

Let's Stop Nuclear Power Generation!

Start from what you can do yourself.

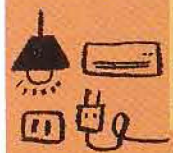


The Bible teaches that it is the gift of rain and the work of people that make life grow on earth (Genesis 2:5-6). Rain is a gift to the earth and it is the work of humans to cultivate the earth. Fruits are produced by their combination. To "cultivate" the earth is to "serve the earth," and this is the vocation given to humankind.

Learning from Jesus, we see the flowers in the field and birds in the sky (Matthew 6:28) and give praise to God in great nature. God, who is the "Friend to Life" (Book of Wisdom 11:28), dwells in all creatures. God becomes the voice of the voiceless (John 1), and took the form of a fragile,

delicate being (Philippians 2:7). Jesus taught people to interact with all of life, and that we should give life to and share with each other (John 6).

But the human invention "Nuclear Power Generation" has produced an enormous amount of death ash, nuclear waste that must be managed semi-permanently and the possibility of global-scale catastrophe. Whichever of these one looks at, it is an act of destruction against all life and God's creation. Let us reflect for a moment and re-think reality, so we can stop nuclear power generation, the worst possible choice for life.



Stop nuclear power generation in our own area. Let your electric company know that you oppose nuclear power, by e-mail and fax.

Let's stop wasting energy!

Make our voices heard through petitions and elections.



Create opportunities at home, church, or in our communities, to learn about the problems of nuclear power.

Invite speakers and tell friends about the problems of nuclear power.



Look for ways to localize electric generation, rather than rely on transmission lines.

Revitalize local communities with sustainable production-consumption cycles, rather than transporting materials from far away.



Solar photo/thermal, Wind power, Wave power, Micro hydropower... Open the way for a new energy future.

Editorial Endnote

This leaflet was first published before the Fukushima nuclear power plant accident of March 11, 2011, but orders for it increased dramatically after the accident. Encouraged by requests to publish an English version for readers abroad, we are finally able to publish this English version on 3/11, 2012, exactly one year from the incident.

Why is this leaflet all the more important now? The answer is found in the title's message: "Nuclear Power is NOT the solution to Global Warming! It is the worst choice for Earth's life environment!" The answer is also in the detailed, accurate information and excellent design, which explain the important problems of nuclear power generation.

Ever since their long campaign of lies was exposed by 3/11, promoters of nuclear industries have clung to their final truthful argument: "Without nuclear power, 'global warming' will worsen. Nuclear power is 'green.'" This leaflet soundly exposes this fraud, too.

This is the lie used by Japan and other countries of the

North to export nuclear power to countries of the South, and the same lie is used by receiving governments to sell nuclear power to their own citizens. The lies that "nuclear power is safe," that "nuclear power is cheap" and that "we won't have enough electricity without nuclear power," and the problem of an enormous amount of "death ash," are all explained here. So please distribute this leaflet to many people and learn from it.

The original Japanese leaflet, published by the Japanese Catholic Council for Justice and Peace, is now translated and published in English by the National Christian Council in Japan. We sincerely thank Mr. Hiroaki KOIDE of Kyoto University Research Reactor Institute for his editorial oversight as an expert, Mr. David McIntosh for his translation, and Ms. Chizuko KATO for her wonderful editorial work.

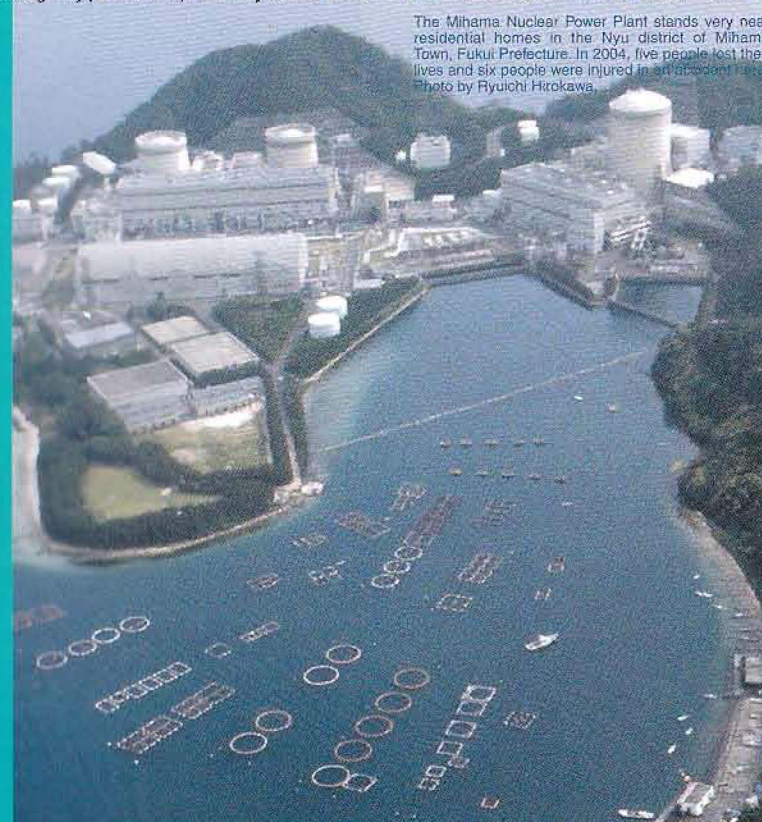
Amid loud cries of "We don't need nuclear power!" and "Let's get rid of nuclear power now!" we have faith that this leaflet will be helpful to people in many ways.

