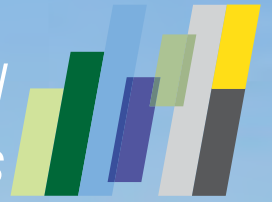


OECD Environmental
Performance Reviews



Switzerland

HIGHLIGHTS

2017

OECD Environmental Performance Reviews

OECD *Environmental Performance Reviews* (EPRs) provide evidence-based analysis and assessment of countries' progress towards their environmental policy objectives.

They promote peer learning, enhance government accountability and provide targeted recommendations to help countries improve their environmental performance. They are supported by a broad range of economic and environmental data. Each EPR cycle covers all OECD member countries and selected partner countries.

All reports, and more information, are available on the EPR website: <http://oe.cd/epr>.

THE THIRD REVIEW OF SWITZERLAND

Switzerland was among the twenty founding members of the OECD, in 1960. The previous Environmental Performance Reviews of Switzerland were published in 1998 and 2007. The report examines the country's environmental performance since 2008. The process involved a constructive and mutually beneficial policy dialogue between Switzerland and the countries participating in the OECD Working Party on Environmental Performance (WPEP). The OECD is grateful to the the European Union and the Czech Republic for examining Switzerland's environmental performance.

The report provides 42 recommendations, approved by the Working Party on 27 June 2017. They aim to help Switzerland green its economy and improve its environmental governance and management. Particular emphasis is on water management and biodiversity conservation and sustainable use.

<http://oe.cd/epr>



Switzerland

SWITZERLAND 2016

Population

8.4 million

GDP/capita

(current purchasing power parities)

USD 62 700

(OECD average is 41 900)

Total area

41 290 km²

Population density

203 inhabitants/km²

(OECD average is 35)

Currency

Swiss Franc (CHF)

In 2016, USD 1 = CHF 1.015

Overview

Switzerland has a small, open economy with a low-carbon energy mix. A May 2017 referendum endorsed a government endeavour to phase out nuclear energy and increase reliance on renewable energy resources. Switzerland has also embarked on an innovative approach to river rehabilitation. However, the country has been slow to launch a biodiversity action plan despite a high proportion of threatened species and few strictly protected habitats. As a major financial center, Switzerland has a key role to play in promoting green finance and investment.

OPPORTUNITIES

- **Excellent performance in greenhouse gas (GHG) emission intensity and material productivity**
- **An innovative approach to the water-biodiversity nexus, with a river renaturation initiative**
- **A long tradition of environmental democracy**
- **An ambitious carbon tax system**
- **A large share of agricultural payments devoted to farm biodiversity**
- **A higher tax rate on diesel than on petrol (rare among OECD countries)**
- **A modal shift of freight from road to rail**

CHALLENGES

- **Unsustainable consumption patterns, causing a large ecological footprint, extending beyond the country's borders**
- **Increasing municipal waste generation**
- **High shares of threatened species**
- **Small rivers affected by pesticides, and lakes by eutrophication and lack of oxygen**
- **Land take gaining pace, especially in city outskirts**

Environmental performance | **key trends**

Switzerland has a small, open economy. It is the fourth richest country in the OECD in terms of GDP per capita, its living standards are high and it is a top performer in energy and carbon intensity and material productivity.

However, with its high income and related consumption, Switzerland retains an important environmental footprint, including growing volumes of road transport and waste generation on the densely populated Swiss Plateau.

ENERGY AND CLIMATE CHANGE

- Over the past decade, Switzerland has decoupled economic growth from domestic GHG emissions. With high shares of renewables and nuclear energy, and an economy dominated by services, the country is among the OECD's least carbon-intensive.
- The May 2017 popular vote endorsed a 2011 proposal to gradually phase out nuclear energy. It requires a new energy strategy to accelerate the deployment of renewables. Some 60% of the renewables supply currently comes from hydropower.

Figure 1. **Switzerland is a good performer in carbon intensity.** It is the least carbon-intensive economy in the OECD in terms of domestic production. However, a more nuanced picture emerges when integrating emissions embedded in imports.

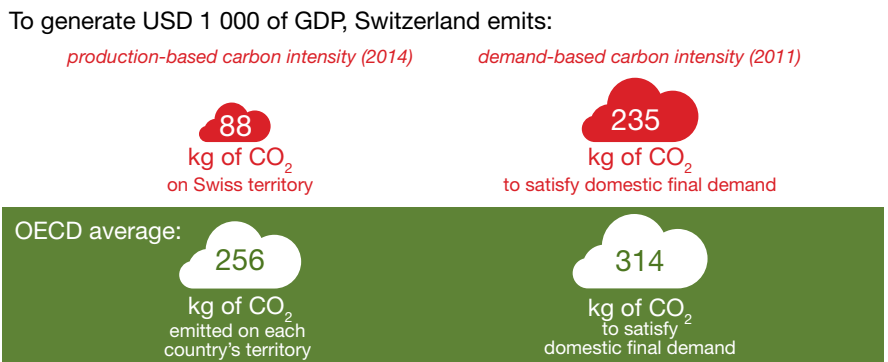


Figure 2. **Transport accounts for a third of energy consumption** and over half of fossil fuel use. To decarbonise the sector, Switzerland aims to shift traffic from road to rail and to improve public transport.



