

# Environmental Ranking for Canada and the OECD

## Third Edition

by Elmira Aliakbari and Julio Mejia

Canadians care about the state of their environment. Over the past few years, several reports have presented Canada as an environmental laggard, ranking it near the bottom of the list of OECD countries. We regard the methodologies behind these studies as flawed as they unfairly represent Canada's environmental performance in some respects and do not always use the most meaningful and relevant performance measures. Thus, we developed an improved and transparent methodology that allows us to measure and compare environmental performance among OECD countries.

This is the Fraser Institute's third edition of *Environmental Ranking for Canada and the OECD*, in which we rank 34 high-income countries across two broad objectives: protecting human health and well-being, and protecting ecosystems. We calculate an overall Index of Environmental Performance, a composite measure based on 19 indicators that track 11 core categories. Under the heading of protecting human health and well-being, we examine air quality, water quality, greenhouse gases, and two newly added categories of heavy metals and solid-waste management. Under the objective of protecting ecosystems, we consider six core categories: air emissions, water resources, forests, biodiversity, agriculture, and fisheries. To construct the index, we assign equal weight to composite indicators of human health and well-being protection and to indicators of ecosystem protection. The index scores range from zero to 100 and a higher score means a jurisdiction has a stronger environmental performance while a lower score indicates weaker environmental performance.

The overall scores range from a low of 47.5 for South Korea to a high of 81.5 for Sweden, with an average of 65.5 across all 34 high-income countries. Canada performs relatively well, obtaining an overall score of 69.9, which places it 14th out of 34 high-income OECD countries, behind Sweden, Finland, Ireland, Switzerland, Denmark, the United Kingdom, France, Norway, Luxembourg, New Zealand, Estonia, the United States, and Austria. Our method shows that Canada performs better than the majority of high-income OECD countries on environmental protection.

For air quality (under impact on human health and well-being), Canada performs well, ranking highly out of 34 countries based on two air-quality indicators: average exposure to fine particulate matter (8<sup>th</sup>) and fine particulate matter exceedance (6<sup>th</sup>). For water quality, Canada ranks 19<sup>th</sup> and 11<sup>th</sup> out of 34 countries based on the two indicators that assess the health risks posed by water pollution: access to improved sanitation facilities and access to improved water sources. Note that on these two measures nearly all countries have very good scores and there is little difference among countries.

In the category of greenhouse gases, Canada ranks 32<sup>nd</sup> for carbon intensity (CO<sub>2</sub> emissions per unit of GDP) and 30<sup>th</sup> for its ability to reduce its carbon intensity over a decade. However, it ranks 7<sup>th</sup> based on low-emitting electricity production, which measures the share of total electricity generated by low-emitting sources of energy—renewables and nuclear.

Canada performs well in the newly added category of heavy metals and its corresponding indicator, which measures lead exposure, ranking 7<sup>th</sup> out of 34 high-income OECD countries. Only Finland, Chile, Israel, Japan, Denmark, and Iceland perform better than Canada in this category. With more than 99.9% of its solid waste under control and safely treated, Canada ranks 21<sup>st</sup> in the category of solid-waste management. The Netherlands is the best performer in this category, with 100% of the country's solid waste being controlled and treated in an environmentally safe manner.

Canada ranks 30<sup>th</sup> based on its sulphur (SO<sub>x</sub>) emissions intensity, which measures SO<sub>x</sub> emissions generated per unit of

activity, but on this measure nearly all countries have very good scores and there is little difference between Canada and the top-ranked countries. Moreover, Canada's SO<sub>x</sub> emission intensity declined by 52.4% compared to 2009 levels, which ranks Canada in the 16<sup>th</sup> place for its decrease in sulphur emissions intensity over the period studied.

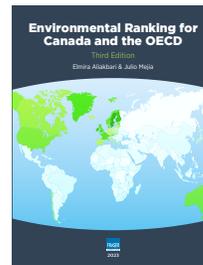
Canada ranks 21<sup>st</sup> for its wastewater-treatment rate and 6<sup>th</sup> for the intensity of use of its water resources. On the latter measure only Iceland, Latvia, Norway, Lithuania, and the Slovak Republic perform better than Canada.

Despite preserving its forest cover over a decade, Canada ranks 26<sup>th</sup> because forest cover has increased somewhat in many other countries. Canada ranks 18<sup>th</sup> out of 33 countries for the number of species at risk and 33<sup>rd</sup> out of 34 countries for the percentage of its terrestrial land designated as protected areas.

Canada has a good record on environmental issues related to agriculture. Canada ranks 3<sup>rd</sup> on fertilizer use (nitrogen) and 14<sup>th</sup> on pesticide use. Only Iceland and Australia perform better than Canada, using less fertilizer per hectare. Finally, Canada performs well and ranks 9<sup>th</sup> out of 26 countries in the fisheries category, which measures changes in the marine trophic level.

Indicators such as these do not, on their own, imply a need for looser or tighter policies. Even where Canada ranks below the mid-point, recommendations to change environmental

policies need to be based on comparisons of expected costs and benefits. Any particular ranking on any particular scale can be consistent with a country having appropriate environmental standards. The main implication of this report is that Canada is not the environmental laggard that has been claimed in the past. Canadians enjoy high levels of environmental quality in absolute terms and in comparison to our OECD peers. In specific areas where our ranking is low it is sometimes unavoidable because of our geography or climate, and in other cases it reflects the tight distribution of outcomes among the world's wealthiest nations. In many areas or environmental quality that matter the most to Canadians, we compare favourably to the rest of the OECD and, by implication, the rest of the world.



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