Sister Yasuko SHIMIZU, Nuclear Power Problem Leaflet Production Team

Published by National Christian Council in Japan ■ Address: 2-3-18-24 Nishiwaseda, Shinjuku-ku, Tokyo 169-0051 Japan ■ Phone: +81-3-3203-0372, Fax +81-3-3204-9495, E-mail, general@ncc-j.org ■ URL <http://ncc-j.org> ■ Concept/Publication of Original Japanese Edition (Dec. 2010): Japanese Catholic Council for Justice and Peace, Nuclear Power Problem Leaflet Production Team ■ Editorial Supervisor: Hiroaki KOIDE ■ Translator: David McIntosh ■ Editor/Designer: Chizuko KATO, Setsuko HONDA ■ Illustrator: Jin KITAMURA ■ March 11, 2012

Note: This leaflet was originally printed in Japan shortly before the accident occurred at Fukushima No.1 Nuclear Power Plant on March 11, 2011

The Mihama Nuclear Power Plant stands very near residential homes in the Nyu district of Mihama Town, Fukui Prefecture. In 2004, five people lost their lives and six people were injured in an accident there. Photo by Ryuichi Hirokawa.



Nuclear Power is NOT the Solution to "Global Warming"!!

It is the worst choice for Earth's life environment

English Edition : National Christian Council in Japan
Original (Japanese) Edition : Japanese Catholic Council for Justice and Peace

Why is it the Worst Choice?

Every day we hear advertisements about "Global Warming," and the explanation, "Global warming is caused by Carbon Dioxide (CO₂)." But CO₂ is not the only cause of global warming. If all of our attention is focused on this, there is concern that measures adopted against CO₂ will make other problems worse.

And yet electric power companies, governments and the mass media repeatedly

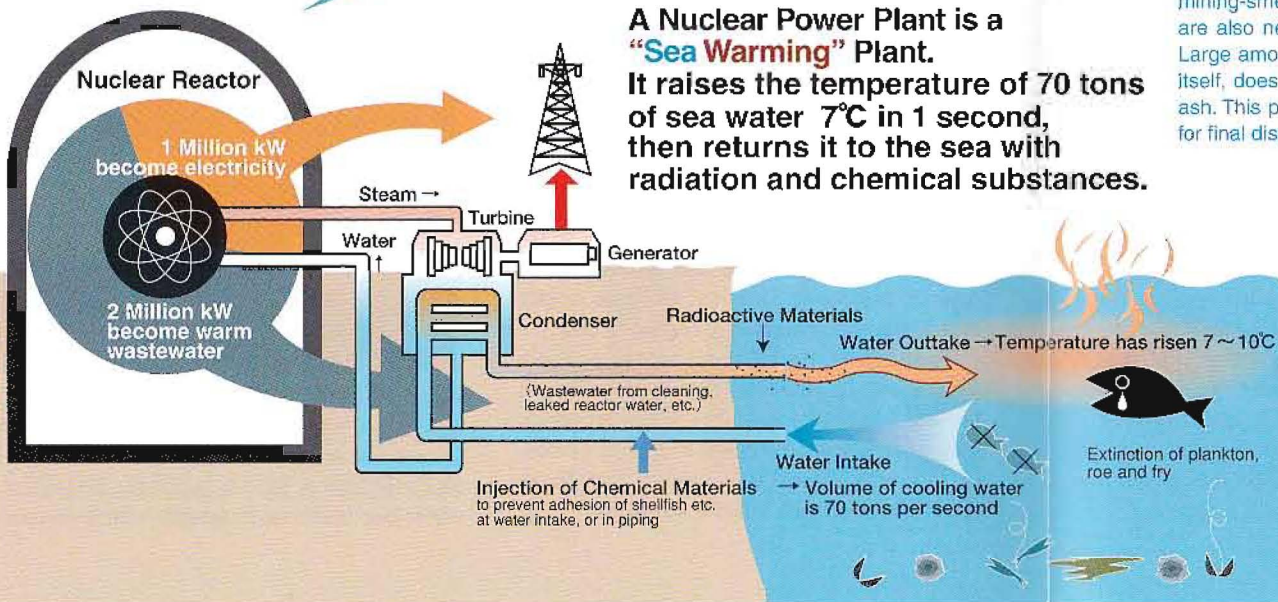
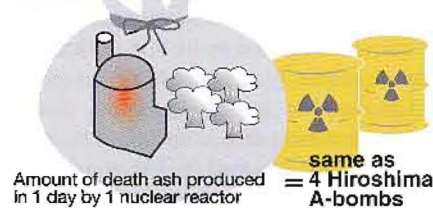
advertise that "Nuclear power generation is an effective way to reduce CO₂." Why is such advertising being done? It is important to ask this question.

The truth is, nuclear power generation is itself accelerating global warming, and constantly producing radioactive waste, or "death ash," which has ruinous effect on all life environments on Earth. But these problems remain concealed.

Nuclear power plants produce radioactive waste, "Death Ash." Japan's nuclear power plants have produced death ash equal to 1.2 million Hiroshima bombs!