Figure 3. **Fossil fuels constitute about half of energy supply, well below the OECD value of 84%**

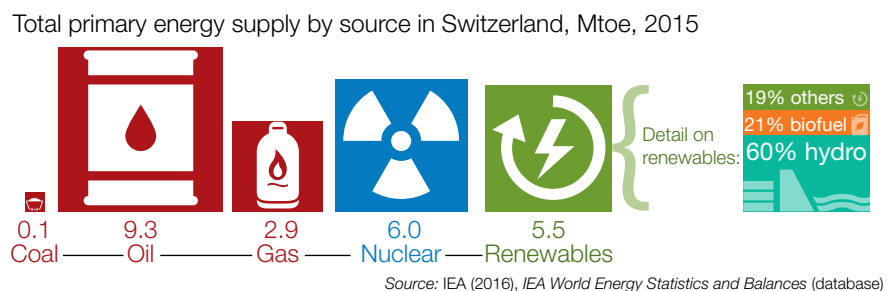
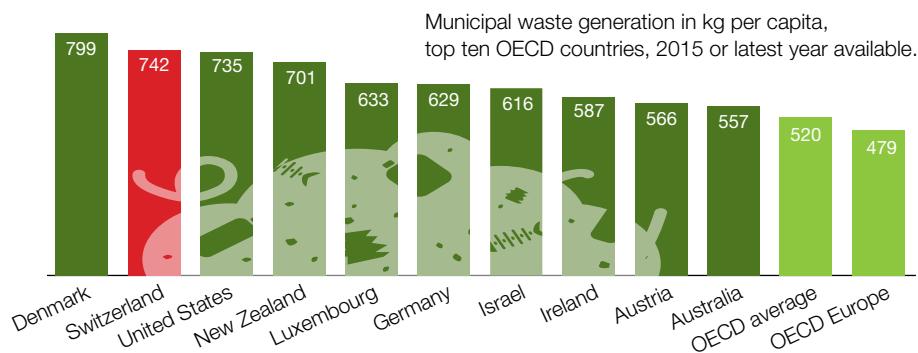


Figure 4. **Swiss residents are the second biggest producers of municipal waste in the OECD.**



Source: OECD (2017), OECD Environment Statistics (database).

WASTE AND CIRCULAR ECONOMY

- Swiss residents produced 742 kg of municipal waste per capita in 2015, one of the largest amounts in the OECD. Volume of municipal waste increased by 27% since 2000, in line with private consumption.
- Policies have been effective in encouraging recycling. Half of municipal waste is now recycled, and the other half incinerated.
- There is room to close loops and move towards a circular economy. Construction and demolition waste is by far the biggest waste stream at over 15 million tonnes per year. Requiring extended producer responsibility for construction materials, as in Germany, would encourage waste producers to take end-of-life costs into account.
- Construction materials account for half of Switzerland's domestic material consumption. The total has increased by 9% since 2000, while it decreased by 11% in the European Union.

PROTECTED AREAS AND BIODIVERSITY

- Over the last century, Switzerland lost significant shares of previously widespread habitats such as alluvial zones, mires, dry meadows and pastures. About half the 235 Swiss habitat types are endangered.
- As of the late 2000s, 79% of reptiles, 62% of amphibians and a third of mammals and birds were classified as vulnerable, endangered or critically endangered (page 14).

WATER MANAGEMENT

- Over the past decade, water abstraction as a share of available resources decreased by over a fifth. Nevertheless, land use intensification in groundwater abstraction areas threatens groundwater quality.
- Sewage treatment plants have reduced phosphorus and nitrogen pollution in medium-sized and large rivers and lakes, but diffuse agricultural pollution still threatens small rivers and aquifers. Micro-pollutants are a rising challenge (page 12).

AIR QUALITY

- All major air pollutants have been decoupled from economic growth. All cantons have air protection programmes.
- In areas of heavy traffic, levels of coarse particulate matter (PM₁₀) and nitrogen dioxide (NO₂) are still above the legal ambient limit values, as are summer ozone levels in rural areas of Ticino canton. PM and ozone air pollution cause 2 000 to 3 000 premature deaths per year.
- In 2007, Switzerland decided not to renew its first National Environmental Health Action Plan. The country has since lacked a holistic view of environmental health problems.
- Ammonia emissions, mostly from agriculture, continue to far exceed the critical limit value.

Next steps | air, waste, education

- Further reduce emissions of ammonia, ozone precursors (nitrogen dioxide, volatile organic compounds and methane), sulphur oxides and fine particulate matter, in accordance with the polluter-pays principle.
- Prepare a federal waste prevention strategy with municipal targets. Consider developing a national resource efficiency strategy to address material consumption levels, drawing on experience from Denmark, Germany, Sweden and the United Kingdom.
- Develop communication campaigns and environmental education at the federal and cantonal levels to raise public awareness of the state of the environment.

Environmental governance

Switzerland needs to do more to reinforce co-ordination between the Confederation and the cantons. It has a long tradition of involving the public in environmental decision making through referendums and popular initiatives, which are useful tools to engage citizens and give impulse to policy making.

LAWS AND INSTITUTIONS

- Although EU environmental legislation does not directly apply, Switzerland has integrated certain aspects of EU law into national legislation while retaining environmental policy prerogatives.
- The country has an effective system of *ex ante* evaluation supporting proposal preparation. However, there is no strategic environmental assessment (SEA) of plans and programmes.
- Since the last review in 2007, almost 70 cost-effectiveness assessments have been undertaken on draft laws, plans and policies concerning CO₂ emissions, micro-pollutants, biodiversity, waste and green economy.
- Switzerland’s permitting system contrasts with the EU-wide practice of integrated pollution prevention and control for high-risk installations.
- The Federal Office for the Environment (FOEN) provides “enforcement aids” to cantons, to promote uniform countrywide application of federal requirements. More effort could be made to update and expand the coverage of this useful tool.

