



INTOSAI
Working Group
on Environmental
Auditing

Green Fiscal Policy Tools

Green Economy Hub '23-25



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Auditing Green Fiscal Policy Tools: A Starter Kit

Governments have begun using “green fiscal policy tools” to address climate change and other environmental challenges. In general, governments leverage fiscal policy to influence behavior through collecting revenue or spending. Green fiscal policy tools include approaches such as providing tax incentives to consumers to install solar panels on their homes or loans to businesses to subsidize more energy-efficient industrial equipment.

As governments implement these new tools, SAIs are being called on to evaluate them. This snapshot serves as a starter kit for SAIs interested in or about to begin an audit of a green fiscal policy tool. We will discuss the following tools:

- Fees
- Grants and other financial awards
- Loans
- Public procurement
- Resource taxes
- Tax incentives

“Governments leverage fiscal policy to influence behavior

Information on each tool includes potential criteria and case studies of recent audits or nonaudit reviews that SAIs have performed.



Fees



**Grants and
other financial
awards**



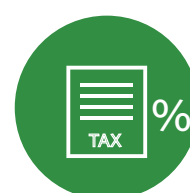
Loans



**Public
procurement**



**Resource
taxes**



**Tax
incentives**

While building this kit, one of the most significant observations we made is how early the auditing community is in assessing national green fiscal policy tools. Collectively, we have done work, but much more is needed to ensure sufficient and effective oversight.

We have identified several common themes across the case studies:

"We have done work, but much more is needed"

- Government agencies may lack relevant data—particularly about outcomes and impacts.
- Agencies may not sufficiently coordinate among each other or with stakeholders. Agencies may experience challenges with coordination because green fiscal policies may involve agencies that have limited experience working together (e.g., a tax administration agency and a natural resource management agency).
- Not enough planning has occurred, which is particularly critical for new policies and programs.
- Opportunities exist for agencies to establish more effective targets and goals. Properly setting and adjusting goals and targets is especially important for new policies and programs.
- Agencies could further consider how green fiscal policy tools interact with other policies, since green fiscal policy tools do not operate in a vacuum.

These themes are not unique to green fiscal policy tools. To audit green fiscal policy tools, auditors still analyze government data and documents, interview agency officials, and may use surveys and various statistical and economic tools. Specific methodologies vary from audit to audit. While there is always more to learn, especially about new green fiscal policy tools, auditing principles still apply. And as a community, we are pretty good at learning.

Fees



Fees are typically payments made in exchange for a service, or penalties levied for an activity. They are a type of price and market-based instrument that governments use to alter behavior by changing prices in the market. For example, some governments charge fees to access public wilderness for recreational purposes, such as hiking and camping. Governments can also use fees to increase funding to use for other purposes, including environmental projects.

A fee can also be a refundable surcharge. For example, a deposit-refund system (also known as an advance deposit fee) places a surcharge on a product at the point of purchase. The surcharge is refunded when the product is returned or recycled, which provides an incentive for consumers to do so. This system is commonly used with beverage containers and can be used for other materials such as batteries, tires, and electronics. Deposit-refund systems can be voluntary or required by law.

Although fees provide incentives, they cannot guarantee environmental outcomes. For example, the incentive may not be enough to cause a change in behavior, or it may result in unintended consequences that undermine the desired outcome. As a result, they cannot ensure governments meet environmental targets.

Case studies

European Union: The Polluter Pays Principle

The European Court of Auditors (ECA) performed an audit between March 2020 and March 2021 to evaluate how well the European Union (EU) and its member states applied [the Polluter Pays Principle](#) in four EU environmental policy areas: industrial pollution, waste, water, and soil.

The Polluter Pays Principle is one of the key principles underlying the EU's environmental policy and various laws, directives, and regulations. Under this policy, polluters bear the costs of their pollution, including the cost of measures to prevent, control, and remedy pollution, as well as the costs that pollution imposes on society. Applying the principle provides an incentive for polluters to avoid damaging the environment and holds them responsible for the pollution that they cause.

The ECA examined relevant EU spending, examined reports and other actions related to how a sample of member states applied the principle, and analyzed the performance of a sample of environmental remediation projects. The ECA compared its findings against various environmental directives.

The ECA found that the principle was applied to varying degrees in the four environmental policy areas and that, overall, its application was incomplete. For example, the ECA found that:

- the principle was applied most to polluters that polluted the most, but the cost of residual pollution to society remained high;
- waste management legislation reflected the principle but did not ensure polluters cover all related costs;
- the EU had no overall legislative framework to protect against soil pollution;
- key environmental liability framework concepts remained undefined; and
- EU funding was sometimes used to fund pollution cleanup, when polluters should have paid for it.

The report included three recommendations, primarily related to strengthening EU legislation and the Environmental Liability Directive, which sets a legal framework for environmental liability that holds polluters who damage the environment responsible for paying for remediation. ECA also recommended protecting funds from being used to finance projects that polluters should fund.

Canada: Carbon Pricing

The Office of the Auditor General of Canada performed an audit to determine whether Environment and Climate Change Canada ensured that [carbon pricing](#) systems were applied effectively, fairly, and transparently. Environment and Climate Change Canada is the lead department on climate change and directs implementation of carbon pricing systems.

In 2018, *Canada's Greenhouse Gas Pollution Pricing Act* came into force and required that all provinces and territories implement carbon pricing systems that meet minimum national standards or be subject to the

"The Polluter Pays Principle is one of the key principles underlying the EU's environmental policy"



Photo: Getty Images, Bloomberg Creative Photos, 18th December 2017.

federal pricing system. These pricing systems impose fees on polluters, encouraging more environmentally sustainable decisions and placing responsibility for pollution costs on polluters.