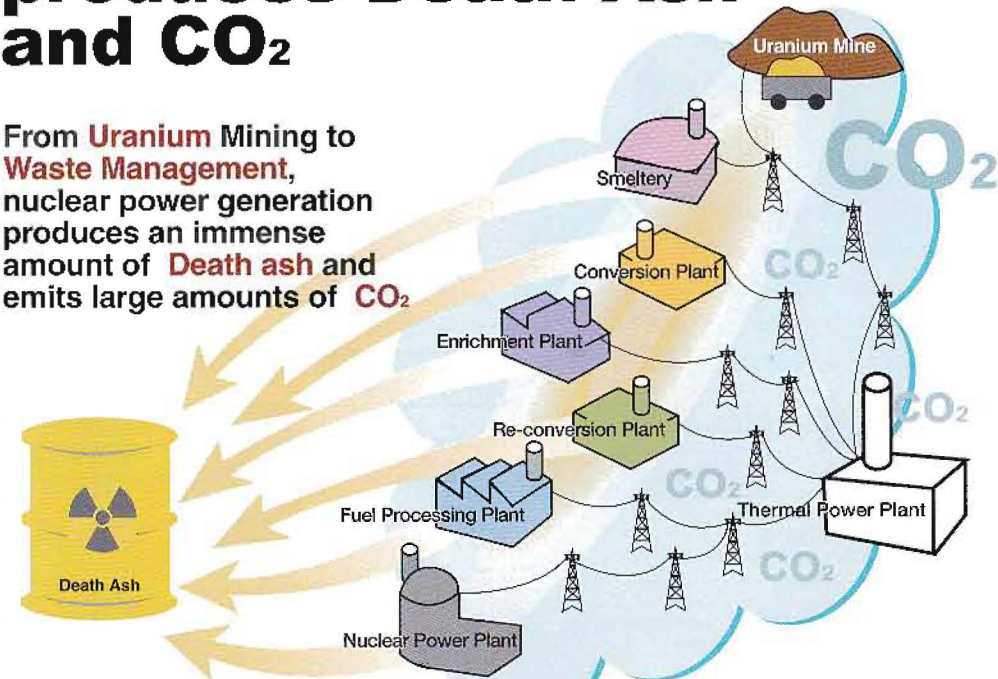
Since nuclear power generation began in Japan, nuclear power plants have produced more than 6 Trillion kWh of electric power. Meanwhile, the total amount of fission product, or death ash, produced by this activity is equal to that of 1.2 million Hiroshima atom bombs.

A nuclear power plant with an output of 1 million kW burns 3 kg of uranium each day. In each day of operation, a single nuclear reactor produces energy equal to 4 Hiroshima bombs, and the same amount of fission product, or death ash.

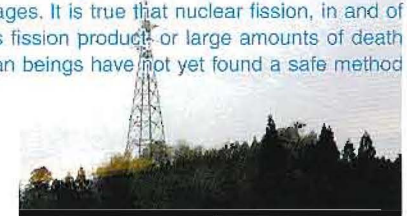


Nuclear Power Generation produces Death Ash and CO₂

From Uranium Mining to Waste Management, nuclear power generation produces an immense amount of **Death ash** and emits large amounts of **CO₂**



▲ Nuclear-powered electric generation, which utilizes the phenomenon of uranium fission, differs from processes that produce CO₂ by combustion. But it is NOT "a technology that produces no CO₂." To operate a nuclear reactor, other energy supply systems are needed at every stage of the mining-smelting-conversion-enrichment-transport-processing-usage cycle. Other energy sources are also needed for plant construction, and even for the storage and management of spent fuel. Large amounts of CO₂ are emitted at each of these stages. It is true that nuclear fission, in and of itself, does not emit CO₂, but what it creates instead is fission product or large amounts of death ash. This problem is made worse by the fact that human beings have not yet found a safe method for final disposal of this deathly poison.



◀ Nuclear power plants produce an immense amount of heat, of which only 1/3 is used to generate electricity. There is nothing that can be done with the remaining 2/3 of heat, except let it go to waste. Since the heat that is produced by a nuclear reactor is both immense and dangerous, a single 1-Million kW nuclear reactor uses 70 tons of sea water per second for cooling. Together, Japan's 54 nuclear power plants raise by an average 7°C the temperature of 100 Billion tons of seawater, which equals 1/4 of total annual water flow in all of Japan's rivers, and releases this back into the sea mixed with radiation and chemical substances. Nuclear power plants are sea-warming plants, which accelerate "global warming." The effects of warm wastewater on the surrounding ecosystem are also serious.

Nuclear Power Generates Many Serious Problems Nuclear Power Promotes “Global Warming”

Q1 Is it alright to focus only on global warming and CO₂?

It has been a long time since human beings appeared on the planet Earth. Ever since the Industrial Revolution began in late 18th Century, humans have come to use immense amounts of energy. First we cut down forests and used wood fuels. When this was not enough, we extracted underground resources like coal, oil and natural gas, then developed nuclear fuel, with its manifold dangers, to become an unprecedentedly energy-wasting society. With industrialization and the use of other mineral resources such as iron, copper and bauxite, we caused grievous pollution worldwide, leading to the loss of lives, homes and livelihoods for many people.

Recently there has been much fuss about “Global Warming.” Many scientists are concerned that carbon dioxide (CO₂) and other gasses produced by burning fossil fuels will cause “warming” of the planet and terrible damage in the future. But we cannot limit our attention to CO₂. Carbon Dioxide is not the only



A mountain of stripped asphalt within the grounds of Kashiwazaki-Kariwa Nuclear Power Plant, after suffering damage by the Chuetsu Offshore Earthquake (July 16, 2007). Photo: Mitsuhiro TANAKA, science writer

cause of “warming.” If we think only about this issue, we will lose sight of other important problems. There is even concern that policies adopted to address CO₂ alone will make other problems worse. The natural disasters and climate conditions produced by humanity’s many activities have a variety of causes, and cannot be neatly packed under the label, “CO₂ and global warming.”

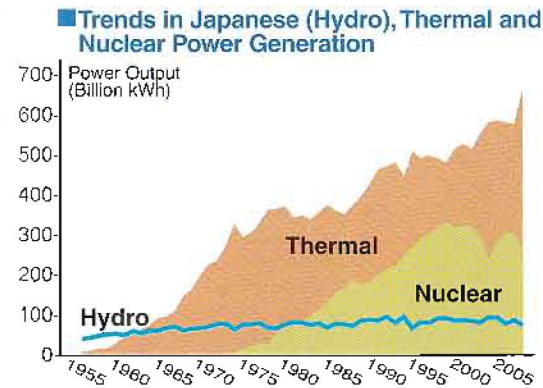
What we must aim to build is a “low energy society.”

