

# The Maple Leaf in the OECD

COMPARING PROGRESS  
TOWARD SUSTAINABILITY  
2005

**A**CCORDING TO RECENT TRACKING POLLS, 90% of Canadians believe it is very important for Canada's national identity that their country be a leader on world environmental issues.<sup>1</sup> *The Maple Leaf in the OECD* finds Canada's environmental performance falls far short of these expectations, ranking 28th out of the 30 countries in the Organisation for Economic Cooperation and Development (OECD).

In 2004, the David Suzuki Foundation published *Sustainability within a Generation*, a report proposing goals and approaches that would make Canada a world leader in sustainability.<sup>2</sup> To evaluate Canada's progress toward sustainability the Sustainable Planning Research Group at Simon Fraser University completed a major academic study using the most recent data verified and published by the OECD.<sup>3</sup> The study examined 29 environmental indicators to compare Canada's environmental performance to those of other OECD countries within the framework of the goals identified in *Sustainability within a Generation*.

## Canada's environmental performance ranks 28th out of 30 OECD countries.

The overall environmental performance rank of OECD countries is shown in Table 1 (SEE PAGE 2), with Canada far behind most of its competitors. The top 10 countries in environmental performance fall into two groups. The first group includes Turkey, Poland, and the Slovak Republic, which have high environmental rankings because they have relatively weak economies, and therefore lower per capita resource use and emissions. The more relevant group to Canada includes Switzerland, Denmark, Germany, Austria, Sweden, Italy, and the Netherlands, which have high per capita incomes. These countries have high environmental rankings because they have strong environmental policies.

To develop a more complete picture of Canada's environmental performance relative to its peers, this study also estimates an environmental performance grade (EPG). The EPG measures the performance gap between Canada and the leading country for each indicator. It represents Canada's score on each indicator as a percentage of the score of the leading country.



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**Table 1.**  
**Environmental Performance**  
**Rank of OECD Nations**

COUNTRY	ENVIRONMENTAL PERFORMANCE RANKING
Turkey	1
Switzerland	2
Denmark	3
Poland	4
Slovak Republic	5
Germany	6
Austria	7
Sweden	8
Italy	9
Netherlands	10
Portugal	11
Czech Republic	12
Mexico	13
Norway	14
Hungary	14
Japan	16
Finland	17
France	18
United Kingdom	18
Greece	20
Spain	21
Luxembourg	22
Korea	23
Iceland	24
New Zealand	25
Australia	25
Ireland	27
Canada	28
Belgium	29
United States	30

NOTE: A country's rank is based on the average rank for all 29 environmental indicators.

## CANADA'S PERFORMANCE ON SUSTAINABILITY WITHIN A GENERATION GOALS

The following discussion reviews Canada's performance on each of the 29 indicators used in the study. The tables show Canada's rank and EPG for each indicator. The indicators are grouped under the nine specific goals identified in the report, *Sustainability within a Generation*.

### GOAL: Improve Efficiency

INDICATOR	RANK	EPG
Energy Consumption (toe/cap)	28th of 30	13.3%
Energy Intensity (toe/US\$1,000 GDP)	29th of 30	45.5%
Water Consumption (m <sup>3</sup> /cap)	29th of 30	9.2%
Environmental Pricing (environmental taxes as % of GDP)	28th of 29	27.7%

Canada is particularly inefficient in its use of energy and water. Per capita energy consumption in Canada is almost double the OECD average. Other northern countries, including Norway and Sweden, have per capita rates of energy consumption at least 25% lower than Canada. Canada's total energy consumption increased 17.8% from 1992 to 2002. Per capita consumption increased 6.5%.

Similarly, Canada has a worse record on energy intensity – the amount of energy consumed per unit of GDP – than all OECD countries but Iceland. Canada consumes 50% more energy per unit of GDP than the OECD average, and more than twice as much as the most efficient nations, Ireland and Italy.

Canada consumed 1,420 m<sup>3</sup> of water per capita, more than double the OECD average. The Danes, the OECD's most efficient users of water, used one-tenth the Canadian level per capita.

One of the causes of this inefficiency is Canada's failure to adequately charge for the cost of using the environment, with revenue from environmental charges equivalent to 1.3% of GDP, well below the OECD average of 2.5%. Only the United States, at 0.9% of GDP, has lower environmental charges.

**GOAL: Shift to Clean Energy**

INDICATOR	RANK	EPG
GHG Emissions (tonnes CO <sub>2</sub> equiv/cap)	26th of 29	15.5%
Renewable Energy (including Hydro)	5th of 29	59.8%
Low Impact Renewable Energy	18th of 30	8.3%

Canada is one of the world's largest emitters of greenhouse gases per capita and per unit of GDP. Per capita greenhouse gas emissions are more than double the average for OECD countries. Total greenhouse gas emissions have increased more than 20% above the 1990 reference year. Over the last decade, per capita emissions have increased 6% in Canada, while they have declined by an average of 1.3% in other OECD countries.