Overall, the Office of the Auditor General found that Environment and Climate Change Canada ensured carbon pricing systems were in place in all provinces and territories by 2019. However, weaknesses in those systems could limit Canada's ability to meet its emission reduction targets. For example, because of weak minimum national standards for large emitters, the department recommended strengthening less effective carbon pricing programs that some provinces had developed.

The department also did not have the information it needed to understand the effectiveness of the carbon pricing systems. In 2021, the department updated federal requirements, but the update did not fully address the shortcomings of the large-emitter programs.

The auditors made four recommendations, primarily related to assessing the program and collecting additional information.

Criteria

- EU's [Environmental Liability Directive](#)
- Environment and Climate Change Canada's [Pan-Canadian Framework on Clean Growth and Climate Change](#) and [Working Group on Carbon Pricing Mechanisms: Final Report](#)

Figure 1

Instruments Available for Implementing the Polluter Pays Principle

Command and control law



- Licensing procedures
- Bans
- Emission limit values
- Administrative orders & sanctions

aims to cut pollution at source by setting environmental standards, mandating pollution control and monitoring systems to reduce risks, prohibiting certain activities and capping the emissions of certain pollutants. The PPP is applied because the polluter is required to bear the compliance costs.

Market-based instruments



- Subsidies/feed-in tariffs
- Taxes, charges, fees
- Tradable permits and quotas
- Liability rules

are intended to achieve environmental objectives in a flexible manner. Financial incentives or disincentives are used to influence polluters' behavior by incorporating environmental costs and benefits into the budgets of households and enterprises. Not all market-based instruments can be adapted at EU level. In particular, taxation is primarily a Member State competency.

Voluntary approaches



- Voluntary agreements
- Environmental management systems (e.g. ISO 14001)
- Labelling (e.g. eco-label, energy label)

can encourage less pollution products or companies. For example, consumers may favor products bearing the "Ecolabel", which gives producers the incentive to manufacture less polluting products.

Grants and other financial awards



Green grants and other financial awards include funds that governments give directly to individuals or organizations for a specific environmental goal. Governments can use grants and other financial awards to pursue environmental goals by subsidizing the cost of a product or service that helps achieve those goals. This encourages consumers or producers to purchase these products or services. For example, governments may use grants to incentivize homeowners to install solar panels.

These tools can also result in unintended impacts. For example, they may be an inefficient use of resources if the reason for the grant is no longer applicable. They can also influence economic growth and technological advancement by selectively encouraging development in certain technologies.

Case studies

United Kingdom: Green Homes Grant Vouchers

The United Kingdom's (UK) National Audit Office (NAO) examined the performance, procurement, and management of the [Green Homes Grant Voucher Scheme](#). The UK's Department for Business, Energy, and Industrial Strategy set up the scheme in July 2020 as part of the government's "green recovery" from the pandemic. The scheme was expected to support up to 82,500 jobs and install energy efficiency improvements and low carbon heat measures in 600,000 homes between September 2020 and March 2021.

NAO evaluated the scheme against its objectives. To conduct its audit, NAO reviewed prior relevant NAO reports and the department's data and relevant business documents and interviewed relevant government officials and external stakeholders. NAO found, among other things, that the scheme did not deliver the expected number of home improvements or jobs created and that many homeowners and installers had negative experiences using the scheme.

NAO made several recommendations, mostly focused on the design and implementation of future energy schemes. For example, NAO recommended that the department determine how its home energy efficiency schemes fit with its overall plans of decarbonization; balance the accessibility and efficiency of the scheme with the risk of poor-quality workmanship and fraud; and deploy people with technical, delivery, and commercial experience to provide input during the early stages of new schemes.

"NAO made several recommendations, mostly focused on the design and implementation of future energy schemes"



Photo: Getty Images, Tollymore Forest, Tim Swart, 14th August 2019.

Ireland: Forestry Grants

The Republic of Ireland's Office of the Comptroller and Auditor General (C&AG) conducted a midterm review of the Department of Agriculture, Food, and the Marine's [Forestry Programme](#) 2014–2020. The government established the grant program in 2015 to increase the amount of forested land in Ireland. It also set annual targets for the total area of land to be converted to forest and the mix of trees to be planted.

The C&AG reviewed the program targets and outputs to date in 2018 and how the department administered the grant scheme. The C&AG also looked at noncompliance with scheme conditions and the economic basis for the scheme.

The C&AG found, among other things, that the department consistently did not use all funding provided for the program, had not met various annual targets, and did not have an adequate cost-benefit analysis for the program. It recommended that the department conduct a revised and updated cost-benefit analysis and review the impact of changes to grant payment rates to ensure the amended program produced cost beneficial value for Ireland.

Criteria

- Targets set by or for programs to achieve
- Institute for European Environmental Policy's [Environmentally Harmful Subsidies: Identification and Assessment](#)
- U.S.'s Uniform Grant Guidance [link](#)

Loans



Green loans enable borrowers to fund existing and new projects that contribute to an environmental objective. They typically offer better terms than a private loan in exchange for the funds being used for a specified outcome. Green loans can contribute to aligning lending and environmental objectives, such as building solar plant projects.

In some cases, a government may lend money directly to a borrower. In other cases, a government may offer a loan guarantee, in which it backs a loan issued by a bank in case the borrower defaults.

