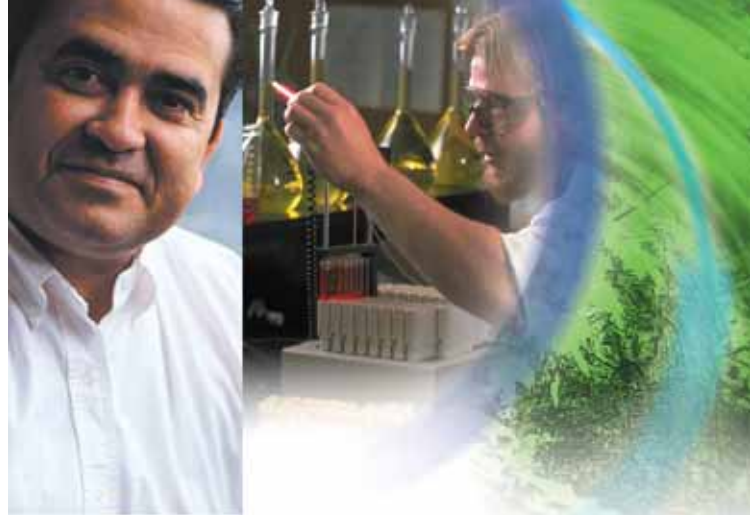


NUCLEAR *facts*



What does nuclear energy mean to Canada?

ELECTRICITY FROM NUCLEAR POWER WAS FIRST

PRODUCED IN CANADA BY A REACTOR AT ROLPHTON,

ONTARIO, IN 1962.

Canada has 22 CANDU nuclear reactors. In 2007, 18 reactors produced 14.6 % of Canada's electricity (51% in Ontario, 30 % in New Brunswick and 3% in Quebec). As of April 1, 2008 there were 17 operating CANDU nuclear power reactors operating in Ontario and Quebec and three reactors were being refurbished, two in Ontario (Bruce A Units 1 & 2) and one reactor at Point Lepreau in New Brunswick.

Nuclear power is an important contributor in helping Canada to meet its international commitment to reduce "greenhouse" gas emissions. Nuclear energy has meant a cleaner environment and enhanced economic activity for Canadians.

Cleaner air

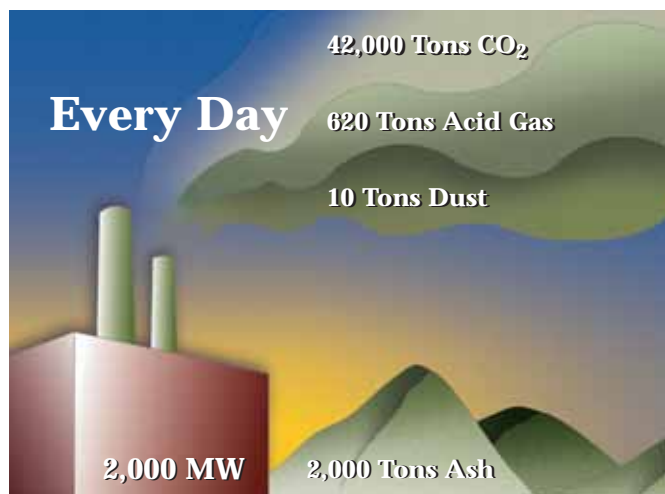
Much of Canada's electricity is produced by generating stations using fossil fuels, coal, oil and gas. When fossil fuels are burned they release combustion products to the environment, mainly carbon dioxide (CO₂), sulphur dioxide (SO₂), nitrous oxides (NO_x) and ash. CO₂ is considered the major contributor to the "greenhouse" effect causing climate change while SO₂ and NO_x cause acid rain and smog.

Nuclear powered plants use uranium in a controlled nuclear reaction. No pollution from combustion products results from this reaction. In fact, from 1971 until 2007, the nuclear

generating stations in Ontario avoided the release of over 1.8 billion tonnes of carbon dioxide, 33 million tonnes of acid gas, and more than 80 million tonnes of ash to the atmosphere that would have occurred if their electricity had been produced by plants burning coal.

100,000 jobs for Canadians

Canada's nuclear industry contributes to many sectors of the economy, including the mining of uranium in Saskatchewan, the production of reactor fuel, the manufacturing of equipment, the generation of electricity and the production of radioactive isotopes for use in medicine, research and development and agriculture. More than 21,000 Canadians are employed directly in the nuclear industry by more than 150 companies. These include scientists, engineers, miners, technicians and support staff. The industry provides another 10,000 indirect jobs for Canadians in supplies and services. In addition, around the world 60,000 nuclear medicine procedures are conducted daily to diagnose and treat disease using isotopes produced in Canada.



Canada also supplies 75% of the world's cobalt-60 used to sterilize 45% of the world's single-use medical supplies. Canada is the world's leading producer of uranium. The uranium mined in Canada contains more energy than all of our annual oil and natural gas production combined.

Economic growth

Canada has one of the most effective programs in the Western world in terms of electricity produced per research dollar spent. From the early 1950s until the turn of the century the federal government invested close to \$5.4 billion in nuclear research. This in turn generated at least \$40 billion of economic activity in Canada in the same period and

resulted in substantial savings in foreign exchange compared to the alternative of importing fossil fuels such as coal from the United States. Exports of CANDU reactors to countries such as China, Romania and South Korea has supported many well-paid jobs in the Canadian manufacturing and engineering consulting industries.