Due to its geography, Canada produces a relatively large share of electricity from renewable sources such as hydro. However, Canada's share of electricity production from low-impact renewable sources is 1.5%, half the OECD average. The leader, Denmark, produces more than 18% of its electricity from these sources.

**GOAL: Reduce Waste and Pollution**

INDICATOR	RANK	EPG
Sulfur Oxides (kg/cap)	27th of 28	3.4%
Nitrogen Oxides (kg/cap)	26th of 28	15.8%
VOCs (nonmethane) (kg/cap)	29th of 29	12.9%
Carbon Monoxide (kg/cap)	28th of 28	8.7%
Ozone-Depleting Substances (kg/cap)	12th of 14	4.0%
Municipal Waste (kg/cap)	19th of 28	61.2%
Recycling of Municipal Waste (% of municipal waste)	9th of 30	52.7%
Nuclear Waste (kg/1000 people)	30th of 30	0.0%
Pollution Abatement & Control Expenditures (% of GDP)	13th of 25	45.8%

Canada's per capita emissions of nitrogen oxide and volatile organic compounds, two key components of smog, are over two times higher and almost three times higher, respectively, than the OECD average. Per capita emissions of carbon monoxide in Canada are more than triple the OECD average. Canada's per capita emissions of sulfur oxides – the key component of acid rain – were reduced 31% between 1992 and 2002 as a result of a government reduction strategy, but they remain almost three times the OECD average.

Canada successfully decreased per capita production of municipal waste by over 25%, while other OECD countries, on average, experienced a 9% increase. However, Canada is the largest per capita generator of nuclear waste of any OECD country, producing more than six times the OECD average.

**GOAL: Protect and Conserve Water**

INDICATOR	RANK	EPG
Municipal Sewage Treatment	14th of 28	73.1%

Untreated or poorly treated sewage is a major source of water contamination. Seventy-two percent of Canada's population has sewage treatment, compared to 98% of the population of the Netherlands, the OECD leader. Three provincial capitals – Victoria, Halifax and St. John's – still pump raw sewage into the ocean.

**GOAL: Produce Healthy Food**

INDICATOR	RANK	EPG
Pesticide Use (kg/km <sup>2</sup> arable land)	8th of 30	4.0%
Fertilizer Use (tonnes/km <sup>2</sup> arable land)	2nd of 29	83.8%
Livestock (sheep equiv/km <sup>2</sup> arable and grassland)	2nd of 29	48.8%

Canada applies both pesticides and fertilizers at about a quarter of the average rate per unit of arable land for OECD countries, and has livestock levels at about one-third of the OECD average per unit of arable land. Between 1990 and 2002, Canada increased its use of pesticides by 17.8% and fertilizer by 16%, while the average OECD application rate decreased by 17% and 11% respectively.

**GOAL: Conserve, Protect and Restore Nature**

INDICATOR	RANK	EPG
Number of Species at Risk	26th of 30	10.0%
Proportion of Species at Risk	8th of 30	32.5%
Protected Areas	16th of 30	26.6%
Timber Harvest (m <sup>3</sup> /km <sup>2</sup> forestland)	2nd of 29	39.9%
Timber Harvest-Forest Growth Ratio	5th of 29	25.0%
Per capita Capture Fisheries (kg/cap)	20th of 28	0.8%
Fisheries as Percent of World Catch	15th of 23	10.0%

Indicators of the health of a country's biodiversity include the number of species at risk of becoming extinct in the wild, and the proportion of all species judged to be at risk. Canada has 201 species at risk, which is among the highest numbers for OECD countries.<sup>4</sup> Only four countries have a larger number at risk. The number of species at risk as a proportion of total species is lower in Canada than the OECD average because of the large number of species in Canada. The rate of increase in species at risk in Canada is among the highest of OECD countries. However, these data reflect in part the number of species studied, and not the underlying trend in species health. Therefore data on species at risk should be used with caution.

Canada has a special role in conservation because it contains 20% of the world's remaining natural areas.<sup>5</sup> About 9.9 % of Canada's area is protected according to IUCN classifications, well below the OECD average of 15%. However, Canada's ranking may be understated because a far higher proportion of its protected areas are in more stringent classifications than some leading OECD countries. While Canada has the longest coastline in the world, less than 1% of its marine area is protected.

Canada contains 10% of the world's forests, and ranks high on timber harvesting rates per kilometer of forestland (2nd of 29) and the timber-cut to timber-growth ratio (5th of 29). Canada's high rankings on these two indicators reflect its large forested area. It is important to note that Canada's logging includes clear-cutting of old growth forests of high ecological value. Therefore, Canadian timber harvesting may cause greater damage than harvesting in other countries. In addition, the volume of timber cut per area of forest increased by 46.3% from 1990–2002.

One in four known species in Canada is marine-based.<sup>6</sup> From 1992 to 2001, as a result of a collapse in cod stocks and a decline in the salmon fishery, Canada decreased its per capita fish catch by 26%, from 45.5 kg per capita to 33.8 kg per capita.

