

MONTREAL PROTOCOL INFORMATION SHEET

25 Years of the Montreal Protocol



20 Years of UNIDO Implementation

Montreal Protocol

Do you know what you're sitting on?

The **foam** used to cushion your office chair may have been manufactured using ozone depleting substances. CFCs and HCFCs, often used as blowing agents in the foam-manufacturing process, are ozone depleting substances, as well as greenhouse gases. Due to their properties, they are ideal for making plastics, such as polyurethane and polystyrene, "foamy". These plastic foams are used in various applications, for example for upholstery and insulation purposes.

Depending on which application, foam can be sprayed directly into cavities or manufactured into panels. For example, for insulation, foam is sprayed into refrigerator cabinets as a fluid and sets as a solid. On the other hand, foam panels are manufactured in various thicknesses, densities and sizes. Inside soles for shoes are cut from these foams.

Within UNIDO's Montreal Protocol programme, UNIDO assists enterprises to phase-out the use of CFCs and HCFCs in their manufacturing processes. While the CFC phase-out deadline was in 2010, HCFC phase-out is still ongoing. Ozone depleting blowing-agents are replaced with zero

ODP and low GWP technology. For example, enterprises have been converted to hydrocarbon technology, water-blown, or CO₂-blown technology (liquid or supercritical CO₂). Chemical substitutes with similar properties to CFCs and HCFCs have also been adopted, which are usually coupled with water- or CO₂-blown technology. There are currently a number of zero ODP and low GWP alternatives being developed and tested.



KEY: CFC – chlorofluorocarbons · HCFC- hydrochlorofluorocarbons · HFC – hydrofluorocarbons · ODP – ozone depleting potential, reference value given as ODP=1.00 for CFC-11 · GWP – global warming potential