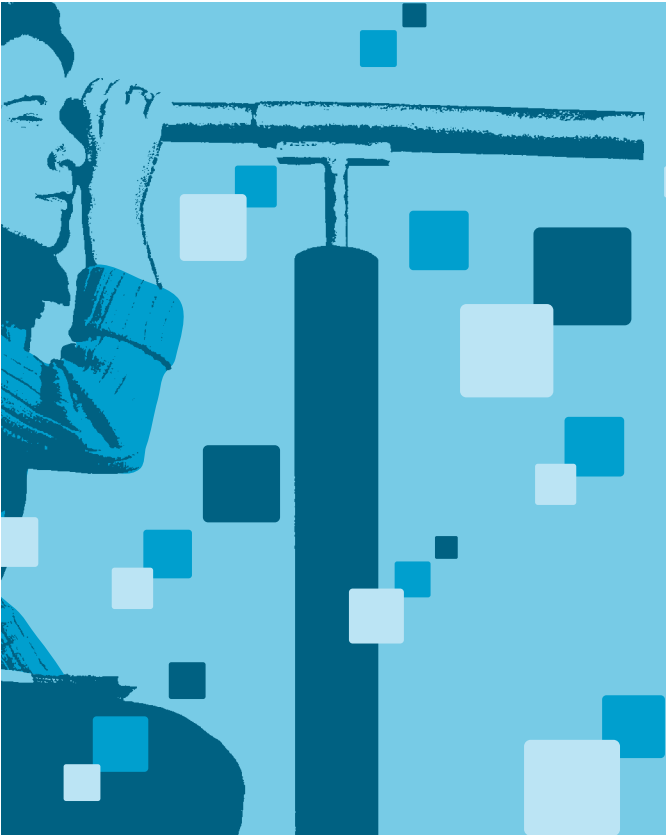


Sustainable Development: A Brief Guide

17 key indicators to measure progress



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Swiss Federal Statistical Office SFSO
**Federal Office for Spatial
Development ARE**
**Swiss Agency for the Environment,
Forests and Landscape SAEFL**

The notion of sustainable development was enshrined in the Swiss Federal Constitution of 1999 and made a federal policy goal in the Swiss Federal Council's Sustainable Development Strategy for 2002. How much progress has Switzerland made since then? Is Switzerland on the road to sustainable development?

In an effort to answer these questions, this brochure provides clear and concise information based on seventeen key indicators, all taken from the MONET system of indicators.

These indicators do not provide definitive answers, since sustainable development objectives are not quantitative in nature. However, it is possible to determine whether or not Switzerland is on the road to sustainable development by comparing observed trends with MONET postulates, which indicate the direction to be taken in order to ensure sustainable development.

See page 22 for a **definition** of sustainable development.

Each **key indicator** represents a group of indicators and statistics. Key indicators make it easier for us to highlight major trends and the salient features of a given phenomenon.

MONET is a system of indicators designed to measure progress towards sustainable development. Intended for both the general public and policymakers, MONET provides over 120 regularly updated indicators. The system is based on a set of postulates that indicate the direction to be taken in order to create and maintain a sustainable society. All MONET indicators, postulates and publications can be found at: www.monet.admin.ch

The road to sustainable development

In order to determine whether Switzerland is on the road to sustainable development, we must ask ourselves four important questions:

1 Meeting needs – How well do we live?

We all want the quality of our lives to match our own expectations. Sustainable development means that everyone has the right to live a humane existence.

2 Fairness – How well are resources distributed?

Sustainable development means that important resources such as money, information, health and clean air are fairly distributed to everyone. Inequities, major disparities and poverty must be dealt with at both the national and international level.

3 Preservation of resources – What are we leaving behind for our children?

Sustainable development also means meeting the needs of the present without compromising the ability of future generations to meet their own needs. Social, economic and environmental resources must be preserved and restored. To put it simply, we must live off the interest, not the capital.


4 Decoupling – How efficiently are we using our natural resources?


As a highly developed country, Switzerland consumes and produces in a way that places a strain on the environment and natural resources. These consumption and production patterns would be unsustainable if every country in the world were to follow suit. Natural resources must be used more efficiently and in order to do so, we must reduce the strain on the environment and natural resources both in relative and real terms.