COMPLIANCE

- Cantons are in charge of ensuring compliance with environmental regulations. They have discretion in the means of achieving it, which leads to significant

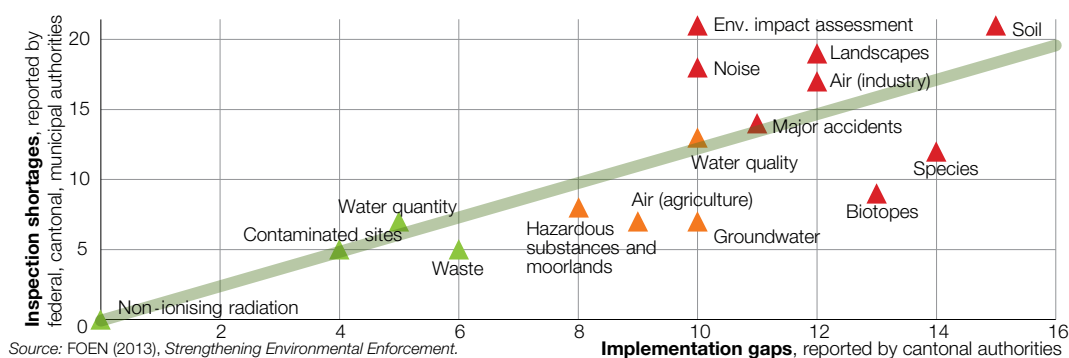
discrepancies among cantons. Inspections are not integrated across environmental issues (air, water, etc.).

- Operators are liable for environmental risk. They have to deposit a financial guarantee to cover potential investigation and remediation costs. There is also a well-developed financing mechanism for remediation of contaminated sites – a special fund fed by a charge on landfilled hazardous waste.
- Some 38 000 contaminated sites have been registered on cadastres that are available online; remediation of 1 000 severely contaminated sites (e.g. hazardous waste landfills) was completed in 2017 and evaluation of around 15 000 sites continues.
- Voluntary agreements are widely used, particularly in the energy sector, to achieve environmental goals. However, there is substantial room to strengthen green public procurement, an area currently lacking a policy framework and targets.

DEMOCRACY

- The country has a long tradition of enabling citizens to express their concerns about environmental issues through referendums and popular initiatives.
- Switzerland ratified the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters and continues to make advances in all these areas.
- It has also made significant progress in including sustainability issues in education curricula.

Figure 5. Implementation gaps are directly related to the shortage of inspections.



Involving the public in environmental decisions

In some 20 referendums and popular initiatives held since 2000 on environmental initiatives, 6 measures were approved.

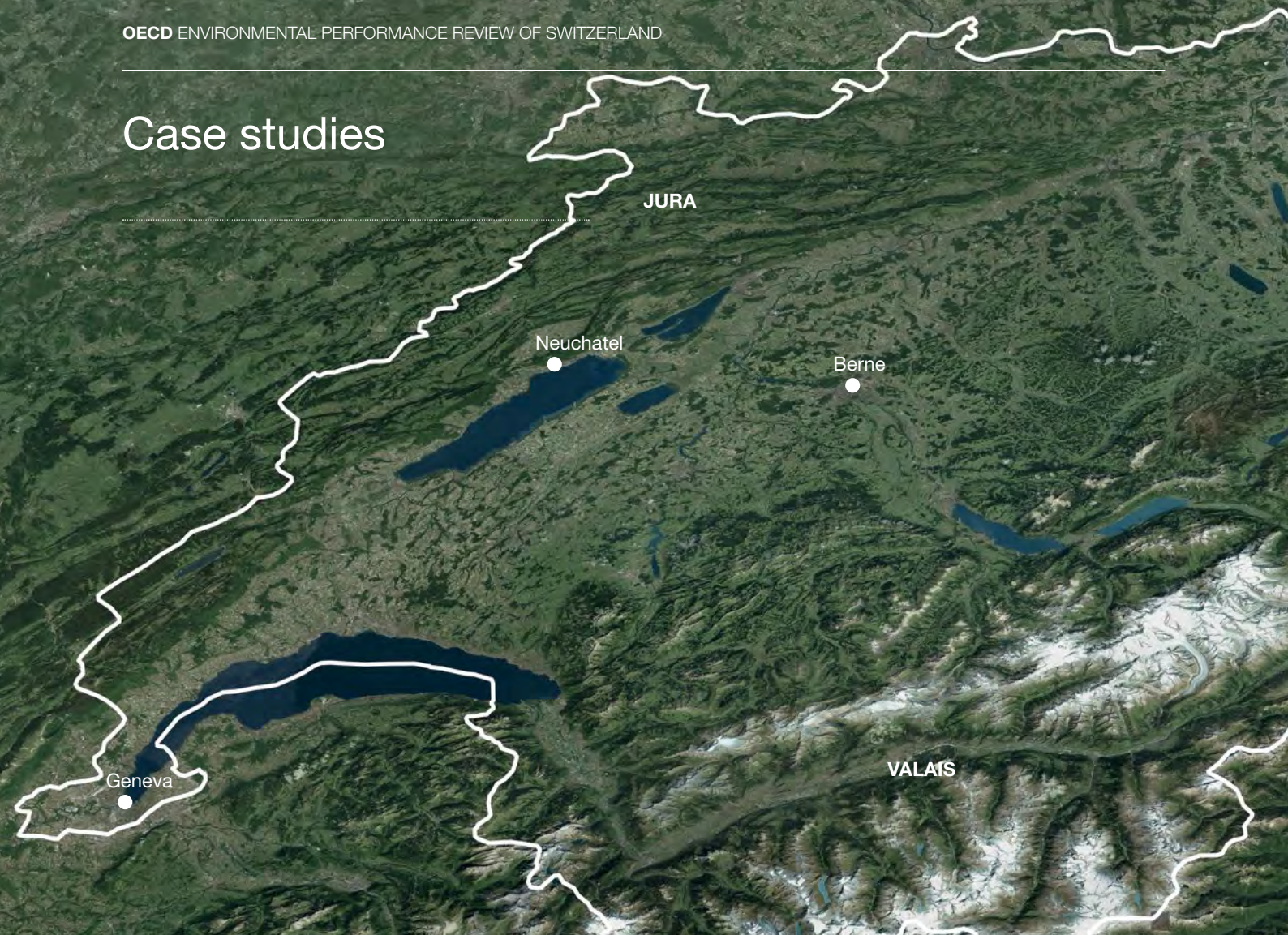
- In May 2017, almost 60% of Swiss voters backed the government's plan to amend the Energy Act and gradually phase out nuclear power (page 10). A proposal for a rapid phase-out of nuclear energy failed in a November 2016 referendum on the grounds that it would compromise energy security. Environmental organisations interpreted the 2016 vote as confirmation that much of the population wanted to opt out of nuclear power in the long run.
- In September 2016, 64% of voters rejected a proposal to foster a green economy through new regulations and tax incentives to significantly reduce resource consumption by 2050. Geneva was the only canton approving the initiative, which elsewhere was perceived as too ambitious and potentially having a negative impact on competitiveness, growth and employment. The authorities now favour an incremental, step-by-step approach.
- In 2013, an amendment of the Spatial Planning Act was approved by referendum. It aimed at limiting urban sprawl over the following 15 years by matching building zones with foreseeable infrastructure needs, and introduced a 20% tax rate on land designated for development.