Loans and loan guarantees can expose governments to financial losses if borrowers default. They also may affect economic growth and technological advancement by selectively encouraging development in certain technologies.

Case studies

United States:

Clean Water Infrastructure Revolving Fund Program

The U.S. Government Accountability Office (GAO) reviewed the U.S. Environmental Protection Administration's (EPA) [revolving fund program](#) for repairing and replacing clean water and wastewater infrastructure across the nation. EPA uses a formula to allot grants to states, which are used to establish their own revolving funds from which they make low-interest loans or grants to local communities or utilities to repair or replace such infrastructure. EPA has estimated that over \$630 billion will be needed to repair and replace such infrastructure nationwide through 2044.

To examine options for the revolving fund's allotment formula, GAO reviewed laws, regulations, and agency documents and analyzed EPA and U.S. Census data. It also interviewed EPA officials, state organizations, and officials from eight states selected based on geographic and other factors. GAO also convened a panel of seven experts to develop a formula using a multistep process.

GAO reported in 2024 that EPA allocates grants using a formula from 1987 that is set by statute and does not reflect states' current populations and clean water needs. GAO also reported that the experts it convened developed a new formula that is largely based on states' clean water needs. GAO suggested that the U.S. Congress consider revising the formula for EPA's revolving fund program. GAO also recommended that EPA better assess states' clean water needs.

"EPA has estimated that over \$630 billion will be needed to repair and replace clean water and wastewater infrastructure nationwide"



Photo: Getty Images, Douglas Rissing, 26th July 2022.

United States: Energy Loan Programs

GAO audited the U.S. Department of Energy's (DOE) [Loan Programs](#) Office, which administers loans and loan guarantees for certain renewable or innovative energy projects, as well as for more fuel-efficient vehicles and components. By the time GAO issued its report in 2014, DOE had made more than \$30 billion in loans and guarantees.

GAO assessed the department's loan monitoring policies by analyzing relevant regulations, policies, and guidance; prior audits; and DOE data, documents, and monitoring reports for a nonprobability sample of 10 loans and guarantees.

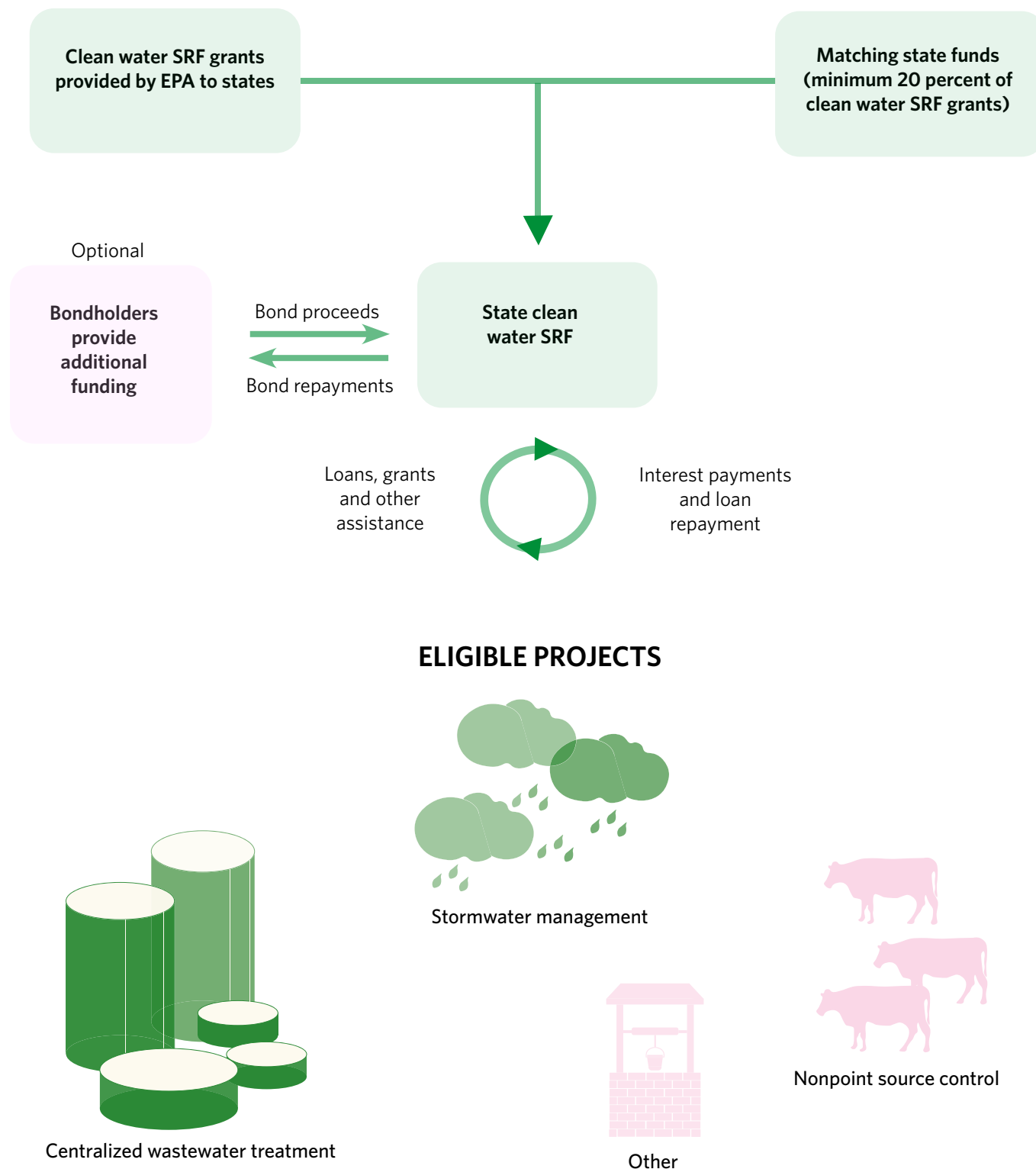
GAO found that the department made loans and loan guarantees and disbursed funds from 2009 through 2013 without a fully developed loan monitoring function. During this time, inconsistent adherence to policies limited assurance that the department was completing activities important to monitoring the loans and protecting the government's interest against borrowers defaulting. GAO made four recommendations, including that DOE completed policies for loan monitoring and evaluate the effectiveness of its loan monitoring.