Are we headed in the right direction?

1 Meeting needs – how well do we live?	Trend since 1990	Page
Mental wellbeing is improving.	+	5
People are earning more.	+	6
Violence is on the rise.	-	7
The unemployment situation is getting worse.	-	8
2 Fairness – how well are resources distributed?	Trend since 1990	Page
Poverty is spreading.	-	9
Official Development Assistance spending is about the same.	≈	10
The wage gap between men and women is gradually narrowing.	+	11
3 Preservation of resources – what are we leaving behind for our children?	Trend since 1990	Page
Teenage reading skills have not changed much.	≈	12
Public debt is rising.	-	13
The investment to GDP ratio is about the same.	≈	14
More people are working in science and technology.	+	15
Habitat diversity has not changed much.	≈	16
Developed land is encroaching upon the landscape.	-	17
4 Decoupling – how efficiently are we using our natural resources?	Trend since 1990	Page
Freight transport is growing faster than the economy.	-	18
The private to public transport ratio has not changed much.	≈	19
Per capita consumption of fossil fuels has remained about the same.	≈	20
The Domestic Material Consumption to GDP ratio is improving.	+	21

Legend: Sustainable development trends since 1990:

 : Positive (towards greater sustainability)

 : Negative (towards lesser sustainability)

 : Neutral

Mental wellbeing



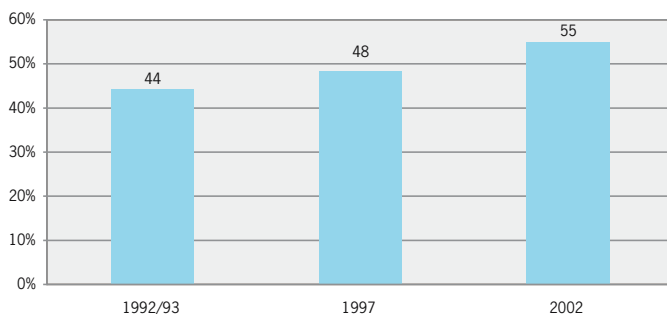
Mental wellbeing is improving.

Health must be maintained and promoted

Our quality of life is influenced by both our physical health and mental wellbeing. Mentally stable people are calm, optimistic and enthusiastic about life.

Mental well-being

Percentage of population aged 15 and over with high level of mental well-being



© SFSO

Source: Swiss Federal Statistical Office

- Between 1992 and 2002, the proportion of mentally stable people increased by 11 percentage points.
- Over half of the Swiss population consider themselves to be mentally stable.

Income



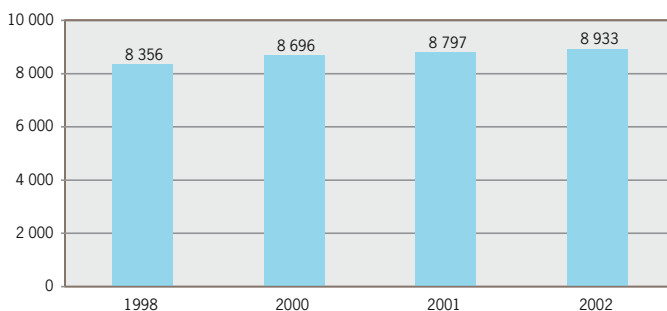
People are earning more.

Every individual should earn enough to secure vital necessities and have discretionary disposable income.

Tangible necessities such as food and clothing can only be secured when there is sufficient income. The same holds true for certain intangible necessities such as education and health.

Household income

Average gross monthly household income (running prices) in Swiss Francs



© SFSO

Source: Swiss Federal Statistical Office

- The average gross monthly income per household increased by 6,9% between 1998 and 2002 (i.e. CHF 577). This increase in income was real, since prices increased by only 4% during that same period.
- Gross monthly income per household stood at about CHF 8'933 in the year 2002.
- The households in the highest income bracket (i.e. top 20%) earn about five times more than those in the lowest income bracket (i.e. bottom 20%).