Next steps | governance

- Harmonise and strengthen environmental policy and law implementation across cantons by improving co-ordination with the federal level and promoting regular performance monitoring mechanisms and indicators.
- Consider introducing integrated environmental permits for large industrial installations, based on best available techniques, to move towards a holistic approach to pollution prevention.
- Introduce requirements for SEA of plans and programmes.
- Improve compliance monitoring by strengthening risk-based inspection planning and developing guidelines for cross-media inspection services.
- Develop federal guidance to cantons on the use of enforcement tools.
- Encourage green practices among businesses by providing sector-specific guidance, especially to small and medium-sized enterprises; strengthen green public procurement with targets and monitoring.

Case studies



SAVING THE RHÔNE APRON ON RIVER DOUBS

The section of the River Doubs that forms part of the border between Switzerland and France shows signs of significant degradation: e.g. fish with mycosis, excess mortality after spawning, algal blooms. A binational governance structure was established in 2011 to address such water quality problems as well as flow management and fishing.

In 2014, the Confederation, in collaboration with Neuchâtel and Jura cantons, developed a national action plan for the Doubs. It aims to restore the ecosystems linked to the border Doubs and Jura Doubs, partly to ensure survival of the Rhône apron (Zingel asper), a fish species emblematic of the Doubs.

STRATEGIC ENVIRONMENTAL ASSESSMENT IN GENEVA

Geneva is the only canton that has compulsory SEA of cantonal spatial planning (structure and land use plans). Its environmental department supervises assessment, which must include a solid analysis of alternatives. SEA is limited to spatial planning; it does not cover other plans and programmes likely to have an environmental impact.

The canton does not issue stringent methodological requirements, but publishes a guidance document to inform preparation of local land use plans. In addition, since 2006 SEA of cantonal spatial planning has been carried out on a voluntary basis in Vaud canton.

ENERGY CITY NETWORK

About 360 Swiss towns and cities, including small towns such as Aeugst am Albis, belong to the Energy City network, aimed at promoting energy efficiency and renewables projects in line with the 2013 federal Energy Strategy. This follows a common trend in OECD countries, in which municipal associations increasingly incorporate environmental considerations in their agendas, creating opportunities to strengthen capacity building and economies of scale in developing environmental infrastructure.



CERCL'AIR

Cercl'Air brings together 230 members, including the cantonal and federal authorities and academics, to discuss air quality issues. Similar associations exist for waste, noise, water and land. Each canton has published a guidance document for air emission inspections within Cercl'Air. Lucerne canton has produced its own manual for inspections in the car industry. Switzerland should consider introducing integrated inspections across environmental media to streamline inspection costs and improve compliance monitoring.

THE WORLD'S LONGEST RAIL TUNNEL

By end 2014, more than two-thirds of freight travelled by train in Switzerland. With the December 2016 opening of the Gotthard Base Tunnel, at 57 km the world's longest rail tunnel, the share is expected to rise further, as the tunnel is intended to increase rail traffic between northern and southern Europe. For now, however, Switzerland is far from reaching its 2018 goal of no more than 650 000 trucks crossing the Swiss Alps per year. Despite a 30% reduction between 2000 and 2014, 1 million heavy goods vehicles travelled through the alpine region in 2015. France and Austria have achieved much lower shares of rail in their transalpine freight transport.

ALLEGRA PETER THE GOATHERD

More than 95% of Swiss dry grasslands and pastures have disappeared over the last century due to lack of grazing and maintenance. In 2006, Pro Natura, a Swiss conservation NGO, adopted the character of Peter, the young goatherd from the famous Swiss children's book Heidi, as the symbol of a programme in which, working with farmers, local authorities and cantonal officials, Pro Natura launched several projects to prevent brushwood overgrowth and afforestation.

Grazing animals were reintroduced to preserve dry grasslands in the alpine cantons of Valais and Grisons. Goats, donkeys and cattle are used, depending on the topography and type of overgrowth. Between 2006 and 2016, more than 80 hectares were restored. Traditional dry grassland floral species have returned, and one project more than doubled the number and variety of butterfly species.

