statistics estonia

INDICATORS OF SUSTAINABLE DEVELOPMENT

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TALLINN 2018

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FOREWORD

Indicators of sustainable development have helped to evaluate Estonian trends in the area of sustainable development since 2002. The previous overviews by Statistics Estonia focused mainly on the sustainable development goals of Estonia. At the time of compiling the previous publication *Indicators of Sustainable Development in 2015*, the UN adopted the resolution *Transforming our world: the 2030 Agenda for Sustainable Development*. With the resolution, heads of state agreed on global sustainable development goals. The 17 sustainable development goals (SDGs) with 169 targets guide governments, international organisations, private sector, civil society and individuals to improve people's well-being and protect the planet.

This publication shows Estonia's progress towards achieving the global sustainable development goals as well as the goals set in the strategy *Sustainable Estonia 21*. The indicators presented in this publication were selected by representatives of ministries and non-governmental organisations of the domains where the sustainable development goals are relevant. The list of agreed indicators was approved by the Estonian Commission for Sustainable Development.

Sustainable development goals cover almost all areas of activity. Therefore, it is important that they become a part of national strategic planning. Headed by the Government Office and the Ministry of Finance, preparations have started for the strategy *Estonia 2035*, which includes setting balanced development goals by domain to ensure sustainable development and agreeing on main areas of activity. There is a plan to integrate sustainable development goals into the strategy *Estonia 2035* as well as into domain-specific development plans.

I believe that this publication provides a great overview and international comparison on the Estonian situation in areas important for sustainable development and, therefore, it serves as a good basis for sectoral policy formulation and setting targets for national authorities, non-governmental organisations as well as the private sector. Anybody interested in sustainable development and the future of Estonia should find it an interesting read.

Henry Kattago
Strategy Director of the Government Office

You are holding a publication on the most important indicators of the Estonian society. Sustainable development as a whole is more important than the outcome of each individual indicator. Sustainable development goals have been established to improve the quality of life and well-being through economic development, while protecting the natural environment and promoting social justice. The indicators in the publication reveal issues in the society that require attention as well as where we are doing well, thereby linking the idea of sustainable development with progress in the Estonian society.

For the first time in Estonia, the indicators of sustainable development are published along the goals set in the UN agenda *Transforming our world: the 2030 Agenda for Sustainable Development*. We live in a world where everything is connected and problems are global. In the last decade, the basis for monitoring sustainable development in Estonia has been the Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Among its observed goals is also the topic of cultural viability, which is important for Estonia's sustainability.

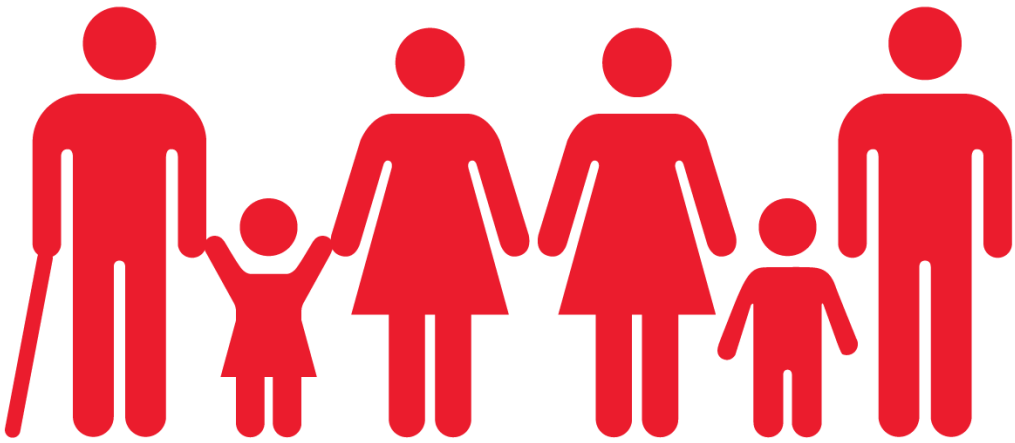
The significance of UN sustainable development goals across the world and in Estonia has been described in overviews of each goal in this publication. The choice of indicators depended primarily on their relevance and available data. The inter-ministerial working group for sustainable development provided input and the indicators were agreed on by the Commission for Sustainable Development. Preference was given to indicators that allow observing a longer time series. However, there are also completely new indicators in the publication, such as green areas in cities. Estonian indicators and trends suggest whether we are making progress in the domain, are at a standstill or the situation is worsening. A comparison with other European Union countries helps to see us in international context.

Sustainable development is a goal, process and challenge at global as well as at local level. Compiling the analyses of the data for 87 indicators has also been an effort. The publication has been prepared in cooperation between the working group and the Commission for Sustainable Development, the Government Office, SEI Tallinn, several ministries and experts as well as Statistics Estonia's employees. Thank you, contributors.

Let's keep it up for better Estonia!

Mart Mägi
Director General of Statistics Estonia

1 NO POVERTY



END POVERTY IN ALL ITS FORMS EVERYWHERE

The focus of the global goal "No Poverty" is to end poverty by reducing it through strengthening social protection systems and increasing employment and incomes.

The 2030 Agenda[1] set the target to reduce by 2030 at least by half the share of men, women and children who according to national definitions live in poverty in any of its dimensions. The measure for ending poverty is social protection of vulnerable social groups, incl. adequate systems of subsistence benefits and pensions. It is important to pay attention to the social protection of people who live in areas of frequent natural catastrophes (floods, droughts).

According to the UN progress report[2], economic losses from natural disasters already amount to 250–300 billion US dollars, and people living in poverty suffer the most. According to the UN data, 1.7 billion people lived below the international poverty line of 1.90 US dollars a day in 1999. By 2013, this number had declined to 767 million people. Since 2000, the global poverty rate has been halved, but there are major differences by region. In 1999, the global poverty rate stood at 28%, whereas by 2013, it had dropped to 11%. The most progress was made in Eastern and South-Eastern Asia, where poverty rate declined from 35% to 3%. At the same time, the situation in the sub-Saharan countries in Africa is still serious, as the poverty rate remains high at 42%.

In 2016, only 22% of unemployed persons in the world received unemployment benefits, 28% of people with severe disabilities received disability benefits, 35% of children living in the world carried social insurance, 41% of women giving birth had maternity benefits and 68% of older people received old-age pension.

The Estonian sustainable development strategy[3] emphasises eliminating poverty in different population groups and reducing social exclusion, in order to ensure adequate social protection for all people living in Estonia.

The global goal "End poverty in all its forms everywhere" is linked in Estonia with the following indicators characterising social coping:

- Absolute poverty
- At-risk-of-poverty rate
- Household saving
- Persons at risk of poverty or social exclusion

In Estonia, the groups at greatest risk of economic difficulty are older people, one-person households and lone parent households or households with three or more children. The population with income below the estimated subsistence minimum has decreased in the last 15 years.

After the economic boom, people have started thinking more about saving – Estonia is one of those EU countries where people save more than the average. Despite improvements in the aforementioned indicators, the share of people living at risk of poverty or in social exclusion has not fallen considerably in Estonia in the past 13 years. Considering all age groups together, the at-risk-of-poverty rate has increased.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1*. UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66*. UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

1 NO POVERTY

1.1. ABSOLUTE POVERTY

CONCEPTS

Absolute poverty is measured by the absolute poverty rate. It is defined as the share of persons with an equivalised yearly disposable income lower than the absolute poverty threshold.

Equivalised income is the total household income divided by the sum of equivalence scales of household members.

Equivalence scale is a weight designated to a household member depending on his/her age to reflect the joint consumption of the household. The equivalence scale for the first adult household member is 1, for every next adult 0.5 and for a dependent child 0.3.

Absolute poverty threshold is the estimated subsistence minimum (since 2004). In 1997–2003, the absolute poverty threshold was determined by the working group of the University of Tartu based on the household consumption data and taking into consideration the minimum human needs.

SITUATION IN ESTONIA

In 2016, compared to 2000, the share of people with income below the absolute poverty threshold was considerably smaller in all age groups and household types. This means that the number of people who are not able to satisfy their basic human needs has considerably decreased in Estonia. Hence, the quality of life has improved over the past couple of decades.

In 2000, nearly one fifth of the Estonian population (22.8%) lived below the absolute poverty threshold. The rate fell to 4.7% by the end of the economic boom in 2008, rose to nearly 9% during the economic crisis, started to fall again in 2013, and was 3.3% in 2016. The most vulnerable are children: the absolute poverty rate of under 18-year-olds has been higher than that of other age groups throughout the period. Only in the last couple of years, the absolute poverty rates for children and adults have equalised. The lowest absolute poverty rate was for people aged 65 and over as this group includes old-age pensioners. In 2000, the average old-age pension was only slightly higher than the absolute poverty threshold, whereas in 2016, the average old-age pension was nearly twice the absolute poverty threshold. The faster growth of pensions compared to the subsistence minimum has ensured that the poverty rate of older people is low.

The difference in absolute poverty rate between men and women is small: the male poverty rate has been one percentage point higher than that of females.

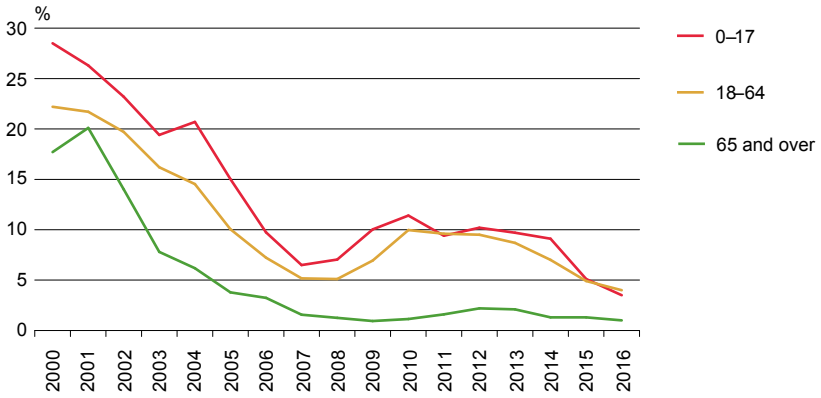
Poverty threatens mostly one-person households and households with children, especially with a lone parent and three or more children. An increase in the child allowance rate in 2015 lowered the poverty rate of households with children. The absolute poverty rate was lowest for couples without children where at least one partner had attained the pensionable age.

By labour status, in the most difficult situation are the unemployed, of whom one fifth lived under the absolute poverty threshold in 2016; the rate for persons employed and old-age pensioners was 1%.

By region, the poverty rate was lowest in Northern Estonia, i.e. in Harju county, where the absolute poverty threshold has been constantly by one third to a half lower than the Estonian average. The highest poverty rates are in Northeastern (Ida-Viru county) and Southern Estonia. The poverty rate in Central and Western Estonian regions has fallen below the Estonian average only in recent years, although in the 2000s, poverty caused big problems also in these regions.

The absolute poverty threshold was 93 euros in 2000. In 2013, it increased to 205 euros, and in 2016, to 200 euros. The small decline in the absolute poverty threshold was due to a decline in the consumer price index.

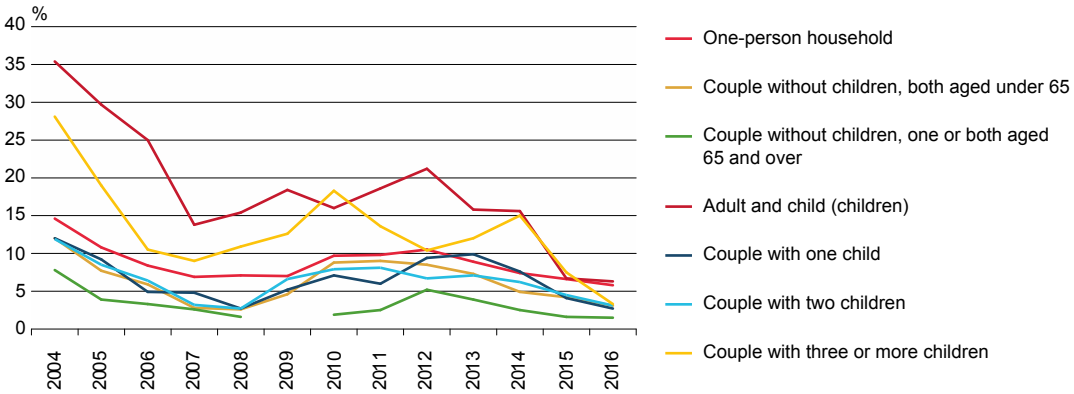
Absolute poverty rate by age group in Estonia, 2000–2016



Source: Statistics Estonia

The absolute poverty rate is lowest for people who have attained the pensionable age.

Absolute poverty rate by type of household in Estonia, 2000–2016



Source: Statistics Estonia

Poverty threatens one-person and lone parent households the most.

1 NO POVERTY

1.2. AT-RISK-OF-POVERTY RATE

CONCEPTS

At-risk-of-poverty rate is the share of persons with an equivalised disposable income below the at-risk-of-poverty threshold.

Equivalised income is defined as the total household income divided by the sum of equivalence scales of household members.

At-risk-of-poverty threshold is 60% of the median equivalised annual disposable income of household members. The higher the at-risk-of-poverty rate, the more there are persons living below the at-risk-of-poverty threshold, i.e. the higher is the percentage of people living in poverty in that country. The indicator is a general statistical reference equivalent that enables to evaluate the share of general poverty in society.

SITUATION IN ESTONIA

The at-risk-of-poverty rate as a total of all age groups has increased from 18.3% to 21.1%. The increase is not big, but still noticeable. The increase was due to a considerable rise in the at-risk-of-poverty rate of the population aged 65 and over.

The at-risk-of-poverty rate in the age group 0–17, which was 21.4% in 2000, had fallen to 16.5% by 2016. The decrease was not linear, still the situation improved considerably. In the age group 18–64, the at-risk-of-poverty rate had fallen from 17.6% to 16.2%. It was a small decline, but essentially the situation did not change. It is important, however, that the rate for the age group 0–17 fell basically to the same level as the rate for the age group 18–64.

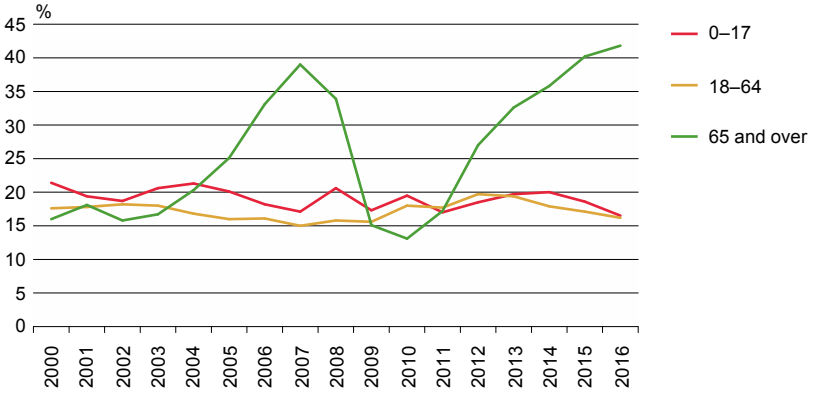
In the reference period, the situation in terms of the at-risk-of-poverty rate deteriorated considerably in the age group of 65 and over. In 2000, the rate was 16.0% and it increased to 41.8% by 2016.

Fluctuation of the at-risk-of-poverty rate indicates instability in society and the most vulnerable indeed are people aged 65 and over. By type of household, the at-risk-of-poverty rate in 2016 was highest among one-person households (53.3%). It was high also for households with a lone parent (an adult and children): 28.9%. Compared to 2000, these two groups have switched places: in 2000, the at-risk-of-poverty rate of one-person households was 30.1% and that of households with an adult and children was 37.2%. Subsistence of one-person households has become more difficult while the situation of children has improved somewhat.

INTERNATIONAL COMPARISON

In 2016, Estonia was seventh from the bottom among EU countries in terms of the at-risk-of-poverty rate: it was 21.1%. The highest at-risk-of-poverty rate in 2016 was in Romania (25.3%), Bulgaria (22.9%) and Spain (22.3%). Among the Baltic countries, Estonia had the highest ranking, although by a narrow margin, outranking Latvia by a mere 0.7 and Lithuania by 0.8 percentage points. The lowest at-risk-of-poverty rate was in the Czech Republic (9.7%), Finland (11.6%) and Denmark (11.9%). The average of the European Union 28 Member States was 17.3%.

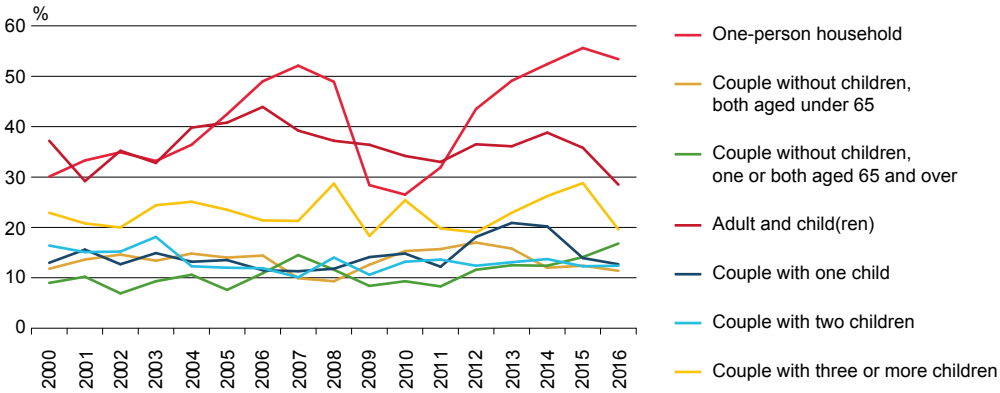
At-risk-of-poverty rate by age group in Estonia, 2000–2016



Source: Statistics Estonia

The at-risk-of-poverty rate by age groups in Estonia has increased the most among people aged 65 and over.

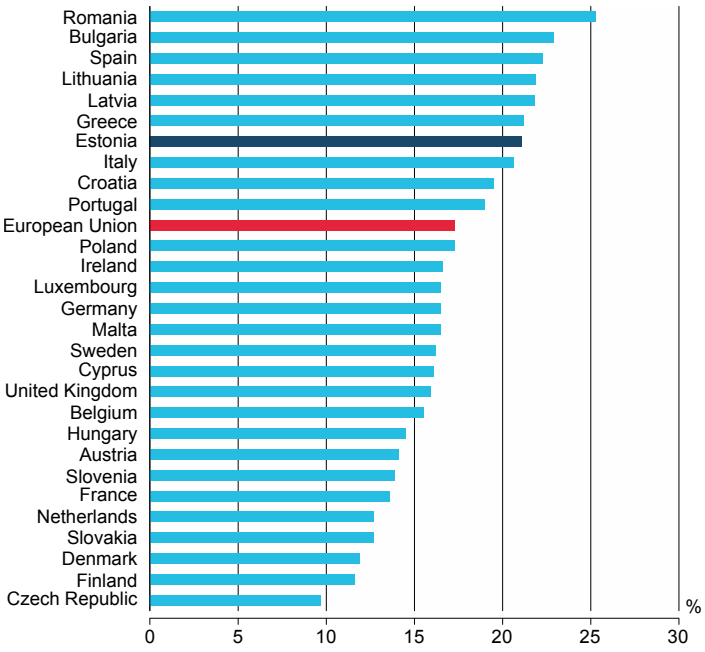
At-risk-of-poverty rate by type of household in Estonia, 2000–2016



Source: Statistics Estonia

The at-risk-of-poverty rate has been highest for one-person households, households with a lone parent and couples with three or more children.

At-risk-of-poverty rate in the European Union, 2016



Source: Eurostat

In 2016, the at-risk-of-poverty rate in Estonia was 3.8 percentage points above the EU average.

1 NO POVERTY

1.3. HOUSEHOLD SAVING

CONCEPTS

Household saving rate is the ratio of households' gross saving to gross disposable income. The latter is adjusted for the change in pension entitlement.

Gross saving is the portion of gross disposable income that is not used for final consumption expenditure. Gross disposable income comprises in addition to salaries and wages, also dividends and interests earned, social transfers and other financial income. Therefore, the saving rate increases when gross disposable income grows faster than final consumption expenditure. The saving rate can be calculated using the net method: by eliminating consumption of fixed capital. In the household saving rate calculations, the indicators of non-profit institutions serving households are added to the household sector indicators.

SITUATION IN ESTONIA

The household saving rate in Estonia has varied a lot over the years. Early in the century, the Estonians' saving rate was 5–9%; however, with the economic growth based on borrowed money, the saving rate became negative. The saving rate was lowest in 2006 at 3.9%. Consumption exceeded income in the period 2002–2007.

At the time of the economic crisis, the saving rate became positive again: in 2009, the rate was 12.9%. On the one hand, this was due to the rapidly declining consumption, and on the other hand, the experienced difficult times made people think more about the future. Since 2010, the saving rate has been between 9–12%. Notwithstanding the increased household expenditure, the saving rate has been rising gradually.

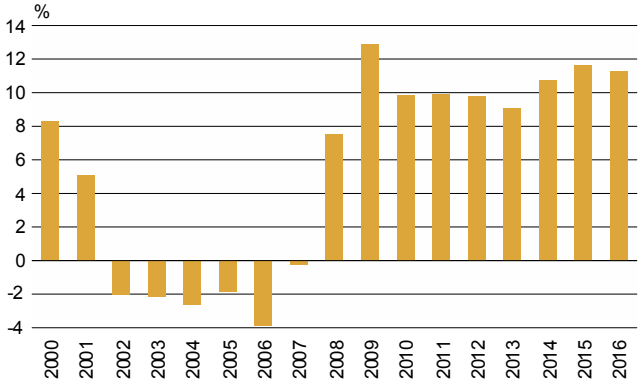
INTERNATIONAL COMPARISON

The European Union average household saving rate has been between 10–13% since 2000. It was highest during the economic crisis in 2009 at 13.1%. After that, the saving rate has been falling gradually and has remained under 11% in recent years, amounting to 10.8% in 2016. This is also the lowest saving rate in the EU in this century.

In 2016, the saving rate was negative in two EU countries: Cyprus (2.3%) and Lithuania (0.5%). Bulgaria, where the saving rate has been constantly negative, indicated a positive saving rate (4.9%). The rate in 12 Member States remained below the EU average in 2016. Nearly as many countries were above the EU average. The highest saving rate in 2016 was in Luxembourg (20.4%), followed by Sweden (18.9), Germany (17.1%) and France (13.5%). High saving rates in Europe are also in Switzerland (22.9%) and Norway (12.9%).

Compared to the neighbouring countries, the household saving rate in Estonia is considerably better. The rate was positive during the economic boom years in both Latvia and Lithuania. After the economic crisis, however, the situation in these countries changed. Latvia escaped from the negative saving rate only in 2015; Lithuania's saving rate has been decreasing constantly, and in 2016, for the first time after 2008, became negative. Although Finland's rate is still positive, it has been decreasing since 2009, falling from 10.3% to 6.2% by 2016. The only exception among the neighbouring countries is Sweden where the saving rate has been rising, despite the economic boom and crisis. During the economic boom in 2005, the rate fell to 8.4%, but has more than doubled by now.