Physical safety



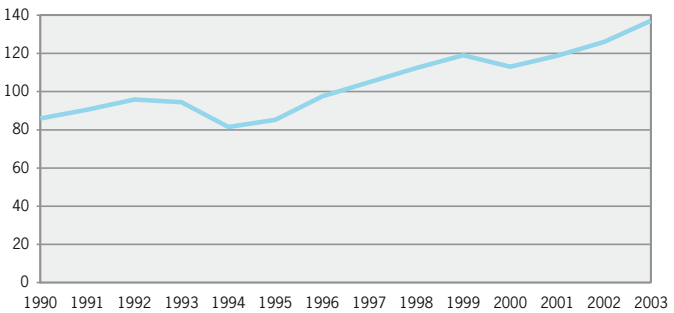
Violence is on the rise.

Physical safety is a vital necessity.

Physical safety can be assessed by the number of cases of violent crime (i.e. involving physical assault).

Violent crime

Crimes (homicides, physical injury, robbery, rape) registered by police per 100'000 inhabitants



© SFSO

Sources: Swiss Federal Office of Police; Swiss Federal Statistical Office

- The number of cases of violent crime reported to the police has been increasing steadily.
- This increase could be due to the fact that people are more likely to report acts of violence. That said, domestic violence, violent acts committed by friends and family members as well as rape are not always reported.

Unemployment



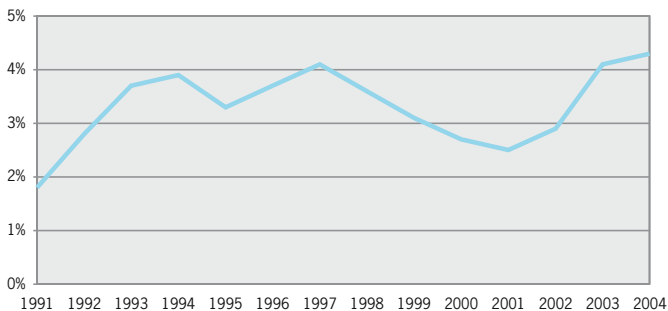
The unemployment situation is getting worse.

Everyone should be able to secure their vital necessities through fulfilling employment.

In developed countries, unemployment is one of the main causes of poverty and social exclusion.

Unemployment rate

Percentage of unemployed in relation to total working population



© SFSO

Source: Swiss Federal Statistical Office

- Despite the favourable economic situation, which led to a significant decrease in unemployment at the start of the 21st century, unemployment has been gradually increasing since 1991.
- In 2004, the unemployment rate stood at 4,3% or over 182'000 people without work

Poverty



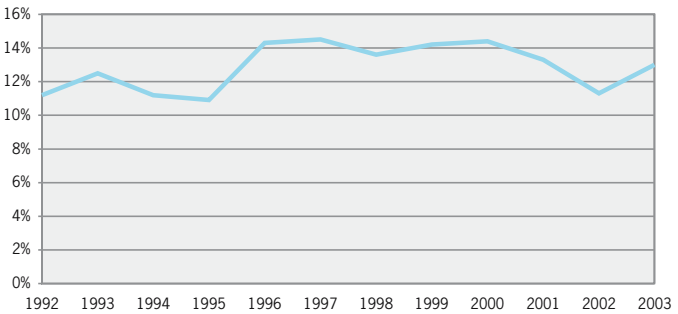
Poverty is spreading.

A humane life is free of poverty.

A life that is free of poverty means that vital necessities (i.e. food, clothing, shelter and basic healthcare) are secured along with other needs (e.g. interpersonal contact, employment).

Population living below poverty line

Percentage of people aged 20 to 59 who live below the poverty line (according to Swiss Conference for Social Aid)



© SFSO

Source: Swiss Federal Statistical Office

- The number of individuals living below the poverty line rose from 11% to 14% between 1990 and 2000 and fell slightly in the years that followed.
- In 2003, roughly one in eight people in Switzerland were living below the poverty line. However, this calculation does not include children or pensioners.