Green growth

Switzerland has made progress in greening its economy, but has opportunities to do more: by expanding incentives to address the environmental impact of high consumption, strengthening the polluter-pays principle, fostering eco-innovation and mobilising the corporate and financial sectors.

FRAMEWORK

- The Federal Council adopted a well-defined Green Economy Action Plan in 2014. The 2016-19 edition focuses on progress towards a circular economy.
- Votes by the parliament (2015) and general public (2016) turned down more ambitious green economy objectives.
- Amendment of the Energy Act was approved by referendum on 21 May 2017. It aims to foster a shift from nuclear power to renewables by 2050.

GREENING TAXES

- A carbon tax was introduced in January 2008. Its rate positions Switzerland among front runners, even though it does not cover road fuels and liable companies may be exempted under voluntary commitments.
- The 2018-20 package of the amended Energy Act supports investment in renewables, partly via levies on electricity bills. Its

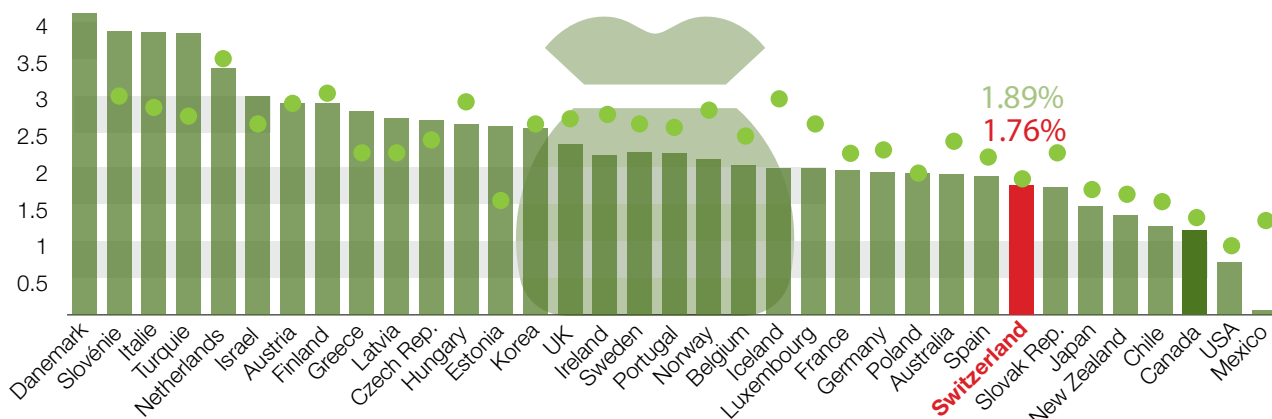
design means electricity consumers assume the cost of energy transition.

- Freight transport through the Alps is a long-standing concern. The distance- and weight-based tax on heavy goods vehicles, introduced in 2001, encourages emission reductions and compliance with recent EURO standards. Nevertheless, 1 million heavy goods vehicles crossed the Alpine region in 2015. Further progress depends on a modal shift to rail.
- Switzerland is one of the few OECD countries taxing diesel fuel at a higher rate than petrol to account for its higher carbon and air pollutant emissions per litre.
- Fossil fuel support, in the form of tax refunds and exemptions, was estimated at CHF 260 million in 2014. Removing these subsidies could free enough resources to, for example, double support to renewables development.
- Agricultural policy support with explicit environmental objectives increased from 6% of total payments in 2000 to 23% in 2015. Agriculture Policy 2014-17 requires farmers to show proof of ecological performance to be eligible for any payment.
- To encourage reduced municipal waste generation, 90% of municipalities introduced a per-bag tax. Waste charges are aimed at full cost recovery on collection

Switzerland's carbon tax is **EUR 77** per tonne of CO₂ in 2016. But many GHG sources, are exempted.

Figure 6. **Environmental tax rate is low and decreasing.**

● Environmentally related tax revenue as percentage of GDP, OECD countries, 2014 (bars) and 2000 (green dots).



Source: OECD (2017), OECD Environment Statistics (database).

and disposal services. Prepaid disposal fees are in place for beverage containers and batteries, and extended producer responsibility applies to electrical and electronic equipment.

PUBLIC INVESTMENT

Environmental R&D represents only **0.2%** of total public R&D budgets, the second lowest rate in the OECD.

- Environmental protection expenditure increased to around 0.7% of GDP, in line with the EU average. The government expects it to increase further because of ageing infrastructure, population growth and urban sprawl.
- Switzerland has taken welcome steps in its public investment policies by including energy efficiency in buildings and sustainable transport.

- By 2014, 3% of the electricity produced from renewables was subject to feed-in tariffs. Energy Strategy 2050 would replace such market price support with private contracts and more investment grants, with a view to fostering market orientation of renewables development.
- A federal-cantonal programme for energy efficiency in buildings was launched in 2010. Federal subsidies for refurbishment achieved their target, but the cantonal programme for the use of renewables and waste heat proved underfunded. The joint programme was prolonged beyond 2019 with more federal funding.

FOSTERING ECO-INNOVATION

- Switzerland has a high profile in science, technology and innovation, and continues strengthening it with well-defined master plans for environmental and energy research and efficient co-operation with the private sector.

- Nevertheless, environmental protection represents a low share of the overall public R&D budget and environment-related patents make up a low share of the total by OECD standards. Causes include a policy shift towards non-thematic research and a funding gap in the pre commercialisation and demonstration phases.

MOBILISING THE CORPORATE SECTOR

- Switzerland is actively engaged in many international voluntary initiatives, such as the G20 Green Finance Study Group and the Task Force on Climate-related Financial Disclosures.
- Swiss investors have taken initiatives to identify activities they should not finance because of environmental risk, paving the way for more systematic monitoring of the environmental performance of investment in the financial sector.