Criteria

- International Capital Market Association's [Green Loan Principles](#)

Figure 2

Overview of the U.S. Environmental Protection Agency's (EPA) Clean Water State Revolving Fund (SRF) Program



Public procurement



Green public procurement is a process in which governments advance environmental policy goals by buying goods, services, works, and utilities that have less environmental impact. The environmental impacts of green goods and services can differ from those of regular goods and services across six phases of the product life cycle: raw material extraction, manufacturing, transportation, use, maintenance, and disposal.

Governments use green public procurement to create or expand markets for environmentally friendly goods and services and to encourage development of environmental technologies. Green public procurement can also help governments achieve other environmental goals, such as reducing pollution, promoting more sustainable production and consumption, and mitigating biodiversity loss.

Green public procurement works by affecting the market price of goods: as demand increases, supply changes to meet demand, which can result in lower prices. The goal is for the price of green goods to be competitive with other goods.

Reforms to green public procurement can use a risk-based approach to prioritize areas with the most potential for success and impact, such as areas where green goods are readily available or where green procurement could be used to raise awareness.

Green public procurement typically involves many participants, which can complicate coordination or the ability to achieve efficiency. Procuring entities may also have other requirements or criteria that may conflict with green procurement, such as requiring the rational use of funds. SAIs may have to adjust their audit practices to align with green public procurement's goal of acquiring the best value for the funds governments spend instead of minimizing immediate or near-term costs.

Case studies

Lithuania

Lithuania's National Audit Office (NAO) assessed [efforts by the country's public procuring entities to move to 100 percent green procurement](#) by 2023. Lithuania's Eighteenth Government Programme requires a national commitment to making green procurement the dominant form of public procurement as of 2023 and to use only green electricity and heat.

The audit entailed analyzing procurement data and interviewing relevant government officials and external stakeholders, such as those who represent the interests of businesses that the national government procures services from.

The NAO reported in 2022 that while progress had been made in expanding green procurement, Lithuania did not have the conditions to achieve 100 percent green procurement. Specifically, current regulations

and monitoring activities were insufficient, and the government had not assessed the budgetary impact.

Canada:

Greening of Building Materials in Public Infrastructure

The Office of the Audit General of Canada assessed whether three agencies—Public Services and Procurement Canada, the Treasury Board of Canada Secretariat, and Infrastructure Canada—had used the Government of Canada’s purchasing power effectively to support and prioritize [use of low embodied carbon construction materials in public infrastructure](#) projects to contribute to environmental protection goals. Low embodied carbon construction materials have lower lifecycle carbon emissions than traditional construction materials.

The auditors interviewed departmental officials and stakeholders, reviewed feedback received from related working groups, and analyzed relevant documents and case studies. The audit covered the period from December 1, 2021, to February 29, 2024.

The auditors found that the three departments did not use their public infrastructure procurement and financing capacity effectively. The Secretariat of the Treasury Board of Canada and Public Services and Procurement Canada were slow to prioritize low embodied carbon construction materials in federally owned infrastructure; instead, they focused on energy efficiency.

The auditors also reported that because federal public procurement is the tool over which the government of Canada has the most control to achieve the embodied carbon goals of its green procurement policy, the government missed the opportunity to contribute to widespread adoption of low embodied carbon construction materials. This in turn limited Canada’s ability to achieve its climate goals.