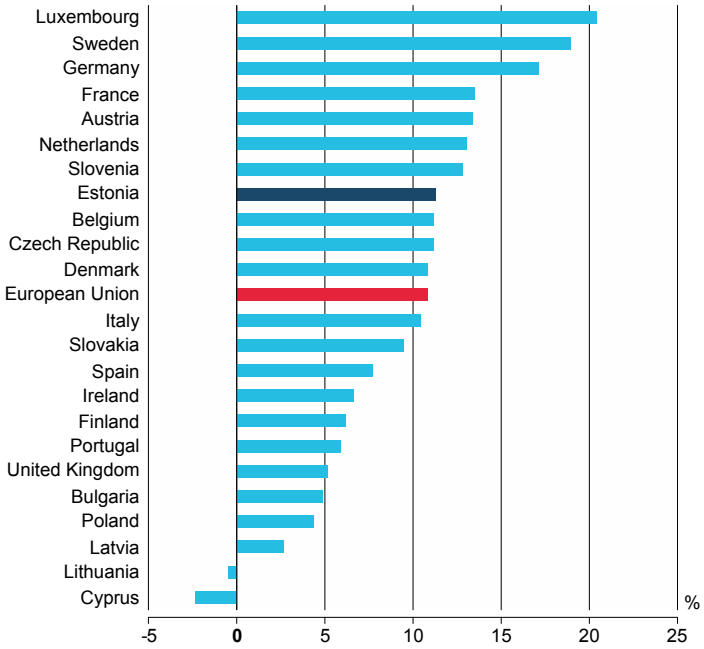
Household saving rate in Estonia, 2000–2016



Source: Statistics Estonia

The negative saving rate during the economic boom showed living beyond one's means; the rate went up during the crisis.

Household saving rate in the European Union, 2016*



* 2016 data not available for Greece, Malta, Croatia, Hungary and Romania.

Source: Eurostat

In Estonia, people save roughly as much as on average in the EU.

1 NO POVERTY

1.4. PEOPLE AT RISK OF POVERTY OR SOCIAL EXCLUSION

CONCEPTS

At-risk-of-poverty or social exclusion rate expresses the share of people at risk of poverty, or severely materially deprived or living in a household with a very low work intensity. At-risk-of-poverty threshold is 60% of the median equivalised annual disposable income of household members.

Equivalised income is the total household income divided by the sum of equivalence scales of household members.

Severely materially deprived are people who cannot afford at least three out of nine items: 1) to pay rent or utility bills; 2) keep home adequately warm; 3) face unexpected expenses; 4) eat meat, fish or a protein equivalent every second day; 5) a week's holiday away from home; 6) a car; 7) a washing machine; 8) a colour TV; or 9) a telephone.

People living in households with a very low work intensity are persons aged under 59 who live in households where the adult members have worked 20% or less of their total work potential during the past year.

SITUATION IN ESTONIA

In the age group 0–17, the share of population at risk of poverty or social exclusion decreased from 28.1% in 2004 to 21.2% in 2016. The decline was not linear, but the situation has improved considerably. In the age group 18–64, the share of people at risk of poverty or social exclusion has decreased from 25.4% to 20.3%. It was a decline, but not as big as in the age group 0–17. The rates for age groups 18–64 and 0–17 had essentially equalised by 2016.

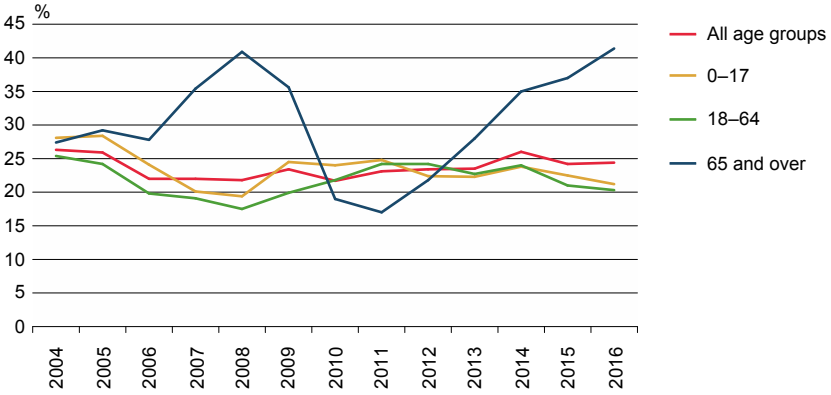
The situation in the age group 65 and over deteriorated considerably in the reference period. In 2004, the rate was 27.4%, and it had increased to 41.4% by 2016.

By type of household, the at-risk-of-poverty or social exclusion rate was highest for one-person households: 57.7% in 2016. The rate was high also among households with a lone parent (an adult and children): 40.3%. Compared to 2004, the situation has changed: at the time, the share of one-person households at risk of poverty or social exclusion was 44.6% and that of lone parents 54.3%. Hence, it has become harder for one-person households to cope, while the situation of lone parent households has improved somewhat.

INTERNATIONAL COMPARISON

In 2016, the share of people at risk of poverty or social exclusion in Estonia was fairly average in the European Union. Compared to Estonia, the situation was worse in 11 countries and better in 16 countries. Estonia's position should be evaluated considering that the Estonian indicator (24.4%) was slightly under one percentage point higher than the EU average (23.5%). The respective rate for the Netherlands, Denmark and Finland was nearly 17% and that of Czech Republic 13.3%. Hence, there was a large gap between Estonia and the top-ranking EU countries, and the available data do not show any significant moving up.

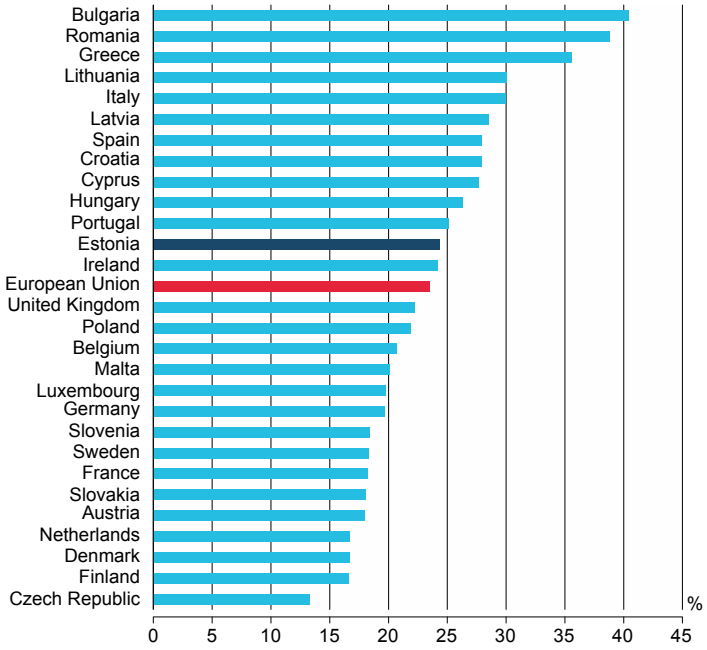
People at risk of poverty or social exclusion in Estonia, 2004–2016



Source: Eurostat

The share of people at risk of poverty or social exclusion has not increased notably in 13 years.

People at risk of poverty or social exclusion in the European Union, 2016



Source: Eurostat

In 2016, Estonia's rate was close to the European Union average.

2 ZERO HUNGER

END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

The focus of the global goal "Zero Hunger" is food and access to food. The goal is to end hunger by 2030, and therefore, the emphasis is on food sufficiency and quality of food that would meet the nutritional needs of the poor and the vulnerable groups (infants, women, adolescent girls, pregnant and nursing women, older persons).

For ending hunger and ensuring adequate nutrition, the 2030 Agenda[1] lays down measures to double agricultural productivity in order to increase food production and reduce food waste. An important goal is to develop crops that are resistant to climate change and improve soil quality. It is essential to maintain the genetic diversity of local plant and animal species.

According to the UN progress report[2], the share of undernourished people declined from 15% in 2000–2002 to 11% in 2014–2016, but there are still nearly 800 million people who suffer from malnutrition every day. The data show that, in 2016, an estimated 155 million children under five years of age were stunted and 52 million children of the same age were underweight as a result of malnutrition. In contrast to developing countries, according to the UN, the number of overweight people is increasing year by year in developed countries, and the number of overweight children has risen substantially. In 2016, 6% of children under five years of age in the world were overweight or obese.

The Estonian sustainable development strategy[3] emphasises the importance of preserving and developing traditional land use practices (fields, pastures, forest) for achieving ecological balance.

The global goal "End hunger, achieve food security and improved nutrition and promote sustainable agriculture" is linked in Estonia to the following indicators of sustainable and environmentally sound agriculture:

- Agricultural productivity
- Organic agricultural area
- Organic production
- Sales of pesticides
- Use of fertilisers

Agricultural productivity has rapidly increased in Estonia, but the EU average is still a fifth higher. Agricultural productivity has been affected by a rise in producer prices as well as by a fall in the number of persons employed in agriculture. The use of pesticides and fertilisers also has an impact on agricultural productivity. Sales of pesticides have almost doubled since 2011, while the sales of fertilises have also consistently increased. Nevertheless, Estonian farmers use much less pesticides and fertilisers per hectare compared to farmers elsewhere in the EU.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1*. UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66*. UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

2 ZERO HUNGER

2.1. AGRICULTURAL PRODUCTIVITY

CONCEPTS

Agricultural productivity is expressed by a three-year moving average agricultural factor income per annual work unit compared to the European Union average. Agricultural productivity is calculated by dividing the agricultural factor income, i.e. the net value added at factor price by the annual work unit.

Agricultural factor income, or net value added at factor price is the agricultural income used to pay for capital, work and land, i.e. production factors, which includes the total value added of production units per employee per year. The higher the net value added at factor price, the larger the enterprise's proprietary income, financial resources to pay remuneration and make investments.

Annual work unit, which is used to calculate agricultural productivity, is determined on the basis of full-time or equivalent employment: total hours worked is divided by the average annual number of hours worked in full-time jobs (1,800 hours in Estonia).

Agricultural factor income value depends on various components and is affected significantly by the volatility of agricultural markets. As a ratio, it shows the changes in Estonia compared to the European Union average better than an absolute number. If the agricultural factor income ratio increases, the productivity of Estonian agriculture has been higher in the common market than on average in the European Union, and vice versa.

SITUATION IN ESTONIA

In 2005–2017, the productivity of Estonian agriculture accounted for 59–127% of the average for 28 European Union countries. The three-year moving average productivity was 70–117%. Productivity increased in absolute terms. In the reference period, on average in Estonia, the agricultural factor income per annual work unit was largest in 2012 (19,440 euros) and smallest in 2005 (6,249 euros). Agricultural productivity is affected in different years by the change in producer prices as well as yield fluctuations due to weather conditions. Also the falling number of persons employed in agriculture has contributed to productivity growth.

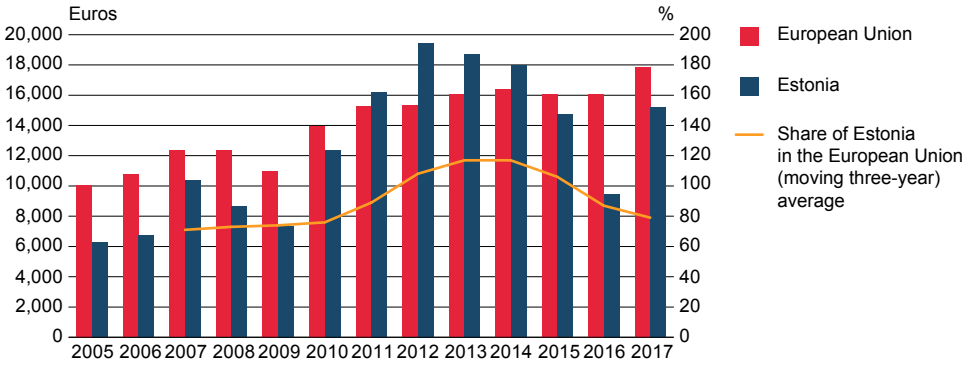
INTERNATIONAL SITUATION

In 2005–2007, the average agricultural factor income per annual work unit in the European Union was 11,037 euros. Agricultural factor income was highest in the Netherlands – 42,553 euros, which is 3.8 times higher than the European Union average in the same period, followed by Denmark (33,087 euros) and Belgium (32,812 euros). Agricultural factor income was lowest in Romania (2,026 euros), where it was 1.8 times lower compared to the European Union average. Productivity was low also in Bulgaria (2,526 euros) and Poland (2,973 euros).

In 2015–2017, the average agricultural productivity in the European Union was 16,733 euros. Productivity was highest in the Netherlands – 51,880 euros, which is 3.1 times higher than the European Union average in the same period, followed by Belgium (37,352 euros) and Denmark (35,294 euros). At the same time, agricultural productivity was lowest in Romania (4,452 euros), Croatia (5,682 euros) and Poland (5,736 euros).

In 2005–2017, productivity of the labour force in agriculture increased the most in Bulgaria and Slovakia (more than tripled) and the least in Denmark and Ireland (less than 10%). Productivity of the labour force decreased in Luxembourg (8%) and Malta (9%). In the reference period, productivity of the labour force in agriculture increased more than on average in the European Union in nine Member States: Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania and Slovakia. At the same time, labour productivity in Portugal increased by 15%, as did the European Union average.

Average agricultural factor income in Estonia and the European Union, 2005–2017*

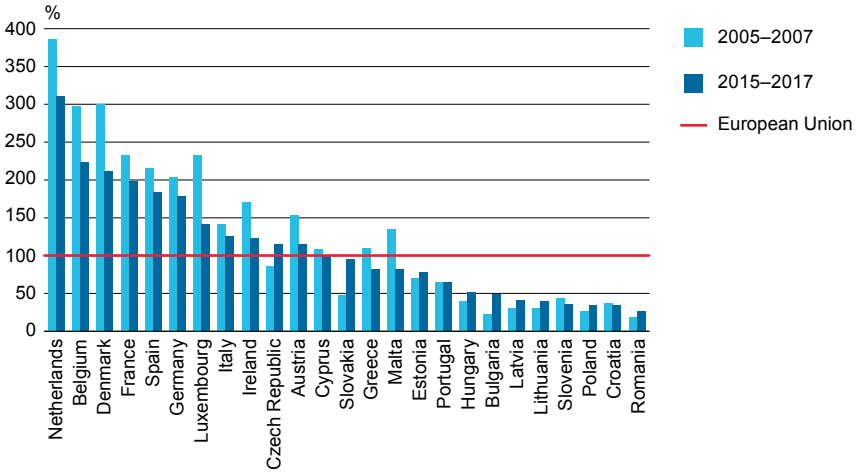


* 2017 data are preliminary.

Source: Eurostat

In Estonia, an increase in agricultural productivity was followed by a decrease in recent years.

Average agricultural factor income in the European Union, 2005–2007 and 2015–2017*



* 2017 data are preliminary.

Source: Eurostat

Agricultural productivity in Estonia is approaching the EU average, but was still a fifth lower in 2015–2017.

2 ZERO HUNGER

2.2. ORGANIC AGRICULTURAL AREA

CONCEPTS

The indicator expresses the share of organic agricultural area in utilised agricultural area.

Organic agriculture is the production of agricultural produce, with the emphasis on maintaining the environment and natural balance. Production includes crop and livestock production, beekeeping and aquaculture. Organic farming is based on the balanced circulation of matter, local renewable resources and cooperation with nature.

For the sake of consumers' trust, organic production, processing and marketing are monitored closely, which distinguishes organic from conventional production. Organic agricultural area includes all areas managed in accordance with the recognised requirements for organic production: both fully organic areas and areas under conversion to organic production.

Organic holdings in Estonia have been certified by the Agricultural Board (authorisation of the use of organic label or time fixed for the conversion to organic farming). The conversion period begins after having started organic production, which means that the requirements for organic production are met although the output is not yet labelled organic.

SITUATION IN ESTONIA

Organic production is expanding quite fast, and also the share of organic agricultural area in utilised agricultural area is increasing.[1] Many farmers are seeking to produce more naturally, to produce more for the growing market, as the demand for organic products is greater than ever before.[2] Support for organic farming has also had a role in the growth of organic agricultural area, which in part compensates for the lower yield in organic production.

In 2012, organic agricultural area in Estonia covered 142,065 hectares, accounting for approximately 15% of the total agricultural area utilised by agricultural holdings. By 2013, organic agricultural area had increased by 9,000 hectares (151,164 ha), but its share in agricultural area did not change. The share of organic agricultural area remained at around 15% also in the following two years: in 2014, organic agricultural area covered 155,560 hectares and in 2015, it covered 155,806 hectares. Organic agricultural area increased considerably in 2016, when 25,046 hectares were added (180,852 ha) compared to the preceding year; along with the organic agricultural area, also the share of organic agricultural area increased, making up 18% of the utilised agricultural area.

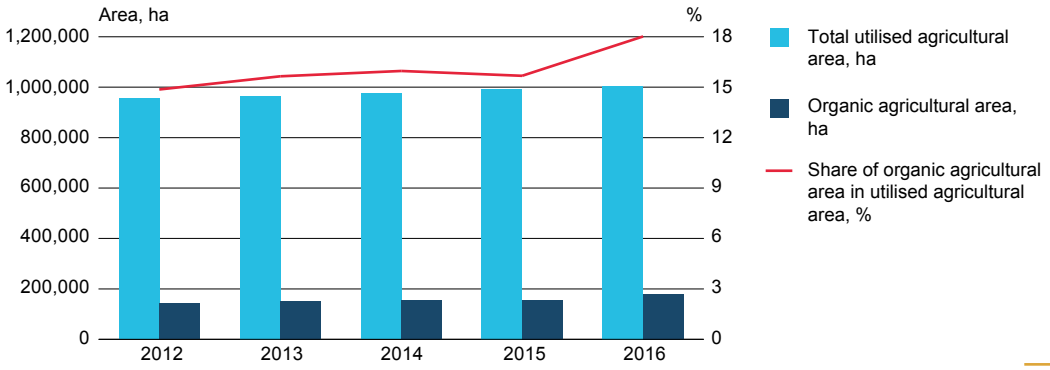
In 2016, the three counties with the largest organic agricultural area in Estonia were Tartu county (21,529 ha), Saare county (20,024 ha) and Lääne county (18,346 ha). The area was smallest in Järva county: 5,190 hectares.[3]

INTERNATIONAL COMPARISON

In 2012, the average share of organic agricultural area in utilised agricultural area in European Union countries was 5.62%, which by 2016 had increased only to 6.69%. In 2016, organic agricultural area accounted for the largest share in Austria, where it made up 21.25% of the utilised agricultural area. Austria was followed by Sweden, where 18.3% of the agricultural area was organically farmed; Estonia was third with organic agricultural area accounting for 18.02% of the utilised agricultural area. In Austria and Sweden, the share of organic agricultural area increased in the period 2012–2016 by about 2.6 percentage points and in Estonia by slightly more than three percentage points. Organic agricultural area accounted for the smallest share in Malta: in 2012, for 0.32%, and in 2016, for 0.21% of utilised agricultural area.

1 Utilised agricultural area does not include kitchen gardens.
2 *Mahepõllumajanduse alused*. Revised edition. Ministry of Agriculture. 2008.
3 Register of Organic Farming

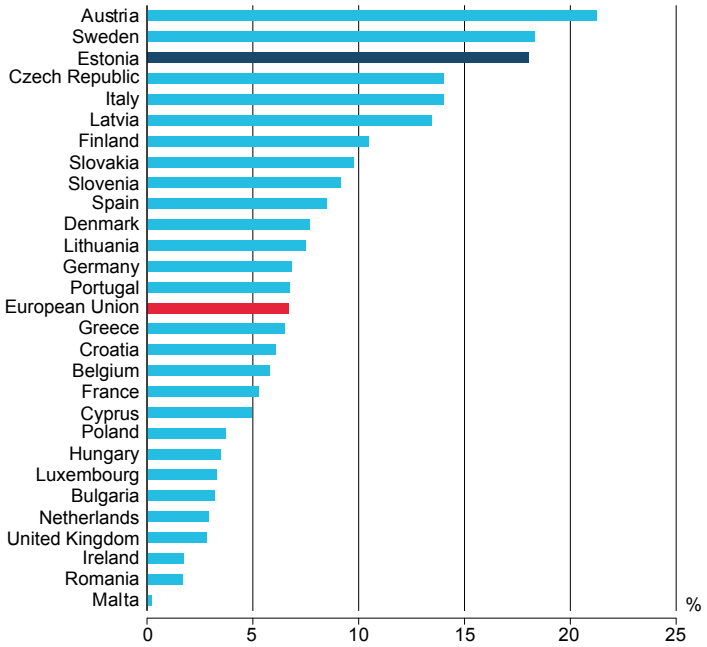
Share of organic agricultural area in utilised agricultural area in Estonia, 2012–2016



Source: Statistics Estonia

Organic agricultural area has continuously expanded.

Share of organic agricultural area in utilised agricultural area in the European Union, 2016



Source: Eurostat

In terms of organic agricultural area, Estonia has been among the top three EU countries since 2012.

2 ZERO HUNGER

2.3. ORGANIC PRODUCTION

CONCEPTS

The indicator of organic production shows the share of monetary output in the agricultural sector from organic agriculture. Production is the monetary value of agricultural products produced and services provided in Estonia.

Organic farming is environmentally sustainable production of agricultural products, which maintains the natural balance. Production includes crop and livestock production, beekeeping and aquaculture. Strict rules apply in organic crop and livestock farming, processing, catering and marketing of organic products – e.g. farmers are not allowed to use synthetic fertilisers or pesticides, antibiotics or hormonal substances. The use of genetically modified organisms (GMOs) and products based on or produced using GMOs is also prohibited.

For the sake of consumers' trust, organic production, processing and marketing are monitored closely, which distinguishes organic from conventional production. The aim of organic agricultural production is to maintain and increase biological and landscape diversity, to maintain and improve soil fertility and water quality and improve the well-being of animals.

Organic holdings in Estonia have been certified by the Agricultural Board (authorisation of the use of organic label or time fixed for the conversion to organic farming).

SITUATION IN ESTONIA

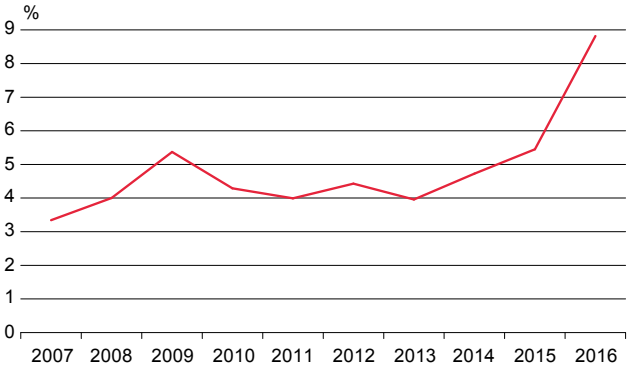
The share of organic agriculture in agriculture total is usually measured by agricultural area. In Estonia, organic agricultural area accounted for 18% of the total agricultural area in 2016. Organic agricultural area has increased 2.5 times in the past decade.[1] Similarly to organic agricultural area, which has been continuously increasing, also the share of production by organic holdings in total agricultural production has increased, reaching 6% in 2015, compared to 3% in 2007. In 2016, the share of organic production was even greater – 9%, although in that year, total agricultural production amounted to 150 million euros less than in 2015 due to poor weather conditions.

Weather did not have as significant an impact on organic farming as on conventional farming – compared to the latter, organic production even increased. This may be due to the fact that more than two thirds of organic producers specialise in livestock production, and weather conditions do not affect livestock production as much as they affect, for instance, cereal farmers. It should also be taken into account that in the same year, the share of organic agricultural area in the total agricultural area increased by more than 2% compared to 2015.