NUCLEAR CAN PLAY A BIG PART OF ENSURING OUR FUTURE ENERGY SUPPLY

Support for nuclear energy as part of the future energy mix continues to grow. As the environment continues to be a top concern among Canadians and with rising energy costs and concerns over the amount of electricity supply available, particularly in Ontario, energy as an issue has never been more on the minds of Canadians.

In 2008, Ipsos Reid's most recent public opinion polling for the Canadian Nuclear Association (CNA) illustrates just how important a reliable and affordable supply of electricity for the future is in the minds of the public.

WHY NUCLEAR?

Canadians see strong benefits to nuclear power. A significant majority of Canadians believe that nuclear energy is reliable (73%), the construction of nuclear plants can create needed jobs (72%), and that nuclear will always be an important part of our future energy mix (68%). And on an unaided basis, Canadians indicate the number one benefit associated with nuclear power is that it is "less harmful to the environment/ clean/ pollution-free" (21%).

Future potential

Nuclear reactors continue to evolve in their design. New CANDUs built in the future will offer greater safety and efficiency, in smaller, modular, compact designs. It is expected that the cost of building and operating nuclear power plants will decrease considerably over the years to come.

Canada is a member of Generation IV, an international Forum formed in 2001 to develop a new generation of nuclear power reactors for deployment in 2030. The main goals are sustainability, economics, safety, reliability, proliferation resistance and physical protection. The Charter for collaborative research and design was signed in 2001 by 10 countries: Argentina, Brazil, Canada, France, Japan, The Republic of South Korea, Switzerland and The United States. EURATOM signed the charter on behalf of the European Union. In November 2006, China and Russia joined the forum.

See also the following Web sites:

www.cna.ca

www.aeccl.ca

www.opg.com

www.nbpower.com

www.hydroquebec.com

www.brucepower.com

www.nrcan-rncan.gc.ca

Atomic Energy of Canada Limited

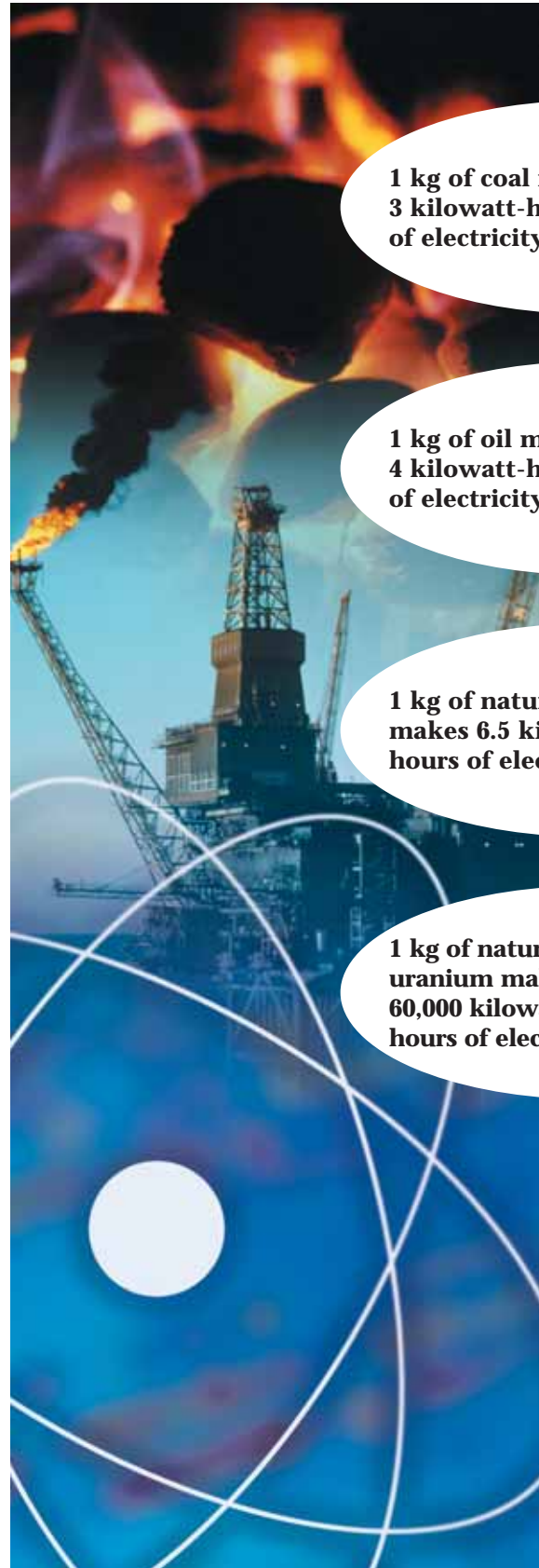
Ontario Power Generation Inc.

New Brunswick Power

Hydro Quebec

Bruce Power

Natural Resources Canada



**1 kg of coal makes
3 kilowatt-hours
of electricity**

**1 kg of oil makes
4 kilowatt-hours
of electricity**

**1 kg of natural gas
makes 6.5 kilowatt-
hours of electricity**

**1 kg of natural
uranium makes
60,000 kilowatt-
hours of electricity**



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