Criteria

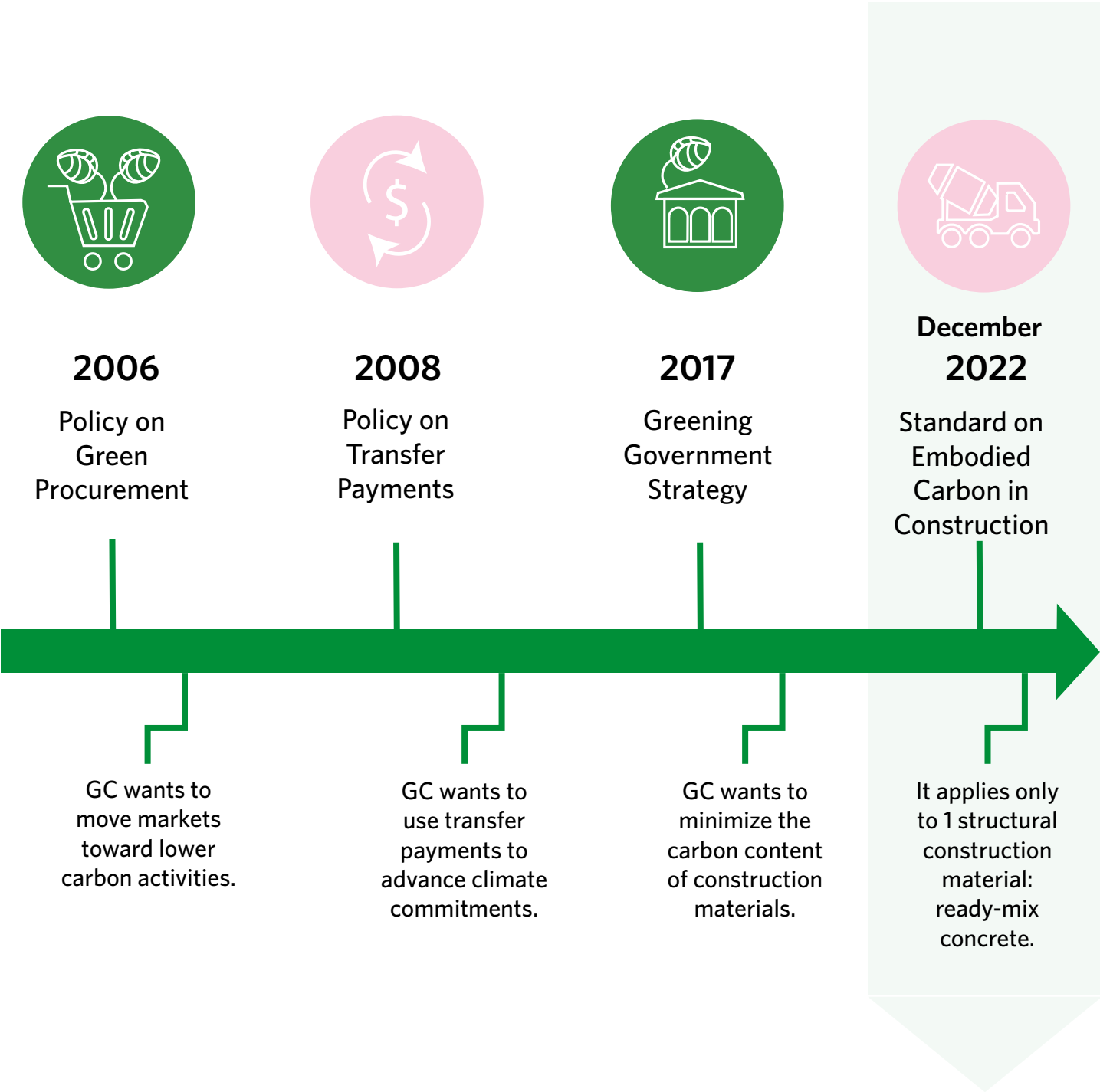
- [EU’s Green Public Procurement Criteria and Requirements](#)

Other Resources

- “Green Public Procurement: An Overview of Green Reforms in Country Procurement Systems,” World Bank

Figure 3

Steps Taken by Canada’s Government to Use More Green Building Materials in Public Infrastructure Projects, 2006-2022



GC: Government of Canada
Embodied carbon: Greenhouse gas emissions of construction materials

Source: Adapted from the Office of the Auditor General of Canada

Resource taxes



Resource taxes include all environment- and energy-related taxes, excises, and state fees that are recorded as taxes in national accounts. These include taxes on the use of pollutants or on the production of goods that result in pollution when used.

Resources taxes are intended to alter production decisions. For example, a pollution tax would disproportionately affect polluters, thereby providing an incentive for the producer to reduce pollution. Resource taxes can be either explicit (such as taxes directly on emissions) or implicit (taxes on inputs to production of a good or service).

Resource taxes can be a policy tool that has a wide effect but is less complex than other tools such as regulatory measures that may be more complex to implement and enforce. Taxes also raise revenues that can be used for other environmental or energy purposes, including environmental improvement schemes.

Resource taxes have many of the same potential challenges as other taxes, such as how to best distribute costs and benefits across society. If they are regressive, they can disproportionately affect the poorest people. Additionally, since they can only encourage behavioral changes, they cannot guarantee governments achieve their environmental goals.

Case studies

European Union: Energy Taxation, Carbon Pricing, and Energy Subsidies

The European Union's (EU) European Court of Auditors (ECA) conducted a nonaudit review of how [energy taxes, carbon pricing, and energy subsidies](#) have contributed to achieving the EU's climate goals. Among EU member states, renewable energy subsidies almost quadrupled from 2008 through 2019, but fossil fuels subsidies remained stable. Consequently, 15 member states spent more on subsidies for fossil fuels than for renewable energy.

ECA conducted the review to provide an independent view on energy taxation and climate change. As part of the review, the auditors reviewed legislation, proposed guidelines, national energy and climate plans, and relevant studies and reports; analyzed international and national energy tax data from 2008 through 2021; and interviewed European Commission staff and other experts.

ECA reported that while energy taxes, carbon pricing, and energy subsidies can be important drivers for achieving climate objectives, member states' implementation of such fiscal tools has shortcomings. For example, certain energy sectors received significant energy tax reductions and exemptions, but the tax levels did not accurately reflect the extent to

"The tax levels did not accurately reflect the extent to which different energy sources result in pollution"

which different energy sources result in pollution (e.g., greenhouse gas emissions).

ECA also reported that after considering taxes and emission-trading allowances, the recent prices of energy products did not reflect the corresponding environmental costs of emissions. Moreover, fossil fuel subsidies remained relatively constant over the last decade despite commitments to phase them out. ECA found ongoing challenges with ensuring consistency in treatment of energy sectors, reducing fossil fuel subsidies, and reconciling climate objectives with social needs.