Support for organic production provided in Estonia since 2000 has also had an effect on the increase in organic production. In recent years, also the development of processing and marketing organic production has picked up, as a result of which, organic production reaches more people. As environmental awareness is improving, customers increasingly demand cleaner agricultural production.

1 *Mahepõllumajandus Eestis*, Eesti Mahepõllumajanduse Sihtasutus, 2017.

Share of organic agricultural production in total agricultural production in Estonia, 2007–2016



Source: Statistics Estonia

In Estonia, the share of monetary output from organic agriculture in total agricultural output is increasing.

2 ZERO HUNGER

2.4. SALES OF PESTICIDES

CONCEPTS

The indicator expresses the amount of pesticides sold in kilogrammes per hectare of arable land. Pesticides are used in agriculture mostly for plant disease, pest and weed control, to reduce the loss of crops. Pesticides are used also in production (e.g. treatment of wood against pests), forestry, maintenance of edges of roads and railways, sports and playgrounds, parks and households.

SITUATION IN ESTONIA

The number of sellers of pesticides grows every year. Broad spectrum pesticides can be bought from gardening and building material stores and at the market. If used according to instructions and provided dose rates, pesticides are not directly hazardous for human health. A large part of the preparations are available over the counter, which promotes their increased use also by households.

Pesticides have the following negative effects: danger to other plants, useful insects, biological diversity, water and soil quality. Pesticides affect human health via dietary intake (pesticides accumulate, and organisms at the top of the food chain are getting the biggest dose). Therefore, the less pesticides are used, the smaller the environmental impact and negative impact on human health.

Sales of pesticides have increased in Estonia every year. 834 tonnes of pesticides as active substance[1] were sold in 2016 – this is 143 tonnes more than a year earlier and twice the amount sold in 2011 (461 tonnes). Compared to 2015, the sales of herbicides have increased substantially: 132 tonnes as active substance. For years, herbicides have accounted for the biggest share of pesticides sold. In 2011, the share of herbicides in all pesticides sold was 77%, but by 2016, it had declined by 5%, due to increased sales of other pesticides compared to that of herbicides.

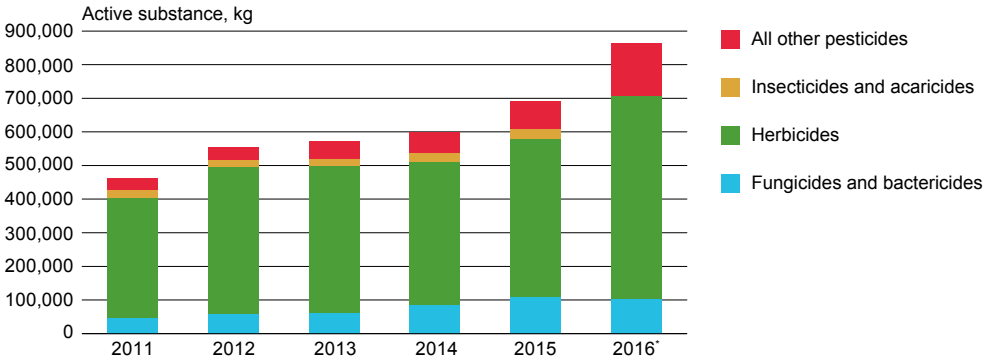
INTERNATIONAL COMPARISON

International comparison of sales of pesticides per hectare of arable land shows that compared to other countries, the sales of pesticides in Estonia are modest (0.74 active substance kg/ha), also due to climatic conditions and short vegetation period of plants.

Data on the use of pesticides may vary from one year to the next, the reasons for which may be differences in weather conditions, but also in occurring plant damages and diseases.

1 Substance of a pesticide that has a general or specific influence on the target pest, plant or plant product.

Sales of pesticides by active substance in Estonia, 2011–2016*

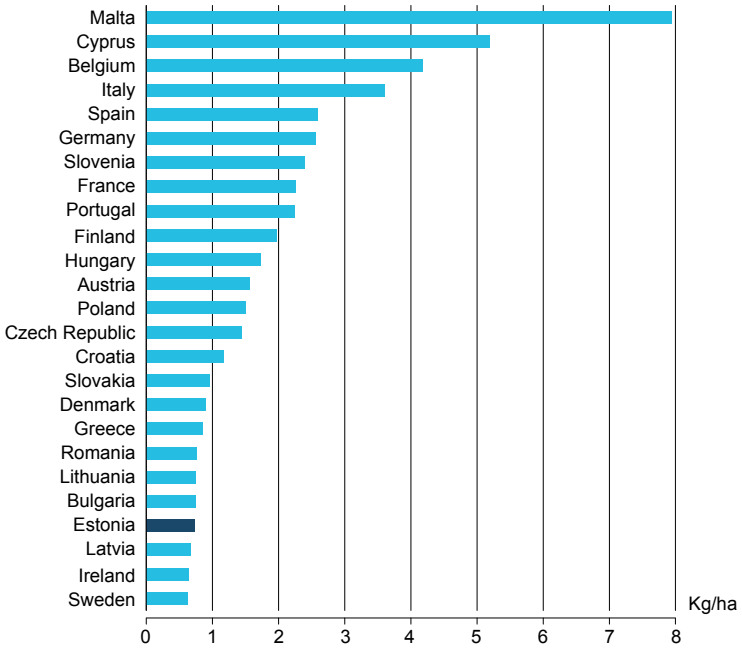


* The quantity of insecticides in 2016 has been included under "All other pesticides".

Source: Statistics Estonia

Compared to 2011, the sales of pesticides have almost doubled.

Sales of pesticides by active substance in the European Union, 2016*



* Data not available for United Kingdom, Luxembourg and Netherlands.
Three most important pesticides have been included: herbicides, fungicides and insecticides.

Source: Eurostat

Compared to other EU countries, less pesticides are used per hectare in Estonia.

2 ZERO HUNGER

2.5. USE OF FERTILISERS

CONCEPTS

The indicator expresses the quantity of nitrogen and phosphorus in kilogrammes in mineral fertilisers used in agriculture per hectare of agricultural land.

Mineral fertilisers are used to provide plants with nutrients, as a result of which, soil fertility improves and agricultural harvest increases. Mineral fertilisers may contain one or more important fertilising elements, the most important being nitrogen and phosphorus. Each fertilising element has a specific role in the plant and cannot be replaced by another. Fertilisation is very important in agriculture, as it ensures sustainable production.

Utilised agricultural land is land used for the production of agricultural produce or land maintained in good agricultural and environmental condition, including arable land, permanent grassland, fruit and berry plantations, nurseries and kitchen gardens.

Mineral fertilisers are not used on the total utilised agricultural land but only on the fertilised part, the share of which in the total utilised agricultural land may vary by country. Therefore, the average quantities of nutrients calculated per hectare of utilised agricultural land are significantly smaller than the recommended fertiliser quantities. Such calculations make the data internationally comparable, as the data about fertilised areas is not available by country. This also adequately expresses the total environmental burden of agriculture.

SITUATION IN ESTONIA

In Estonia, the quantities of nutrients administered in the soil with mineral fertilises per hectare of agricultural land are significantly smaller compared to other Member States. There are mainly two reasons for this: the average quantity of mineral fertilisers used per hectare of fertilised area is not very large, and the areas which are not fertilised or are fertilised minimally are large.

On organic agricultural land, the share of which in Estonia is among the biggest in Europe, no mineral fertilisers are used; mineral fertilisers are usually not used or are used minimally on permanent grasslands.

The use of nitrogen in 2009–2016 has increased quite steadily. In 2009, nitrogen use amounted to approximately 29 kg/ha, and by 2013, the average quantity was 34 kg/ha. In 2016, the average quantity of nitrogen used was 36 kg/ha.

The use of phosphorus per utilised agricultural land is expressed as pure phosphorus.[1] The use of phosphorus in 2009–2016 has remained stable, amounting from 2.6 kg/ha to 3.8 kg/ha per agricultural land.

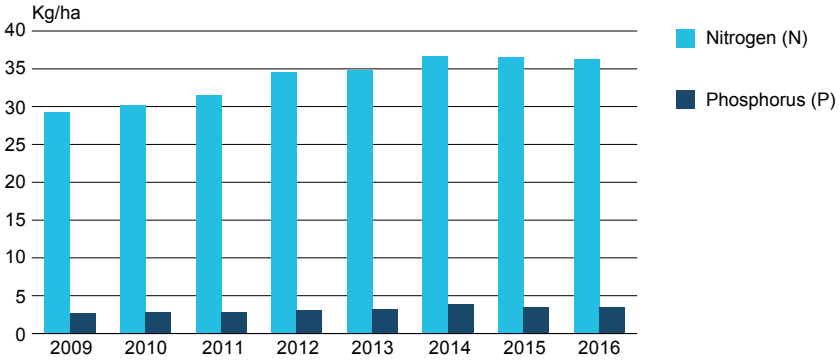
INTERNATIONAL COMPARISON

In 2016, the quantity of nitrogen used per hectare was smallest in Romania (25 kg/ha), Portugal (30 kg/ha) and Greece (35 kg/ha). The quantity of nitrogen used in Estonia per hectare accounted for 58.6% of the European Union average. In 2016, the largest quantity of nitrogen fertiliser was used in the Netherlands (136 kg/ha), which is 2.2 times bigger than the European Union average. The Netherlands stands out as a country with very intensive agriculture, where the value of agricultural production at consumer prices per hectare of utilised agricultural land is nearly seven times bigger than the European Union average. In terms of nitrogen use, the Netherlands was followed by the Czech Republic (117 kg/ha) and Belgium (106 kg/ha).

In 2016, on average in European Union countries, 6 kg/ha of phosphorus was used. Of Member States, the smallest amount of phosphorus per agricultural land was used in the Netherlands (2 kg/ha), Belgium (2.6 kg/ha) and Malta (2.8 kg/ha). In 2016, the largest amount of phosphorus was used in Poland (9.9 kg/ha), followed by Slovenia (8.4 kg/ha) and Ireland (8.3 kg/ha).

1 To calculate pure phosphorus from phosphorus oxide, the following formula is used: $P = P_2O_5 \times (62 : 142)$

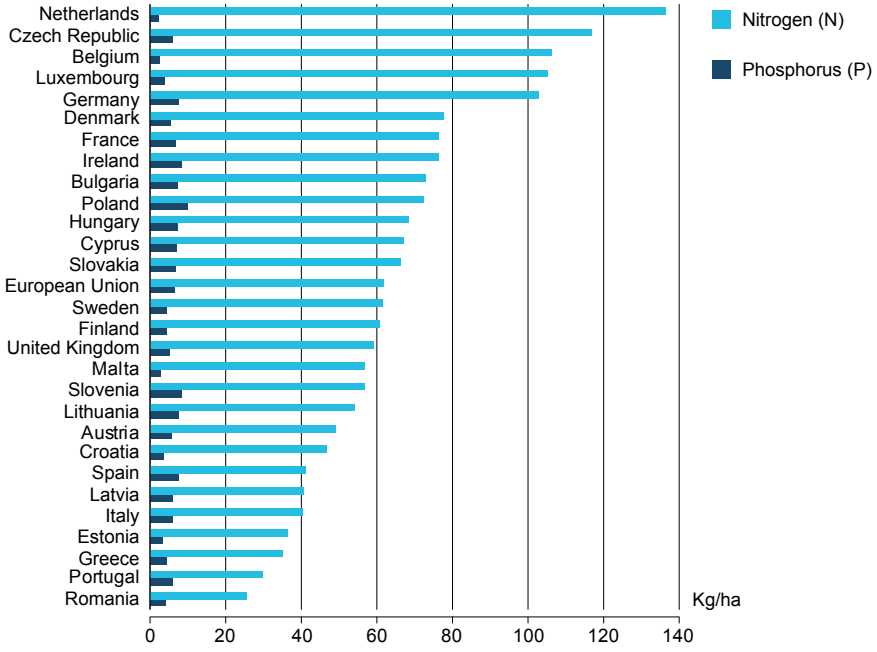
Use of nitrogen and phosphorus per hectare of agricultural land in Estonia, 2009–2016



Source: Eurostat

The use of nitrogen per hectare of agricultural land has been increasing slightly.

Use of nitrogen and phosphorus per hectare of agricultural land in the European Union, 2016



Source: Eurostat

Agricultural producers in Estonia use less nitrogen and phosphorus per hectare than many other agricultural producers in the EU.

3 GOOD HEALTH AND WELL-BEING

ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES

The focus of the global goal "Good Health and Well-being" is the quality of health, which has the most direct impact on people's well-being. Important issues include how to improve sexual health, ensure the health of mothers and infants, prevent communicable diseases and ensure accessibility of safe, quality and affordable health care.

The 2030 Agenda[1] sets targets to reduce, by 2030, maternal mortality rate to under 70 deaths per 100,000 live births and to end preventable deaths of new-borns and children under five years of age. Disease awareness must be increased and more attention must be paid to prevention. Addictions, including drug abuse and smoking must be prevented and treated more than previously. Reduction in the number of road traffic accidents is emphasised: by 2020, the number of deaths and injuries from road traffic accidents must be cut by a half compared to the current situation.

According to the UN progress report[2], the mortality rate of children under five years of age has decreased by 44% since 2000. In 2015, the maternal mortality rate was 216 deaths per 100,000 live births. There is still a long way to go before reaching the 2030 target of 70 deaths per 100,000 live births. Although progress has been made in combating communicable diseases, there were 0.3 new HIV cases per 1,000 uninfected population.

The Estonian sustainable development strategy[3] emphasises the need to achieve a longer life, reduce illness, change behaviours and ensure safety.

The global goal "Ensure healthy lives and promote well-being for all at all ages" is linked in Estonia to the following indicators of life expectancy, health, and tobacco and alcohol consumption:

- Life expectancy
- Healthy life years
- Overweight and obesity
- Fatal accidents, poisonings and injuries
- Avoidable mortality
- Deaths due to chronic diseases
- Incidence of communicable diseases
- Suicides
- Mental and behavioural disorders
- Consumption of alcohol
- Consumption of tobacco

Life expectancy continues to rise in Estonia. However, Estonia differs from other EU countries, as the gap between male and female life expectancy in Estonia is around 9 years, while on average in the EU it is 5.4 years. The indicator of healthy life years is on the rise. However, the increase in the number of overweight people, including overweight young people, is alarming. Deaths by accidents, poisonings and injuries have continued to decrease, but male mortality rate is still four times higher than for females. The number of deaths due to chronic diseases, avoidable deaths, new cases of HIV, tuberculosis, hepatitis B and hepatitis C and suicides is also falling.

Compared to the average EU indicators, Estonia still stands out with its number of new cases of HIV and tuberculosis. There are also more suicides in Estonia than on average in the EU. The incidence rate of new cases of mental and behavioural diseases increases in Estonia, this indicator value is highest in the EU. The number of alcohol users and daily smokers in Estonia is above the EU average, although a decrease in the number of alcohol users and daily smokers has been noted in Estonia.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1*. UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66*. UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

3 GOOD HEALTH AND WELL-BEING

3.1. LIFE EXPECTANCY

CONCEPTS

Life expectancy is the mean number of years a newborn child is expected to live if subjected throughout his or her life to the current mortality conditions.

SITUATION IN ESTONIA

In Estonia, life expectancy at birth was 77.8 years in 2016. Male life expectancy was 73.2 and female life expectancy was 81.9 years. The gap between male and female life expectancy was 8.7 years, which is quite large compared to other highly developed countries. Still, it has diminished over time: in 2000, the gap in life expectancy was 10.5 years. The life expectancy of both men and women has increased throughout the reference period, while male life expectancy has increased somewhat more rapidly. Male life expectancy at birth has on average increased by 0.46 years and that of females by 0.35 years annually since 2000.

Life expectancy depends on many factors, the most important of which are the natural environment, accessibility of health services, standard of living and health awareness. Somewhat shorter life expectancy for men is not surprising because they are more apt to risk taking. Obviously, life expectancy is also affected by a higher share of jobs that are physically demanding or pose a health hazard among the jobs that men tend to prefer. People in Estonia are employed somewhat more in blue-collar jobs than in the European Union on average and these jobs are more popular among men than among women. This may be one reason for the difference between male and female life expectancy.

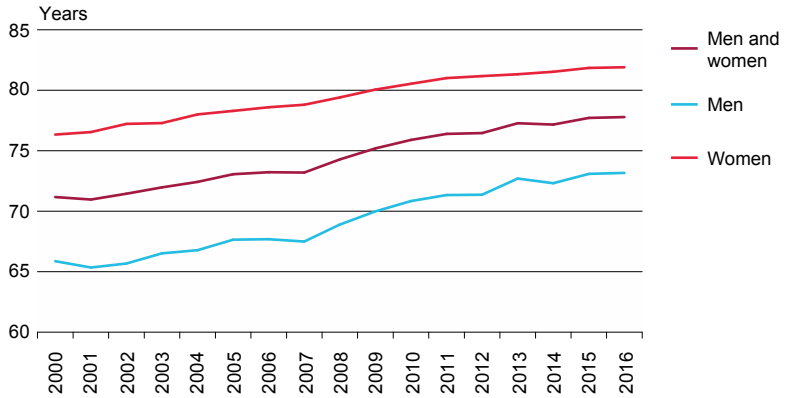
INTERNATIONAL COMPARISON

People in Estonia live on average three years less compared to the average life expectancy in the European Union, whereas the difference was twice as big in the last decade. The gap between male and female life expectancy is significant. The average gap in the European Union is 5.4 years and the nearly nine-year gap in Estonia is very big compared to this.

The gap in male and female life expectancy is smallest in the Netherlands (3.2 years). The gap is under four years also in Sweden, the United Kingdom, Denmark and Malta. Only Lithuania (10.6) and Latvia (9.8) have bigger gaps than Estonia. Such a big difference in life expectancy can be found in Europe only in other former Soviet Union countries.

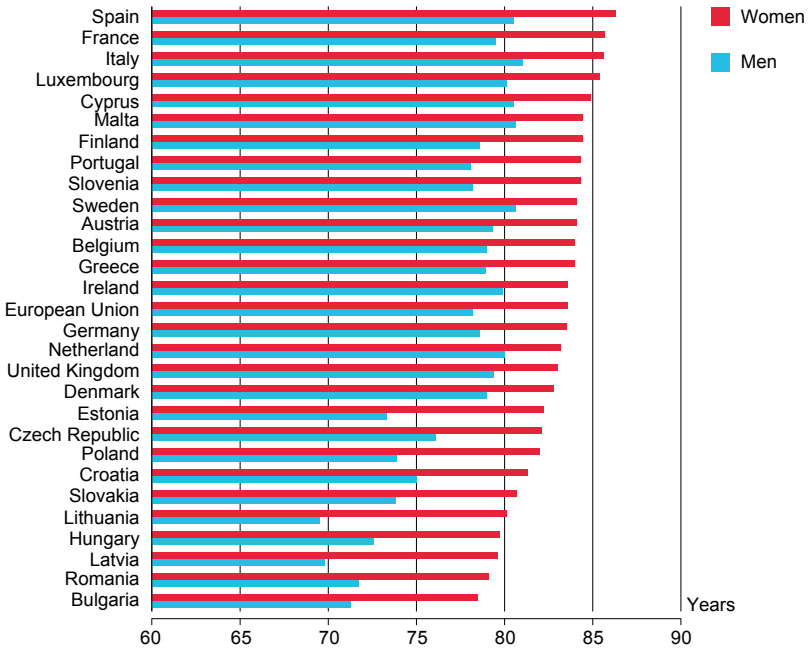
The life expectancy for women in Estonia is only 1.4 years shorter than the European Union average, while for men it is 4.9 years shorter. The longest life expectancy for men in Europe is in Italy (81.0 years), for women in Spain (86.3). Estonia is 21st in the ranking of European Union countries, but compared to other Eastern European countries, Estonia ranks higher. Life expectancy is shortest in Bulgaria, Latvia and Lithuania (74.9 years). In terms of male life expectancy, Estonia has the 23rd position in Europe; it is the shortest in Lithuania and Latvia. Estonia's position in terms of female life expectancy is better – 19th, which is the highest among Eastern European countries. The lowest life expectancies for women are in Bulgaria and Romania.

Life expectancy in Estonia, 2000–2016



Source: Statistics Estonia

Life expectancy in the European Union, 2016



Source: Eurostat

Life expectancy has increased for both men and women compared to 2000.

In Estonia, female life expectancy is 1.4 years and male life expectancy is 4.9 years shorter than the EU average.

3 GOOD HEALTH AND WELL-BEING

3.2. HEALTHY LIFE YEARS

CONCEPTS

The indicator of healthy life years is defined as the number of years that a person is expected to continue to live without limitation in functioning and without disability if the mortality and health indicators stay unchanged. The indicator is calculated separately for women and for men. It reflects the value judgements and appreciation of health, on the one hand, and possibilities of maintaining good health and accessibility of health care, on the other hand.

The number of healthy life years depends on many factors, for example, socio-economic conditions, health behaviour, social identity, genetics, etc. The more successful, for instance, the national economy, the better the living conditions as well as the indicator of healthy life years.

SITUATION IN ESTONIA

The National Health Plan 2009–2020 provides that the healthy life years will increase by 2010 on average to 60 for men and 65 years for women. A man born in Estonia in 2016 is expected to have 54.2 and a woman 58.7 healthy life years. The indicator for the total population was 56.5 years in 2016. The indicators were best in the period 2010–2016. In 2009, it was 54.8 for men and 59 for women and the healthy life expectancy for the total population was 56.9 years. The year 2009 was the best in the period 2004–2016.

Healthy life years is directly in correlation with economic growth in Estonia (the number of healthy life years increases with some delay after positive changes have occurred in the economy and decreases when the indicators are negative). In 2004–2007, Estonia enjoyed fast economic growth, which was followed by rapid increase in healthy life years in 2004–2009. Economic downturn in 2008 and 2009 brought about a reduction in healthy life years (both overall and for men) in the period 2009–2012 (for women in 2009–2013). In 2010–2016, economic growth in Estonia was slow or moderate, so the indicator of healthy life years also changed in this period: it increased slowly and decreased slightly in some years.

INTERNATIONAL COMPARISON

In 2016, the average indicator of healthy life years in the European Union was 64.2 for women and 63.5 for men. Estonia's indicator lags behind the European Union average by 5.2 years for women and 9.1 years for men. In comparison of the European Union countries, Estonia is the 19th among 28 Member States.

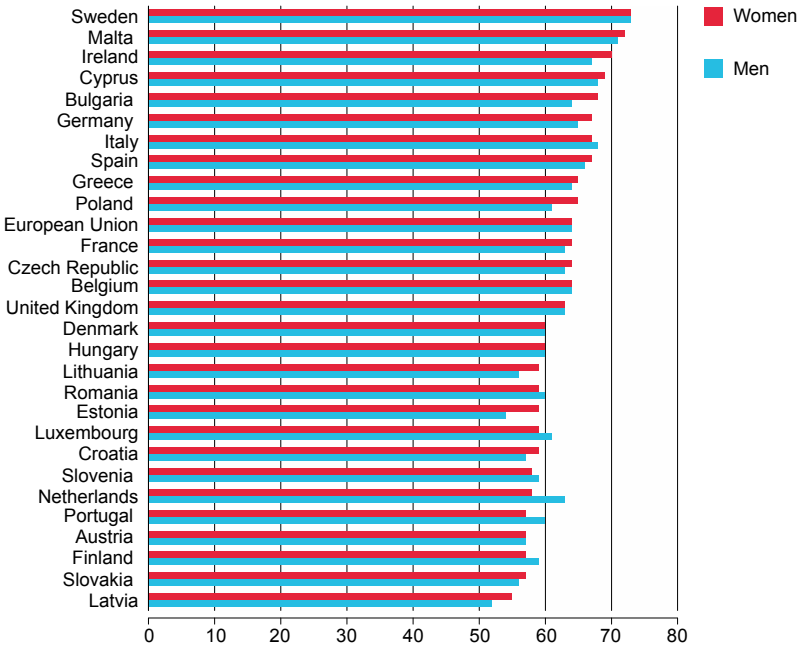
The best in terms of healthy life years is the situation in Sweden, followed by Malta, Ireland and Cyprus. The situation is the worst in Latvia and only slightly better in Slovakia, Finland and Austria. Compared to the European Union average, the situation is better in 10 countries and worse in 18 countries.