Q2 Is it true that nuclear power is the solution to “global warming”?

The truth is opposite. Nuclear power is NOT a trump card against “global warming,” but the worst possible choice.

In past, Japan’s government and electric power companies have advertised that “Nuclear power is a zero-emission power source that emits no CO₂.” But the wording has changed more recently, to “Nuclear power emits no CO₂ during power generation.” The fact is, neither of these statements is correct.

The operation of a huge nuclear power plant requires massive thermal and other energy supply systems to extract, enrich and refine uranium fuel, during construction of a reactor, and even while power is being produced by the nuclear fission of uranium. Furthermore, massive energy is needed when dismantling highly contaminated reactors that are being phased out due to old age, and long into the future to manage spent nuclear fuel and death ash. Also, a nuclear power plant cannot adjust output in response to fluctuations in demand, and requires a constant back-up power source



(Information from Annual Electric Utility Gazettes)

Ever since Nuclear power generation first started in Japan, the volume of thermally produced electricity has risen steadily, in direct proportion with the volume of nuclear power production. We can see clearly from this that one cannot say, “If we increase nuclear power generation we can reduce CO₂ emissions.”

to guard against any accident. Since the creation of each new nuclear power plant leads to the creation of more oil/coal-powered thermal power plants, it necessarily increases demand for electric power. Because nuclear power generation is constantly supported by power sources that emit large amounts of CO₂, it is clearly false advertising to say that nuclear power contributes to the prevention of global warming.



Full view of Rokkasho Reprocessing Plant (Aomori prefecture), lynchpin of efforts to promote Japan’s nuclear fuel cycle policy. Photo: Chizuko KATO

Q3 What is the true aim behind promotion of nuclear power as a countermeasure against “global warming”?

The true aim is to use “prevention of global warming” as an excuse to revitalize the nuclear power industry.

Governments and the nuclear power industry have faced strong opposition from residents in many locations and have been unable to build additional nuclear plants. This is because they have failed to resolve the fundamental dangers of nuclear power and risks of nuclear accidents. As if to say, “Our business chance has arrived,” they are scheming to use “global warming” to promote nuclear power. One example of this was the Asia-Pacific Economic Cooperation (APEC) Energy Ministers Conference, held on June 19, 2010. Led by Japan, the gathered ministers argued that “from the viewpoint of global warming prevention, the importance of nuclear power is rising” and adopted the “Fukui Declaration,” which explicitly commits to the “promotion of new nuclear power facilities.” This is the first time that such a promotional stance toward nuclear power has been adopted by APEC. Japan’s clear intent was to lend momentum to its export of nuclear power to Asia.

Japan’s budget for climate change-related research in 2010 was ¥1.13 trillion (approximately \$10 billion). Within this amount, ¥100 billion is earmarked as budget for the promotion of nuclear power, plutonium, fast-breeder reactor and the nuclear fuel cycle. This is a concession to nuclear power interests, who are using “global warming” as their excuse.

ems!

Q4 What is to be done about "death ash," the radioactive waste? Is it OK to continue nuclear power generation?

In each year of operation, a single 1 million kW nuclear power plant produces 1,000 times the amount of fission product, or "death ash," that was produced by the Hiroshima atom bomb. The total amount of fission product that has been produced to date by Japan's 54 nuclear power plants is 1.2 million times that of the Hiroshima bomb, and this waste continues to emit radiation. Furthermore, since Japan has adopted a national "nuclear fuel cycle policy" (explained later), it already possesses plutonium in an amount equal to 4,000 Nagasaki bombs (see note). A nuclear power plant is also a factory for the production of nuclear materials used in nuclear bombs.

The policy of the Japanese government is to bury death ash underground after it has cooled. However, such highly radioactive waste is dangerous, and must be isolated from the biological environment for one million years; something that is beyond human capabilities for many reasons. This is why the most important thing to do is, stop nuclear power generation immediately.

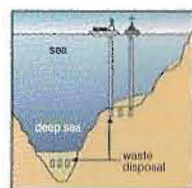


The nuclear reactor destroyed in the nuclear plant accident at Chernobyl, in the former USSR, on April 26, 1986. Death ash equivalent to 800 Hiroshima atomic bombs was emitted, causing radioactive contamination worldwide.



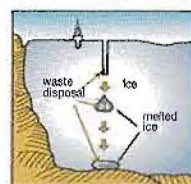
X Disposal in Space

Technically difficult



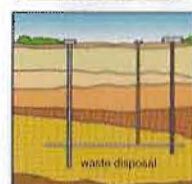
X Disposal in Seabed

London Treaty



X Disposal in Ice Bed

South Pole Treaty



? Disposal in Earth Strata

Risks to future generations incalculable

Note: Plutonium, which has an atomic weight of 94, is a substance that does not exist in nature. The fact that it was used in the Nagasaki nuclear bomb tells us that possession of plutonium carries special meaning in nuclear development. At the end of 2008 Japan possessed 6,625kg of fissile plutonium domestically. There is another 25,212kg in France and Britain that will eventually be brought to Japan, which adds up to a total of approximately 32 tons. The substance is an ultimate toxin, which can cause death by lung cancer with just 1/1,000,000th of 1 gram.

Q5 But... Would we have enough energy without nuclear power plants?

Japan WOULD have enough electricity even if we stopped nuclear power immediately. In fact, if Japan stopped all nuclear power plants and replaced their power with thermal generation, we would need only 70% of available generating capacity. We have so much excess capacity, we can easily replace nuclear power. We are operating nuclear power plants at full capacity to produce just 18% of power, while leaving thermal power plants dormant. Nuclear power generation, which uses nuclear fission of uranium to generate electricity, falls into a dangerous state if electric generation is halted suddenly. This is why it cannot be stopped, and why we are forced to stop thermal and hydro generation instead.