Official Development Assistance



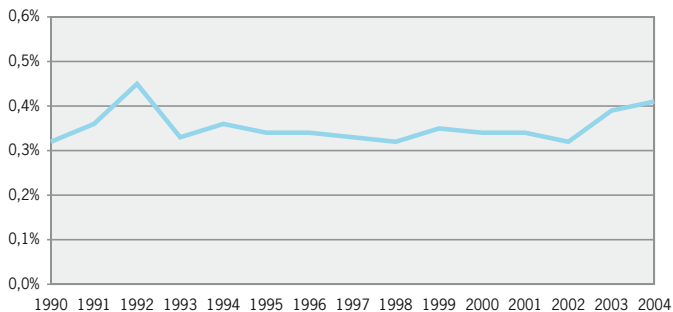
Official Development Assistance spending is about the same.

Poverty in developing countries must be reduced.

The right to a life that is dignified and free of poverty does not stop at the Swiss border. Sustainable development also implies that people living in poorer countries have reasonable access to resources.

Total Official Development Assistance

Official Development Assistance in proportion to GNI at market prices (before Gross National Product)



© SFSO

Sources: Swiss Agency for Development and Cooperation;
State Secretariat for Economic Affairs

- The Official Development Assistance to Gross National Income (GNI) ratio peaked in the early nineties and has remained at about the same level since then.
- Roughly 0,3% of GNI has been devoted to Official Development Assistance over the past ten years. This is much lower than the 0,7% Official Development Assistance to GNI ratio recommended by the UN.

Equality



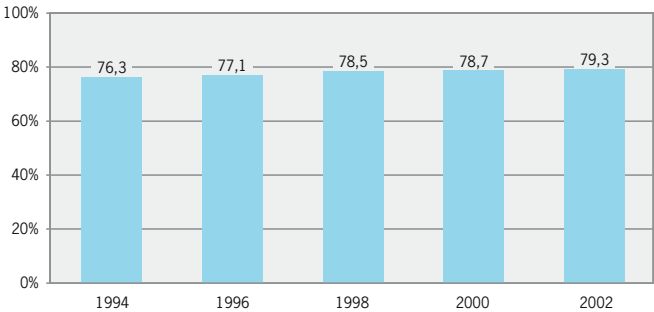
The wage gap between men and women is gradually narrowing.

Every individual should enjoy equal rights and opportunities; resources should be fairly distributed.

There cannot be equal rights and opportunities when people do not receive equal pay for equal work. Gender-based wage discrimination is often an indication of further inequalities such as women having a harder time reaching decision-making positions.

Wage gap between men and women

Women's monthly gross wage as a percentage of men's monthly gross wage



© SFSO

Source: Swiss Federal Statistical Office

- The wage gap between men and women narrowed gradually between 1994 and 2002.
- In the year 2002, women were still earning 20% less than men.
- This difference can be explained by the fact that there are more women in low-paying jobs. Moreover, men tend to earn a higher salary than women even if they have the same qualifications and hold the same position.

Teenage reading skills



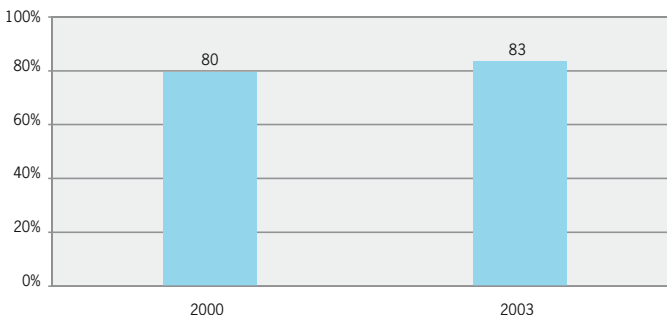
Teenage reading skills have not changed much.

The ability to retain and process information should be fostered; Swiss competitiveness should be maintained and promoted.

Teenagers with poor reading comprehension skills often have a harder time adapting constructively to changes taking place in society. Education ensures that the economy is both innovative and competitive.

Reading skills of 15-year-olds

Quota of 15-year-olds reaching at least reading skills level 2 (scale <1 to 5)



© SFSO

Source: Swiss Federal Statistical Office

- The percentage of teenagers able to do basic to challenging reading tasks did not change much between 2000 and 2003.
- About 80% of teenagers are able to read and understand basic to challenging texts. 7% could neither identify the main idea of the texts they read nor recall specific details.