Healthy life years in Estonia, 2004–2016 and target for 2020

Source: Statistics Estonia

Healthy life years increased in 2004–2007, decreased after the economic crisis and is increasing again now.

Healthy life years in the European Union, 2016



Source: Eurostat

The difference between the best and the worst country is 18.4 years for women and 20.7 years for men.

3 GOOD HEALTH AND WELL-BEING

3.3. OVERWEIGHT AND OBESITY

CONCEPTS

The indicator expresses the share of overweight or obese population, or people whose body mass index (measure of a person's weight relative to height) is over 25. A person is considered overweight if his or her body mass index is 25.0–29.9 and obese if the body mass index is equal to or greater than 30. Share of overweight or obese people is expressed as a percentage of total population. In international comparison, a person is overweight or obese if his or her body mass index is equal to or greater than 30.

SITUATION IN ESTONIA

In 2016, the share of overweight and obese people in Estonia was 51.7% of the population in all age groups, among men the share was 59.9% and among women 46%. In 2000, the respective ratios were 41.9%, 43.3% and 40.9%. Hence, the share of overweight and obese people has been increasing, with small fluctuations.

In the age group 16–24, the indicator increased from 8.6% in 2000 to 21.6% by 2016. The respective share for men increased in the same period from 7.4% to 23.9% and that for women from 9.4% to 19.9%. It is a considerable rise in the body weight of young people, which can be ascribed to economic growth and overall improvement in welfare.

In 2000–2016, body weight increased also in age group 25–34, but not as much as among younger people. In 2016, the total share of overweight or obese men and women in this age group was 33.9%, the share for men was 46.8% and that for women 24.9%. In 2000, the respective ratios were 28.3%, 35.0% and 23.7%. Men account for most of the weight gain in this age group.

Body weight in the age group 35–44 increased among both men and women in 2000–2016, while men's increase was higher. In 2016, the share of overweight and obese people in this age group was 50.6%, among men it was 64.5% and among women 40.6%. Overweight causes many health problems and increases medical costs.

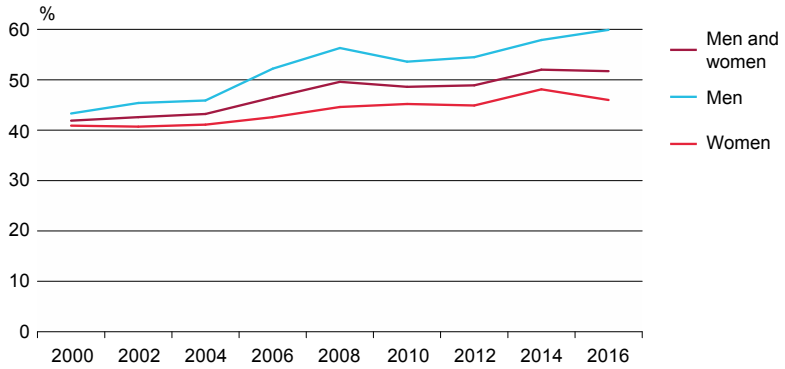
In 2000–2016, weight gain was observed also in age group 45–54. In 2016, the total for men and women was 65.5%, for men it was 76.1% and for women 58.6%, i.e. a majority of people are overweight or obese. The situation is even worse in age group 55–64, where the respective ratios were 70.7%, 72.8% and 69.4%.

It is important to watch the weight of children. The share of overweight or obese children helps to evaluate social attitudes towards overweight in the future. A survey under the European Childhood Obesity Surveillance Initiative in the academic year 2015/2016 found that 26.3% of children in first grade in Estonia are overweight or obese. More boys than girls are overweight or obese: 29.5% and 23.1%, respectively.

INTERNATIONAL COMPARISON

In 2016, on average 16% of the population in the European Union were overweight or obese (body mass index => 30). In 2016, Estonia ranked fourth (obesity rate 20.4% of the population) among EU countries. Hence, Estonia is one of the countries where people have problems with overweight, the share is higher only in three EU countries: Malta (26%), Latvia (21.3%) and Hungary (21.2%). The share of overweight or obese people is smallest in Romania (9.4%). In most welfare states, the share of overweight people is not as high as in Estonia.

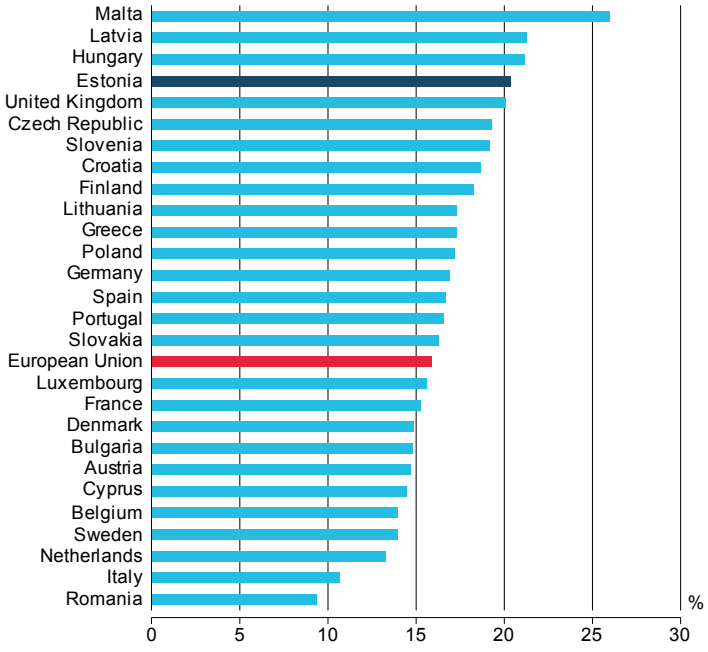
Share of overweight or obese population in Estonia, 2000–2016



Source: National Institute for Health Development

The share of overweight or obese population is increasing in Estonia.

Share of overweight or obese population in the European Union, 2014*



*Data on Ireland not available

Source: Eurostat

Compared to other EU countries, the share of overweight or obese population in Estonia is one of the highest.

3 GOOD HEALTH AND WELL-BEING

3.4. FATAL ACCIDENTS, POISONINGS AND INJURIES

CONCEPTS

The indicator of fatal accidents, poisonings and injuries (external causes of death) is expressed as an absolute number or as death rate (number of deaths per 100,000 inhabitants). The causes of death are from codes V01–Y89 of the International Classification of Diseases and Related Health Problems. In international comparisons, standardised death rate per 100,000 male/female inhabitants by age (standardised population of Europe) is used.

SITUATION IN ESTONIA

The number of deaths due to accidents, poisonings and injuries decreased considerably in 2000–2017. Accidents happen 2.5 times less frequently now, while men have three to three and a half times more accidents. Hence, it can be said that in 2017 men had 1,000 fewer fatal accidents than in 2000, while deaths of females caused by accidents decreased by nearly 300.

The main causes of death for men are suicides and accidental poisonings. Of all accidents, poisonings and injuries in 2017, these accounted for 27% and 28%, respectively. Most of the accidental poisonings were caused by alcohol. People who died from methanol poisoning in Pärnu county in 2001 reversed for a time the otherwise falling trend of this cause of death. 12% of accidents were road traffic accidents, the share of which was considerably higher only ten years ago. The number of men who died from assault has also decreased.

The primary causes of death for women are also suicides (26%) and accidental poisonings (24%). The third cause according to 2017 data was accidental falls (18%). The share of accidental falls among accidents has increased, which can be explained by the ageing society. Falls are often the cause of death in older age. Like in the case of men, the number of women who died from road traffic accidents has decreased.

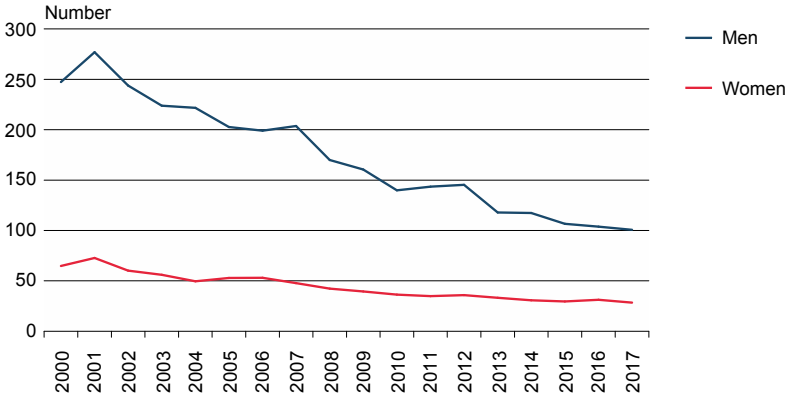
In general, the number of fatal accidents at work in Estonia decreased moderately in 2000–2017. The decrease was bigger at the beginning of the 2000s (in 2002, there were 39 fatal accidents at work, and in 2007, there were 21). In 2007–2015, the number of deaths due to fatal accidents at work was quite stable, fluctuating between 21 and 15. With such small numbers, randomness may be considerable and the deviation is actually insignificant in case of a longer time series. It may be argued that the situation is stable, although 26 fatal accidents at work happened in 2016 and 9 in 2017.

INTERNATIONAL COMPARISON

In 2000–2017, the standardised death rate for fatal accidents, poisonings and injuries also fell by over a half, while the rate for women was around one quarter of that for men throughout the period. The European Union average standardised death rate for accidents and other causes of death is only 68% of Estonia's rate and with this rate Estonia ranked 23rd in 2015. In terms of the rate for males, Estonia is among the last in the European Union. The rate is higher only in Latvia and Lithuania. The rate for women in Estonia, however, exceeds the EU average, ranking 13th.

The standardised death rate for accidents in the European Union is highest in Lithuania and Latvia. People die from accidents the least in Malta and Spain. The smallest difference in the male and female rate is in the Netherlands, Belgium and Denmark, the largest in Estonia, Latvia and Lithuania.

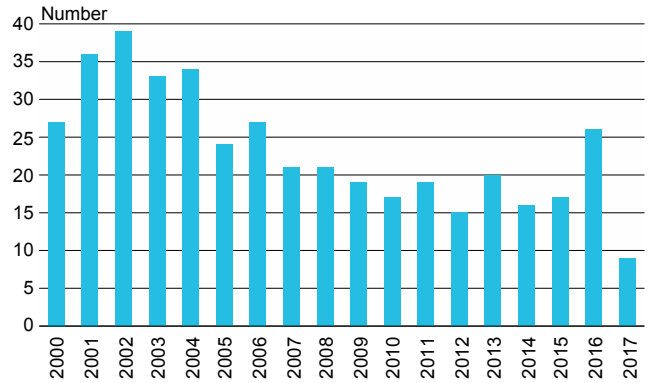
Fatal accidents per 100,000 inhabitants in Estonia, 2000–2017



Source: Statistics Estonia

Men die from accidents three times as frequently as women.

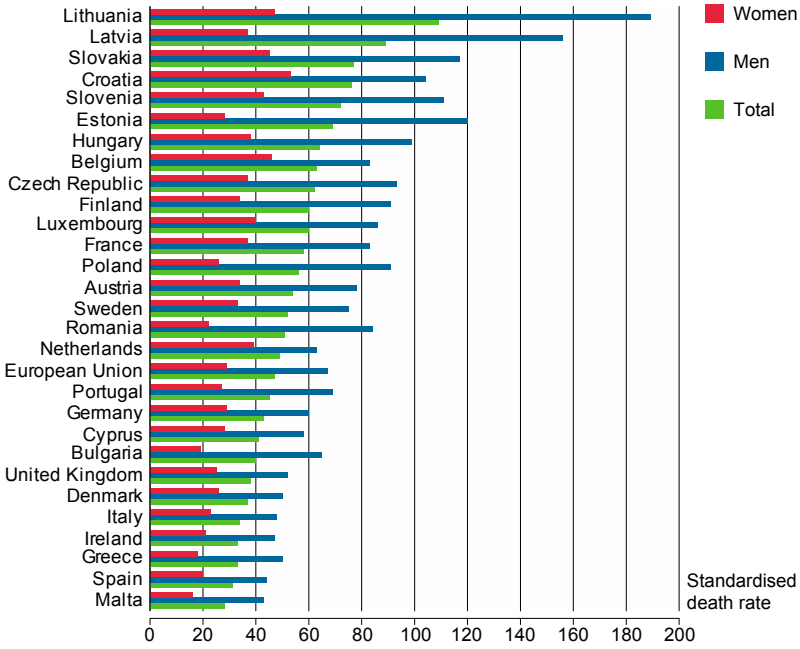
Fatal accidents at work in Estonia, 2000–2017



Source: Labour Inspectorate

The number of fatal accidents at work is low and stable.

Fatal accidents, poisonings and injuries in the European Union, 2015



Source: Eurostat

Mortality of Estonian women due to accidents is below the EU average, while men's rate is one of the highest.

3 GOOD HEALTH AND WELL-BEING

3.5. AVOIDABLE MORTALITY

CONCEPTS

The indicator of avoidable mortality is expressed as an absolute number or mortality rate. Avoidable mortality depends mainly on health care and could have been avoided with more timely and effective medical intervention or prevention.

Avoidable mortality is divided into amenable and preventable deaths. Diseases are considered amenable if deaths caused by it could have been avoided after the disease reveals itself, for example appendicitis. Preventable deaths could have been avoided by implementing more extensive public health policy measures, and in that case, medical treatment is not the main way of intervention. Preventable are, for example, deaths due to traffic accidents or malignant neoplasm of lung.

The list of diseases contains also diseases where death avoidance depends on both prevention and health care, for example, tuberculosis and many communicable diseases. For nearly every avoidable cause of death, there is an age limit before which it may be assumed that death due to that disease can be avoided. The age limit is mostly 74, but there are diseases for which there is no age limit or a lower age limit. Avoidable death rate characterises the effectiveness and quality of the national health care system.

SITUATION IN ESTONIA

The amenable mortality rate is falling moderately in Estonia. In 2014, the number of persons who died of amenable diseases in Estonia was 2,662, in 2016, it was 2,468. In 2014, the amenable mortality rate per 100,000 inhabitants was 202.5, and in 2016, it was 187.6. In 2016, circulatory system diseases accounted for 66.2% of the amenable deaths in Estonia, 33% of these were ischemic heart diseases, deaths from which are considered avoidable before the age of 75. Other major causes of amenable deaths were malignant neoplasms of colon (7.7%) and breast (5.6%), and pneumonia (3.6%). The amenable mortality rate for men is nearly twice as high as that for women: in 2016, the respective rate for men was 249.4, and for women, 133.0 cases per 100,000 inhabitants.

The preventable mortality rate in Estonia is also falling moderately: 3,404 people died due to preventable deaths in 2014 and 3,158 in 2016. In 2014, the preventable mortality rate per 100,000 inhabitants was 258.9, in 2016, it was 240.

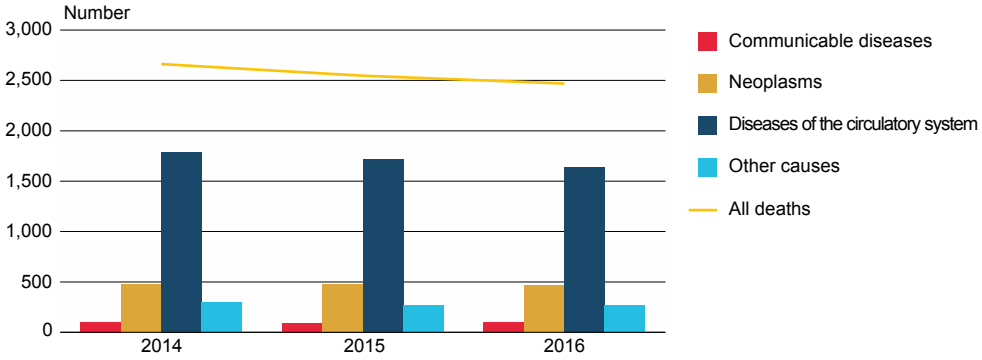
In 2016, the main causes of preventable deaths were ischemic heart disease (25.9%), alcohol related diseases (13%), malignant neoplasms of trachea, bronchus and lung (12.4%), colon, rectum and anus (6%), stomach (4.5%) and breast (4.3%). As a percentage, there were more suicides and self-inflicted injuries (7.5%). Preventable mortality is also much higher among men than women (up to 2.5 times) – 353.4 and 139.8 deaths per 100,000 inhabitants, respectively, in 2016.

INTERNATIONAL COMPARISON

In comparison with other European Union countries, the standardised amenable and preventable mortality rates are rather high in Estonia. In 2015, the standardised amenable mortality rate in Estonia was 1.8 times higher than the European Union average. The rate was lowest in France and Spain. In 2015, six European Union countries had a higher standardised amenable mortality rate than Estonia: Lithuania, Latvia, Romania, Bulgaria, Hungary and Slovakia. The rate was 1.4 times higher than in Estonia, for example, in Lithuania, Latvia and Romania.

In 2015, the standardised preventable mortality rate in Estonia was 1.4 times higher than the European Union average. The rate was lowest in Italy, Cyprus and Spain, being half of that of Estonia. In 2015, the standardised preventable mortality rate was highest also in six European Union countries: Lithuania, Hungary, Latvia, Romania, Slovakia and Croatia. The respective rate for Estonia was 26–31% lower than in Lithuania, Hungary and Latvia. Still, the amenable and preventable mortality rates are falling moderately both in Estonia and in the European Union.

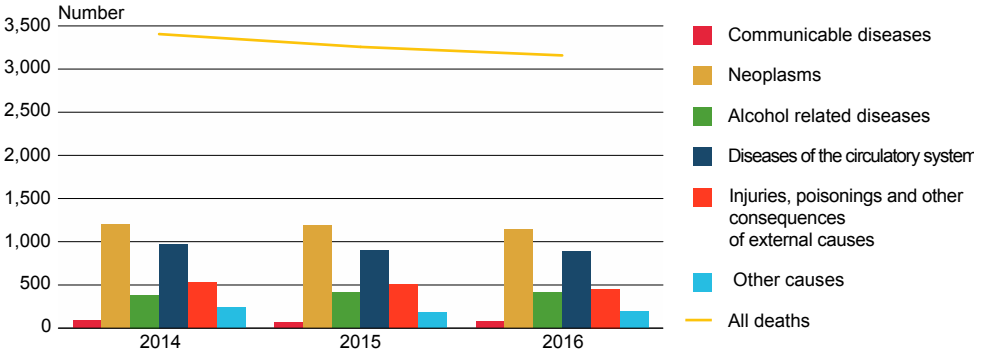
Amenable deaths in Estonia, 2014–2016



Source: National Institute for Health Development

Amenable deaths are decreasing moderately in Estonia.

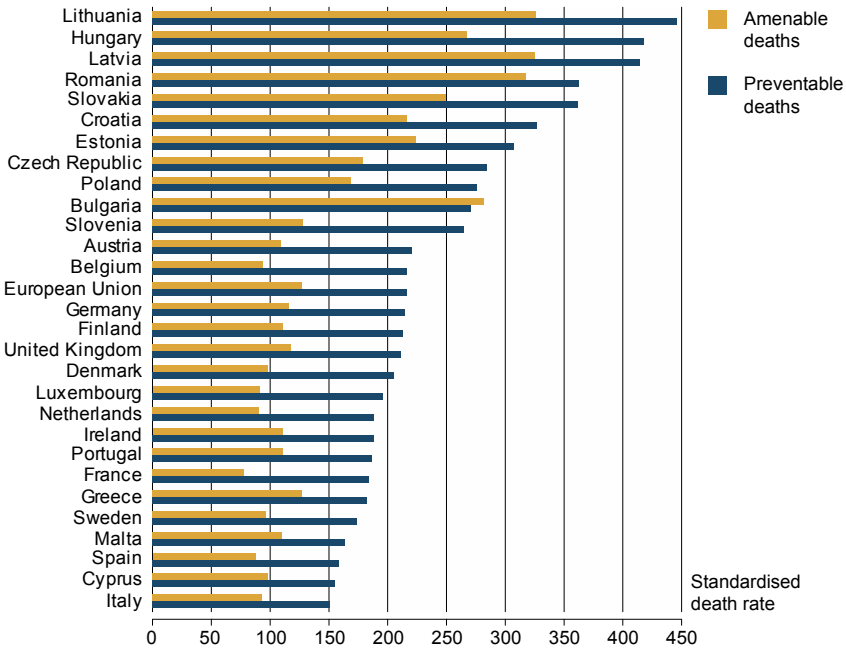
Preventable deaths in Estonia, 2014–2016



Source: National Institute for Health Development

Preventable deaths are decreasing moderately in Estonia.

Amenable and preventable deaths in the European Union, 2015



Source: Eurostat

Compared to other EU countries, the standardised amenable and preventable mortality rates are rather high in Estonia.

3 GOOD HEALTH AND WELL-BEING

3.6. DEATHS DUE TO CHRONIC DISEASES

CONCEPTS

The indicator of deaths due to chronic diseases expresses the European standardised death rate per 100,000 inhabitants aged under 65 dying due to a chronic disease. Such diseases are malignant neoplasms, ischaemic heart diseases, chronic lower respiratory diseases, diabetes mellitus, cerebrovascular diseases and chronic diseases and cirrhoses of liver. Deaths due to these diseases can be avoided by prevention and health care, a considerable change can be achieved as a result of their combined effect.

SITUATION IN ESTONIA

The death rate due to chronic diseases in Estonia has decreased by nearly a half over the last 15 years: from 285 to 157.6. In 2000–2015, it decreased 45%, i.e. on average 3.8% annually. The annual average decrease in the European Union has been 2.3%. The rate for men is considerably higher than for women, while the death rate due to chronic diseases for men is falling faster than for women. In 2015, the death rate due to chronic diseases in Estonia was 223.7 for men and 101.5 for women.

In 2003–2015, the share of deaths due to malignant neoplasms has increased among both women and men in Estonia. In the case of men, the death rate due to malignant neoplasms (38% in 2003 and 48% in 2015) and chronic diseases of liver (7% and 13%) has increased and deaths from ischaemic heart diseases (38% and 25%) and cerebrovascular diseases (14% and 7%) have decreased. The share of diabetes mellitus and lower respiratory diseases was minimal both at the beginning and at the end of the reference period.

Men's death rate from chronic diseases of liver has increased also in absolute terms, not only as a percentage.

Dominating among deaths caused by neoplasms are those of the respiratory organs, the share of which has diminished considerably among neoplasms (39% in 2003 and 26% in 2015); the share of other neoplasms is lower than 10%. Male-specific deaths are due to hyperplasia of prostate (5% variability).

The death rate of women due to malignant neoplasms has increased considerably (50% in 2003 and 67% in 2017) and from chronic diseases of liver has remained stable (9%). A remarkable reduction has been observed in the death rate from ischaemic heart diseases (22% and 13%) and cerebrovascular diseases (15% and 6%). The shares of diabetes mellitus and lower respiratory diseases, like in the case of men, are very small.