But the solution is not as simple as saying,

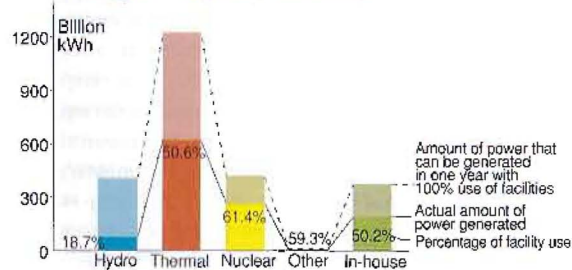


Windmills over water, Denmark. Photo provided by Institute for Sustainable Energy Policies

"If we have enough energy even if we stop nuclear power generation, then everything is fine." Just like uranium, the oil and coal that is used for thermal generation are finite resources, and are destined to run out in the future. Using natural gas generation as the mainstay, which is CO₂-saving and highly efficient, we must consume fossil fuels sparingly while we shift society toward regionally-dispersed, natural and sustainable energies, like solar power, wind power, wave power, geothermal power and small-scale hydropower.

We need to re-examine our wasteful use of energy and aim toward a lifestyle that places minimal strain on the earth. It is the will and actions of each person, community and nation that will steer us toward a sustainable society.

Electric Power Generation Facilities and Usage in Japan (Fiscal 2008)



Annual percentage use of all electric power generation facilities in Japan: 48%
In Japan, nuclear power generation supplies over 20% of all electricity. For this reason, it has been widely believed that nuclear power is needed. However, there is so much excess power generation plant in Japan, less than 50% of total capacity is used annually. Even if all nuclear power was replaced with thermal power, the percentage use of facilities would be less than 70%.

Truth about the Nuclear Power "Renaissance"

By Hiroaki Koide

Kyoto University Research Reactor Institute

In the United States, the country which has driven nuclear energy around the globe, the combined number of nuclear power plants in operation, under construction and in planning peaked in 1974. By the same measure, this number peaked in Western Europe in 1977. In other words, the US and Europe started to withdraw from nuclear power generation 35 years ago. This comes from some fundamental reasons, which are difficult to solve: the technology is uneconomic; it raises fears of catastrophic accident; it produces ineradicable radioactivity; and it is the same technology that makes nuclear weapons. Feeling increasingly impatient, the promoters of nuclear energy started to use the problem of Global Warming as an excuse to tout the "Renaissance of Nuclear Power!" But not even one of the fundamental problems of nuclear power has been solved.

No doubt countries like China and India, which have large populations and a shortage of energy, will try to use nuclear energy. "Advanced" nations, who continue to waste huge amounts of energy on decadent lifestyles, cannot force them to stop. Manipulative policies may lead to the building a small number of new plants in the West, but nuclear power will not make a comeback in Europe or North America. Not in Japan, either. The nuclear power industry is trying to sell nuclear generation to China, India and other countries, so it can stay alive.

There is no justice in selling to other countries a technology that we ourselves cannot manage or maintain, just for the sake of our own profit.

Japan is a Dangerous Earthquake Zone Upon this land Stands 54 nuclear Power

Located along the border between an ocean plate and continental plate, the islands of Japan are among the most earthquake-prone in the world. Japan has built and operated 54 nuclear power plants upon this land and, by promoting nuclear fuel cycle development as a national policy, Japan is introducing new dangers. If a great earthquake strikes a nuclear power plant or nuclear fuel fabrication plant, it is inevitable that a catastrophic nuclear accident will occur.

The approaching threat of a great earthquake: The Great Tokai Earthquake and Hamaoka Nuclear Power Plant

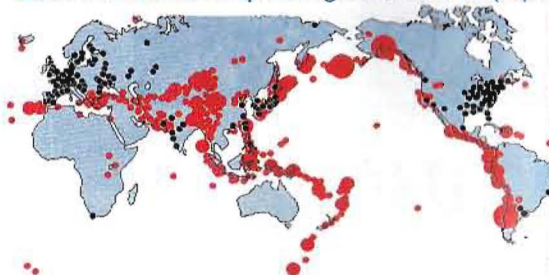
It is well known that major earthquakes have periodically struck the area from Tokai to Nankai regions of Japan since ancient times. It is also known that the Tokai region has seen no major tremor since 1854.

The Hamaoka Nuclear Power Plant (Shizuoka prefecture) stands right on the spot that, experts agree, could be the epicenter of a Magnitude 8-class earthquake. In response to this fact, local residents demanded immediate stoppage of the nuclear power plant and fought for this in court. But the verdict was a complete defeat for the residents. This despite revelations, just before verdict, that the Chuetsu Offshore Earthquake of 2007 had caused damage to Kashiwazaki-Kariwa Nuclear Power Plant (Niigata pref.). One is left to wonder what the judiciary of Japan thinks of the lives and livelihoods of citizens. It is easy to understand how, when the head of a municipality decides to accept a nuclear facility in order to receive grant funds, advancement of the plan can become a higher priority than

safety. The residents immediately appealed the first verdict, and this trial is currently being fought in Tokyo Superior Court.

Surprisingly, plans for a "pluthermal" facility (see section on Pluthermal Power) are also being advanced at this same Hamaoka Nuclear Power Plant. There is no location in Japan where the safety of a pluthermal operation can be guaranteed, but the selection of this nuclear power plant, right on an active fault line, is beyond belief. Under a national policy that favors the nuclear power industry, dangers are being forced upon local regions.

Locations of Earthquakes greater than M7 (●) and Nuclear Power Plants (●)



When earthquake epicenters and nuclear generation sites are plotted on the same map, we can see that, in contrast to other parts of the world, where nuclear plants are built to avoid earthquake epicenters, there is no safe zone within Japan. (Epicenter data: 1903-2002. Nuclear power plant locations: 2001. Diagram provided by Kiyoo MOGI, Professor Emeritus, Tokyo University.)

