facilities use natural gas in combination with an energy-efficient process – cogeneration – which results in the cleanest fossil-fuelled electricity generation available today. Cogeneration facilities have high efficiencies that are possible because natural gas is used to create two commodities – waste heat/steam and electricity. The waste heat/steam is sold to industrial clients, where it displaces fossil fuel use in their operations.

TransCanada's five cogeneration plants incorporate the latest in turbine technology. Turbine manufacturers operate in a competitive market and are continuously improving their product in three areas: reliability, efficiency and emissions rates. Since two of the three specifications are directly linked to environmental performance, newer aeroderivative and frame-type turbines are equipped with DLE or DLN technologies. TransCanada's wholly owned power plants emit fewer greenhouse gases and less NOx per unit of output than systems fired by coal or oil.

Prevention

Dry Low NOx, Dry Low Emissions and SoLo NOx are the main methods of NOx prevention used by TransCanada power facilities. These technologies prevent NOx formation by modifying the combustion process of gas turbines. This is accomplished by increasing the air/fuel ratio and premixing natural gas with air before it enters the combustion zone. This creates a "lean burn" mix, which reduces the flame temperature during combustion and results in significantly lower NOx levels. These methods are termed "dry" because no water or steam cooling is needed to control flame temperatures. With fewer temperature peaks, NOx formation is significantly reduced.

Cap-and-Trade System

A cap-and-trade system for NOx is in effect in Rhode Island, where our Ocean State Power facility is located, and is currently being developed for Alberta, which is home to the majority of our wholly owned power facilities. Typically, cap-and-trade systems establish a maximum limit for company-wide NOx emissions based on various criteria. Companies that are over their NOx allocation must purchase credits from companies that produced less than their NOx allotment. Cap-and-trade systems allow for greater overall reductions in NOx than are possible through across-the-board reductions. While providing environmental benefits, cap-and-trade systems are also more economical because they allow operators facing high-cost reductions to meet government requirements by purchasing allowances or credits from operators with more cost-effective NOx reductions.

TransCanada builds high-efficiency power facilities with temperature control technologies that limit NOx formation.

NOx Control Issues

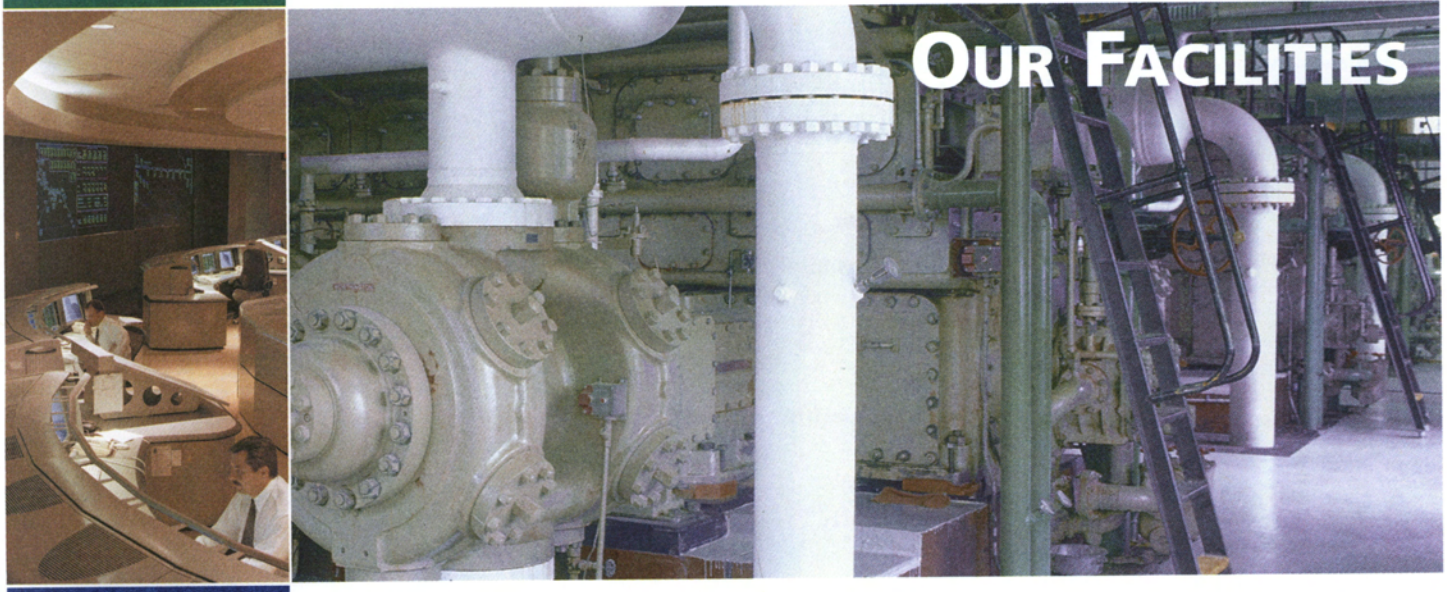
Some NOx prevention methods are more effective than others. However, all provide challenges to the already complex process of gas turbine combustion for pipeline and power generation facilities.

