



Environment and climate change

Integrated ozone and climate protection

The challenge

The ozone layer protects life on Earth from damage by ultraviolet radiation and is central to humanity and nature. The use of Ozone Depleting Substances (ODS) has led to the deterioration of the ozone layer. Damage of the ozone layer has far-reaching consequences for human health and causes global changes to the environment. Following the discovery of the depletion of the ozone layer internationally binding treaties were signed at the Vienna Convention of 1985 and the Montreal Protocol of 1987 to phase out the use of these substances. Nevertheless the substitute gases used for the most part have high global warming potentials. Thus the current challenge is to protect the ozone layer without burdening global climate protection.

Our approach

On behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and the International Climate Initiative (IKI) of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH with its Programme Proklima supports partner countries in fulfilling their obligations under the Montreal Protocol and other international environment conventions. Proklima is active world-wide and supports around 40 partner countries in the socially, environmentally and economically acceptable phase out of the production and consumption of ODS as well as in sustainable ozone and climate protection. ODS and their replacement gases are used in the sectors of refrigeration, air conditioning and foam production (insulation). Proklima works together with decision-makers from the governments and industry of the partner countries to demonstrate climate-friendly alternatives based on natural refrigerants and blowing agents and disseminate these in their regions and countries.

Our services

- **Policy advice at international level:**
We provide expert knowledge for negotiations within the framework of the Montreal Protocol and international committees on the subject of integrated ozone and climate protection. We design strategic solutions for the conversion of the refrigeration, air conditioning and foam production sectors to environmentally friendly, energy efficient and sustainable technologies.
- **Advisory services at regional and national level:**
We advise government organisations on the implementation and compliance with the requirements of the Montreal Protocol and climate protection measures. To this aim we support partner countries especially in the development of sustainable ODS phase out strategies, legislation and systems of certification for companies and service technicians as well as training. We aid our partners in the development of sector-specific Nationally Appropriate Mitigation Actions (NAMAs) and in the implementation of concrete mitigation measures involving the private sector.
- **Technology transfer and cooperation:**
We support companies in the selection of environmentally friendly alternatives to ozone depleting substances and the conversion of their production lines to environmentally friendly technologies. We initiate and establish technology cooperation with and within partner countries and cooperate with science and research.
- **Environmental reporting and sector analysis:**
We draw up annual reports on the production and consumption of ODS. We also advise our partner countries on the elaboration of effective data collection sys-



tems and the analysis of the sectors which use refrigerants and blowing agents.

- **Further education and public relations:** We offer training and workshops for political decision makers as well as technicians, trainers and specialist personnel. We regularly organise expert events, provide information on alternatives to ODS and develop public awareness initiatives on ozone and climate protection.

The benefits

Proklima provides political advice in multi-lateral negotiations and in the implementation of national legislation and international standardisation. Moreover Proklima supports partner countries in building local capacity, for instance through the training of refrigeration technicians. Technology cooperation has been established through diverse pilot projects and production converted to natural refrigerants. In industry users and consumers like supermarkets, commercial companies, industrial parks, hotels, transport and logistics concerns all see long-term benefits from the modern, energy efficient technologies. With the aid of monies from the Multilateral Fund Proklima has so far been able to contribute to the reduction and discontinuation of the use of more than 8,100 tonnes of ozone depleting substances thereby avoiding over 100 million tonnes of CO₂ and actively protecting the climate. With 1 Euro per tonne carbon dioxide equivalent Proklima makes a matchlessly cost efficient contribution to the protection of the climate and the ozone layer with an immediate, durable and tangible impact in a definite industrial sector which influences many areas such as the cooling chain and food security, health, employment and energy production. Thanks to our years of experience we are in a position to develop and implement

together with our partners applied solutions tailored to the relevant needs.

An example from the field

Supermarkets use a lot of electricity. On average approximately 70% of their energy costs are allotted to refrigeration and air conditioning. Supermarket refrigeration units are often based on synthetic refrigerants which have high global warming potentials. In the course of a project in South Africa the supermarket chain Pick 'n Pay converted two of their refrigeration and air conditioning units which were running on fluorinated refrigerants. Proklima introduced systems that use natural, environmentally friendly refrigerants and improve energy efficiency. The project achieved a reduction of emissions of 20% compared to the best conventional systems. Overall it was possible to reduce energy consumption by nearly one third through the increase in energy efficiency. The technicians from the suppliers and the maintenance sector were trained on the new systems and are now better qualified. There is now also local engineering capacity available able to plan, manufacture and start up these new systems. Following the successful pilot installation 25 further branches of the supermarket chain were converted to climate friendly systems. The project was promoted to a best practice example and convinced other supermarket operators in South Africa to convert to the use of natural refrigerants.

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