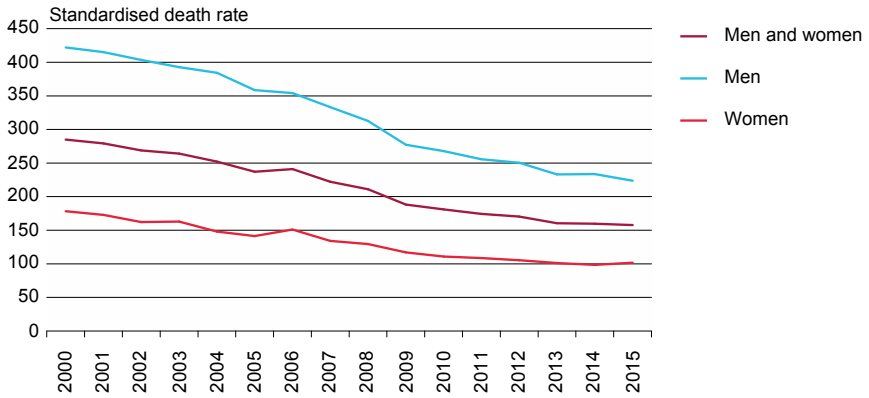
Among women, the share of sex-specific malignant neoplasms (breast, uterus, cervix uteri and ovary) has decreased (44% and 39% of all women aged under 65 who have died of neoplasms). The main neoplasm related cause of death both at the beginning and at the end of the period 2003–2015 was malignant neoplasm of breast. Neoplasms of respiratory organs accounted for around 10% of all deaths in this period.

INTERNATIONAL COMPARISON

Estonia's indicator is higher than the EU average, but compared to other Eastern European countries, the situation in Estonia is slightly better. Estonia's indicator is the 21st in the ranking list of 28 EU countries, that of men 22nd. The difference between the lowest and highest values in the EU was threefold for women and nearly fourfold for men.

The main cause of death from chronic diseases for persons aged under 65 in the EU as well as in Estonia is malignant neoplasms. The second cause of death in all countries is ischaemic heart disease, the third place is occupied by chronic diseases and cirrhoses of liver. Men's death rate due to ischaemic heart disease is much higher than that of women, but in general, deaths from this disease are decreasing in all countries. This can be explained by reduced tobacco consumption and more effective health care. The death rate due to malignant neoplasms is also higher for men compared to women in all countries. This may be partly caused by men coming more frequently in contact with risk factors.

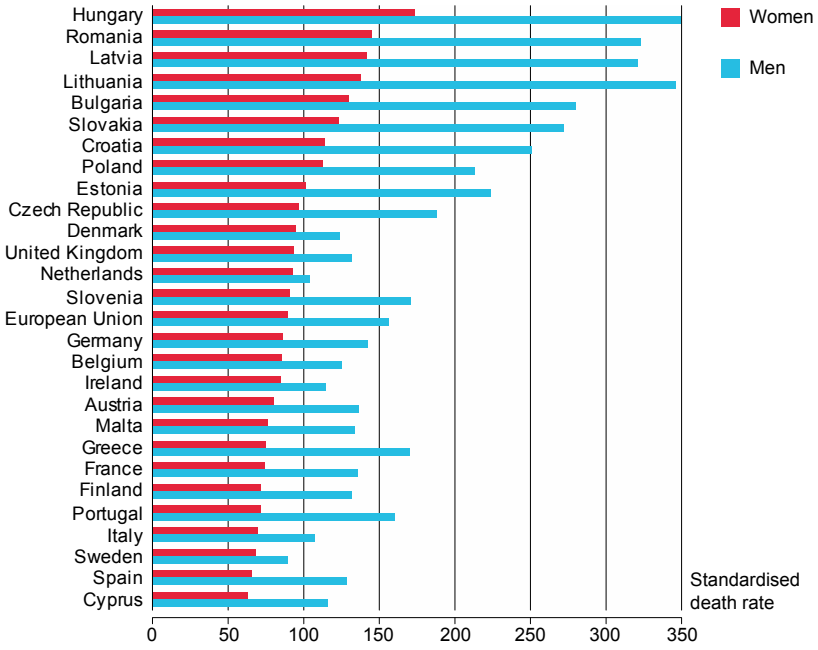
Deaths due to chronic diseases per 100,000 persons aged under 65 in Estonia, 2000–2015



Source: Eurostat

In 2000–2015, deaths due to chronic diseases decreased, but deaths of men still outnumber deaths of women.

Death rates due to chronic diseases in the European Union, 2015



Source: Eurostat

Death rates due to chronic diseases in the EU countries vary threefold for women and fourfold for men.

3 GOOD HEALTH AND WELL-BEING

3.7. INCIDENCE OF COMMUNICABLE DISEASES

CONCEPTS

The indicator of incidence of communicable diseases expresses new cases of certain infectious diseases such as HIV, tuberculosis, hepatitis B and C virus infection per 100,000 inhabitants.

Communicable disease is a disease or carrier state, which is caused by the entry of an infectious agent into the human body and that is transmitted or may be transmitted directly or indirectly person-to-person or animal-to-person.

Incidence rate (number of new and recurrent cases per 100,000 inhabitants) expresses the number of incidents per population in a specific time period. Data on HIV and tuberculosis have been used for graphical presentation of international comparison.

SITUATION IN ESTONIA

In 2017, 219 new HIV infection cases were registered in Estonia (16.6 cases per 100,000 inhabitants). Women accounted for 33% of the new cases, i.e. most of the newly infected persons were men. In 2017, 23.6 new HIV infection cases were registered per 100,000 men and 10.5 cases per 100,000 women. The average age of HIV positive persons has risen: in 2000, it was on average 22 years, in 2016 and 2017, it was 37.6 years. In 2017, 43% of the new cases were registered in Tallinn and 37% in Ida-Viru county. In total, HI-virus has been diagnosed in 9,711 persons in Estonia (in 1987–2017). The number of new cases has not decreased notably over the last five years. However, testing for HIV has improved year after year, which allows assuming that the small decline in the number of new cases is not due to fewer tests.

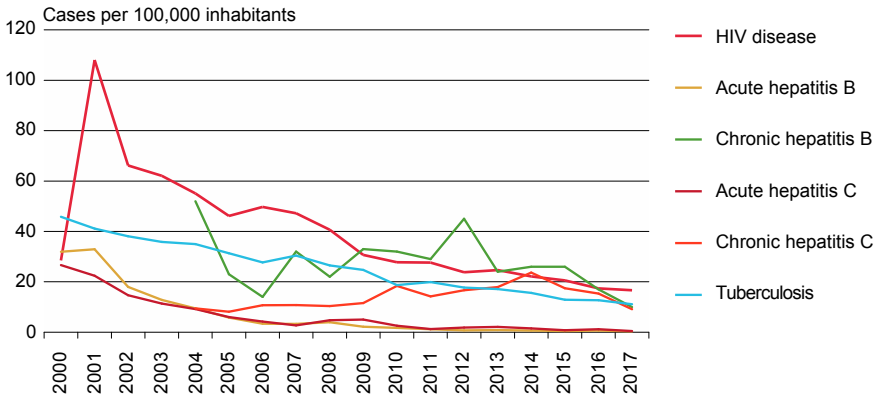
The incidence rate of acute hepatitis B virus infection in Estonia was highest in 1997–2002 (up to 39 cases per 100,000 inhabitants). It has diminished since 2003, especially among people aged under 30. Since 2012, the incidence rate in Estonia has not exceeded one case per 100,000 inhabitants. In 2017, men accounted for half of the new registered cases of acute hepatitis B and women for half (0.32 and 0.29 cases per 100,000 men or women, respectively), and women accounted for 80% of the chronic disease cases (0.32 and 1.15 cases per 100,000 men or women, respectively). Vaccination of children is the main reason for incidence reduction. Since 2004, chronic hepatitis B has also been registered[1] in Estonia, which has been between 1.0–3.8 cases per 100,000 inhabitants.

The incidence rate of acute hepatitis C virus infection in Estonia was highest in 1998–2001 (up to 25.3 cases per 100,000 inhabitants annually). The number of cases has decreased since 2002, and the respective age structure has also changed: most of the diseased in recent years have been 30 years old or older (during the high incidence period, 15–29 years old). In the last six years, new registrations have remained between 0.5–2.1 per 100,000 inhabitants. 67% of the acute cases in 2017 were registered among men (0.65 and 0.29 cases per 100,000 men or women). It is difficult to identify the main reason for the reduction in incidence; HIV prevention activities have probably influenced also the hepatitis C incidence rate because both diseases have the same ways of spreading and risk groups.

Chronic hepatitis C has been registered in Estonia since 2004. The number of cases and incidence rate per 100,000 inhabitants in Estonia are very high. There have been between 9.1–24.2 cases per 100,000 inhabitants, or 120–311 new cases per year, with the most in 2014. In 2017, 72% of the chronic cases were diagnosed among men (13.9 and 4.5 cases per 100,000 men or women, respectively). The number of new cases is affected a lot by screening, or whether there are screenings for the particular disease and how frequently these are conducted. In Estonia, all imprisoned persons are tested for this disease. This is the reason why 30–50% of the registered cases are diagnosed annually just among the imprisoned persons. Hepatitis C virus infection is underdiagnosed in Estonia; therefore, there may be up to 20,000 carriers of acute or chronic virus.

1 Cases of chronic hepatitis B were diagnosed also before 2004, but there are no data for earlier periods available in the register of the National Institute for Health Development.

New cases of HIV infection, tuberculosis, hepatitis B and C in Estonia, 2000–2017*



*Data on HIV, hepatitis B and C are from the communicable diseases registry, data on tuberculosis from the tuberculosis registry.

Source: National Institute for Health Development

The number of new cases of HIV infection, tuberculosis, hepatitis B and C per 100,000 inhabitants is decreasing.

3 GOOD HEALTH AND WELL-BEING

3.7. INCIDENCE OF COMMUNICABLE DISEASES

SITUATION IN ESTONIA

The number of new cases of tuberculosis is decreasing. 175 cases of tuberculosis were registered in Estonia in 2017, of which 146 were new cases or first registrations, 25 were relapses and 4 were other recurrent cases of tuberculosis. The average age of people with tuberculosis was 53.5; the youngest was 18 years old and the oldest 92. The number of new registrations per 100,000 inhabitants among men was much bigger than among women – respectively 16.5 and 6.3 cases per 100,000 men or women in 2017. Estonia is characterised by a high share of drug-resistant forms of tuberculosis. 36 multi-drug-resistant (MDR[1]) cases of tuberculosis were registered in 2017, of which 26 were first registrations. 21.5% of culture positive new cases of tuberculosis were MDR forms.

INTERNATIONAL COMPARISON

In 2016, Estonia was second in the European Union after Latvia in terms of new HIV cases per 100,000 inhabitants (respectively 17.4 and 18.5 cases per 100,000 inhabitants). The smallest numbers, or the best indicators in the European Union were in Slovakia, Hungary and Croatia (1.6, 2.3 and 2.6 cases, respectively, per 100,000 inhabitants). The European Union average at the same time was 5.7 new HIV cases per 100,000 inhabitants.

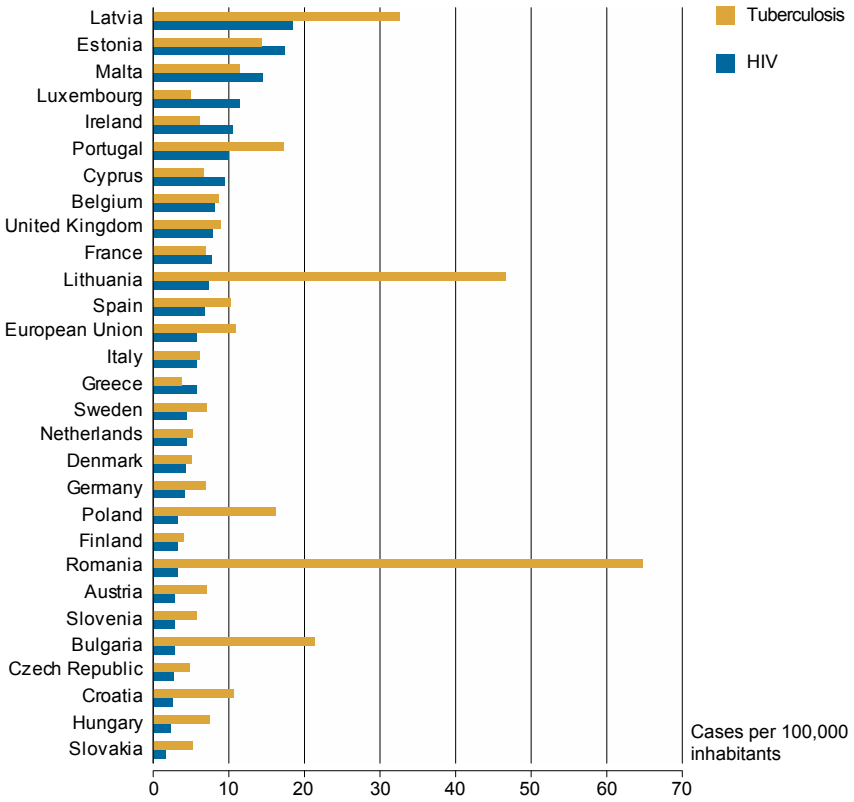
According to the European Centre for Disease Prevention and Control, nearly 60,000 new cases of tuberculosis are registered annually in the European Union. International comparisons of tuberculosis cover new cases of tuberculosis and relapse cases together. In 2016, the incidence of tuberculosis (total of new and relapse cases) in Estonia was slightly higher than in the European Union on average: 10.9 and 14.3 cases per 100,000 inhabitants, respectively. Compared to Estonia, the situation was worse in Latvia (32.6), Lithuania (46.6) and Romania (64.7), and the smallest rates were observed in Greece (3.8), Finland (4.1) and Czech Republic (4.8).

In 2016, on average, 0.59 new acute hepatitis B virus infection and 8.7 new chronic hepatitis B cases were diagnosed per 100,000 inhabitants in the European Union. The respective numbers for Estonia were 0.53, or about the same, and 1.14, or considerably smaller. Higher than Estonia's incidence rates of acute hepatitis B, or the worst rates, were in Latvia (3.7), Malta (1.6), Spain (1.1) and Lithuania (1.1), and that of chronic hepatitis B, in Sweden (18.7%), Latvia (15.0) and the United Kingdom (17.0). The best situation in the European Union, or the smallest number of acute hepatitis B cases, was in Cyprus (0.0), Poland (0.13) and France (0.17), and the smallest number of chronic hepatitis B cases, was in Cyprus (0.0), Romania (0.04) and Portugal (0.56).

In 2016, on average, 7.9 new cases of acute hepatitis C per 100,000 inhabitants were diagnosed in the European Union, which is 1.7 times less than in Estonia. The situation was worse than in Estonia, for example, in Latvia (76.08), Finland (20.9) and in the United Kingdom (19.87), the lowest figures were registered in Cyprus (0.12), Italy (0.32) and Romania (0.37).

1 MDR-TB – a case of tuberculosis where bacteria are simultaneously resistant to at least two first-line anti-tuberculosis drugs: isoniazid and rifampicin, but it may be resistant also to other drugs.

New cases of HIV and tuberculosis in the European Union, 2016



Source: European Centre for Disease Prevention and Control (ECDC)

There are more new cases of HIV and tuberculosis in Estonia than in the EU on average.

3 GOOD HEALTH AND WELL-BEING

3.8. SUICIDES

CONCEPTS

The number of suicides is indicated per 100,000 inhabitants. The indicator is expressed in both absolute numbers and as a percentage from all deaths.

In international comparison, the age-specific standardised death rate per 100,000 inhabitants (European standard population) has been used.

The causes of death are based on the International Classification of Diseases and Related Health Problems, codes V01–Y89.

SITUATION IN ESTONIA

In 2000–2016, the annual number of suicides in absolute terms decreased by over a half (from 415 to 199). Two periods can be clearly distinguished: 2000–2007, when the number of suicides fell sharply and was on average 21 suicides per year, and 2007–2016, when the number of suicides was stable, on average 4.8 per year. The number of suicides differs by sex: men account for four fifths of all suicides, or 80% – this ratio has remained stable in the reference period, fluctuations by a few percentage points are accidental and there is no general trend.

The share of suicides among all deaths by age groups has been stable. Suicides account for over 10% of deaths in age group 20–39, nearly 5% in age group 40–59 and slightly under 1% in age group 60 and over. It is, however, a periodic fluctuation, which does not mean a decline in the total number of suicides. Such a fluctuation is primarily typical of younger (20–39 years) and middle age group (40–59). The fluctuation in older group (60 and over) is smaller and the current trend is predicted to continue: 0.7–0.9% of men over 60 end their life by committing suicide.

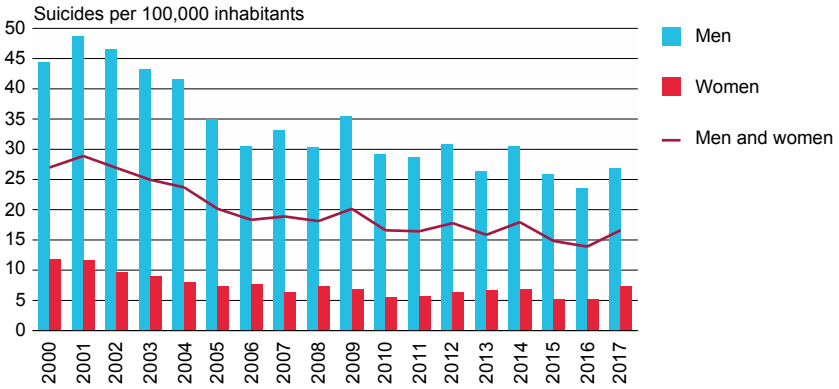
In 2000–2017, the overall number of suicides still decreased. The main reasons for that are the increasing overall social stability, prevention and information work, and more effective health care (more suicides remain attempts).

INTERNATIONAL COMPARISON

There are more suicides in Estonia than in the European Union on average; the situation is similar in most of the Eastern European countries. The highest suicide rate is in Lithuania, followed by Slovenia, Latvia, Hungary, Croatia, Belgium. Estonia was seventh among European Union countries in 2015. The suicide rate in Estonia is nearly 1.5 times higher than the European Union average (146% of the EU average); in Lithuania it is nearly three-fold higher (278% of the EU average).

The age structure of suicides is generally similar in European Union countries: women aged under 65 account for the least suicides (on average 4.4 cases per 100,000 women). Older women take their life more frequently (on average 7.6 cases per 100,000 women). The number of suicides per 100,000 men aged under 65 was 14.9, while the number of suicides among men over 65 was twice as big (EU average is 29.9 per 100,000 men).

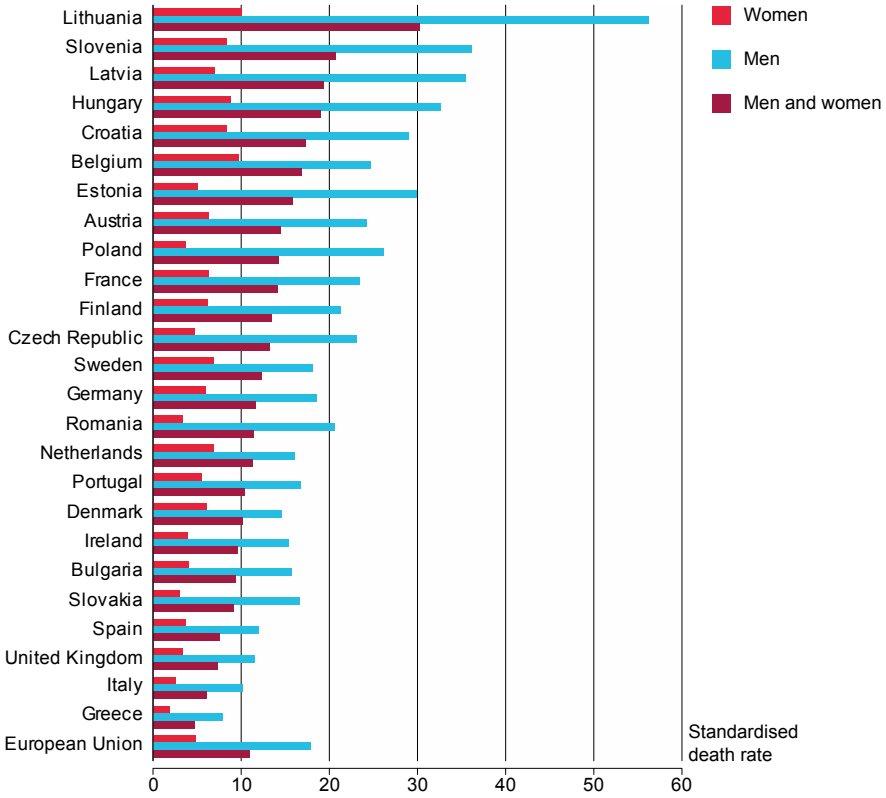
Suicides in Estonia, 2000–2017



Source: Statistics Estonia

Per 100,000 inhabitants, men account for significantly more suicides than women.

Suicides in the European Union, 2015



Source: Eurostat

In 2015, suicides in Estonia were nearly 1.5 times more numerous than in the EU on average.

3 GOOD HEALTH AND WELL-BEING

3.9. MENTAL AND BEHAVIOURAL DISORDERS

CONCEPTS

The indicator of mental and behavioural disorders expresses their incidence.

Incidence is the rate of newly diagnosed cases of the disease.

In Estonian statistics, a new or first case of mental and behavioural disorder is the case of diagnosing the disease by a psychiatrist for the first time in the patient's life according to Chapter V "Mental and behavioural disorders", code F00–F98 of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).

Incidence rate expresses the occurrence of new cases relative to the size of population in a specific period, and it is usually calculated per 100,000 inhabitants per year.

SITUATION IN ESTONIA

The incidence of mental and behavioural disorders in Estonia has increased in recent years. In 2016, there were 25,732 first registrations of mental and behavioural disorders, or 1,956 cases per 100,000 inhabitants. In 2015–2016, the number of new mental disease cases increased 2–3% annually, while new cases among younger women have increased faster. One third of the new diagnoses were neurotic and stress-related disorders, incl. 5 cases per every thousand men and nearly 8 cases per every thousand women. The second most frequent group of new diagnoses for women was mood disorders: more than 5 cases per every thousand women. The incidence of mood disorders increased faster among younger women, the prevalence of which increased to nearly 12 cases per every thousand 15–24-year-old women in 2016.

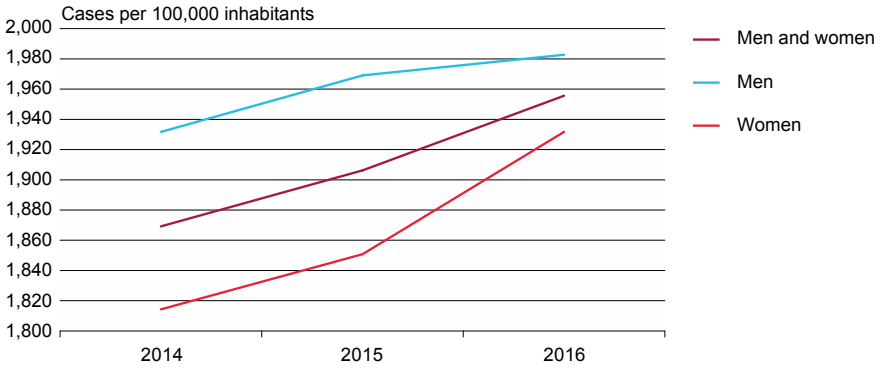
The second most common diagnosis among men is mental and behavioural disorders due to psychoactive substance use (alcohol, narcotics), which occurred in nearly one fifth of the patients who visited a psychiatrist. Men with this diagnosis were four times more numerous than women, and there were four new cases registered per every thousand men. The incidence of mental and behavioural disorders due to psychoactive substance use increased more among 20–24-year-old men, but it was higher than average both in this age group and among 25–54-year olds. In 2016, 67% of the mental and behavioural disorders due to psychoactive substance use were related to alcohol and 19% to opioids. Half of these cases were caused by addiction to a psychoactive substance.