Water is limited in its effectiveness because it can't reduce NOx to low levels. Also, where water is injected, large amounts of demineralized water must be available on a continuous basis. The water itself can cause corrosion of components in the combustion system. Since the water is turned to steam in the combustion

chamber, vaporization requires more fuel to be burned, affecting fuel efficiency and increasing GHG emissions. Steam causes less corrosion; however, it consumes steam that could be used to generate more electricity in combined cycle plants or sold by cogeneration plants for industrial purposes.

Dry low technologies have steadily advanced over the years, but they are not yet mature enough for many applications in terms of reliability, particularly for aeroderivative engines. Also, dry low technologies are expensive to purchase, operate and maintain and are typically used on new installations, not retrofits. Decisions to implement dry low technologies are based on legislated or regulated levels, both of which depend, to a large degree, on where the facility is located and existing issues with air contaminants.

All policies and actions in this report relate to facilities that are under the management or operational control of TransCanada. We list, but do not report on, several major pipeline and power facilities in which TransCanada holds significant interests but whose management and day-to-day operational control are provided by third parties.



OUR FACILITIES

FACILITIES

In this report, we detail emissions management strategies and activities for facilities wholly owned by TransCanada, as well as partially owned facilities that are managed and/or operated by us.

In addition to these large pipeline and power operations, TransCanada also holds interests in many other pipeline and power installations that are managed and operated by third parties. The map in this section of the report shows the full extent of TransCanada's holdings in Canada and the United States, while the included charts distinguish wholly owned and/or operated facilities from those managed and operated by others.

OUR FACILITIES

LEGEND

Natural Gas Transmission

Saskatchewan, Manitoba, Ontario, Québec

(1) **Canadian Mainline System**
100% TransCanada

Alberta

(2) **Alberta System**
100% TransCanada

(3) **Ventures LP**
100% TransCanada

British Columbia

(4) **BC System**
100% TransCanada

British Columbia, Alberta, Saskatchewan

(5) **Foothills Pipe Lines Ltd.**
100% TransCanada

Idaho, Washington, Oregon

(6) **Gas Transmission Northwest**
100% TransCanada

Arizona, California

(7) **North Baja System**
100% TransCanada

Oregon, California, Nevada

(8) **Tuscarora Gas Transmission Company**
1% TransCanada direct ownership; 16.4% through TC PipeLines, LP*

Montana, North Dakota, South Dakota, Iowa, Minnesota, Illinois, Indiana

(9) **Northern Border Pipeline Company**
10% TransCanada through TC PipeLines, LP

Minnesota, Wisconsin, Michigan

(10) **Great Lakes Gas Transmission Limited Partnership**
50% TransCanada

New York, Connecticut

(11) **Iroquois Gas Transmission System**
41% TransCanada

Québec

(12) **Trans Québec & Maritimes Pipeline Inc.**
50% TransCanada

Maine, New Hampshire, Vermont

(13) **Portland Natural Gas Transmission System**
62% TransCanada

Power

Alberta

1. **Redwater**
2. **Carseland**
3. **Cancarb**
4. **Bear Creek**
5. **MacKay River**