Holdings of the Swiss equity fund market are estimated to contribute to a global scenario of temperature rising by **4-6°** instead of "well below 2°" (Paris objective)

DEVELOPMENT CO-OPERATION AND TRADE

- An increasing share of bilateral official development assistance addresses environmental objectives.
- Ensuring coherence between trade and environmental policies is of utmost importance, given the openness of the economy. Switzerland is one of 17 World Trade Organization members negotiating an environmental goods agreement. However, bilateral free trade agreements are not subject to systematic environmental evaluation.

Next steps | green growth

- Promote the Green Economy Action Plan as a whole-of-government approach, consistent with other plans and strategies.
- Widen the carbon tax base and phase out remaining tax exemptions and rebates. Expand incentive-based taxation to reduce the impact of consumption.
- Foster market orientation of the transition to renewables.
- Continue to apply the principle of full cost recovery on services so as to finance investments in water and waste management.
- Pursue efforts to link direct payments to farmers with their environmental performance.
- Systematically monitor environmental performance in private sector investment.
- Use the venture capital market to promote eco-innovation, especially in the demonstration and early commercialisation phases.
- Evaluate the environmental impact of new bilateral trade agreements.

Water management

Switzerland was one of the first countries to implement a national policy to remove micro-pollutants in municipal sewage. Since 2011, with the in-depth revision of the Water Protection Act, the country has embarked on a long journey towards the gradual renaturation of its rivers and lakefronts, which have been artificialised by construction, flood control and hydropower infrastructure.

MICRO-POLLUTANTS AND NUTRIENTS

- Over 30 000 potential micro-pollutants are in daily use in plant protection products, biocides, pharmaceuticals, and body care and cleaning products. Many of them, from urban sewage or diffuse agricultural sources, have been detected in Swiss surface waters.
- Nutrient loads have been reduced overall but remain too high at almost 10% of river monitoring stations; the share would be much higher if more small rivers were monitored.
- Despite efforts to remove phosphorus from sewage, half the 20 largest Swiss lakes suffer from eutrophication and lack of oxygen, particularly in areas of intensive farming.
- Some 98% of the population is connected to sewage treatment, a rate second only to the Netherlands in the OECD. About 70% of plants achieve tertiary treatment (nutrient removal).
- Switzerland was one of the first countries to upgrade municipal sewage treatment plants to treat micro-pollutants. Three plants are already equipped to remove micro-pollutants and work is planned at 120 others. This policy should halve urban micro-pollutant discharges to rivers by 2040.

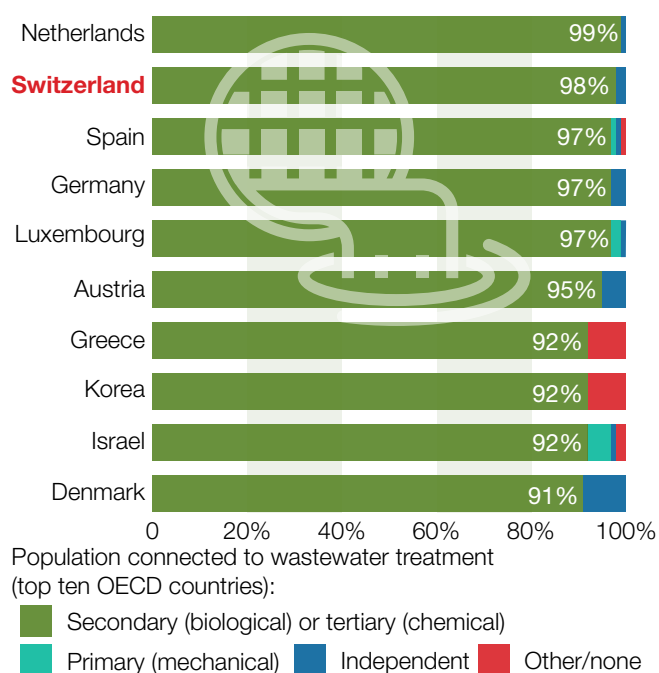
RIVER RENATURATION

- Around 40% of Swiss rivers have been significantly modified as a result of intense land use. River flows have been altered, and artificial barriers hinder fish movements. Hydropower production has caused structural changes in river flows.
- Rehabilitating the natural functioning of rivers, streams and lakes is a long-term endeavour, triggered by a popular initiative in 2006. The cantons have to provide enough space for waters to flow naturally

and ensure flood control. The national target is to rehabilitate about 4 000 km of river length by 2090.

- Cantons have designated stretches of river and lakefront where the benefits to nature and landscape are greatest in relation to rehabilitation costs.
- Public financial support may be granted for surface water rehabilitation, flood control, alluvial biotope restoration, and management of riparian areas as biodiversity promotion areas or as part of agricultural structural adjustment. These policies involve multiple laws; the challenge is to ensure coherence.

Figure 7. **98% of the Swiss population is connected to sewage treatment plants**



Source: OECD (2017), OECD Environment Statistics (database).



- Hydropower installations must reduce their negative impact on watercourses. Under a principle of “electricity pays for electricity”, the proceeds of a tax on electricity bills support the upgrading of hydropower plants to reduce their impact on watercourses.
- A quarter of hydropower plants built before 1991 do not meet minimum flow requirements. Since 1991, a consensus-building approach has allowed the setting of “acceptable” minimum flows, balancing hydropower development and ecosystem protection, but it is rarely used.
- A compulsory computing system for farm manure trading is a cost-effective way to balance nutrient use. Nutrient trading could be combined with a tax on surplus nitrogen, as in Denmark.

