

Cosmo Oil offers technical assistance and technology transfers to help solve environmental problems in oil-producing and developing nations.

The Cosmo Oil Group is putting its people and expertise to work in order to spread technologies for environmental protection, energy conservation and safety management in oil-producing and developing countries.

Most of these activities take place in the form of technical assistance for studies relating to various types of development projects and energy conservation model projects. Examples include training programs inside and outside of Japan and overseas studies funded by the Japan Cooperation Center, Petroleum (JCCP); dispatch of experts on both long- or short-term basis to overseas projects implemented by the Japan International Cooperation Agency (JICA); and studies relating to the global environment undertaken by the New Energy and Industrial Technology Development Organization (NEDO). The Cosmo Oil Group supports these activities by working with the relevant national governmental organizations.

Examples of overseas cooperation

United Arab Emirates (UAE)—Studies of environmental protection technology for refineries, and consideration of resource and environmental protection technology

As an example of the Cosmo Oil Group's technical assistance to the Abu Dhabi National Oil Company (ADNOC), Cosmo Oil Co., Cosmo Research Institute and Cosmo Engineering Co. have jointly submitted practical technical

recommendations for resource and environmental protection measures to be taken at the Ruwais refinery operated by TAKREER (the Abu Dhabi Oil Refining Company).

Studies on the feasibility of eliminating the burning of flare gas have been completed and practical problems are being addressed to move into the implementation phase. In addition, we are making progress in technical studies aimed at finding a way to recover vapors released into the atmosphere while loading naphtha tankers.

Indonesia—Model project with the Indonesian State Oil Company

Cosmo Oil Co. and Cosmo Engineering Co. are working on a model project to recover flare gas and hydrogen at the Indonesian state oil company's Balikpapan refinery in East Kalimantan. Recovery of gas from the refinery's flare-gas system is expected to result in an annual reduction of about 110,000 tons of fuel consumption.



Flare at Balikpapan refinery, Indonesia

This project has been designated by NEDO as a "Model Project for Improvement of Energy Efficiency," the first such project involving an oil refinery. Not only does it aim at more efficient energy use, but it is also meaningful from the point of view of international cooperation for preventing climate change.

Training programs (FY2002) (Technologies for environmental protection, energy conservation, safety management)

	No. of courses	No. of persons	Country
Trainees accepted	8	38	UAE, Qatar, Iran, Indonesia, Mexico, China
Instructors dispatched	7	22	Iran, Indonesia, Vietnam, Thailand, China

Long-term dispatch of specialists (Technologies for environmental protection, energy conservation, safety management)

Country (Institution)	Field of expertise	Duration	No. of persons
Egypt (Egyptian Environmental Monitoring Center)	Water pollution analysis technology	Aug 2000–Aug 2002	1
Chile (National Environmental Center)	Industrial wastewater/water quality analysis technology	May 2000–May 2002	1

Dispatch of specialists to NEDO's "Model Project for Improvement of Energy Efficiency"

Country (Institution)	Project	Duration	No. of persons
Indonesia (Pertamina, the Indonesian State Oil Company)	Model project for refinery flare gas and hydrogen recovery	2002–2004	6

JCCP-commissioned surveys on "Basic Oil Industry, etc., Infrastructure in Oil-producing Countries"

Country (Institution)	Type of research	Duration	No. of persons
Iran (Bandar Abbas refinery)	Environmental protection technology in oil refining (vapor recovery)	2001–2004	6
UAE (Abu Dhabi National Oil Co.)	Environmental protection technology in oil refining (vapor recovery)	2000–2003	4
UAE (Abu Dhabi National Oil Co.)	Environmental protection technology in oil refining; health, safety, environmental management technology (zero-flare technology; flair gas reduction)	2002–2003	4 (To increase in 2003)