All 100% TransCanada

Ontario

6. **Bruce A**
47.9% TransCanada

7. **Bruce B**
31.6% TransCanada

Québec

8. **Bécancour**
100% TransCanada

9. **Cartier Wind**
62% TransCanada

New Brunswick

10. **Grandview**
100% TransCanada

Rhode Island

11. **Ocean State Power**
100% TransCanada

12. **U.S. Northeast Hydro Systems**
(formerly known as USGen Deerfield and Connecticut River Systems)
100% TransCanada

* *TransCanada holds a 33.4 per cent interest in TC PipeLines, LP*

Pending Acquisitions and Construction Projects

Alberta, Northwest Territories

(A) **Proposed Construction – Mackenzie Valley Pipeline**
(proposed by producers)

Alaska, Yukon, British Columbia, Alberta

(B) **Proposed Construction – Alaska Highway Pipeline**
(proposed by TransCanada)

TransCanada is pursuing two liquefied natural gas projects in Eastern Canada and the U.S. Northeast. We are focused on construction of the regasification terminals as well as a related pipeline infrastructure to complement and support our existing pipeline investments.

Construction is underway on the 550-MW Bécancour natural gas-fired cogeneration plant, located near Trois-Rivières, Québec. All of the power output from that plant will be sold under a 20-year power purchase agreement (PPA) to Hydro-Québec Distribution. It is scheduled to be in service by late 2006.

The purchase of U.S. Northeast Hydro assets, with hydroelectric generating capacity of 567 MW, was completed April 1, 2005.

Cartier Wind Energy, owned 62 per cent by TransCanada, was awarded six projects by Hydro-Québec representing a total of 740 MW. The six projects are expected to be commissioned between 2006 and 2012.

TransCanada now owns 47.9 per cent of the newly formed Bruce A Limited Partnership, which will sublease the Bruce A facilities, composed of Units 1-4. Bruce A is undergoing a $4.25-billion capital refurbishment and restart program for Units 1-4. The project will result in the restart of Units 1 and 2, which are currently idle.

Complete upgrades will extend the operating life of Units 3 and 4. Through our existing ownership of Bruce Power LP, we retain our 31.6 per cent share of the Bruce B facilities, composed of Units 5 to 8. The Bruce holdings include an interest in a 9-MW wind power farm. Day-to-day operations at Bruce Power will not be affected by the new ownership arrangement.

In June 2005, the Federal Electricity Commission of Mexico awarded the Tamazunchale Pipeline Project to TransCanada. The project involves building a 36-inch-diameter natural gas pipeline of about 130 km from Naranjos, State of Veracruz, Mexico, to Tamazunchale, State of San Luis Potosí, Mexico. Construction began in November 2005 and the pipeline is expected to be in service by December 2006.

Pipelines
Wholly and partially owned Canadian pipelines
Wholly and partially owned U.S. pipelines including TC PipeLines, LP
Ventures LP pipeline
Proposed pipelines
Union Gas
Interconnecting hub/export point
Power
TransCanada Power Plant
Bruce Power
Wind Power
U.S. Northeast Hydro – Connecticut River Hydro facilities
U.S. Northeast Hydro – Deerfield River Hydro facilities
ALASKA
YUKON
NORTHWEST TERRITORIES
NUNAVUT
ALBERTA
BRITISH COLUMBIA
SASKATCHEWAN
MANITOBA
ONTARIO
QUÉBEC
NEWFOUNDLAND AND LABRADOR
NFLD.
P.E.I.
N.B.
N.S.
Great Bear Lake
Great Slave Lake
Lake Athabasca
Lake Winnipeg
Lake of the Woods
Lake Nipigon
Lake Superior
Lake Huron
Lake Michigan
Lake Ontario
Lake Erie
Hudson Bay
James Bay
Labrador Sea
Gulf of St. Lawrence
Pacific Ocean
Atlantic Ocean
Calgary
WA
OR
CA
NV
ID
MO
WY
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WHOLLY OWNED TRANSCANADA FACILITIES