#### GOAL: Build Sustainable Cities

INDICATOR	RANK	EPG
Distance Traveled (1,000 vehicle-km/cap)	29th of 30	6.4%

An important indicator of environmental quality in cities is the distance traveled by road vehicles. Canadians travel an average of 9,400 kilometres per-capita, 40% above the OECD average, and exceeded only by per capita travel in the U.S. of 15,800 kilometres. The number of trips taken by public transit per-capita declined by over one-quarter from 1990 to 2003.

#### GOAL: Promote Global Sustainability

INDICATOR	RANK	EPG
Official Development Assistance (% of GNI)	12th of 27	29.2%

Official Development Assistance, or foreign aid, is one measure of a wealthy country's commitment to the developing world. The generally accepted goal is that industrialized countries should contribute at least 0.7% of their gross national income to foreign aid.<sup>7</sup> Most countries fail to meet this goal. Canada's 0.28% is below the OECD average of 0.35%, and far below the OECD's highest contributor, Denmark, which gives 0.96%.

## Notes

- 1 Globescan Inc. 2004. *The Environmental Monitor*. Toronto: Globescan. pgs 60-65.
- 2 Boyd, David R. 2004. *Sustainability within a Generation*. Vancouver: David Suzuki Foundation. See <http://www.davidsuzuki.org/>.
- 3 Gunton, Thomas, K.S. Calbick, Anita Bedo, Emily Chamberlain, Andrea Cullen, Krista Englund, Aaron Heidt, Matthew Justice, Gordon McGee, Sean Moore, Carolyn Pharand, Ian Ponsford, Jennifer Reilly, Ian Williamson. 2005. *Canada's Environmental Performance: An Assessment*. To see the full academic study, visit [www.davidsuzuki.org](http://www.davidsuzuki.org)
- 4 Organisation for Economic Cooperation and Development (OECD). 2005. *OECD Environmental Data Compendium 2004*. Paris: OECD publications.
- 5 OECD 2004. p. 80.
- 6 McAllister, Don. 2000. Biodiversity in Canadian Fresh and Marine Waters. In *Biodiversity in Canada: Ecology, Ideas and Action*. Stephen Bocking, ed. Toronto: Broadview Press. p. 81-106
- 7 Most United Nations member states first adopted this goal in October 1970 on a motion tabled by Canadian Prime Minister and Nobel Laureate Lester B. Pearson. It has been reaffirmed on several occasions since then.
- 8 OECD. 2005. *OECD Performance Reviews: Canada 2004*. Paris: OECD Publications. p. 15-16.
- 9 Office of the Auditor General. 2004. *The 2004 Report of the Commissioner of the Environment and Sustainable Development: The Commissioner's Perspective*. Ottawa: Minister of Public Works and Government Services.

## Additional findings from the full study

- Canada does not finish first on a single environmental indicator.
- Canada is the worst performer on three indicators (volatile organic compound emissions, carbon monoxide emissions, generation of nuclear waste).
- Canada is the second worst performer on five indicators (intensity of energy use, water consumption, sulfur oxide emissions, environmental pricing, distance travelled by vehicle).
- Canada has shown no improvement relative to OECD countries over the past 10 years. Canada was 28th in 1992 and 28th in 2002.
- Overall, Canada's Environmental Performance Grade is only 26.7%. Canada received a failing grade on 24 of 29 indicators.


## CONCLUSION

Canada's poor environmental performance could be caused by a number of factors including geography, climate, economic structure, and poor public policy. Their relative significance in explaining Canada's performance awaits further study. However, independent evaluations by the OECD<sup>8</sup> and the Canadian Commissioner of Environment and Sustainable Development<sup>9</sup> document that poor public policy is a major factor explaining Canada's performance.

The role of public policy is further illustrated by the superior environmental performance of other high-income countries that have many characteristics, such as income levels and industrial structure, in common with Canada.

There is clearly a wide disparity between Canadian values and Canada's environmental performance. While Canadians have the strongest environmental values of any OECD country, Canada's environmental record is among the worst. Perhaps even more distressing is that our environmental performance over the past decade has not kept pace with the OECD average. Countries like Canada with inferior performance should be able to improve at a faster rate than the average because they can adopt existing technologies and practices used by the best performers.

There is no justification for a country with Canada's capacity to have such a poor environmental record. Clearly, Canada would benefit from a national sustainability plan with clear goals, visionary strategies to meet them, and a legislated system to report on progress.

Canada is custodian of some of the world's most valuable environmental resources and ecosystems. Without a fundamental change in its approach to protecting these natural assets, Canada risks losing them along with the opportunity to provide future generations a healthy environment and a healthy future. 



David  
Suzuki  
Foundation

SOLUTIONS ARE IN OUR NATURE

2211 West 4th Avenue, Suite 219  
Vancouver, BC, Canada V6K 4S2  
[www.davidsuzuki.org](http://www.davidsuzuki.org)  
Tel: (604) 732-4228  
Fax: (604) 732-0752