Public debt



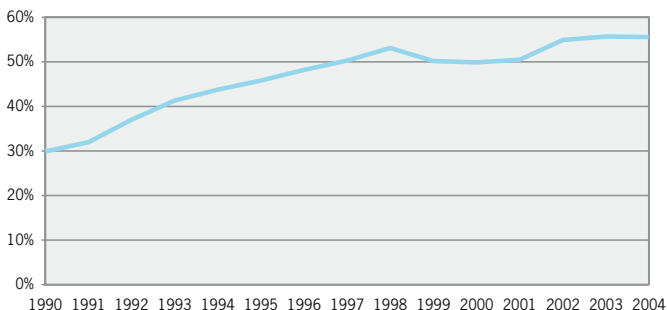
Public debt is rising.

The margin of manoeuvre of future generations should not be limited.

Heavy indebtedness means that a state is no longer able to adequately provide vital public services because of accumulated debt. A high debt to GDP ratio is a burden on both current and future generations since interest payments to service the debt tie up substantial capital.

Level of public debt

Gross debt of Confederation, cantons, and municipalities (without social insurances) in relation to GDP



© SFSO

Source: Swiss Federal Financial Administration

- The debt to GDP ratio has increased considerably since 1990.
- Fluctuations during this period have been between 30% and 55%. The debt to GDP ratio reached peaked in 2003.

Investment



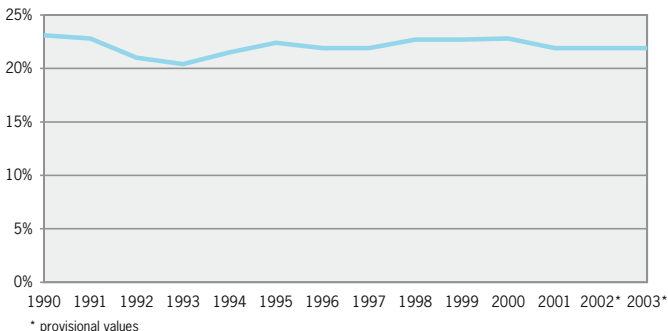
The investment to GDP ratio is about the same.

Economic efficiency must be maintained.

Economic efficiency depends on whether or not enough goods and services can be produced, which is only possible when money is spent on buildings, equipment, transportation, etc.

Investment to GDP ratio

Gross investments in relation to Gross Domestic Product (GDP)



- The investment to Gross Domestic Product (GDP) ratio is about the same as it was in 1990.
- In 2001, the investment to GDP ratio stood at about 20%.

Innovation and technology



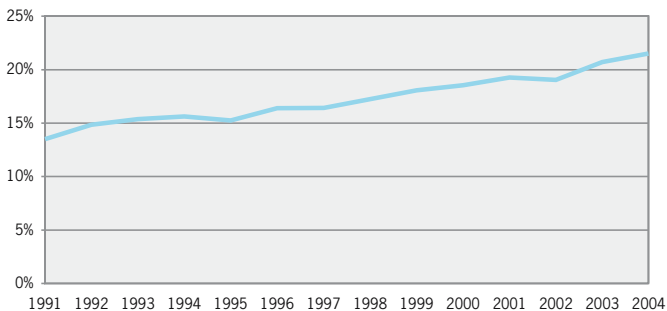
More people are working in science and technology.

The economic efficiency must be maintained or improved.

Innovation is driven by research and technology. Without innovation, there can be no lasting economic performance. Highly trained personnel in science and technology make the national economy more competitive.

Human resources in science and technology

Percentage of persons educated and active in science and technology in relation to total working population



© SFSO

Source: Swiss Federal Statistical Office

- The percentage of people working in science and technology has grown steadily since the nineties.
- In 2004, about one-fifth of all persons in employment in Switzerland had received training and/or was employed in science and technology.
- This trend shows how well Switzerland is adjusting to increased competition worldwide.

Biodiversity



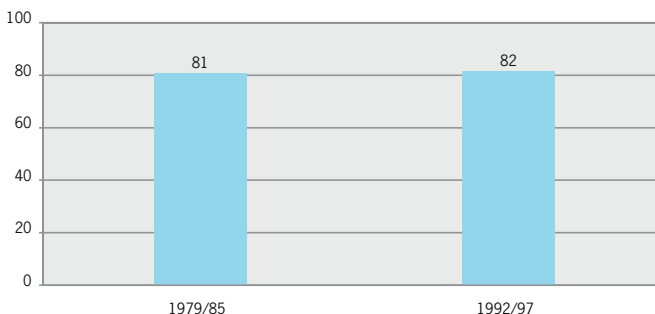
Habitat diversity has not changed much.

