Ozone (O₃) is a gas found in our atmosphere. Each ozone molecule is made up of three oxygen atoms. It is a pale blue gas with a distinctively pungent smell - and it is very scarce. Just 0.000004% of Earth’s total atmosphere is made up of ozone. It is typically said to exist between about 20 and 30km above the Earth's surface, but it does not have definite edges.

The ozone layer protects us from harmful radiation from the sun. In particular, it protects us from UVB, which is a type of ultraviolet radiation. Small amounts of exposure to UVB can result in sunburn, but high levels of exposure would cause us - and most other life on earth - to die.

QUICK FACTS
Duration: April 2019-2021
Implementing partners: Ministry of Climate Change
Funding partner: Multilateral Fund Secretariat
Location: Islamabad
Budget Phase X (2019-2021): US$ 287,318
Annual budget (2020): US$ 247,500
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Ozone is an unstable and reactive gas. Because it is so reactive, the ozone in our atmosphere is very dynamic - it is being created and destroyed all the time. When UV light passes through the ozone layer, oxygen molecules are split up into their constituent oxygen atoms. These single atoms are then able to react with other oxygen molecules, forming ozone. This process is an endothermic reaction, meaning it needs to absorb energy (in this case the UV radiation) in order to occur. This also happens in reverse - because ozone is so unstable, each ozone molecule soon splits into an oxygen molecule and an oxygen atom. This is an exothermic reaction. This means that ozone splitting results in heat which causes an increase in atmospheric temperature. This temperature increase is what makes the stratosphere (where most of the ozone is) a distinct atmospheric layer, and differentiates it from the troposphere and the mesosphere.

Montreal Protocol on Substances That Deplete the Ozone Layer is an international treaty designed to protect the ozone layer by phasing out the production and consumption of a number of substances believed to be responsible for ozone depletion. The treaty was opened for signature on September 16, 1987, and entered into force on January 1, 1989. Since then, it has undergone six revisions, in 1990 (London), 1992 (Copenhagen), 1995 (Vienna), 1997 (Montreal), 1999 (Beijing) and 2016 (Kigali). Due to its widespread adoption and implementation it has been hailed as an example of exceptional international cooperation “Perhaps the single most successful international agreement to date…”

Pakistan ratified the Vienna Convention, Montreal Protocol in 1992. Commonly used ODSs in Pakistan were chlorofluorocarbons (CFCs), Halons, carbon tetrachloride (CTC) and Methyl Bromide. These ODSs were mainly used in the manufacturing of deep-freezers, refrigerators, foam blowing, fire extinguisher, process agents and solvents, etc. Pakistan has successfully phased out the 1st Generation of ODSs and is now working on phase-out of the 2nd Generation of ODSs. In this regard, a 10% reduction target of 2nd generation of ODSs i.e. Hydrochlorofluorocarbons (HCFC) has been achieved by 1st January 2015.

Keeping in view Pakistan’s commitments to the international community, a National Ozone Unit under the project entitled “Institutional Strengthening of Ozone Cell for the Implementation of the Montreal Protocol” with the financial assistance of Multilateral Fund of the Montreal Protocol has been established under the M/o Climate Change since January 1996.

Objectives of the National Ozone Unit

The objective of the project is to continue strengthening the functioning of the Ozone Cell (National Ozone Unit) within the Ministry of Climate Change as a focal point in Pakistan for all matters relating to the phase-out of Ozone Depleting Substances (ODS) under the Montreal Protocol. The National Ozone Unit will follow up and implement all related activities such as legislative/regulatory measures, data reporting, mass awareness, implementation of HPMP, promotion of alternatives to CFC-based Metered Dose Inhalers and the accelerated phase-out of the Hydrochlorofluorocarbons, etc.

This project assists the Government of Pakistan to achieve its long-term goals to implement various ODSs phase-out management plan (HPMP). It aims:

- To take necessary measures for the implementation of provisions of the Montreal Protocol;
- To process phase-out sub-projects for financial assistance from Multilateral Fund (MLF) through UNIDO / World Bank;
- To coordinate the phase-out activities with UNDP / UNIDO / WB /UNEP and MLF;
- To assist the local industry in the preparation of phase-out sub-projects;
- To disseminate information on ODSs free technologies and phase out activities;
- To oversee and monitor import & usage of ODSs as well as the implementation of phase-out projects;
- To establish and maintain a database regarding demand and supply of ODSs in the country

Key Achievements 2019
The National Ozone Unit (NOU) remained actively involved in a series of activities to raise awareness in targeted stakeholders. The major activities were:

- Organized 26th HVACR Expo and Conference 2019 in collaboration with Pakistan HVACR Society at Karachi from 13-15 February 2019. Arranged 01 technical sessions and displayed the National Ozone Unit's stall wherein awareness material was distributed.
- Issued HCFCs import quota for the year 2019 in accordance with a 10% reduction target and achieving 35% reduction targets from a baseline of 248.11 ODP tons by 2020.
- Refrigeration and Air Conditioning Technicians Training Programmes started in collaboration with Punjab and Sindh Technical Training Institutes. The objective of the training is to familiarize the technicians with the emerging technologies in the RAC sector, especially the natural refrigerants which are highly flammable. A total of 436 technicians have been trained during these training programs.
- Organized quarterly HCFCs import quota review meetings in June 2019 and December 2019 to discuss the import issues and implementation of HCFCs import quota.
- Initiated a process for engaging academia to undertake research/studies to introduce best practices to phase out ODS from Pakistan. In this context, Memorandum of Understanding between the Ministry of Climate Change, National Ozone Unit and National University of Science and Technology (NUST) has been signed.
- Carried out an awareness campaign on the protection of the ozone layer through newspaper supplements/TV commercial/Radio Spots developed to commemorate International Ozone Day-2019.
- Initiated the process of developing legal instruments for regulating the management of Ozone Depleting substances in Pakistan.
- HCFC import data was collected from FBR on monthly basis to analyze the import figures and consumption of allocated import quota. Pakistan remained compliant in the consumption of HCFCs.

Expected results

- Continue to plan, organize, develop and coordinate relevant activities for the implementation for the phasing out of Ozone Depleting Substances (ODS).
- Implement import authorization system, development, and monitoring of investment projects eligible for grant funding.
- Collect ODS data and report to the Ozone Secretariat and Multilateral Fund Secretariat (MLFS).
- Provide necessary physical infrastructure support to the Ministry of Climate Change in meeting the national obligations under the Montreal Protocol in a sustainable manner.
- Take necessary measures for the implementation of provisions of the Montreal Protocol.
- Process the cases for phasing out of projects with financial assistance from Multilateral Fund (MLF) through implementing agencies.
- Coordinate phasing out activities with the implementing agencies as well as local stakeholders.
- Assist local industry in the preparation of phasing out projects.
- Oversee and monitor import & usage of ODS.
- Establish and maintain a database regarding the demand and supply of ODS in the country.
- Formulate and enact policies and legislation for the phasing out of HCFCs in the country.
- Publish brochure/booklets and other material on the Ozone issue for creating mass awareness.
- International Ozone Day celebration.
- Organize awareness workshops in collaboration with implementing agencies on the HCFC accelerated phase-out programme.
- Assist the HCFC based foam and refrigeration industry for the conversion of technology into ozone-friendly technology.