Mini Lesson What is Nuclear Power Generation, anyway?

Nuclear power generation uses the nuclear fission reaction of uranium or plutonium. This is the same reaction that was used in nuclear bombs and, when this reaction is used, it produces death ash called fission product. Plutonium, a substance that does not exist at all in nature, must be manufactured. Meanwhile only 0.7% of all Uranium, which exists in nature, is the substance that causes fission (U-235). Uranium must therefore first go through a very complicated process, called "enrichment," which requires a tremendous amount of energy.

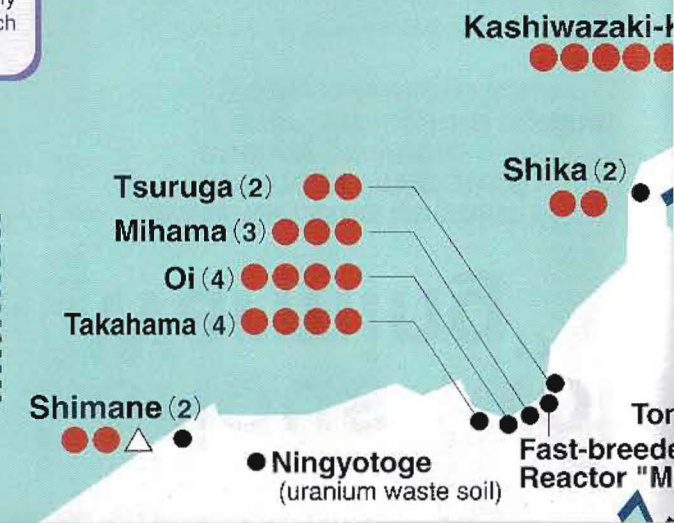
In a nuclear bomb the fission reaction is forced to happen in a single moment, but in nuclear power generation it is controlled, or engineered, to sustain the reaction. The heat that is produced is used to create steam, which turns the turbines that generate electricity. Aside from its use of nuclear chain reaction, the technology is the same as a steam engine from 200 years ago. But its heat efficiency is only 33%. In other words, it is a terribly inefficient electric generation device, which must discard 2/3 of its heat into the sea.

Mini Lesson The Threat of Radiation Exposure

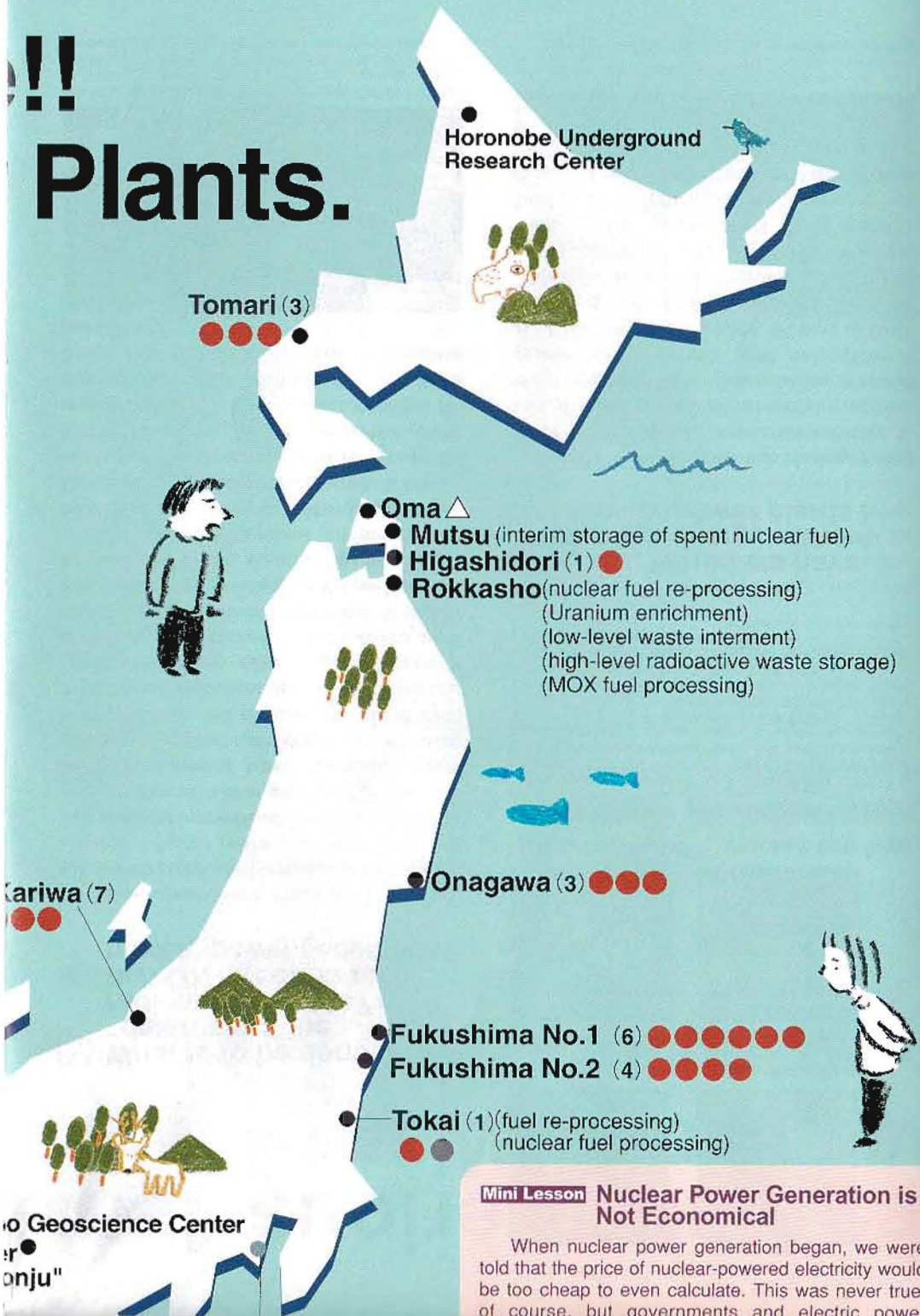
The effects of radiation upon the human body are expressed in units called "Sievert" (Sv). It is said that symptoms such as vomiting appear from about 1 Sv, that nearly half of those exposed die at 3+ Sv, and nearly all exposed persons die at 7+ Sv. Such acute radiation damage does not appear with dosages under 1 Sv, but the incidence of cancer 10+ years later increases in proportion to the exposure. The cancer rate is 1 in 10 persons at 1 Sv, and such episodes of illness are referred to as "late radiation damage."