Photo: Getty Images, Casanowe, 8th October 2014.

Republic of Slovenia: Environmental Water Tax

The Republic of Slovenia's Court of Auditors reviewed the effectiveness of the country's system of [environmental taxes for water](#) use from January 2016 through December 2020.

They reviewed relevant laws, regulations, and documents; gathered and analyzed data on water rights, pumped and sold volumes of drinking water, and environmental taxes for water use; conducted interviews with agency officials and stakeholders; and reviewed studies of individual cases by purpose of water use and volume of calculated and paid environmental taxes.

The Court of Auditors found that the system of environmental taxes for water use was not effective. For example, relevant laws did not set out criteria for determining which type of water right is subject to regulation. Also, the Ministry of the Environment and Spatial Planning did not issue regulations to determine a threshold above which a water permit must be obtained or criteria for determining the method and amount of payment

for water rights. Consequently, water permit holders do not pay for water rights.

In addition, Slovenia's laws and regulations do not specify criteria for determining prices of water reimbursement based on the type of water use or the estimated environmental costs related to each type of special water use. The government also did not have metrics to measure its achievement of water use goals. Furthermore, the ministry was inefficient in collecting environmental charges and did not properly plan for how to use the collected taxes.

United Kingdom: Environmental Tax Measures

The United Kingdom's National Audit Office (NAO) examined how the government's relevant agencies manage [tax measures with environmental objectives](#), including the work they did to design, monitor, and evaluate the measures. NAO also explored how Revenue and Customs uses resources to manage the relationship between the tax system and the government's environmental goals.

To answer these questions, NAO conducted case studies of two established environmental taxes, an environmental tax being designed, and two tax reliefs and analyzed trends in environmental taxes. NAO completed the review in its role to examine the efficiency and effectiveness of agencies' use of resources to fulfill responsibilities, including managing taxes.

Overall, NAO found that the relevant agencies had difficulty designing, monitoring, and evaluating environmental taxes and that more focus on monitoring and evaluation steps is needed. For example, NAO found that in designing tax structures, agencies took many of the expected steps such as consulting with stakeholders and considering implementation issues.

However, the agencies did not specify measures or data for evaluating the success of the taxes or set performance goals. In the monitoring and evaluation stages, NAO found that agencies tended to focus more on monitoring the revenue raised rather than the environmental impact achieved, which can be difficult to evaluate. Moreover, agencies did not evaluate the cumulative impact of all of tax tools together (e.g., tax reliefs, existing tax system). It is important to understand this impact in order to achieve broader national environmental goals.

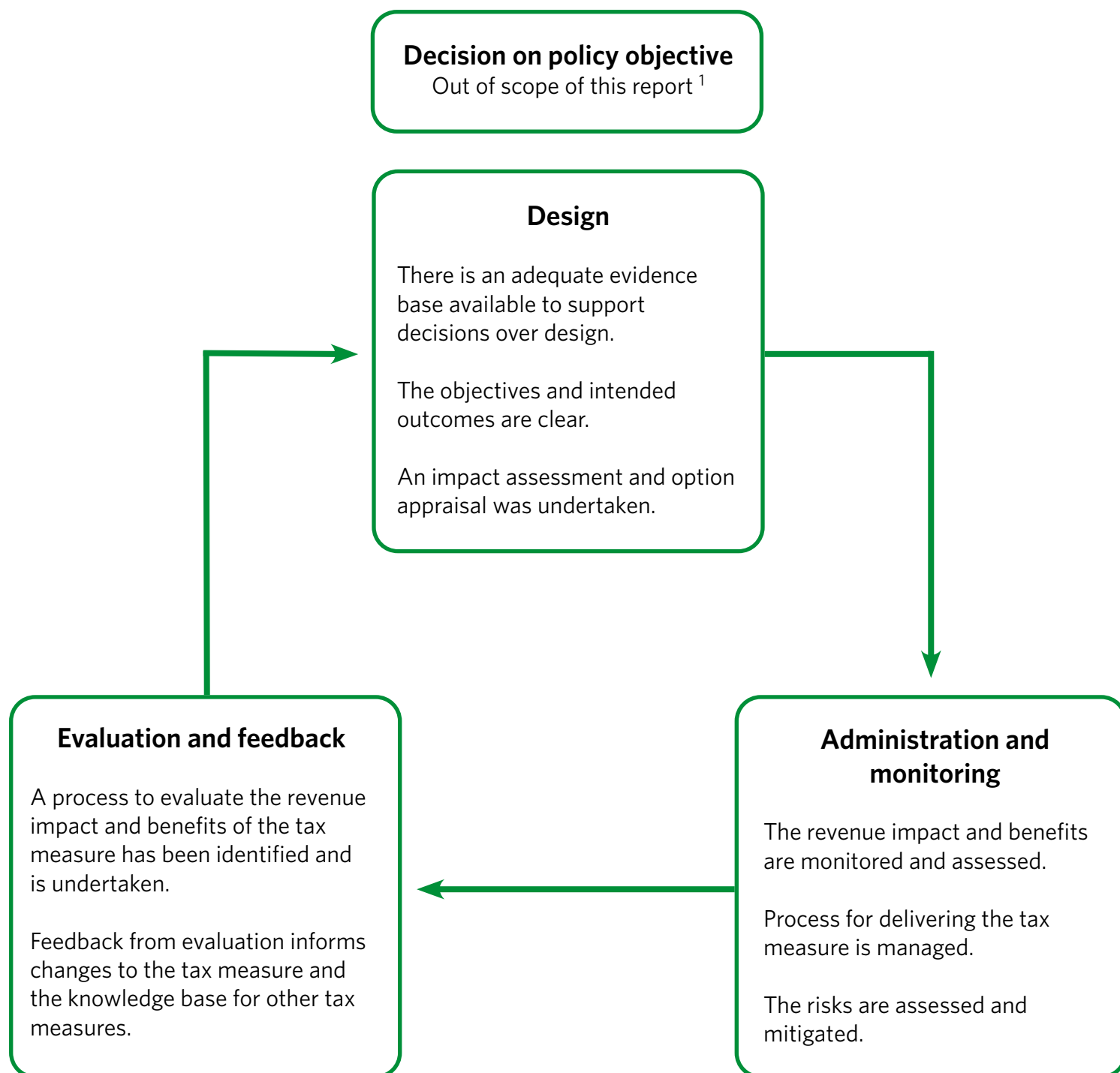
“Agencies tended to focus more on monitoring the revenue raised rather than the environmental impact achieved