Nature's diversity must be preserved.

Biodiversity is important for many reasons: It keeps ecosystems balanced and acts as a potential source of new medicines. However, diversity of plants and animals can only be maintained when there are many different types of habitats such as forests, meadows and arable land.

Habitat diversity

Mean number of transitions between different types of land utilization per km² (min. = 0, max. = 200)



© SFSO

Sources: Biodiversity Monitoring Switzerland; Swiss Federal Statistical Office

- Land use and development diversity has remained about the same as in the eighties.
- Land use and development diversity declined somewhat on the southern slope of the Alps following a decrease in agricultural activities.

Developed land



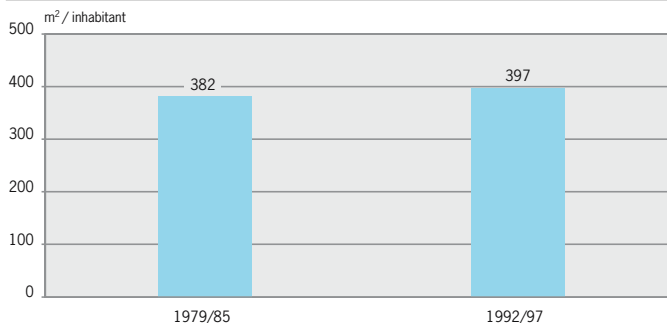
Developed land is encroaching upon the landscape.

Long-term solutions must be found to maintain natural life support systems.

Soils are an important life support system for humans, animals and plants. Construction of buildings, roads and factories invariably results in a loss of farmland. It is very difficult to reverse the degradation process once it has been set in motion and this change affects future generations.

Developed land per capita

Buildings, industrial areas, land used for special purpose, recreational areas and parcs, transportation areas



© SFSO

Source: Swiss Federal Statistical Office

- There was roughly a 4% increase in developed land per capita between the eighties and nineties. In terms of total surface area, there was a 13% increase. This amounts to 327 km² or an area larger than the canton of Schaffhausen.
- Around 400 m² of land per capita (i.e. about the size of two tennis courts) is used for developed land.
- 50% of developed land is occupied by buildings, 30% by roads and highways and 6% by recreational areas and parks.

Freight transport



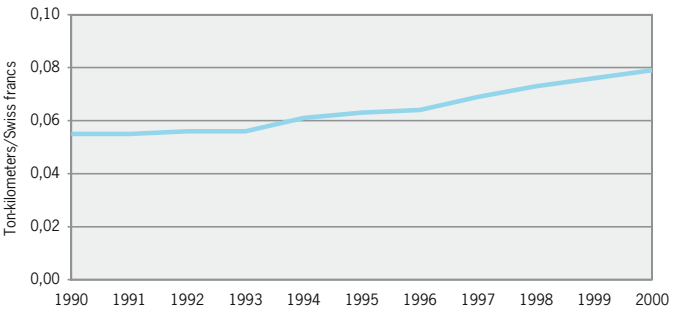
Freight transport is growing faster than the economy.

Environmental pollution should be reduced.

Freight transport is an essential part of a healthy economy. However, freight transport – especially motorised – makes noise, releases pollutants and contributes to the depletion of resources. The aim is to keep freight intensity (i.e. ratio of total ton-kilometers transported to GDP) as low as possible.

Intensity of freight transport

Performance of freight transport in relation to GDP with constant prices



© SFSO

Source: Swiss Federal Statistical Office

- Freight transport has grown faster than the national economy. This means that an ever increasing number of goods are being transported for every Swiss franc earned.
- This is due to the fact that more goods are being produced in fewer places, which increases the need for transport over longer distances.
- In the early seventies, rail transport accounted for two-thirds of all freight transport. By the end of the nineties, it had trickled down to only one-third.