Wholly Owned Pipelines

Length *– kilometres (km)* ***Volumes*** *– billions of cubic metres per year (bm^3/yr)*

Facility	Length	Volumes	Country
Alberta	23,186	111.7	Canada
British Columbia	201	10.3	Canada
Foothills	1,040	32.5	Canada
Canadian Mainline	14,898	74.9	Canada
Gas Transmission Northwest*	2,174	5.2	U.S.
North Baja*	128	0.37	U.S.
Total Length	41,627		

* *Gas Transmission Northwest and the North Baja System were purchased in November 2004. Volumes are prorated for the two months of TransCanada ownership in 2004.*

Wholly Owned Power Facilities

Capacity *– megawatts (MW)*

Plant	Capacity	Startup	Type
Bear Creek	80	March/03	Combined Cycle Cogeneration
Bécancour*	***550***	Fall/06	Cogeneration
Cancarb Power	27	Feb/01	Waste Heat Recovery
Carseland	80	Jan/02	Cogeneration
Grandview	90	Dec/04	Cogeneration
MacKay River	165	Fall/04	Cogeneration
Ocean State	560	Dec/90	Combined Cycle
Redwater	40	Jan/02	Cogeneration
U.S. Northeast Hydro **	***567***	April/05	Hydroelectric
Total	1,042/***2,159***		

* *Bécancour is currently under construction.*

** *U.S. Northeast Hydro was purchased April 1, 2005. Assets include the Connecticut River and Deerfield River hydroelectric systems in New England.*

PARTIALLY OWNED AND MANAGED TRANSCANADA FACILITIES

Operated Pipelines

Length *– kilometres (km)* ***Volumes*** *– billions of cubic metres per year (bm^3/yr)*

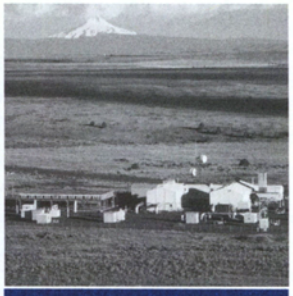
Facility	Length	Volumes	Country	Ownership
Trans Québec & Maritimes	572	4.54	Canada	50%
Portland Natural Gas	471	1.42	U.S.	61.7%

Natural Gas Storage

Capacity *– billions of cubic feet (bcf)* ***Deliverability*** *– billions of cubic feet per day (bcf/d)*

Facility	Capacity	Deliverability	Country	Ownership
CrossAlta Gas Storage	40	0.41	Canada	60%
Edson*	50	0.725	Canada	100%

* *Edson natural gas storage facility near Edson, Alberta, is currently being developed and expected to be in service in the second quarter of 2006.*



OTHER INTERESTS (MANAGED AND OPERATED BY THIRD PARTIES)

Pipelines

Length *– kilometres (km)* ***Volumes*** *– billions of cubic metres per year (bm^3/yr)*

Facility	Length	Volumes	Country	Ownership
Great Lakes	3,387	22.90	U.S.	50.0%
Iroquois	663	10.02	U.S.	41.0%
Northern Border*	2,010	24.14	U.S.	10.0%
Tuscarora**	386	0.71	U.S.	17.4%
Gas Pacifico	540		Argentina	30%
TransGas	344	0.51	Colombia	46.5%
Total	7,801			

* *TransCanada indirectly owns 10 per cent of Northern Border through its 33.4 per cent interest in TC PipeLines, LP.*

** *TransCanada has 1% direct ownership in Tuscarora and 16.4% through TC PipeLines, LP.*

Power Plants

Capacity *– megawatts (MW)*

Facility	Capacity	Type	Country	Ownership
Bruce A	1,400	Nuclear	Canada	47.4%
Bruce B	950	Nuclear and Wind	Canada	31.6%
Cartier Wind	458	Wind	Canada	62%
Sundance A*	560	Coal	Canada	100% PPA
Sundance B*	353	Coal	Canada	50% PPA
Sheerness*	756	Coal	Canada	100% PPA
Total	4,477			

* *TransCanada holds three long-term power purchase agreements (PPAs) to buy and resell power from these facilities but holds no ownership in the plants.*

In these non-operated facilities, generating capacities shown are net to TransCanada as determined by percentage of ownership.