Criteria

- Targets set by or for programs to achieve
- Organisation for Economic Co-operation and Development's [Environmental Taxation: A Guide for Policymakers](#)
- UK's The Green Book: [Appraisal and Evaluation in Central Government](#)

Figure 4

Characteristics of an Effective System to Design, Manage, and Evaluate Environmental Tax Measures, According to the United Kingdom's National Audit Office



Note

¹ The Comptroller and Auditor General does not comment on the merits of policy objectives.

Source: National Audit Office

Tax incentives



Green tax incentives and credits, which reduce the amount of tax owed to the government, can lower the price of goods or services to encourage consumers and producers to meet environmental goals and reduce environmental harm, such as by reducing pollution.

Incentives and credits can alter production decisions by encouraging producers to reduce, or pay for, behaviors that negatively affect the environment. They can persuade producers to conduct environmentally friendly projects in exchange for reducing their tax liability. They also can nudge a consumer to purchase a more environmentally friendly product that they otherwise would have thought was too expensive.

As result, green tax credits and incentives reduce a producer's or consumer's tax liability while increasing environmentally friendly behaviors. Green tax incentives and credits may be used to encourage behaviors such as:

- using renewable energy technologies and electricity produced by renewable energy sources;
- installing of equipment, such as solar electric systems and geothermal heat pumps;
- making energy-efficient improvements to buildings; and
- purchasing electric vehicles and producing renewable fuels.

However, green tax incentives and credits can lead to unintended consequences. They can be an inefficient use of resources, especially if the reason for the initial tax incentives or credit becomes no longer applicable. They also can affect economic growth and technological advancement by discouraging purchases or investments in more environmentally friendly alternatives.

Tax incentives and credits present many of the same potential challenges as other taxes, such as how best to distribute costs and benefits across society. If they are regressive, they can disproportionately affect the poorest people. Additionally, since they can only encourage behavior changes, they cannot guarantee governments achieve their environmental goals.

Case studies

Estonia: Environmentally Harmful Subsidies

Estonia's National Audit Office (NAO) reviewed whether and how the Estonian government has identified and assessed [environmentally harmful economic measures](#) (e.g., tax incentives) and their impact, as well as the steps the government has taken to modify or eliminate those harmful measures.

For this review, NAO analyzed other countries' efforts to identify and assess environmentally harmful subsidies, interviewed experts from those

countries, and convened a focus group of relevant Estonian government officials.

In April 2022, NAO reported that the government had not identified environmentally harmful subsidies or assessed their impact. NAO also noted that the Estonian government had not set out to amend or gradually phase out those measures. NAO made four recommendations, including that the government (1) designate a lead governmental authority for identifying environmentally harmful subsidies and (2) adapt existing international methodologies for identifying and assessing those subsidies to Estonia's needs.



Photo: Getty Images, Jackyenjoyphotography, 13th August 2024.

