size of tankers to be controlled, on cargoes requiring vapour emission control systems, and the effective date of such control. The notification shall be submitted at least six months before the effective date.
- (3) The Government of each Party to the Protocol of 1997 which designates ports or terminals at which VOCs emissions from tankers are to be regulated shall ensure that vapour emission control systems, approved by that Government taking into account the safety standards developed by the Organization, are provided in ports and terminals designated, and are operated safely and in a manner so as to avoid undue delay to the ship.

Volatile Organic Compounds

- (5) All tankers which are subject to vapour emission control in accordance with the provisions of paragraph 2 of this regulation shall be provided with a vapour collection system approved by the Administration taking into account the safety standards developed by the Organization, and shall use such system during the loading of such cargoes. Terminals which have installed vapour emission control systems in accordance with this regulation may accept existing tankers which are not fitted with vapour collection systems for a period of three years after the effective date identified in paragraph 2
- (6) This regulation shall only apply to gas carriers when the type of loading and containment systems allow safe retention of non-methane VOCs on board, or their safe return ashore.

Volatile Organic Compounds

- **Ports and Harbours – Emission Regulated**

- vapour emission control system
- MSC/Circ.585 “Standards for vapour emission control systems”.
- Specific ports/ships/Cargo Types
- Tankers not complying – 3 years to comply
- Notify in GSIS

- **all tankers carrying crude oil**

- approved and effectively implemented ship specific VOC Management Plan.
- Guidelines in respect of the development of these plans is given by resolution MEPC.185(59)
- technical information on systems and operation of such arrangements is given by circular MEPC.1/Circ.680.

Incinerators

- incineration is only undertaken in equipment designed for that purpose
- prohibits the incineration of certain listed materials and therefore can be seen as complimentary to the MARPOL Annex V requirements in respect of the processing of ship generated garbage
- polyvinyl chlorides (PVC), Annex I, II and III cargo residues and related contaminated packing materials and refined petroleum products containing halogen compounds are prohibited.

Incinerators

Incinerators installed on ships constructed on or after 1 January 2000 or units which are installed on existing ships on or after that date

- Type Approved in accordance with resolution MEPC.76(40) – as modified by resolution MEPC.93(45) or MEPC.244(66) – Standard specification for shipboard incinerators.
- Operating manuals are to be maintained
- training as to their correct operation is to be given,
- operation is such that the stated temperatures are achieved in order to ensure complete incineration.



Any questions?

Thank you!

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