For more information on the 2004 Climate Change and Air Issues Annual Report, please contact:

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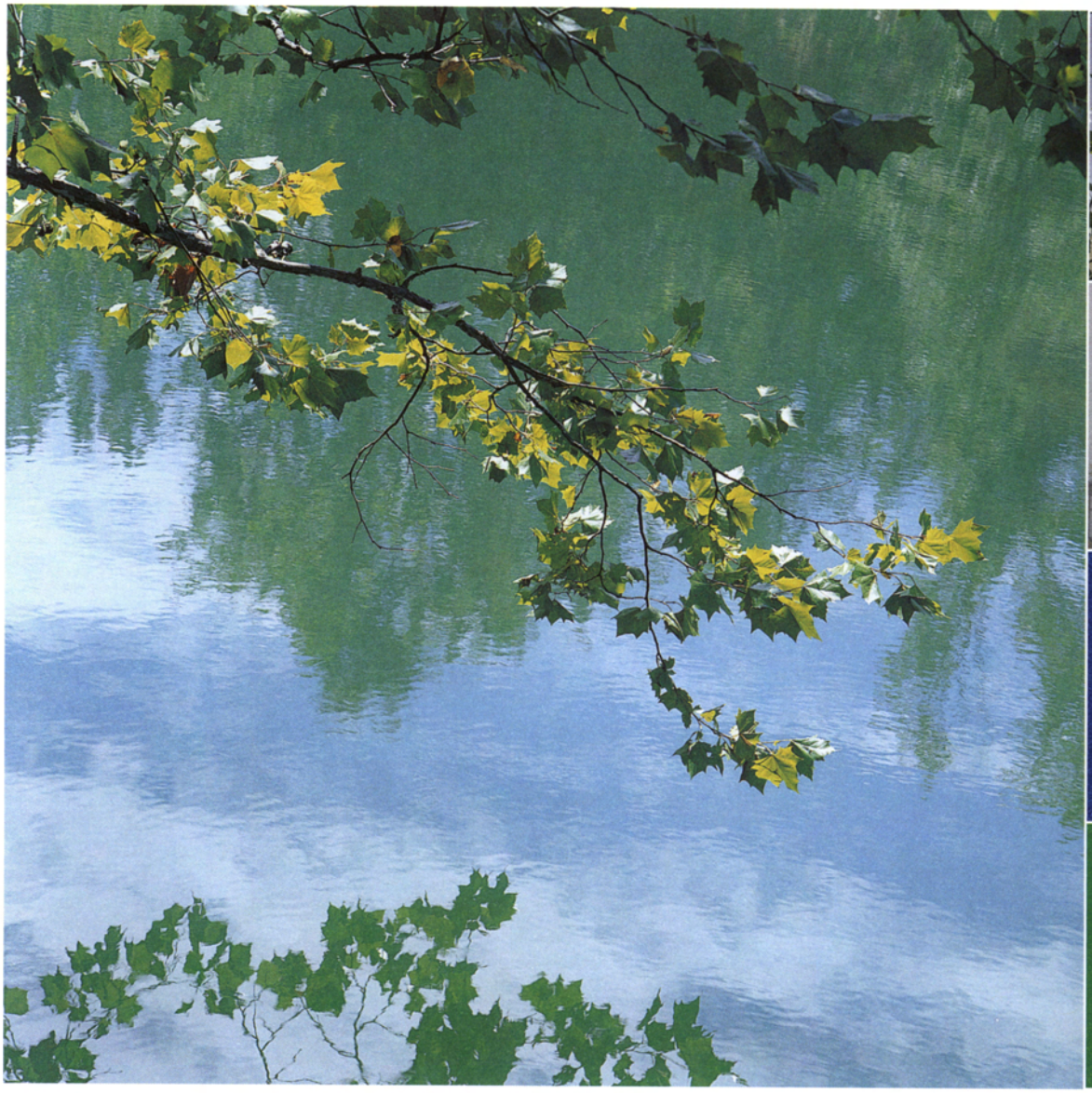

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