DRINKING WATER SUPPLY

- The Waters Protection Act requires cantons to designate groundwater protection areas for drinking water abstraction, but few cantons have included such areas in their master plans.
- The water abstraction tax should be redesigned to better reflect the risk of water scarcity.

FINANCING INFRASTRUCTURE

- Thanks to a clear set of water charging principles and widespread metering, water bills cover the full cost of operation and maintenance and 78% of long-term capital expenditure.
- A fund was created in 2016 to cover up to 75% of the cost of upgrading sewage treatment plants through to 2040. It is financed by a federal sewage charge, consistent with the polluter-pays principle.
- Some 90% of municipalities have prepared water drainage plans, as the Waters Protection Act requires, to separate treatment of municipal sewage and storm water.

AGRICULTURE

- More than 95% of Swiss farms comply with limitations on nitrogen and phosphorus surpluses and the prohibition of pesticide use on 6 m buffer strips along rivers, and set aside 7% of their land for biodiversity promotion.
- However, as none of the 2008 nutrient and pesticide-related targets have been met, the Federal Council is considering introducing tax incentives in Agriculture Policy 2022-25.

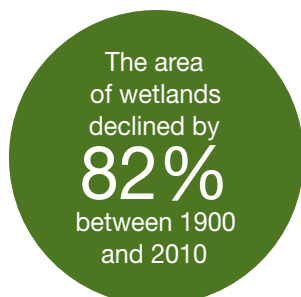
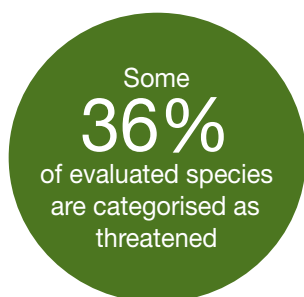
Next steps | water

- Pursue efforts to upgrade urban sewage treatment plants to remove micro-pollutants.
- Speed up the implementation of the action plan on phytosanitary products.
- Consider introducing a tax on nitrogen surpluses at farm level.
- Foster the creation of ecological corridors when selecting stretches of river and lakefront for rehabilitation.
- Consider setting “acceptable” minimum flows for very old rights of water use for power that impede rehabilitation of small rivers.
- Ensure that the various kinds of public financial support for river rehabilitation are coherent.
- Extend water quality monitoring and research to small rivers and lakes.

Biodiversity

Switzerland is at an important point in the evolution of its biodiversity conservation and sustainable use policies. Forest cover has improved, but the overall state of biodiversity is poor. The Swiss Biodiversity Strategy holds promise, but the launch of its action plan took longer than expected.

- Switzerland’s varied geography and climate have produced a wealth of biodiversity and ecosystems.
- Biodiversity is affected by land use change, landscape fragmentation, pollution from pesticides and ammonia, habitat loss and disturbance, invasive species, and climate change.
- Most inland water ecosystems are threatened and biodiversity-rich grasslands are being lost.



FRAMEWORK

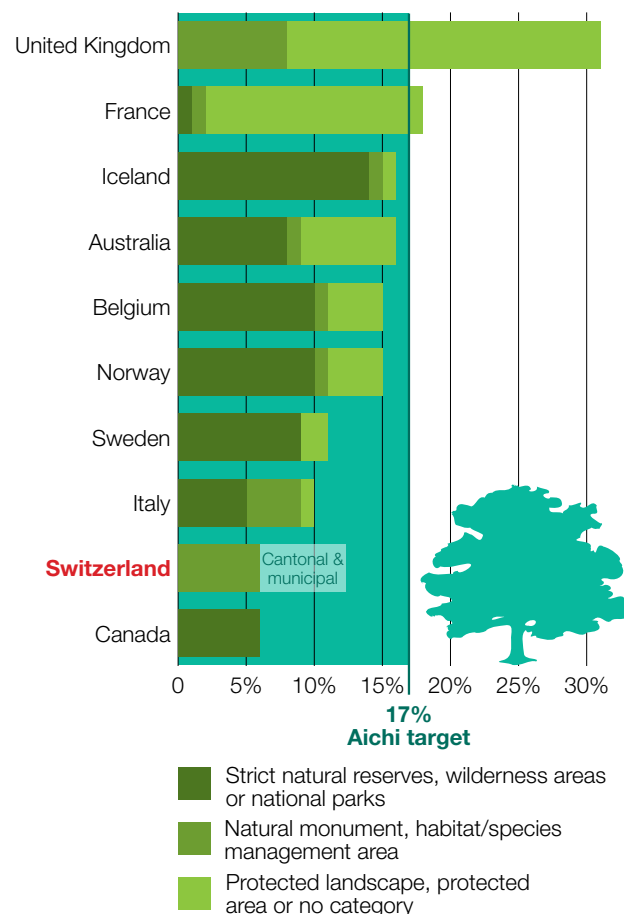
- Cantons and municipalities have significant control and national park designations are put to public referendum. This democratic system is suited to local circumstances and interests, and is useful to ensure public support, but has its shortcomings in terms of longer delays, prioritisation and uneven implementation.
- The action plan of the 2012 Swiss Biodiversity Strategy was only approved in September 2017, three years after the federal government’s commitment to do so.

PROTECTED AREAS

- National protected areas have been expanded, mainly through the Biotopes of National Importance network and cantonal and communal actions. Only 6.2% of the territory enjoys national-level protection. The protection rate could reach 12.5% if cantonal and municipal protected areas are taken into account. Even that, however, is far from the Aichi target of 17% of the territory protected by 2020.
- Switzerland relies on lower protection categories than other OECD countries. Protected areas are

Figure 8. **Switzerland is far from achieving the Aichi target of 17% of the territory under protection**

Territorial protected areas by IUCN category, selected OECD countries, 2013 (% total area)



Source: OECD (2017), OECD Environment Statistics (database); FOEN (2017).

