

Appendix A: Policy tools to fight climate change

Abstract

There is no single fix for climate change, and the government will need to employ many different policy tools to play its part in addressing this enormous challenge. The ECO has reported on several policy options in this and past reports and compiled some key climate change mitigation and adaptation tools here.

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A1 Climate change mitigation policy tools

Part 3 of this report discusses the types of tools that governments can use to drive down greenhouse gas emissions. It describes the three-legged stool of possible policy options, but is not a comprehensive list. Additional tools are also discussed in recent ECO reports, including our annual greenhouse gas progress reports and our:

- 2015/2016 Energy Conservation Progress Report, Let's Get Serious, which discusses transportation (Chapter 3) and building sector policies (Chapter 4 and 5)
- 2016 report, How to Pay for What we Need, which focuses on stormwater infrastructure

- 2016/2017 Energy Conservation Progress Report, Every Drop Counts, which addresses municipal water and wastewater systems
- 2017 Special Report, Beyond the Blue Box, which addresses waste sector policies, and
- 2018 Energy Conservation Progress Report, Making Connections, which examines electricity sector policies (Q16, Q17 and Q19).

Table A.1 below provides a convenient table of key policy options discussed in this report as well as some recent ECO reports.

Table A.1. Examples of climate change mitigation policy options discussed in Part 3 and previous ECO reports.

	MAKING POLLUTERS PAY	INVESTING IN SOLUTIONS	REGULATING CLIMATE POLLUTERS
CROSS SECTOR	<ul style="list-style-type: none"> • Price on greenhouse gas emissions • Price on emissions with high global warming potential • Remove fossil fuel subsidies 	<ul style="list-style-type: none"> • Research and development into low-emission technology • Loan guarantees/low-interest loans for low-carbon investments • Low-carbon procurement 	<ul style="list-style-type: none"> • Climate-related financial risk disclosure • Removing barriers to low-carbon investment financing • Public sector energy use/ emissions reporting
TRANSPORTATION SECTOR	<ul style="list-style-type: none"> • Gasoline and diesel tax • High-emission vehicle fee • Vehicle registration fees • Road pricing (e.g., tolls, congestion charges) 	<ul style="list-style-type: none"> • Zero emission vehicle rebate • High-emission vehicle scrappage incentive • Infrastructure funding for electric vehicle charging • Public transit funding • Active transportation infrastructure funding • Tying infrastructure funding to municipal land use planning results 	<ul style="list-style-type: none"> • Zero emission vehicle standard • Charging infrastructure in building codes • Vehicle pollution limits • Fuel emission standards • Enforcement of transit-supportive land use plans • Streamlining of approvals to meet density targets • Giving transit vehicles priority on major roads
BUILDINGS SECTOR	<ul style="list-style-type: none"> • Natural gas tax 	<ul style="list-style-type: none"> • Natural gas conservation rebates • Fuel switching rebates • Energy efficiency retrofit funding 	<ul style="list-style-type: none"> • Update building code for new and renovated buildings • Home and large building energy use disclosure • Improve performance standards for equipment • Renewable natural gas content requirements
ELECTRICITY SECTOR	<ul style="list-style-type: none"> • Enhanced time-of-use electricity pricing with higher on-peak rates 	<ul style="list-style-type: none"> • Enhanced time-of-use electricity pricing with lower off-peak rates • Electricity conservation rebates • Renewable energy and storage project funding 	<ul style="list-style-type: none"> • Clean electricity standard • Net and virtual net metering • Enable utilities to recoup investment/innovation costs • Ensure Market Renewal policies properly value non-emitting sources
WASTE SECTOR	<ul style="list-style-type: none"> • Extended producer responsibility • Higher fees on landfill disposal 	<ul style="list-style-type: none"> • Landfill gas and biogas energy production project funding • Procurement of products containing recycled material 	<ul style="list-style-type: none"> • Organic waste landfill ban • Waste diversion requirements • Streamlining organic waste facility approvals • Extended producer responsibility

A2 Climate change adaptation policy tools

Part 4 of this report (and Table A.2 below) describe some key steps that the provincial government can take to prepare and adapt Ontario for a changing climate. Again, this is not a comprehensive list but an illustration of some available options.

Table A.2. Examples of climate change adaptation policy options discussed in Part 4 and previous ECO reports.

HEALTH AND SAFETY	<ul style="list-style-type: none"> • Update building codes to require that buildings be constructed or retrofitted to withstand future climatic conditions • Develop early warning systems for extreme weather events • Include potential climate impacts in disaster management planning • Provide cooling and warming shelters for the public • Use light-coloured pavement and roofing materials (to reflect heat) • Increase the urban tree canopy (to create more shaded areas and cool the air) • Educate the public about how to protect against health impacts, such as heat-related illness and exposure to climate-sensitive diseases
FLOODING	<ul style="list-style-type: none"> • Preserve wetlands, woodlands and other natural features to help absorb rainwater/snowmelt and reduce stormwater runoff • Build and update roads and bridges to withstand more frequent freeze-thaw cycles and more intense rainfall events • Encourage the installation of raingardens, bioswales (channeled depressions containing vegetation and organic material) and green parking (lots with vegetation and trees) • Increase the use of permeable materials for surface areas, and decrease the use of impermeable materials • Encourage the disconnecting of downspouts from buildings and houses so rain flows onto properties instead of into stormwater systems • Require conservation authorities and municipalities to regularly update and share floodplain maps • Require municipalities to consider climate change implications in applications for new or amended approvals for stormwater infrastructure • Require municipalities to conduct climate change vulnerability assessments of their infrastructure as a condition of obtaining provincial government funding for projects
FORESTS AND BIODIVERSITY	<ul style="list-style-type: none"> • Create new protected areas to account for potential impacts on biodiversity • Increase forest cover • Plan for projected future forest conditions, and enable nimble, adaptive management for a range of possible outcomes • Enable assisted migration of trees and plants • Use more managed fire solutions, including prescribed burns and allowing naturally occurring fires to burn when safe and appropriate • Minimize the spread of invasive species
AGRICULTURE	<ul style="list-style-type: none"> • Publish agricultural best management practices to help farmers avoid crop damage or loss due to changing growing conditions • Manage heat stress in livestock by reducing stocking density and providing cool drinking water, shaded cover in pastures, and fans to increase air flow • Improve water management, such as replacing wasteful overhead systems with controlled, localized subsurface drip irrigation • Maximize soil moisture retention through reducing tillage (mixing and aerating soil) techniques and maintaining hedgerows to reduce evaporation from wind and heat • Encourage farmers to switch to drought- or heat-tolerant crops, where appropriate • Improve knowledge and evolving approaches to pest control • Ensure that provincial business risk management programs are well designed and effective