People who work in nuclear power plants are constantly exposed to considerable effects of radiation even when there is no accident. The problem of radiation exposure among workers is a serious one, and there are many people who have lost their lives, or live in constant fear of the effects of exposure. At the same time, we cannot forget the effects upon surrounding residents. Governments and electric power companies that want to promote nuclear power say, "The effects of radiation that is released into the environment is about the same as that of natural radiation levels, so it is safe." This is a ruse argument, because there is no "threshold" of radiation exposure.

There is Excess Electricity... But there are plans to build new nuclear power plants



!! Plants.



Mini Lesson Nuclear Power Generation is Not Economical

When nuclear power generation began, we were told that the price of nuclear-powered electricity would be too cheap to even calculate. This was never true, of course, but governments and electric power

The Nuclear Fuel Cycle for Plutonium Use promoted by Advanced Threat Nuclear Energy Nation Japan

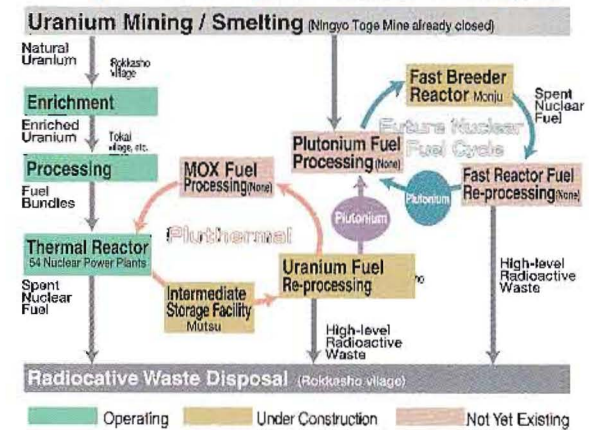
All nuclear power plants now operating around the world use fissile Uranium (U-235) as fuel. But U-235 represents just 0.7% of all Uranium, which means it is a poor energy resource, equivalent to only several per cent of the energy available from coal. For this reason, those who place their hopes in nuclear power have thought of a way to turn non-fissile Uranium (U-238) into fissile Plutonium (Pu-239) and use this as fuel.

But, to achieve this, we need a dream-like nuclear reactor that will burn Pu-239 while converting U-238 to Pu-239 at a pace faster than consumption. This is called a "fast breeder reactor." This technology requires a difficult additional step, called re-processing, to extract Plutonium from the burned Uranium. This string of processes is the "nuclear fuel cycle." (diagram at right)

The substance we call Plutonium does not exist at all in nature. The plutonium that is needed to initiate this "nuclear fuel cycle" must be acquired from some other source. So spent fuel from

currently operating nuclear power plants is used. But current nuclear power plants use what is known as "thermal neutron reactor" technology, which cannot produce Plutonium efficiently. Nonetheless, like any nuclear reactor, Plutonium is produced. In the case of Japan, this spent fuel has been sent to re-processing plants in the U.K. and France, where 45 tons of Plutonium have been extracted. Of this, 70% or 32 tons is fissile Plutonium.

Diagram of Complete Nuclear Fuel Cycle



Fast Breeder Reactor "Monju": Its aim is domestic production of Weapons-grade Plutonium!

In order to realize a full-scale reactor, a small "experimental reactor," a slightly larger "prototype reactor" and a "demonstration reactor," which demonstrates the technology's viability, must be developed.

The fast breeder reactor "Monju," which was built as a prototype reactor, experienced an accident immediately after test operations began. After remaining stopped for 14 years and 5 months, Monju was started up again on May 8, 2010. The technologists who first

another accident occurred, where fuel transfer equipment fell into the reactor core. The transfer equipment was disfigured and so it became impossible to remove it from the reactor core. Decommissioning is the only legitimate future left for the dangerous, jerry-built Monju. And yet, plans remain in place to re-start the reactor and begin power output tests. Why are Japan's nuclear industry promoters so fixated on the fast breeder reactor?

It is because they want to produce weapons-

Yokosuka
(nuclear fuel processing)

Hamaoka (3)
(nuclear fuel processing)



- Operating nuclear reactor
- Decommissioned nuclear reactor
- △ Nuclear reactor under construction
- ▲ Nuclear reactor planned (scheduled location)

companies that pretend that electricity from nuclear power plants is cheap, by producing calculations that piled one assumption upon another. However, it has become increasingly clear, from calculations based on stock reports and other management data, that the unit price of nuclear-generated electricity is highest of all.

Furthermore, even though nuclear power plants, whose output cannot be adjusted, are used as base load plants, they still need pumped hydro plants to discard excess electricity during night hours. Pumped hydro plants are notoriously inefficient and, compared to other power generation methods, their unit price of electricity is inordinately higher. If we add to the cost of nuclear power generation the unit cost of electricity produced by these pumped hydro plants, which exist solely for nuclear power plants, then the unit price of nuclear-generated electricity would be even higher. And if we further included the tremendous amount of public funds spent on land acquisition and development, there is absolutely no "economy" in nuclear power generation.