Forest reserves make up only **5.6%** of the forest surface

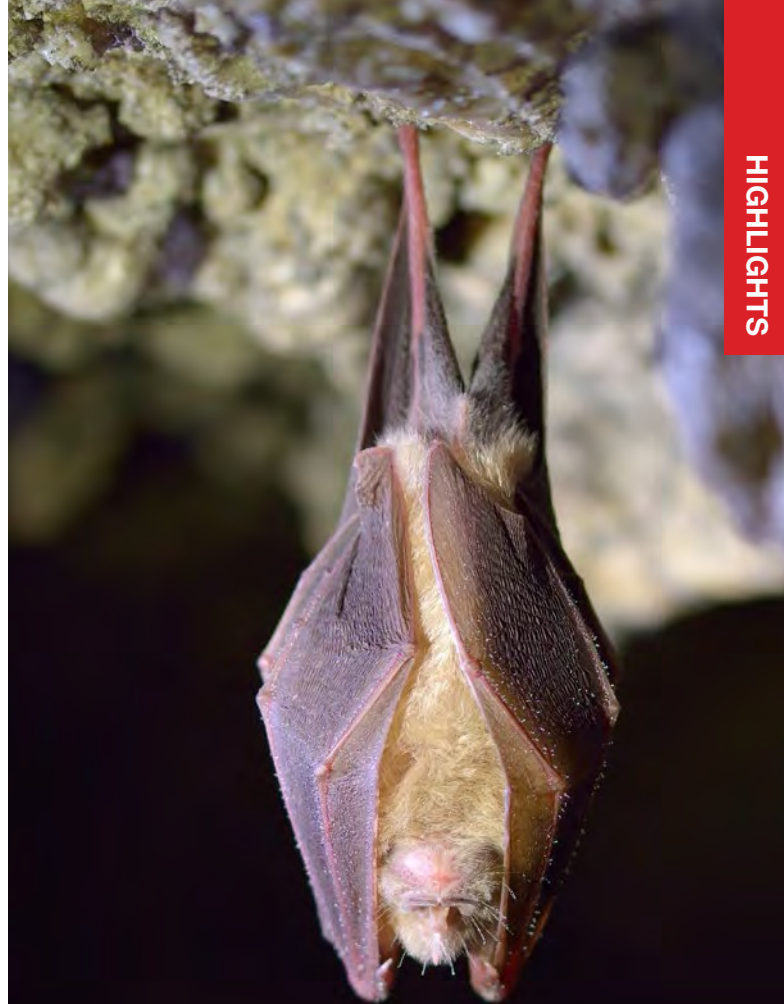
often too small, poorly connected with each other and other European networks, and do not fully meet conservation objectives.

MAINSTREAMING

- The Swiss Landscape Concept seeks to mainstream nature and landscape protection into all relevant sector policies. The Spatial Planning Act was amended in 2013 to reduce oversized development zones and better allocate land for development. However, fiscal incentives to allocate land for development on the outskirts of cities encourage urban sprawl.
- The Agricultural Policy packages have required farmers to designate at least 7% of their land as biodiversity promotion areas in order to be eligible for direct payments. However, more effort could be made to select appropriate areas and address pollution from pesticides and fertilisers.
- Forest Policy 2020 takes biodiversity protection into account, based on agreements with the cantons and forest owners. Switzerland is committed to protecting biodiversity in 8% of the forests by 2020 and to near-natural silviculture while increasing wood harvest rates.
- Energy Strategy 2020 also considers biodiversity protection, within the framework of agreements with the cantons and energy providers. New hydropower and wind projects will need to be carefully implemented to minimise their impact on ecosystems and wildlife.
- Tourism and transport infrastructure increase the risk of landscape fragmentation and habitat disruption. Other countries have pursued creative mitigation measures, such as well-functioning wildlife corridors and refuges, and fees for tourism operations. It is ultimately in the tourism industry's interest for landscapes to be maintained.

FINANCING

- Over the past decade, the government has doubled biodiversity expenditure. Nevertheless, FOEN estimates that the Swiss Biodiversity Strategy objectives will require between CHF 182 million and CHF 210 million extra, annually, by 2040. In May 2016, the Federal Council allocated CHF 135 million to urgent biodiversity measures over 2017-20.
- There are many opportunities for greater use of economic instruments, such as taxes on pesticides, payments for ecosystem services in forestry, access fees in tourism and taxes on building permits to expand green space.



About 60% of bats are threatened in Switzerland.

Pesticides are the main culprit, particularly where DDT was used for timber treatment in attics. Some populations have recovered since substances including DDT were banned in the 1970s. Habitat fragmentation and loss present an obstacle to recolonisation of former ranges.

The lesser horseshoe bat (*Rhinolophus Hipposideros*) was once common and widespread, but has faced regional extinction in northern and western Switzerland.

Next steps | biodiversity

- As a basis for a more formal, legally binding spatial planning tool, create a national ecosystem map to prioritise biodiversity protection and ecological corridors.
- Swiftly implement the action plan for the Swiss Biodiversity Strategy.
- Improve biodiversity protection through targeted funding at all government levels and by developing the use of economic instruments.
- Identify and phase out subsidies and tax incentives with harmful effects on biodiversity.
- Develop policies, programmes and action plans to reach the Aichi commitment to protect 17% of the territory by 2020.



OECD Environmental Performance Reviews Switzerland 2017

MORE INFORMATION

The report and all data are available on
<http://oe.cd/epr-switzerland>
Environmental Performance Review programme
<http://oe.cd/epr>

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2 - November 2017

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