INTERNATIONAL COMPARISON

According to data of 2015, the incidence rate of mental and behavioural disorders per 100,000 inhabitants in Estonia was highest among the European Union countries. Estonia was followed by Germany, Slovakia, Romania, Poland and Czech Republic, where it is exceeds thousand cases per 100,000 inhabitants. However, the latest data published in the WHO database cover only 12 European Union countries.

Methodological differences may occur across countries in calculating the cases of mental and behavioural disorders as well as in the data collection regarding them. Countries use different data sources, including registers, for producing statistics. The purposes of registers often do not coincide with the needs and quality requirements of statistics, and therefore there may occur under-coverage, e.g. only cases with a specific diagnosis or severity are registered.

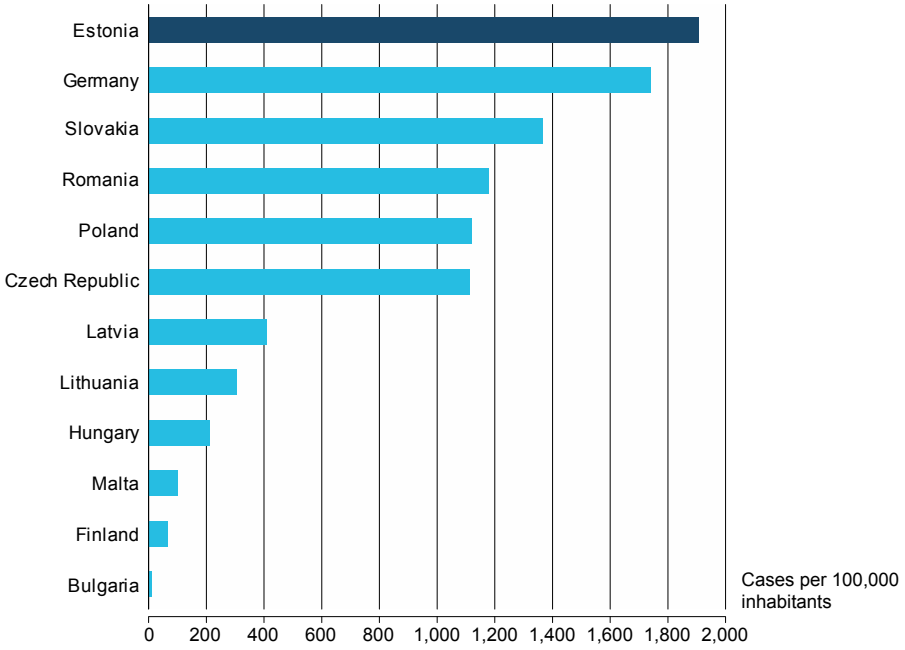
Incidence rate of mental and behavioural disorders in Estonia, 2014–2016



Source: National Institute for Health Development

The incidence of mental and behavioural disorders has increased in recent years.

Cases of mental and behavioural disorders in the European Union, 2015*



* Data not available for Austria, Belgium, Croatia, Cyprus, France, Ireland, Italy, Luxembourg, Netherlands, Portugal, Slovenia, Spain, Sweden, United Kingdom

Source: World Health Organisation

Compared to 12 EU countries, the number of persons with mental and behavioural disorders per 100,000 inhabitants is large in Estonia.

3 GOOD HEALTH AND WELL-BEING

3.10. CONSUMPTION OF ALCOHOL

CONCEPTS

Consumption of alcohol is measured in litres of pure alcohol, or 100% alcohol consumed per capita by persons aged 15 and over per year. Total consumption includes legal and illegal sales excluding alcohol bought and consumed in Estonia by tourists.[1]

SITUATION IN ESTONIA

Excessive alcohol consumption has negative social consequences: crime (murders, domestic violence), drink driving that causes road traffic accidents, deaths from fires, drowning and accidents, illness due to alcohol abuse and increase in health care expenses. Excessive alcohol consumption has negative effects also on families, other close persons and employers.

Systematic alcohol policies have reduced the frequency of alcohol consumption, the quantity drunk on one occasion, and people prefer low-alcohol drinks. In 2016, persons 15 and older drank 9.9 litres of pure alcohol per capita. Alcohol consumption has decreased by 0.6 litres compared to 2015 and 3.1 litres compared to 2005 (when nearly 13 litres were consumed).

Alcohol consumption patterns vary across sociodemographic groups. In 2016, consumers of strong alcohol and beer were much more numerous among men than among women: 73% of male and 33% of female consumers of alcohol had drunk strong alcohol, beer was drunk by 82% and 48%, respectively. In 2005, 55% of men and 28% of women had consumed strong alcohol. Consumption of beer was also higher among men than women (73% and 34%, respectively).[2] In 2016, consumers of strong alcoholic beverages were more numerous in age groups 18–29 and 65 and over (66% and 65% of the consumers of alcohol of the respective age group), while strong alcoholic beverages were consumed the most by 65–74-year-old consumers of alcohol (62%).

An overall decline in alcohol consumption has reduced the number of drunk people who have died from accidents (road accidents, fires, drowning, falls). The number of deaths caused directly by alcohol has also decreased: 695 deaths in 2008 compared to 465 in 2016.

15–16-year-old pupils also consume less alcohol: in 2007, 5.7% of the pupils did not drink alcohol, in 2015, 13%. The share of pupils who have not consumed alcohol during the last 30 days has also increased: in 2011, the share was 41%, in 2015, it was 62%.

INTERNATIONAL COMPARISON

In 2014, 10.2 litres of absolute alcohol were consumed per capita of adult population, or people aged 15 and over in the European Union. In Estonia, the quantity was 11.09 litres in the same year. Hence, adults in Estonia consume per capita more alcohol than in the EU on average. In 2014, alcohol consumption per capita of adult population in the EU was biggest in Lithuania (15.2), Czech Republic (12.7) and Belgium (12.6) and lowest in Sweden (7.3), Greece (7.5) and Italy (7.6).

In comparison with Nordic countries, Estonia's rate in 2016 was lower than the respective rate for Finland and Denmark, but higher than in Sweden, Iceland and Norway.

1 Data are from the survey *Alcohol market, consumption and harms in Estonia. Yearbook* of the Estonian Institute of Economic Research and National Institute of Health Development (2014, 2017).

2 The indicator for 2005 does not cover people who said they drank alcohol very rarely; the rate for 2016 includes persons who consumed alcohol very rarely.

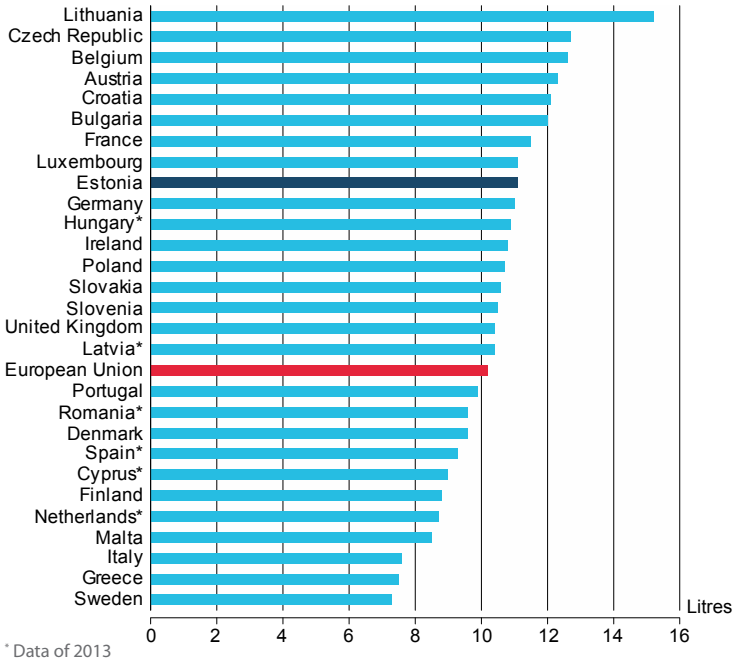
Consumption of alcohol in litres of 100% alcohol per capita of population aged 15 and over, 2005–2016*

[a] Total consumption is equal to legal sales less alcohol bought and consumed by tourists in Estonia, plus illegal sales.

Source: *Alcohol Yearbook*. Estonian Institute of Economic Research and National ...

Consumption of alcohol is on the decrease in Estonia.

Consumption of alcoholic beverages per capita of population aged 15 and over in the European Union, 2014

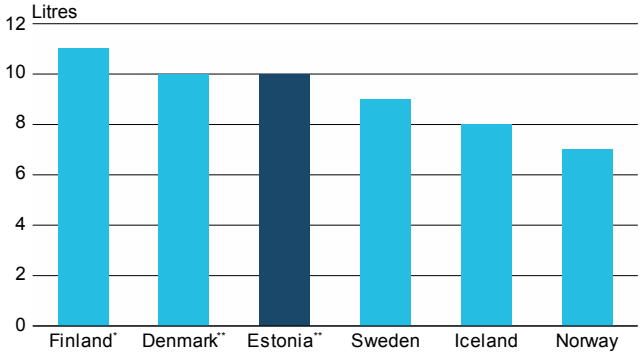


* Data of 2013

Source: World Health Organisation

Alcohol consumption per capita of adult population in Estonia is higher than in the EU on average.

Consumption of alcoholic beverages per capita of population aged 15 and over in Nordic countries and Estonia, 2016



* Including consumption by Finns abroad
** Excluding purchases made by tourists.

Source: *Alcohol Yearbook*. Estonian Institute of Economic Research and National ...

Estonia ranks third in alcohol consumption among the Nordic countries.

3 GOOD HEALTH AND WELL-BEING

3.11. CONSUMPTION OF TOBACCO

CONCEPTS

The indicator of tobacco consumption expresses the prevalence of daily smokers of tobacco products, or proportion of daily smokers among 16–64-year-old population. The international comparison involves the percentage of daily smokers among persons aged 15 and over.

SITUATION IN ESTONIA

In 2016, in Estonia, 21.3% of the population aged 16–64 were daily smokers of tobacco products. Daily smokers among men were nearly twice as numerous as among women. In 2000–2016, daily smoking decreased among both men and women both. It was highest in 2004: 32.8% of the respective population, 47.7% among men and 21.1% among women.

The proportion of daily smokers has decreased by one third or more in nearly all age groups with the exception of 55–64-year-old people whose rate has slightly increased. The prevalence of daily smoking is four times higher among people with basic education or incomplete basic education than among people with higher education. Daily smoking has decreased since 2000 among people with higher education (from 15% to 9%), while among people with basic education or incomplete basic education, it has remained almost stable between 36.7% and 36.9%.

It is positive that fewer people aged 11, 13 and 15 have tried a cigarette: in the academic year 2005/2006, more than a half (55.1%) of young people had tried a cigarette, in the academic year 2013/2015 – 33%.

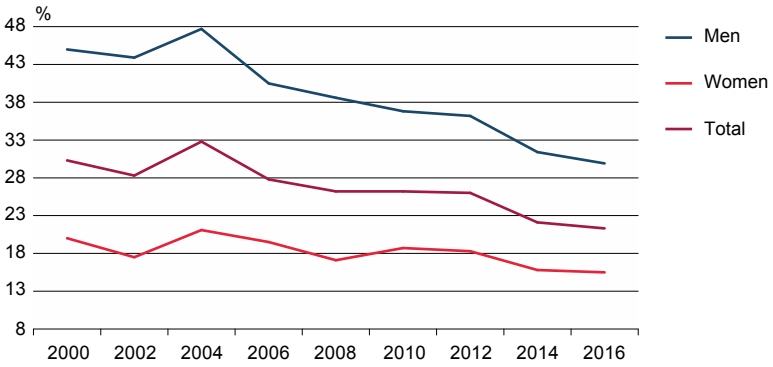
It is important to observe the prevalence of smoking because there are many chronic smoking related diseases that persist for decades and affect life quality and work ability. It is estimated that in 2016, 13% of all deaths in Estonia were caused by tobacco consumption. Hence, the consequences of tobacco consumption are expensive for the society and cause suffering for individuals.

INTERNATIONAL COMPARISON

Daily smokers of tobacco products among persons aged 15 and over in Estonia were more numerous than in the European Union on average: in 2014, the share for Estonia was 23.5%, the EU average was 19.2%. The highest shares in the European Union were observed in Bulgaria (28.2%), Greece (27.3%), Hungary (25.8%) and the lowest in Sweden (9.8%), Finland (12.6%) and Denmark (13.8%).

Daily smokers among women (15.4%) were slightly fewer in Estonia than in the European Union on average (15.5%); however, among men they were 1.4 times more numerous (33%) compared to the European Union average (23.1%). It is also evident that daily smoking in Estonia was more prevalent among people with basic or lower education than in the European Union on average: the respective shares were 30.9% and 19.5%.

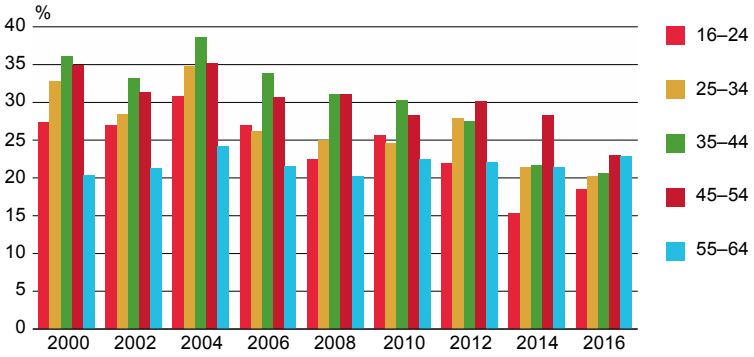
Daily smokers among 16–64-year-old population in Estonia, 2000–2016



Source: National Institute for Health Development

The proportion of daily smokers among population aged 16–64 is falling.

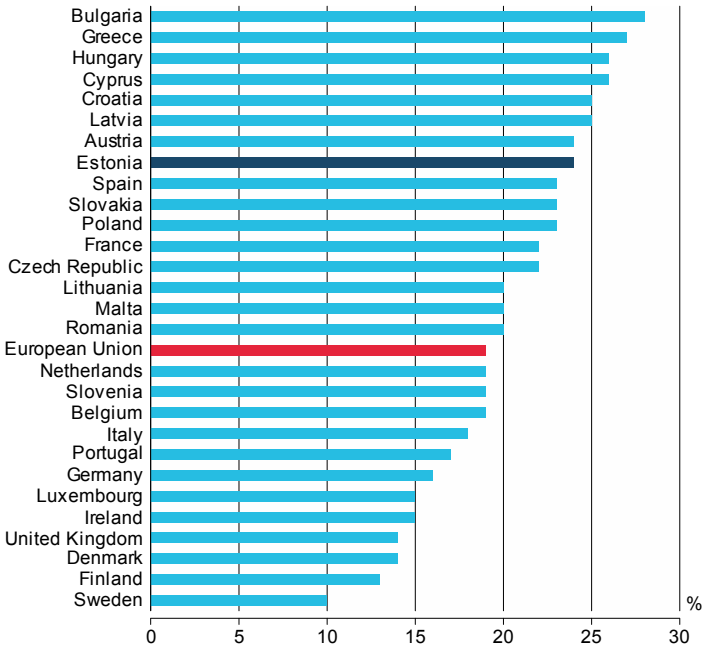
Daily smokers in Estonia, 2000–2016



Source: National Institute for Health Development

The share of daily smokers has decreased by one third or more in Estonia, with the exception of 55–64-year-olds.

Daily smokers among population 15 and over in the European Union, 2014



Source: Eurostat

Daily smokers among population aged 15 and over in Estonia are more numerous than in the EU on average.

4 QUALITY EDUCATION

ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING OPPORTUNITIES FOR ALL

The focus of the global goal "Quality Education" is accessibility of quality education and opportunities to participate in lifelong learning. Going to school, levels of education, teachers' education, educational institutions' compliance with requirements (incl. sanitary) and differences in study results are observed together.

The 2030 Agenda[1] sets the target to ensure free, equitable and quality primary and secondary education for all. Before school, small children require early childhood development so that they would be ready to enter primary education. The number of youths and adults with technical and vocational skills for employment must be increased. A target to reach is that all learners have knowledge and skills for promoting sustainable development. It is important to achieve sustainable lifestyles, value gender equality, peace and non-violence, global citizenship and cultural diversity. Educational institutions must create favourable learning environments, be child-friendly and consider the needs of persons with disabilities. Developed countries are called on to contribute to vocational education, information and communications technology, technical and engineering programmes and teacher training.

According to the UN progress report[2], access to education is most problematic in areas of Sub-Saharan Africa and Southern Asia, where over 70% of children and youth do not attend primary or secondary school. Vulnerable population groups include persons with disabilities, indigenous people, refugee children and children of poor families in rural areas. One of the reasons for this, according to the UN, is the lack of trained teachers. Schools also lack internet connection. In addition, in many educational institutions in developing countries there is no access to electricity or clean drinking water.

In 2014, globally, two in three children attended pre-primary or primary school in the year prior to official entry age for primary school, while in developing countries, the ratio was four out of ten children. Although significant progress has been made in access to education in the last 15 years, in 2014, there were still about 263 million children and youth who did not attend school.

The Estonian sustainable development strategy[3] emphasises that the system of education and training is the foundation of economic development: education is the prerequisite of well-being.

The global goal "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" is linked in Estonia with the following indicators of different forms of education and participation of population groups in the educational system:

- Participation in lifelong learning
- Tertiary education
- Digital competence
- Top performers
- Hobby education
- Early leavers from education and training

In Estonia, the share of men and women participating in lifelong learning is growing. The share of 30–34-year-old population with higher education has consistently exceeded the European Union average. The share of top performing pupils has continued to increase since 2012 and, in this respect, Estonia is among the top countries in the European Union. However, in 2017, there were still slightly more early leavers from education and training in Estonia compared to the European Union average.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1.* UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66.* UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

4 QUALITY EDUCATION

4.1. PARTICIPATION IN LIFELONG LEARNING

CONCEPTS

The indicator expresses the share of persons aged 25–64 covered by the Labour Force Survey who received education or training during the four weeks preceding the survey.

Lifelong learning includes all formal and non-formal education and training aimed at improving knowledge and skills and developing competencies based on the needs of the person, citizens, society or labour market. Training does not include informal training. Lifelong learning is a targeted and continuous (i.e. not occasional) learning activity, where the learner and the learning process (not teaching) is placed at the core.

SITUATION IN ESTONIA

In order to remain competitive in the fast-changing labour market, the need for professional development and new skills has grown, which is why the share of participation in lifelong learning in Estonia has increased. In 2000, the number of people who participated in lifelong learning was 46,900; in 2016, the number had grown to 113,000, and a year later, another ten thousand had been added (123,000).

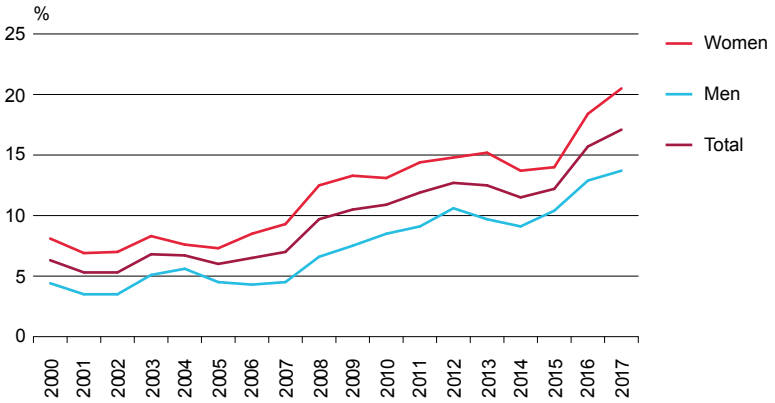
In 2000, the share of the population of Estonia aged 25–64 who had participated in lifelong learning was 6.3%, in 2016, the share was 15.7% and in 2017, it was 17.1%. The number of participants in lifelong learning was smallest in 2001 and 2002 – 5.3%. Since then, participation in the formal education system as well as in training has increased, with faster growth in the share of participants in training. In 2000, the share of participants in training accounted for 4.2%, in 2016, the share was 11.6% and in 2017, it was even bigger – 12.5%. The share of those who participated in work-related refresher training or retraining in 2017 was 7.7%. 1.9% of the population aged 25–64 participated in conferences or seminars and the proportion of those who participated in hobby-related training was also 1.9%.

INTERNATIONAL COMPARISON

In the European Union strategic framework *Education and training 2020*, a target has been set according to which at least 15% of adults aged 25–64 should participate in lifelong learning. In 2017, the average share in the European Union was 10.9% (the share in 2007 was 9.2%). The share of participants in lifelong learning was considerably bigger compared to other countries in Sweden (30.4%), Finland (27.4%) and Denmark (26.8%) – these three countries have exceeded the set target. In addition, another five countries have reached the target, including Estonia (in 2016). The smallest shares were recorded in Romania (1.1%), Bulgaria (2.3%) and Croatia (2.3%). The largest gender differences were recorded in Sweden and Denmark, where the participation rate for women exceeded the rate for men, respectively by 13.8 and 9.1 percentage points.

In 2017, gender differences were smallest in countries with the smallest overall number of participants in lifelong learning. In Bulgaria, for instance, the share for women was 0.2 percentage points larger, but in Romania and Slovakia, the share was slightly bigger for men – respectively by 0.1 and 0.2 percentage points. More men participated in lifelong learning also in Greece and Germany, where the share for men was respectively 0.3 and 0.6 percentage points bigger.

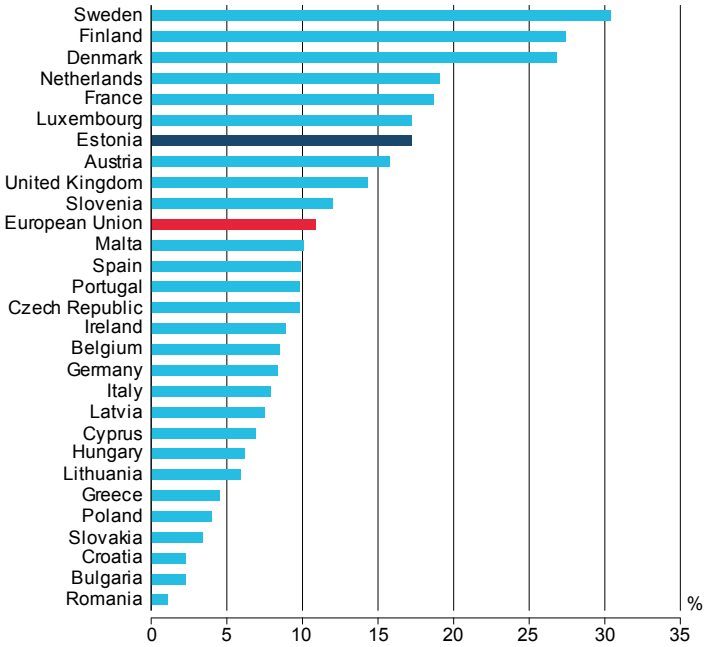
Population aged 25–64 in lifelong learning in Estonia, 2000–2017



Source: Statistics Estonia

The number of men and women in lifelong learning continues to increase in Estonia.