Netherlands: Vehicle Taxes

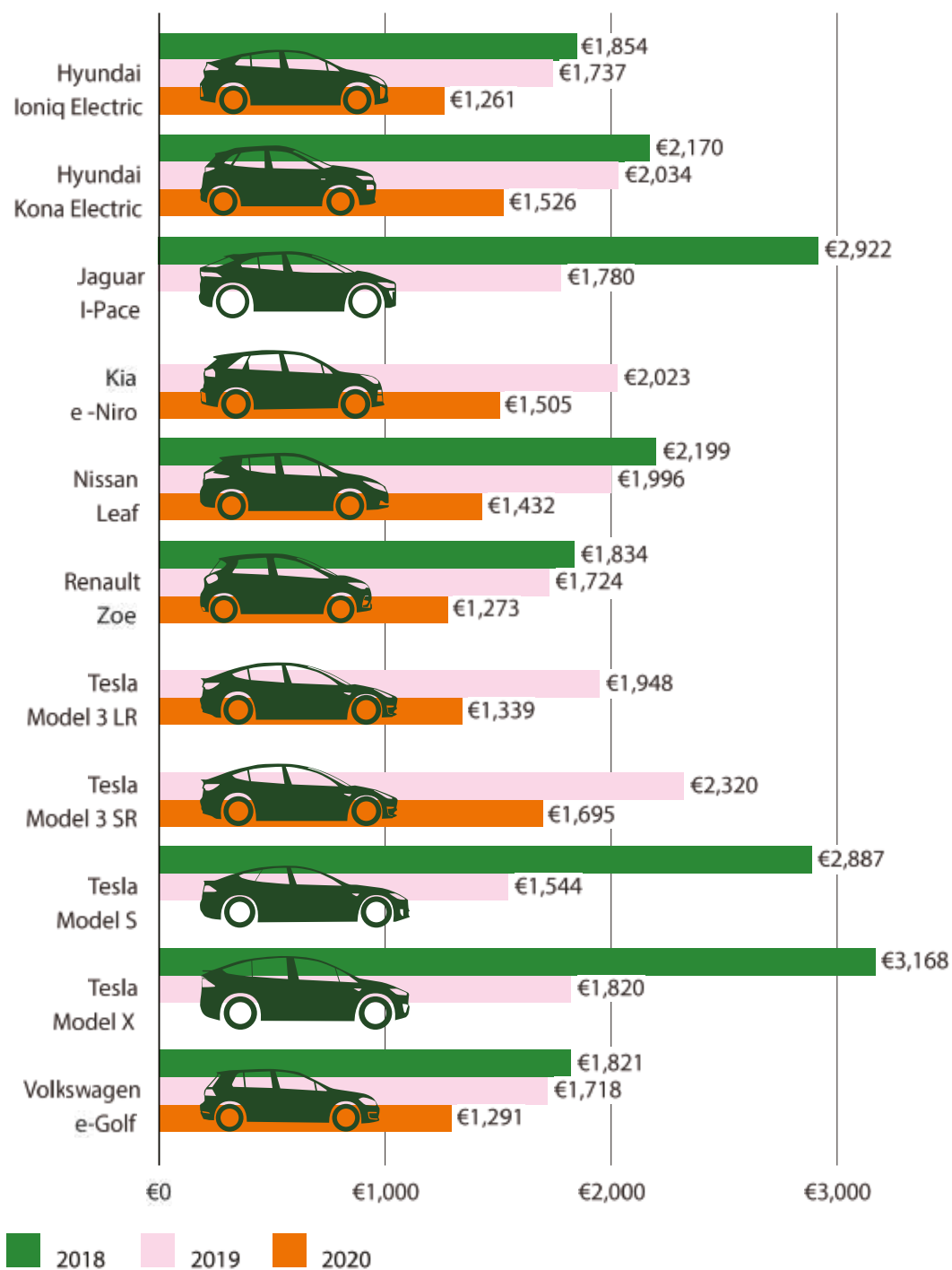
The Netherlands Court of Audit audited [how electric cars and commercial vehicles have affected tax revenues, air quality, and the climate](#). Auditors analyzed the impacts of 11 models of zero-emissions cars on tax revenues and carbon dioxide emissions and compared it to the impacts of petroleum and diesel cars. They also analyzed special schemes for light commercial vehicles and how those schemes affected air quality and climate goals.

In June 2020, the Court of Audit reported that zero-emissions cars led to considerable tax losses per vehicle and per ton of carbon dioxide reduction. It also reported that tax incentives for zero-emissions cars are an expensive policy instrument to reduce carbon dioxide emissions.

The Court of Audit made five recommendations, including that the government review vehicle taxation, adapt vehicle taxes to prevent zero-emissions vehicles from reducing the tax base, and evaluate whether it should continue to use vehicle taxes as a policy instrument.

Figure 5

Decline in tax loss per tonne of CO2 reduction in 2019 and 2020



Switzerland: Carbon Dioxide Tax Exemption

The Swiss Federal Audit Office evaluated the country's [carbon dioxide tax exemption](#). Switzerland imposes a carbon dioxide tax for fuels used by businesses and consumers. Businesses in energy-intensive sectors can claim an exemption from the tax if they take action to reduce their greenhouse gas emissions.

In performing the audit, the auditors reviewed documents and conducted interviews, surveys, and case studies.

In October 2023, the Audit Office reported that, in general, businesses were satisfied with the carbon dioxide tax exemption and stated that it had reduced their costs and energy use. However, the auditors also noted that the emission reduction requirements for businesses to claim the tax exemption were low and had remained unchanged for a decade even though the carbon dioxide tax had tripled in that time.

They made seven recommendations, including that the government establish more ambitious emission reduction targets for businesses and set higher penalties for those that do not reach targets.

"The emission reduction requirements to claim the tax exemption were low and had remained unchanged"

United States: Electricity Generation Projects

The U.S. Government Accountability Office (GAO) audited state and federal supports for the development of utility-scale [electricity generation projects](#). States and the federal government have supported the development of electricity generation projects in a variety of ways.

GAO analyzed relevant legislation, federal budget and program data, and interviewed stakeholders, including project developers and experts. GAO also surveyed state regulatory commissions about state policies. In addition, GAO modeled how reducing federal tax expenditures could affect project finances.

In 2015, GAO reported that in the years leading up to its audit, state and federal supports had targeted renewable energy sources, such as solar and wind, although there were some supports for projects that used traditional sources (natural gas, coal, and nuclear).

GAO found that state policies helped the development of utility-scale electricity generation projects—particularly renewable projects. However, while federal financial supports helped the development of new projects, limited data limited the government's ability to understand the effectiveness of federal tax expenditures. GAO recommended that the U.S. Congress change federal law to direct the agency responsible for tax administration to collect and publicly report relevant data.

Criteria

- The Netherlands' National Climate Agreement
- GAO's Body of Work on Tax Expenditures

Project Lead

European Court of Auditors and SAI USA

Project Group

SAIs of Estonia, Finland, and Indonesia

Quality Assurance Certificates are available on WGEA website.