WEB SITES

- Nuclear Information Resource Service
<http://www.nirs.org/>
- Beyond Nuclear
<http://www.beyondnuclear.org/>
- WISE/NIRS Nuclear Monitor (newsletter)
<http://www.10.antenna.nl/wise/>
- Citizens' Nuclear Information Center
<http://www.cnrc.jp/english/>
- Green Action Japan
<http://www.greenaction-japan.org/modules/entop2/>
- Nuclear Information Resource Service
<http://www.nirs.org/>
- Union of Concerned Scientists : Nuclear Power issues
http://www.ucsusa.org/nuclear_power/
- Greenpeace International : Nuclear issues
<http://www.greenpeace.org/international/en/campaigns/nuclear/>

PUBLICATIONS

Nuclear Roulette
The case against a "nuclear renaissance"
By Gar Smith / International Forum on Globalization, San Francisco: 2011.



Myths About Nuclear Energy
How the energy lobby is pulling the wool over our eyes
By Gord Rosenkranz, Alan and Pauline Chamberlain, trans. Heinrich-BI-Stiftung, EU, Bruxelles: 2010.

Costs, Risks, and Myths of Nuclear Power
NGO world-wide study on the implications of the catastrophe at the Fukushima Dai-ichi Nuclear Power Station
Ray Acheson, ed. / Women's International League for Peace and Freedom: 2011.



These publications are available online for download and/or purchase.

The Dangers Forced, Without Reason, Upon Rokkashomura

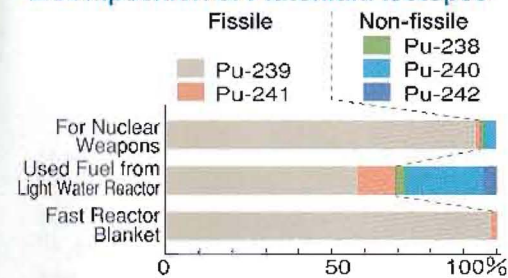
Rokkashomura is in Aomori prefecture, far from Tokyo. Here an array of dangerous facilities needed to support nuclear power have been forced upon a village that uses very little electricity. The most dangerous of these facilities is the nuclear fuel reprocessing plant.

Spent fuel that has been burned at a nuclear power plant contains a mixture of 3 substances; 1. un-burned uranium, 2. fission product created by burning uranium and 3. plutonium created by the attachment of neutrons to uranium. Reprocessing refers to

the process by which plutonium is separated from the other two substances and extracted. During the nuclear power generation stage, fission product and plutonium are sealed in ceramic containers called pellets, or in cladding tubes that encase these. In order to perform processing, the sealed rods must first be opened ("sheared") and the pellets melted in strong nitric acid. This type of facility is so dangerous that it can emit as much radiation in one day as a nuclear power reactor emits in a whole year.

developed Monju have retired from their workplaces, and it has been decided that the demonstration reactor will have a different design, so Monju has no more role to play as a prototype reactor. But on August 26 2010

Composition of Plutonium Isotopes



It's like mixing gasoline into a kerosene stove Plutothermal Power Production Is only a ploy to promote Plutonium consumption

Nuclear power plants that operate today were designed with the assumption that Uranium would be used as fuel. In the case of "Plutothermal," the plan is to mix Plutonium into Uranium to produce Mixed Oxide (MOX), and to burn this as fuel. But burning MOX in a reactor designed for Uranium is like mixing gasoline into a kerosene stove. It makes a dangerous nuclear power plant even more dangerous. Of course, it also reduces

Governments and electric power companies claim that the Rokkasho facility is safe, because gaseous radiation is released from a smokestack that is 150 meters high and liquid radiation is released from the end of a pipe 3 km from shore, at a depth of 44 meters, to dilute the effects. But there is no "safe level" of radiation, and nature has no ability to detoxify radiation. "Dilution" of waste simply means that contamination is spread further.

Furthermore, since there is still no prospect for fast breeder reactors, there remains no use for the plutonium that has been extracted. Plutonium is a material used in nuclear bombs, so this only increases suspicion that Japan might arm itself with nuclear warheads.

grade plutonium domestically. Plutonium produced in a normal nuclear reactor is of low grade, containing just 70% of fissile Plutonium (Pu-239 and Pu-241). By operating the fast breeder reactor, Japan's nuclear promoters are hoping to produce nuclear weapons-grade Plutonium containing 98% fissile Plutonium.

Among the promoters of nuclear power there is a force that is deeply linked to transnational, profit-seeking, financial, industrial, political and military interests, which wants to monopolize power in the world. Their so-called "nuclear deterrence" is a ruse, which stands in polar opposition to the path and principles of humanity.

economy. This is being done because all of Japan's Plutonium, extracted at British and French re-processing plants for use in fast breeder reactors, sits unused.

Unfortunately, plutothermal operations have already begun at Genkai Nuclear Power Plant (NPP) Reactor 3 (Saga prefecture), Ikata NPP Reactor 3 (Ehime pref.), Fukushima No.1 NPP Reactor 3 (Fukushima pref.) and Takahama NPP Reactor 3 (Fukui pref.).



A cloud drifts from Rokkasho Reprocessing Plant toward the wildlife observatory at Obuchinuma wetlands on September 27, 2008, when shearing work was taking place. On the same day, abnormal concentrations of tritium were discovered in airborne water samples taken in the park's vicinity. Radiation measurements taken by Hiroaki KOIDE, Kyoto University Research Reactor Institute. Photo by Masako SAWAI, Citizens' Nuclear Information Center.