Population aged 25–64 in lifelong learning in the European Union, 2017



Source: Eurostat

The participation rates in lifelong learning in EU countries are very different; the rate in Estonia is above average.

4 QUALITY EDUCATION

4.2. TERTIARY EDUCATION

CONCEPTS

The indicator expresses the share of persons with higher or equivalent education (ISCED levels 5–8) among the population aged 30–34. Tertiary education follows upper secondary education and is acquired in universities and institutions of higher education. Tertiary education includes short cycle tertiary education, Bachelor's or equivalent level, Master's or equivalent level, Doctoral or equivalent level.

The share of persons with tertiary education shows the quality of the labour force, valuation of higher education among the youth and accessibility of higher education.

SITUATION IN ESTONIA

In the labour market, increasingly more people are needed who can solve complicated problems, operate complex machinery, think for themselves and be innovative. A bigger proportion of highly qualified people in the society enables the economy of a country to develop faster.

The share of persons with tertiary education among the population aged 30–34 has increased in Estonia. In 2000, the share was 30.4%, in 2016, it was 45.4% and in 2017, as much as 48.4%. In 2017, the share for men was 41.6%, while the share for women was considerably higher – 55.6% (in 2000, the respective shares were 21.2% and 38.9%).

The higher the level of educational attainment, the better the chances for employment, better working conditions and higher wages. The employment rate for men among the population aged 30–34 with tertiary education in 2017 was 94.8% and for women 74.4%. To compare, the employment rate for men with low education level (ISCED levels 0–2) in the same age group was 14.6 percentage points lower and for women 25.1 percentage points lower. The employment rate for women is lower than the rate for men primarily because women are usually the ones in the family who are inactive due to taking care of children.

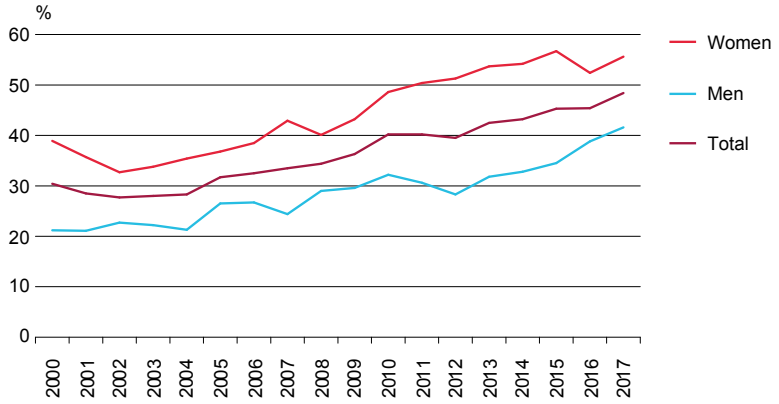
To improve the availability of tertiary education, various programmes are carried out in the context of *Estonian Lifelong Learning Strategy 2020*, e.g. higher education programme, digital focus programme, study and career counselling programme.

INTERNATIONAL COMPARISON

In the European Union, data on the share of persons with tertiary education among the population aged 30–34 are collected since 2002. The share has increased from 23.6% to 39.9% (an increase of 16.3 percentage points). In 2017, the share for men was 34.9% and for women 44.9%. In 2017, Estonia was seventh among the European Union countries in terms of the share of persons with tertiary education – the share in Estonia was 48.4%. The target in Europe 2020, which for Estonia and for EU-28 was 40%, was reached in Estonia in 2010.

More than half of the population aged 30–34 had tertiary education in Lithuania (58.0%), Cyprus (55.8%), Ireland (53.5%), Luxembourg (52.7%) and Sweden (51.3%). The share of persons with tertiary education was smallest in Romania (26.3%), Italy (26.9%) and Croatia (28.7%). The set target, which differs by country, has been exceeded by 14 countries. Luxembourg had the highest target (66%) and has not reached it yet; Italy had the lowest target (26%) and achieved it in 2016. In all the Member States, there were more women than men among persons with tertiary education.

Share of persons with tertiary education among population aged 30–34 in Estonia, 2000–2017



Source: Eurostat

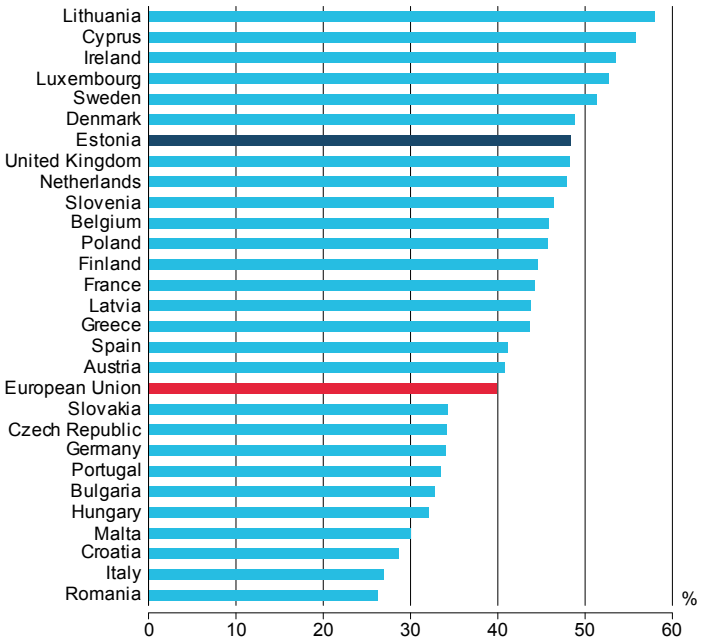
The target in *Europe 2020*, which for Estonia is 40%, has been reached for both sexes.

Share of persons with tertiary education among population aged 30–34 in Estonia and the European Union, 2002–2017

Source: Eurostat

In Estonia, the share of population with tertiary education has consistently exceeded the EU average.

Share of persons with tertiary education among population aged 30–34 in the European Union, 2017



Source: Eurostat

In terms of the share of population with tertiary education, Estonia ranks rather high among EU countries.

4 QUALITY EDUCATION

4.3. DIGITAL COMPETENCE

CONCEPTS

The digital competence indicator expresses the share of the population aged 16–74 who consider themselves to have at least basic digital skills in one of the following areas: information processing, communication, problem solving or skills for using certain programmes, and who have used the internet in the past 12 months.

SITUATION IN ESTONIA

In an increasingly digital society, where technological development affects almost all spheres from working and school life to free time, it is important to have and use digital skills to maintain and improve the quality of life. According to 2017 data, 60% of the population aged 16–74 in Estonia had at least basic digital skills. 35% of them have at least intermediate skills, and the remaining 25% have basic skills. The proportions were similar also in 2016.

By age, it is the younger people, i.e. the population aged 16–24, who have the best digital skills: 93% of them had at least basic digital skills and almost three quarters (74%) had at least intermediate skills. The overall digital skill level as regards the population aged 25–54 was 71%, including 41% with at least intermediate skills. The age group with the poorest digital skill level – slightly more than a quarter (28%) – was the population aged 55–74; the share increased by two percentage points over a year. 8% of the population aged 55–74 had at least intermediate digital skills.

There are a number of reasons for better digital skills of younger people. Young people get acquainted with the internet and technology quite early, often as children, and are therefore used to using these means, which have become a part of their daily life. Also school curriculum includes computer studies, where the possibilities of the internet are introduced, which in turn facilitates the use of digital skills and personal development.

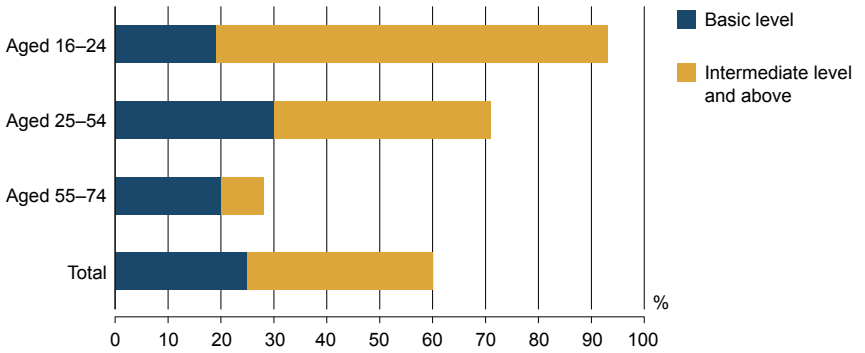
Digital competence does not differ significantly by sex – the share for men (61%) is slightly bigger than the share for women (60%).

INTERNATIONAL COMPARISON

The overall digital skill level in Estonia (60%) is better than the European Union average (57%). Based on the digital skill level, Estonia shares 10th and 11th place with the Czech Republic. The share was biggest in Luxembourg (85%), the Netherlands (79%) and Sweden (77%), and smallest in Romania and Bulgaria (29% in both) and Croatia (41%). The share of the population with basic digital skills in the European Union was 26% and with at least intermediate skills, 31%.

By age group, the average overall digital skill level among the population aged 16–24 in Europe was 82% (in Estonia, 94%). Among the population aged 25–54, it was 65% (71% in Estonia) and among the population aged 55–74, it was 34% (28% in Estonia). Based on the European Union average, by sex, the share of digital skills is bigger among men (61%) than women (55%). The share of persons with digital skills increased over the course of a year by one percentage point among women and two percentage points among men.

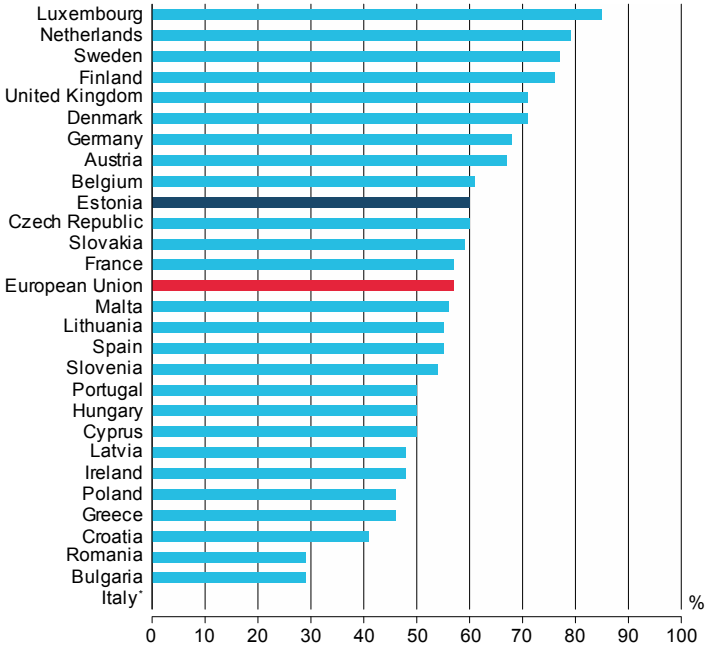
Digital skills by level and age in Estonia, 2017



Source: Eurostat

Digital competence is linked to age: the level is highest in the 16–24 age group.

Population with digital skills in the European Union, 2017*



*Data not available for Italy.

Source: Eurostat

In Estonia, the digital competence of the population aged 16–74 is greater than on average in the EU.

4 QUALITY EDUCATION

4.4. TOP PERFORMERS

CONCEPTS

The indicator expresses the share of students who have reached achievement level 5 or 6 (top performers) in Program for International Student Assessment (PISA) survey in reading, mathematics and science.

PISA compares education systems by measuring the knowledge and skills and their application among students aged 15. The performance of students is assessed at six performance levels, with levels 5 and 6 being the highest.

SITUATION IN ESTONIA

The comparison of four subsequent PISA surveys (2006, 2009, 2012 and 2015) shows that the share of top performers in Estonia has slightly increased in all three areas of assessment (reading, mathematics and science). In science, the shares of students at levels 5 and 6 were 11.5% (2006), 10.4% (2009), 12.8% (2012) and 13.5% (2015); the respective shares in mathematics were 12.5%, 12.1%, 14.6% and 14.2%, and in reading, 6.0%, 6.1%, 8.3% and 11.1%.

In Estonia, there are few low performers and most students reach levels 3 or 4. The small share of top performers (levels 5 and 6) continues to be a problem. In international comparison, traditional teaching practices have guaranteed our success – few of our students are below level 2 and most have reached levels 3 or 4. The reasons for the small share of students at levels 5 and 6 are linked to teaching practices used in the classroom. For instance, science teachers in Estonia mostly use structured learning, and less frequently inquiry-based learning and activities aimed at the cognitive development of students.[1]

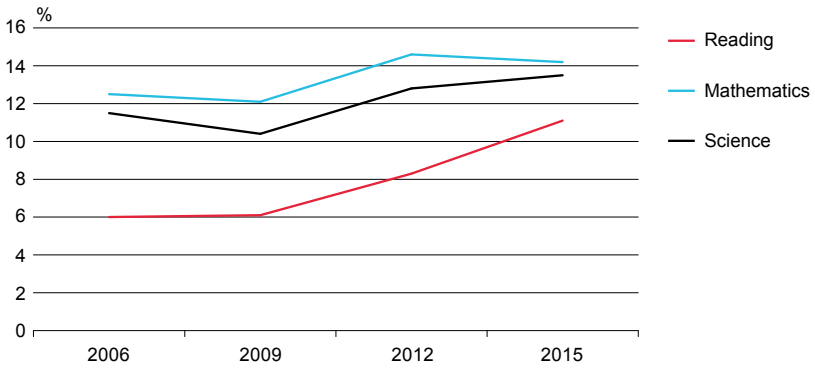
INTERNATIONAL COMPARISON

In 2015, based on average performance, Estonia was in the top ten in all three areas of assessment among the 72 countries that participated in the PISA survey. Among the European Union countries, Estonia was first in science and mathematics and third in reading. PISA surveys show that since 2006, in all participating countries, the average level of students has remained stable, for instance, in science. In approximately a quarter of countries, results have improved. Compared to previous three PISA surveys, the average level of Estonian students in science has increased by only three performance points. Although the expenditures of countries on education have increased over the years by 20%, their effect has not.

The share of top performers in Estonia, compared to other top countries, has declined in reading, mathematics as well as in science. In terms of the share of top performers, Estonia was 6th in science, 12th in mathematics and 11th in reading among the countries that participated in the 2015 PISA survey. Top performers in two or all three areas are called multitalented. In 2012, the share of multitalented students in Estonia was 5.3% (OECD average was 4.4%). In the PISA 2015 survey, their share in Estonia had increased to 6.1% (OECD average was 3.7%), but, for instance, in Singapore, such students accounted for 13.7%.

1 Henno, I. (2015). *Loodusteaduste õppimisest ja õpetamisest Eesti koolides rahvusvaheliste võrdlusuuringute taustal.* Doctoral thesis. Tallinn: Tallinn University.

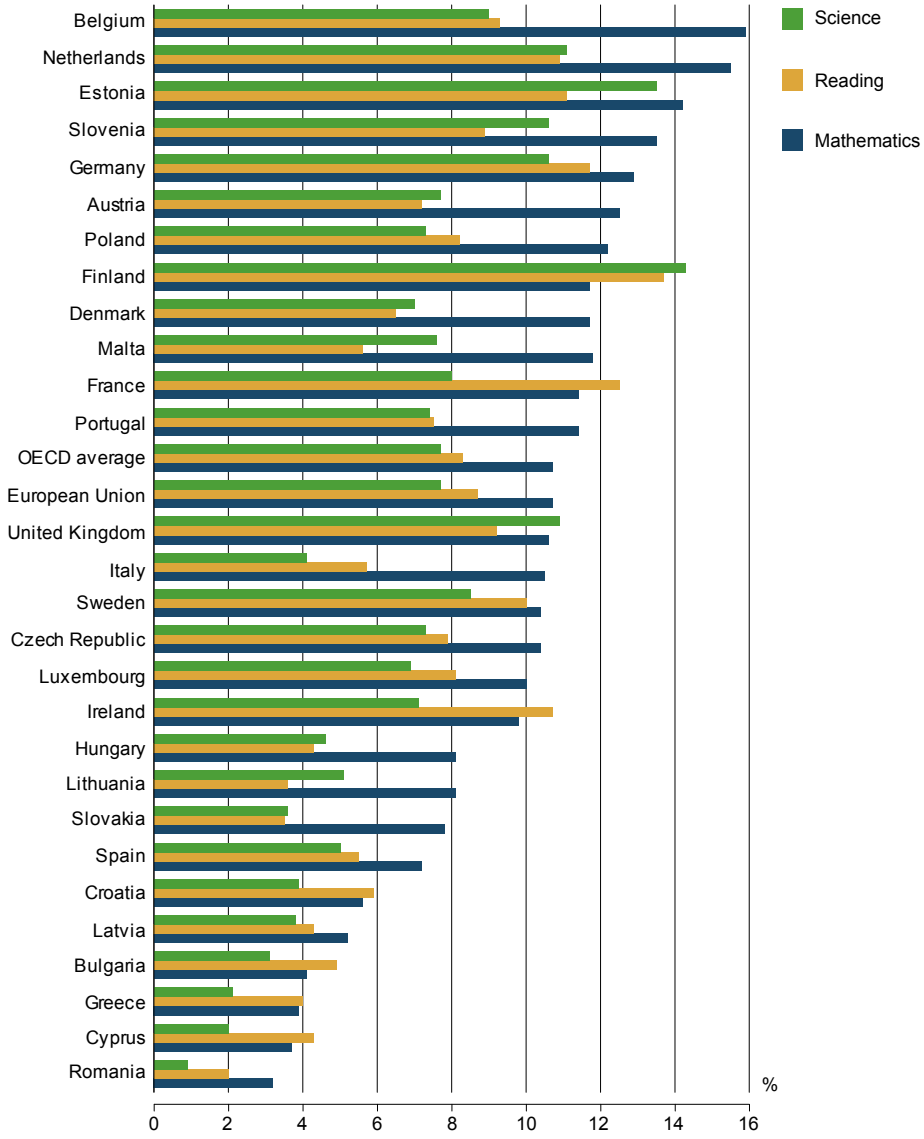
Share of PISA top performers (level 5 or 6) in Estonia, 2006–2015



Source: Organisation for Economic Co-operation and Development

Since 2012, the share of top performers has increased in all three areas of assessment.

Share of PISA top performers (level 5 or 6) in the European Union, 2015



Source: Organisation for Economic Co-operation and Development

In terms of the share of top performers, Estonia is one of the best among EU countries.

4 QUALITY EDUCATION

4.5. HOBBY EDUCATION

CONCEPTS

The indicator expresses the share of hobby school students in their age group, i.e. the share of an age group enrolled in at least one hobby school in the given academic year.

The activities of hobby schools are in accordance with *Standard for Hobby Education* and studies follow a curriculum.

Students who participate in hobby groups at schools, go to unregistered hobby schools or clubs or other establishments enabling the pursuit of hobbies are not included.

To calculate ratios, population as at 1 January of the year covered by the academic year is used.

SITUATION IN ESTONIA

In Estonia, participation in hobby education has significantly increased in recent years. In the academic year 2009/2010, slightly fewer than 50,000 persons participated in hobby education, but in the academic year 2017/2018, the number had almost doubled, amounting to more than 90,000 students for the first time.

Expectedly, mostly children and young people participate in hobby education. However, participation in hobby schools has increased in all age groups over the years. The most active participants are children aged 7–11. In the academic year 2008/2009, less than a third of all children aged 7–11 were enrolled in at least one hobby school, but by the academic year 2017/2018, the share was 50% for the first time. In the academic year 2017/2018, approximately a third of young people aged 12–18 and a sixth of children aged 0–6 went to at least one hobby school.

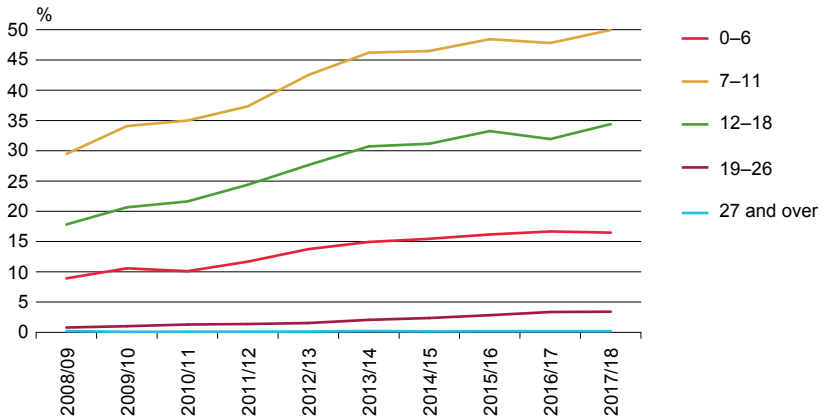
Compared to the beginning of the reference period, also the age of participants in hobby education has increased. In 2009, the share of persons aged 19–26 and of those aged 27 or over enrolled in hobby schools were equal (less than 1%), but in the academic year 2017/2018, the share of young people aged 19–26 enrolled in hobby schools exceeded 3%.

There may be many reasons for the increase in the share of children and young people in hobby education. On the one hand, additional state support is available and measures have been taken to make hobby education for children more affordable for families. On the other hand, also the economic situation of families has improved compared to the academic year 2008/2009 (during the economic crisis), and more families can afford to include hobby groups for children in the family budget. Also the number of hobby schools has more than doubled compared to the academic year 2008/2009. Therefore, more students can enrol in hobby schools and also the accessibility of hobby education is better. There are also more hobby education curricula, which increases the chances of finding an activity you like.

In the past decade, there have been slightly more females than males among hobby schools students, but this gap seems to be decreasing: while in the academic year 2008/2009, female students accounted for 60% of hobby school students, in the academic year 2017/2018, they accounted for 53% of all students.

The majority of hobby school students are enrolled in schools around Tallinn: in the academic year 2017/2018, hobby schools in Harju county had more students than all other hobby schools in Estonia combined (61,191). In terms of the number of students in hobby schools, Harju county was followed by Tartu county (14,000), Ida-Viru county (7,637) and Pärnu county (7,306). Hobby schools in Hiiu county (417) and Valga county (723) had the smallest number of students.

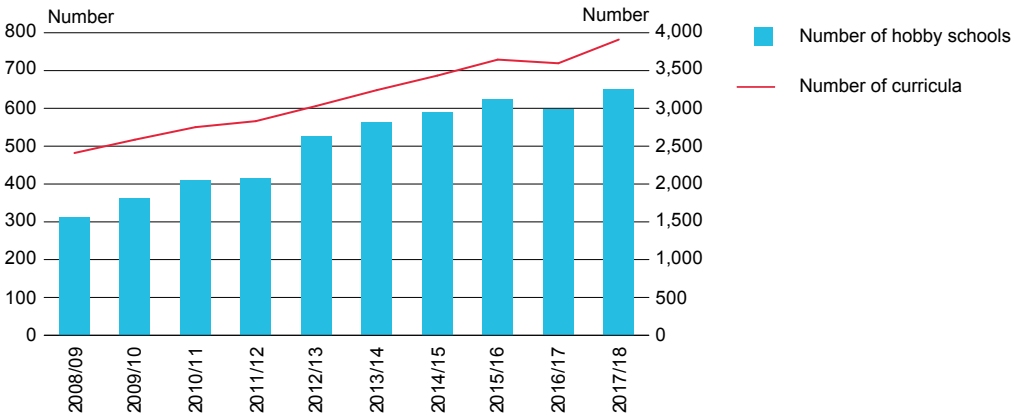
Share of hobby school students in their age group in Estonia, academic years 2008/2009–2017/2018



Sources: Statistics Estonia, Ministry of Education and Research

The number of adults in hobby schools increases; the most active participants in hobby schools are children aged 7–11.