Passenger transport



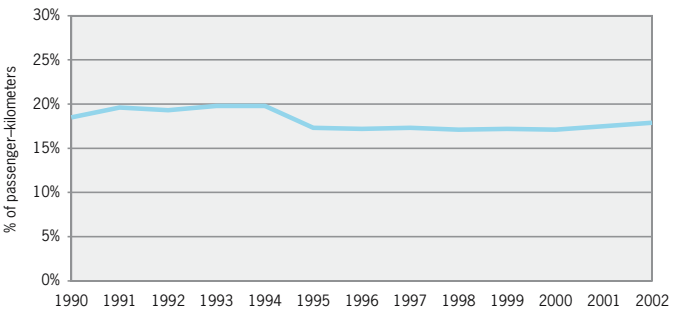
The private to public transport ratio has not changed much.

Environmental pollution should be reduced.

Mobility is a vital necessity. Without it, the economy cannot run smoothly. A decisive factor is the choice of transport: taking public transport, going around by bicycle or walking is more environmentally friendly, healthier and generally more efficient from an economic standpoint.

Breakdown of passenger transport

Share of public transport in total land-based passenger transport (excluding slow transport)



© SFSO

Source: Swiss Federal Statistical Office

- Private to public transport ratio has not changed much since 1990.
- In the mid-nineties, public transport accounted for 20% of total traffic; slow traffic (i.e. bicycle or walking) accounted for 5%. Private transport is by far the most widely used form of transport.
- In the year 2000, number of kilometres travelled per person was twice as high as it was in 1970.

Fossil fuel consumption



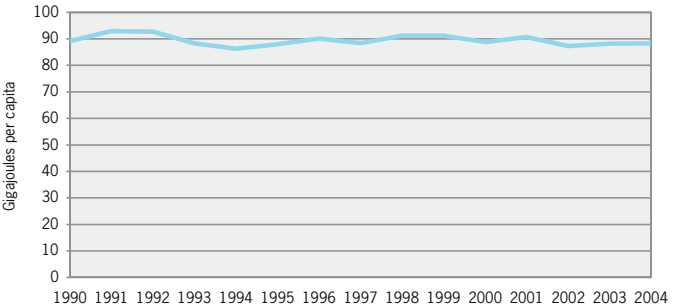
Per capita consumption of fossil fuels has remained about the same.

Non renewable resources must be used in moderation.

Fossil fuels are essential non renewable sources of energy. Our societies would be unable to function without them. However, fossil fuels are also an important source of greenhouse gases, which cause climate change, as well as pollutants, which are harmful to human health.

Consumption of hydrocarbon fuels and combustibles

Gross per capita consumption



© SFSO

Sources: Swiss Federal Office of Energy; Swiss Federal Statistical Office

- Per capita consumption of fossil fuels has remained roughly the same since 1993.
- Annual per capita consumption reached 88,3 gigajoules, which corresponds to about 2'700 litres of gasoline.
- Despite sustainable development requirements, total consumption of fossil fuels has increased by 8,6% between 1990 and 2004.
- In 2004, total consumption reached 658'510 terajoules, which is the equivalent of about 20 million m³ of gasoline or over 256'000 railroad cars.

Consumption of raw materials



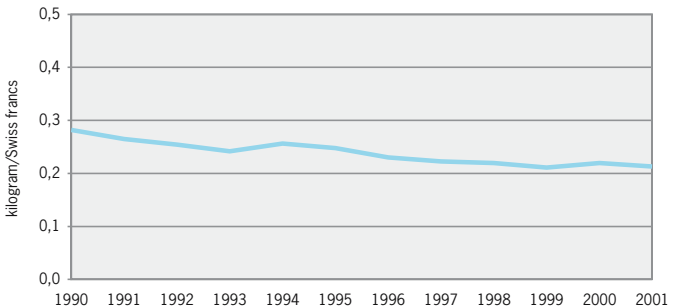
The Domestic Material Consumption to GDP ratio is improving.

Material and energy flows must be optimised so that natural resources can be maintained in the long run.

