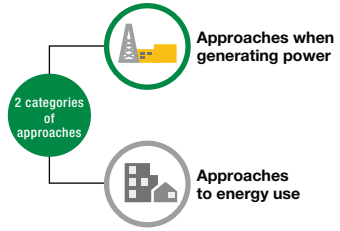
Protecting the Earth from global warming

Well-balanced mixture of power sources



Terminology

Liquefied natural gas (LNG)

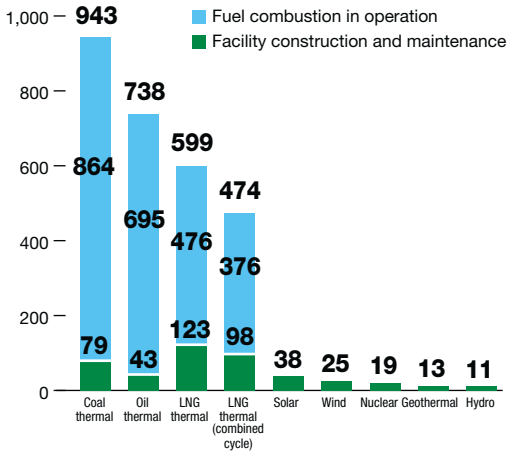
LNG is produced by liquefying natural gas, which consists mainly of methane (CH_4) and ethane (C_2H_6), by cooling it to minus 162°C.

The level of CO_2 emissions varies with the method of power generation

Nuclear power, hydropower, and natural energy (e.g., solar and wind power) do not emit CO_2 in the power generation process. Thermal power stations fired with fossil fuels such as coal and oil emit CO_2, but can lower these emissions relatively by using liquefied natural gas (LNG)* as fuel.

Life cycle CO_2 emissions by type of power generation

g-CO_2/kWh (transmitting end)



* Due to rounding, total figures may not equal sums from additions.

* The above figures show CO_2 emissions from energy consumed during all stages: extraction of raw materials, construction of power generation facilities and the like, fuel transportation and refining, plant operation and maintenance and burning of fuel to generate power. CO_2 from nuclear power includes emissions from domestic reprocessing of spent fuels and the utilization of MOX fuels in light water reactors as per current plans and also includes disposal of high-level radioactive wastes.

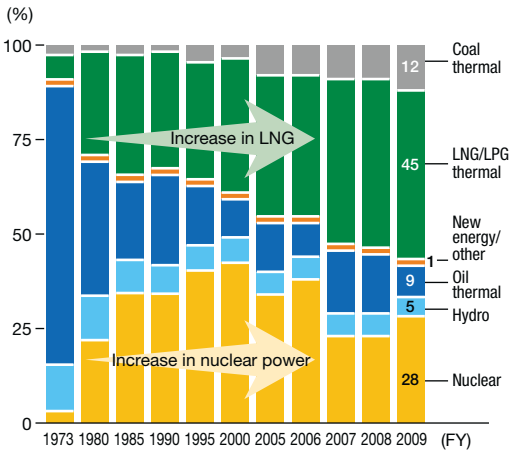
Source: Central Research Institute of Electric Power Industry report, "Evaluation of Life Cycle CO_2 Emissions of Power Generation Technologies"

Utilization of nuclear power and LNG helps to curtail CO_2 emissions

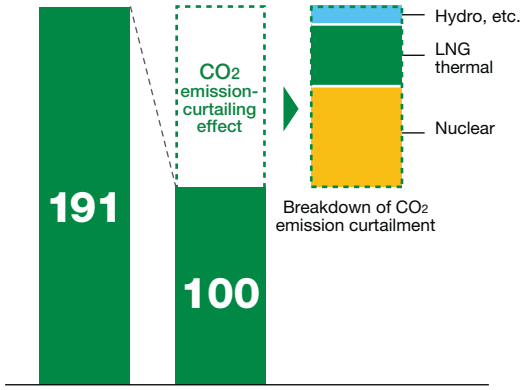
TEPCO utilizes the well-balanced combination of energy resources to provide an economical and stable supply of electricity with consideration for the environment. Especially, our longtime efforts to promote use of nuclear power and LNG are helping to curtail CO_2 emissions.

TEPCO therefore has power stations of the nuclear, LNG-fired thermal, other thermal, hydro, and other types. If we had only oil-fired thermal power stations, our CO_2 emissions would be over 1.9 times as high.

Trends in the composition of power generation



CO_2 emission-curtailing effect



* Test calculation of CO_2 emission reduction potential if actual CO_2 emissions = 100 (FY2009 performance)

TEPCO is working to reduce CO_2 emissions with a well-balanced combination of generation methods.

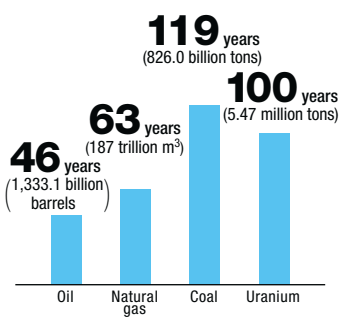
Column Japan—aiming for well-balanced energy utilization

The situation in Japan, which has to import finite energy resources

The supply of energy resources such as oil and natural gas is limited. Moreover, the future is projected to bring an increase in energy consumption, especially in China and other Asian countries, and this is causing apprehensions about a tighter supply of energy worldwide. Under these circumstances, assurance of energy supply stability is a vital issue for Japan, which has few resources of its own and depends on import for almost of all of its energy.

Ratio of reserves to production (remaining years)*

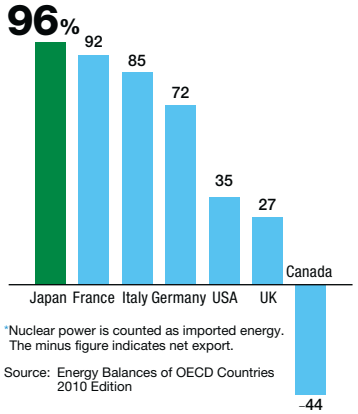
Figures in parentheses indicate proven recoverable reserves*



Source: BP Statistics 2010 (oil, natural gas, coal), Uranium 2007 (uranium)

Degree of dependence on import for energy (FY2008)

(%)



*Nuclear power is counted as imported energy. The minus figure indicates net export.

Source: Energy Balances of OECD Countries 2010 Edition

Well-balanced energy utilization

Energy resources each have their own distinctive features in a variety of other aspects as well as the environmental one. The important point is to find the well-balanced combination of energy resources based on these features while also taking account of not only effect for lowering environmental impact but also economic merit and supply stability.

Characteristics of types of energy

Emits CO_2 in power generation process	Coal	• Comparatively high CO_2 emissions • Abundant reserves in broad distribution around the world; available at stable prices
	Oil	• Wide range of applications other than power generation • Reserves mainly in the politically unstable Mideast; large price fluctuation
	LNG	• Comparatively low CO_2 emissions • Can be imported from politically stable countries, but prices are linked to oil
Zero emissions of CO_2 in power generation process	Solar Wind	• Limitless domestic supply of energy • Unstable output, low energy density • High cost of generation facility installation
	Uranium (nuclear power)	• Wide distribution mainly in politically stable countries; stable prices • Need for rigorous management of radiation and radioactive waste
	Geothermal	• Domestic energy, but limited to volcanic zones
	Hydro	• Low prospects for future large-scale development

Terminology

Proven recoverable reserves

The amount of buried resources whose extraction is estimated to be economically viable at the current level of technology.

Ratio of reserves to production (remaining years)

The quotient of division of the proven recoverable reserves (the yearly demand in the case of uranium) by the yearly production volume