

**We aim to be known as “Cosmo Oil—the environmental choice.” Promoting the effective use of energy resources is one way we are working to earn that title.**

As a result of rapid social and economic changes that have occurred since the Industrial Revolution, humanity today consumes enormous quantities of fossil fuels. This consumption is thought to be one of the major causes of climate change. As global environmental problems have become more obvious and environmental awareness has grown, the world has been searching for practical sources of energy that involve lower environmental impacts.

**Japan’s energy in 2010**

Japan’s energy consumption in fiscal 1999 was 402 million kl in crude oil equivalent (see table below), an increase of 15.2% over 1990 levels, although the country has committed itself to reduce greenhouse gas emissions by 6% from 1990 levels under the Kyoto Protocol. In this context, the Ministry of Economy, Trade and Industry (METI) has set a target of 400 million kl for the year 2010, and is focusing its efforts on suppressing limiting increases of energy consumption in the industrial and transportation sectors.

**Japan’s final energy consumption, by sector —past and predicted (million kl, crude oil equivalent)**

	1990	1999	2010 (target)
Industrial	183	197	185
Non-industrial: household	46	55	58
Non-industrial: commercial	39	50	63
Transport: passengers	39	53	50
Transport: freight, etc.	42	47	45
<b>Total</b>	<b>349</b>	<b>402</b>	<b>400</b>

Source: Based on the report “Energy Policies: Looking Ahead,” General Energy Investigation Committee (METI), July 2001.

In 1999, Japan’s total energy supply amounted to 593 million kl (crude oil equivalent), of which petroleum contributed 52% (see table below). Petroleum’s proportion of the total energy supply has declined gradually from 77% at the time of the oil shock in 1973. The growing contributions of natural gas (today 13%) and nuclear power (13%) have been major factors in this change. Meanwhile, renewable energy (mostly hydro) accounts for 4.9% and “new energy” (examples include solar and wind power, refuse-derived fuel, fuel cells, etc.) for only 1.1%.

Government and industry are pinning great hopes on new forms of energy. A future energy scenario prepared by METI’s General Energy Investigation Committee is based on the view that

it will be feasible to boost new energy’s share of the total energy supply to 3% by fiscal 2010, through increases in windpower generation (38 times current levels), photovoltaic generation (23 times), and other sources. Although petroleum’s share declines to 45% in the committee’s scenario, this still means that petroleum will continue to play an important role.

**Japan’s primary energy supply—past and predicted (million kl, crude oil equivalent)**

	1990	1999	2010 (target)
Petroleum	307	308	271
Coal	87	103	114
Natural gas	53	75	83
Nuclear	49	77	93
Hydro†	22	21	20
Geothermal†	1	1	1
New energy†	7	7	20
<b>Total</b>	<b>526</b>	<b>593</b>	<b>602</b>

† indicate renewable energy. Source: Based on the report “Energy Policies: Looking Ahead,” General Energy Investigation Committee (METI), July 2001.

**How is Japan tackling climate change?**

Faced with rising energy consumption, it is obvious that Japan must shift toward forms of energy that emit fewer CO2 emissions. In this context, the government has set targets to boost the use of clean energy vehicles (such as electric, fuel cell, hybrid and natural gas-powered vehicles) in fiscal 2010 to more than 50 times the number in fiscal 1999. Besides such plans to use alternative fuels, the government and industry now have many other technologies at the research and development phase. But the challenge is not just to design and promote new vehicles—changes in types of energy used will inevitably require extensive improvements in the infrastructure for provision of fuel and energy. For example, service stations that today supply only gasoline may in the future also have to sell hydrogen and electricity. It is clear that careful consideration is needed regarding decisions affecting which fuels and technologies will become mainstream in the future, because those decisions will have major implications for the government, industry and society.

Besides these factors, various policies are likely to be created to promote cogeneration and fuel cells, and further deregulation is expected in electricity and natural gas sectors, as the