One of the main goals of sustainable development is to bring about a gradual dematerialisation of our economy so as to lessen the environmental impact of human and economic activities. Domestic Material Consumption is the sum of all domestically extracted or imported raw materials (e.g. minerals and biomass) used directly by the national economy minus all raw materials exported abroad. The Domestic Material Consumption to GDP ratio indicates how efficiently we consume raw materials from an economic standpoint.

Material intensity

Domestic Material Consumption to GDP ratio



© SFSO

Source: Swiss Federal Statistical Office

- There has been a certain decoupling of economic growth from environmental degradation since 1990: economic activities have consumed fewer resources.
- Although more efficient manufacturing processes have helped improve the situation, factories have also been relocated abroad, which means that the environmental impact of economic activities has not changed but simply moved to another location. In addition, the overall structure of the economy is changing, with the tertiary sector becoming more important than the primary and secondary sectors.
- Domestic Material Consumption does not take into account hidden flows (i.e. domestic extraction not used in Switzerland nor exported abroad; raw materials and energy used to produce goods imported by Switzerland).

What is sustainable development?

The World Commission on Environment and Development defined sustainable development in 1987 as “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs” The key concepts associated with sustainable development are:

- Meeting needs (i.e. mainly addressing the needs of the World’s poor).
- Limitations (i.e. environmental resources are finite and the use of environmental resources produces waste and pollution).

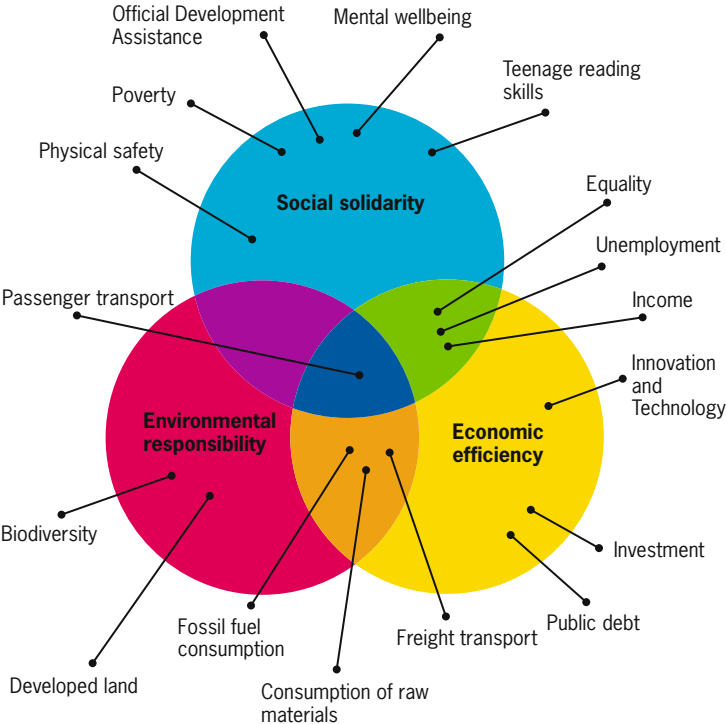
Articles 2 and 73 of the Swiss Constitution and the MONET Indicator System are devoted to the cause of sustainable development.

Everyone should be able to secure their vital necessities. At the same time, we need to promote fairness and keep environmental degradation in check: The diagram of three interconnected circles illustrates the various facets of sustainable development, showing just how complex the challenge is. Each circle represents one main qualitative objective:

- Economic efficiency;
- Social solidarity;
- Environmental responsibility.

These three objectives have an impact on one another. The only way to ensure sustainable economic development is by maintaining healthy ecosystems and making sure that people receive high quality education and training. At the same time, these three objectives can conflict with one another in certain areas. The idea behind sustainable development is to make improvements, render the decision-making process transparent and find long-term solutions. The diagram below shows how the key indicators relate to the three main objectives and which indicators affect more than one objective.

Overview of key indicators, presented according to three qualitative objectives



Additional information

Swiss Federal Council: Sustainable Development Strategy, Bern, 2002

SFSO, SAEFL, ARE: Sustainable Development in Switzerland – Indicators and Comments, Neuchâtel, 2004

SFSO, SAEFL, ARE: MONET Final Report – Methods and Results Neuchâtel, 2004

Broad information about the policy of Sustainable Development in Switzerland

www.are.ch/sustainabledevelopment

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