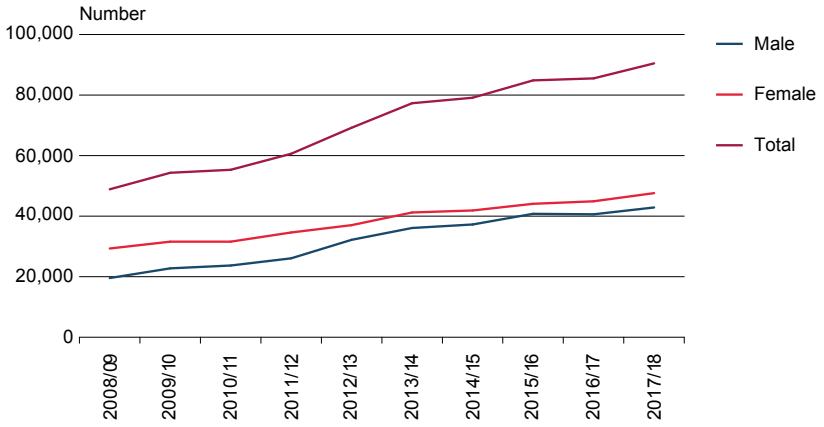
Number of hobby schools and curricula in Estonia, academic years 2008/2009–2017/2018



Source: Ministry of Education and Research

The number of hobby schools and curricula have been steadily increasing since academic year 2008/2009.

Hobby school students in Estonia, academic years 2008/2009–2017/2018



Source: Ministry of Education and Research

Although mainly females participate in hobby education, the number of males has also increased over time.

4 QUALITY EDUCATION

4.6. EARLY LEAVERS FROM EDUCATION AND TRAINING

CONCEPTS

The indicator expresses the share of the population aged 18–24 with at most lower secondary education not in further education or training (ISCED levels 0–2). In other words, it is the share of young people with low education level, i.e. early leavers from the education system. These are young people who have left school before having received lower secondary education, after having received lower secondary education or during upper secondary education attainment. Therefore, the indicator includes both those who have attended school for a few years and those who only missed a final examination at upper secondary school.

SITUATION IN ESTONIA

Early school leaving diminishes the chances of getting a well-paid job, which in turn affects coping in the future. The probability of unemployment is greater, which in turn is linked with potential social problems on the individual as well as on the society level (risk of poverty, poorer health, crime, etc.).

Young people with at most lower secondary education not in further education accounted for 10.8% in 2017. The target of the strategy Europe 2020 is to reduce the number of young people without upper secondary education not in education to 9.5% by 2020. The share was smallest in Estonia in 2013, when the target was almost reached (9.7%).

For years, there have been nearly twice more males than females not in further education. In 2017, the share for males aged 18–24 with low education level not in education was 14.2% and for females, 7.3%. One of the reasons for dropping out from the education system is that working is preferred to studying. This seems like a good escape route for young people from families in dire straits. This, however, is not a sustainable solution and may have serious repercussions in the future. Mostly young men living in rural areas are at risk. It is difficult to find work with low education level, and jobs which require minimal skills are usually low-paid and may entail working in unsafe conditions.

In 2000, the unemployment rate for persons with low education level in the age group 15–74 was 23.6%; at the same time, the unemployment rate for persons with tertiary education was 7.6%. In 2017, the situation was much better – the unemployment rate for persons with low education level was 10.9% and the rate for persons with tertiary education was 3.2%.

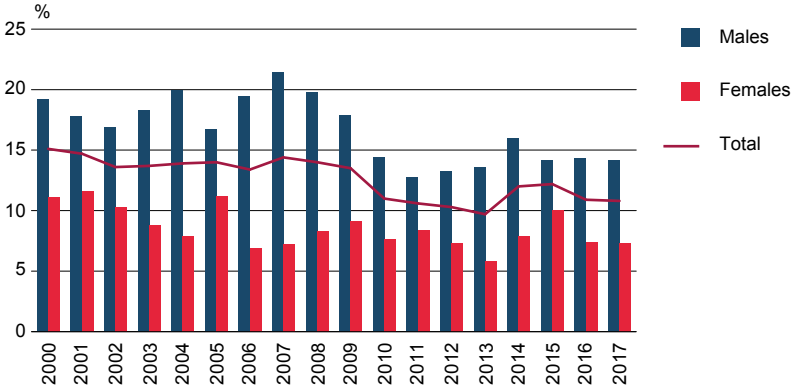
The strengthening of ties between school and home, improving and developing the vocational education system and enhancing social work as regards children and young people help to reduce the share of young people with at most lower secondary education. In the past decade, the share of early school leavers has fallen.

INTERNATIONAL COMPARISON

The share of young people aged 18–24 with at most lower secondary education in the EU in 2017 ranged from 3.1% in Croatia to 18.6% in Malta. Although Estonia's level (10.8%) was close to the EU average (10.6%), due to significant differences between countries, a bigger share was recorded in only seven countries. Earlier, Estonia was in the middle group, which included e.g. the Netherlands and Finland, but in 2017, Estonia was among the countries with a large share of early leavers from education. In the strategy *Europe 2020*, different targets have been set for countries: e.g. the target for EU-28 is 10%, but it is 5% for Croatia and 11.5% for Romania.

The set target has been reached by 14 countries: Belgium, Denmark, Ireland, Greece, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, the Netherlands, Austria and Slovenia. There are more males among the early leavers also in other Member States besides Estonia; the only exceptions are Bulgaria, Romania, Slovakia and Hungary, where there are more females among the young people with at most lower secondary education not in further education. In Estonia, the share has decreased at a slower pace than on average in the EU.

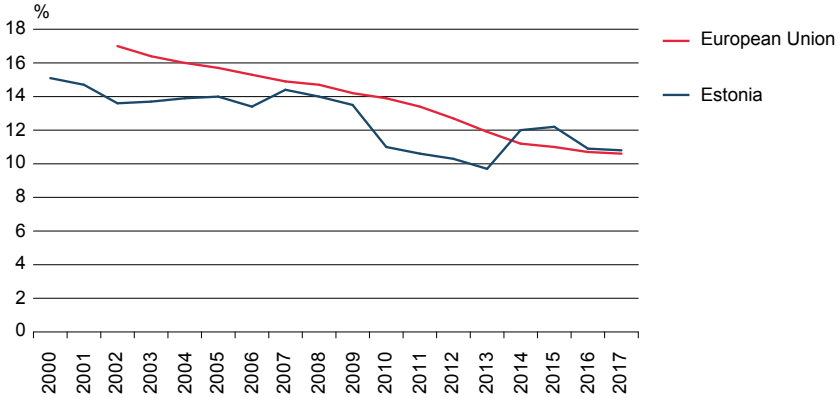
Early school leavers not in further education in Estonia, 2000–2017



Source: Eurostat

Around twice more males drop out from the education system than females.

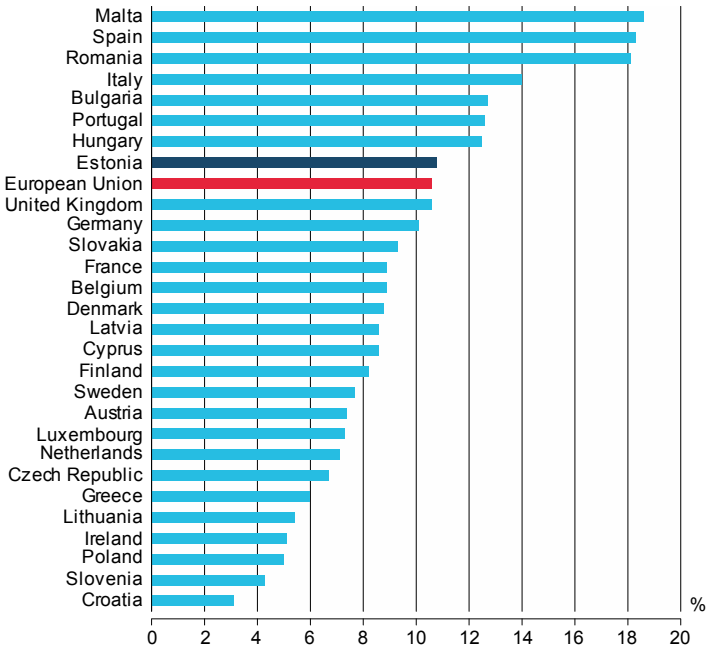
Early school leavers not in further education in Estonia and the European Union, 2000–2017



Source: Eurostat

The share of population aged 18–24 with at most lower secondary education not in further education or training is decreasing.

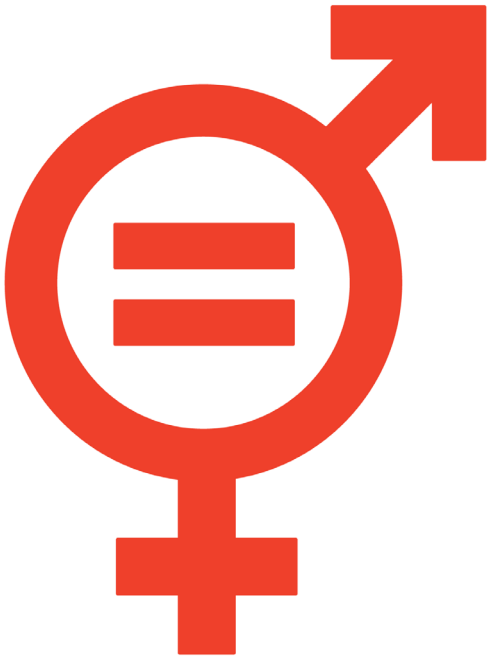
Early school leavers not in further education in the European Union, 2017



Source: Eurostat

In 2017, there were more early school leavers not in further education in Estonia than on average in the EU.

5 GENDER EQUALITY



ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS

The focus of the global goal "Gender Equality" is basic rights of women and girls and gender equality. In order to achieve the goal, it is important to contribute more, including establish legal frameworks to help reduce gender discrimination and change attitudes and social norms.

The 2030 Agenda[1] lays down ending gender inequality affecting women and girls, ending abuse against them and empowering them. The goal is to end the discrimination of women and girls as well as violence against them. It is essential to ensure that women have equal opportunities to participate at all levels of decision-making in political, economic and public affairs. Women and girls must be ensured access to sexual and reproductive health services.

According to the UN progress report[2], gender inequality exists in both developing and developed countries. Violence against women, including sexual violence is very common. There are countries where women and girls lack basic rights and opportunities to acquire an education, elect state and local authorities, go to work, etc.

The number of child marriages is declining, but continues to be high: in 2015, one in four women aged 20–24 had married before the age of 18.

An indicator of women's empowerment is their participation rate in legislation and government authorities: by 2017, the share of female members in parliaments had risen by 10% compared to 2000, reaching 23.4%. The UN considers this ratio not high enough and, therefore, stronger measures should be applied (e.g. setting quotas). Women are also underrepresented in managerial positions: during the period 2009–2015, women took up less than a third of positions in middle and top management (data of 67 countries).

The Estonian sustainable development strategy[3] does not specifically focus on gender equality; however, in 2004, the Gender Equality Act was adopted, the purpose of which is to ensure equal treatment of men and women as provided for in the constitution of Estonia. In 2016, the government approved the *Welfare Development Plan*[4] and according to its fourth sub-objective, men and women have equal rights, obligations, opportunities and responsibilities in all social sectors.

The global goal "Achieve gender equality and empower all women and girls" is linked in Estonia with the following indicators of gender equality and women's and girls' empowerment:

- Gender pay gap
- Women in managerial positions
- Time use of men and women

Gender pay gap in Estonia has been the widest among European Union countries for awhile, although the gap is shrinking in Estonia. There are more men than women in managerial positions; however, the share of female managers in Estonia is higher than on average in the European Union. The most female managers are in the older age group (50–74). A worrisome trend is that women continue to be more involved in care-taking and charitable activities, while they participate less in sports, cultural events and other leisure activities.

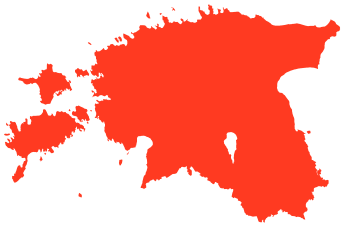
1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1*. UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66*. UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.
4 *Welfare Development Plan 2016–2023*. Ministry of Social Affairs, 2016.

5 GENDER EQUALITY

5.1. GENDER PAY GAP

CONCEPTS

Gender pay gap is the difference between the hourly gross wages and salaries for men and women in percentages. To calculate gender pay gap, the average hourly gross wages and salaries for women are deducted from the average hourly gross wages and salaries for men and the resulting value is divided by the average gross hourly wages for men. The average hourly gross wages and salaries calculated on the basis of the gender pay gap do not include irregular bonuses or premiums. The gender pay gap calculated for Estonia covers all enterprises, institutions and economic activities.



SITUATION IN ESTONIA

In 2017, the gender pay gap in Estonia was 20.9%, i.e. the hourly wages and salaries for women were a fifth smaller than for men. In October 2017, the hourly wages and salaries for women were 6.26 and for men 7.91 euros.

The pay gap was largest in 1994 (28.9%) and 2007 (27.6%), and smallest in 2016 and 2017 (20.9% in both years). Both the economic boom and recession period are clearly visible; the reasons for the narrowing of the pay gap include an increase in the number of female managers and overall changes in social attitudes.

Among economic activities, the gender pay gap is biggest in financial and insurance activities (37.2% on average for the past five years), mining and quarrying (31.9%), trade (31.0%) and manufacturing (29.5%). The difference between the hourly gross wages and salaries for female and male employees in recent years has been smallest in water supply and sewerage (9.7%), transportation and storage (3.3%) and in other service activities (14.3%).

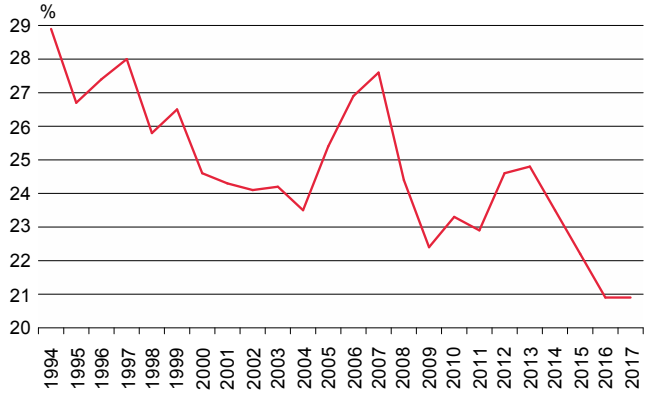
INTERNATIONAL COMPARISON

In 2016, the gender pay gap in Estonia was widest in the European Union – 25.3%; this has been the case over the past decade (comparable data are available since 2007). At the same time, the European Union average has remained quite stable, ranging from 16–17%.

A bigger than average pay gap was recorded in the Czech Republic (21.6–22.6%), Germany (21.5–22.7%) and Austria (20.0–24.0%). The pay gap was smallest in Italy, Luxembourg and Poland, where it ranged from 5.4–6.6%.

Among economic activities, the biggest gender pay gap was recorded in financial and insurance activities, followed by trade and manufacturing. Gender pay gap was smallest in water supply and sewerage and in construction: many countries have reported negative pay gaps in these economic activities, i.e. the hourly wages and salaries for women exceed the hourly wages and salaries for men.

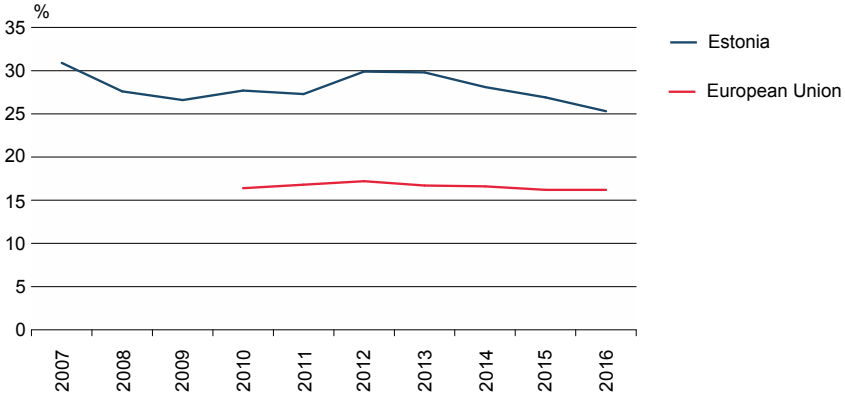
Gender pay gap in Estonia, 1994–2017



Source: Statistics Estonia

Gender pay gap narrowed in 1994–2017.

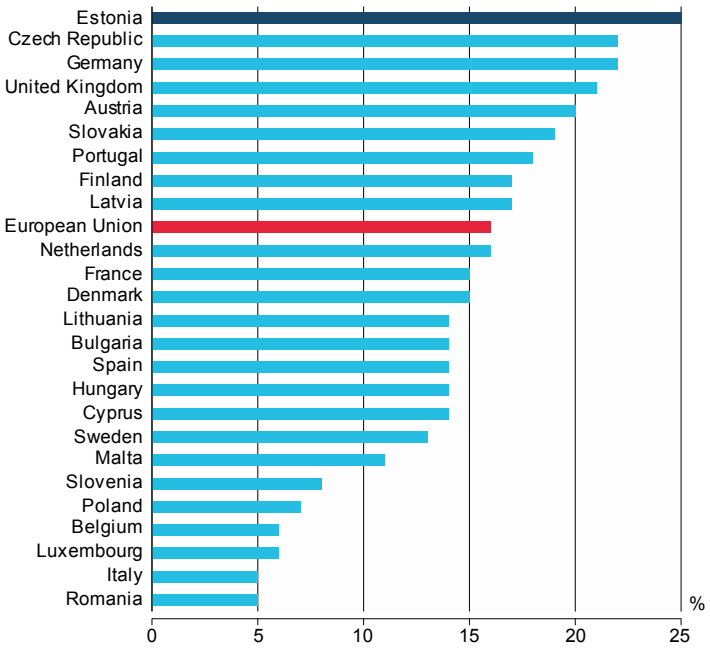
Gender pay gap in Estonia and the European Union, 2010–2016



Source: Eurostat

Gender pay gap in Estonia has for years exceeded the EU average.

Gender pay gap in the European Union, 2016*



* Data not available for Ireland, Greece and Croatia.
Pay gap data published by Eurostat do not include data on enterprises and institutions with less than 10 employees or wages and salaries of salaried employees in agriculture, forestry and fishing, and public administration and defence.

Source: Eurostat

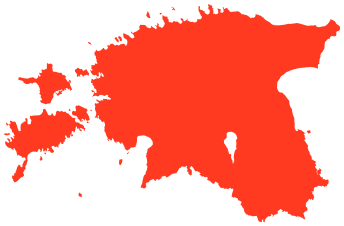
In 2016, gender pay gap in Estonia was largest in the EU.

5 GENDER EQUALITY

5.2. WOMEN IN MANAGERIAL POSITIONS

CONCEPTS

The indicator expresses the share of women in managerial positions in all persons in managerial positions. Managerial positions are classified under International Standard Classification of Occupations (ISCO) Major Group 1 (Managers).



SITUATION IN ESTONIA

According to 2016 data, gender pay gap in Estonia was 25%, i.e. the largest in the European Union. This shows that men earn more than women. By working position, employees in managerial positions earn the highest income according to the wages survey. Therefore, the share of women in managerial positions may be considered one of the most important factors as regards the gender pay gap.

According to 2017 data, there were approximately 30,800 female managers in Estonia (10% of female employees), whereas there were 18,400 more male managers, i.e. an estimated 49,200 (15% of male employees). This, in turn, points to the fact that the share of managers is larger among men (difference with female employees is 5 percentage points). The share of female managers has remained at the level of the preceding year. The share of female managers was smallest in 2011–2013, when it was 6–7%. This may partly be due to the economic crisis and its impact. Among persons employed, managers accounted for 12%, or an estimated 79,900.

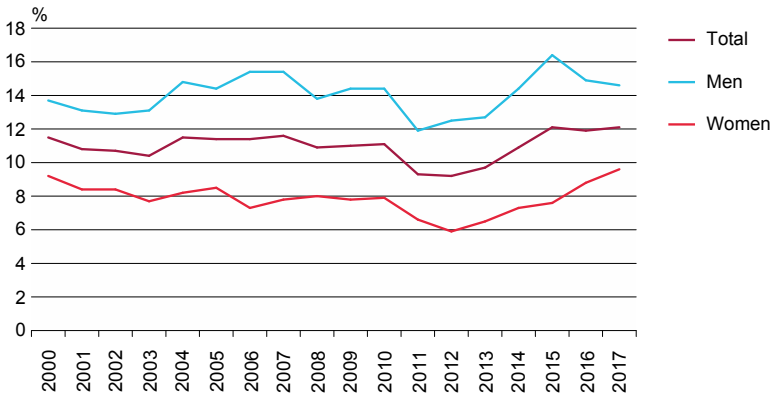
According to 2017 data, almost every forth manager out of ten was a woman. Compared to the preceding year, the share of women among managers increased by 3 percentage points, reaching a record level in the past 10 years. There are more female managers among older women: while the share of female managers aged 20–49 was 36%, the share among women aged 50–74 was 43%. This may be due to the longer professional experience of older women, which may refer to the fact that professional experience is considered more important in the case of female managers.

INTERNATIONAL COMPARISON

According to 2017 data, in the European Union, the share of women among managers is 34%, i.e. 5 percentage points less than in Estonia (39%). Women account for the biggest share of managers in Latvia (46%), Poland and Slovenia (both 41%). Estonia shares 4th to 8th place with Sweden, Bulgaria, Lithuania and Hungary. The share of female managers is smallest in Luxembourg (19%), Cyprus (21%) and the Czech Republic (25%).

The share of female managers aged 25–49 in Estonia is similar to the European Union average – the difference is only 1 percentage point to Estonia's advantage. The situation is better among female managers aged 50–74 – their share is 12 percentage points bigger than the share in the European Union. Based on this indicator, Estonia in third among the European Union countries (43%) after Lithuania (44%) and Latvia (51%).

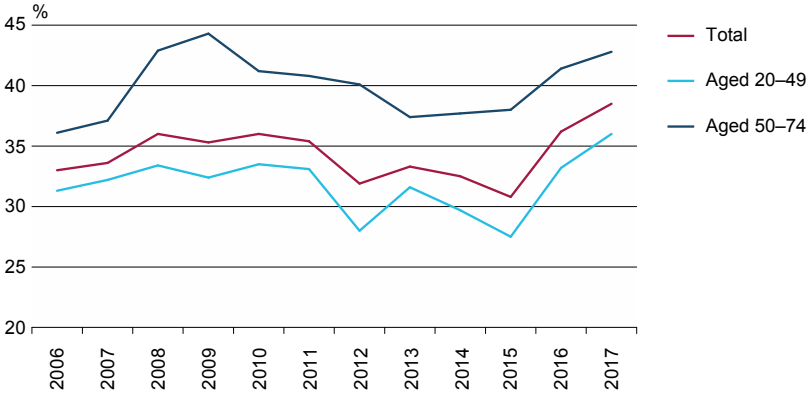
Share of women and men in managerial positions among persons employed in Estonia, 2000–2017



Source: Statistics Estonia

In the past 17 years, the share of men in managerial positions among persons employed was larger.

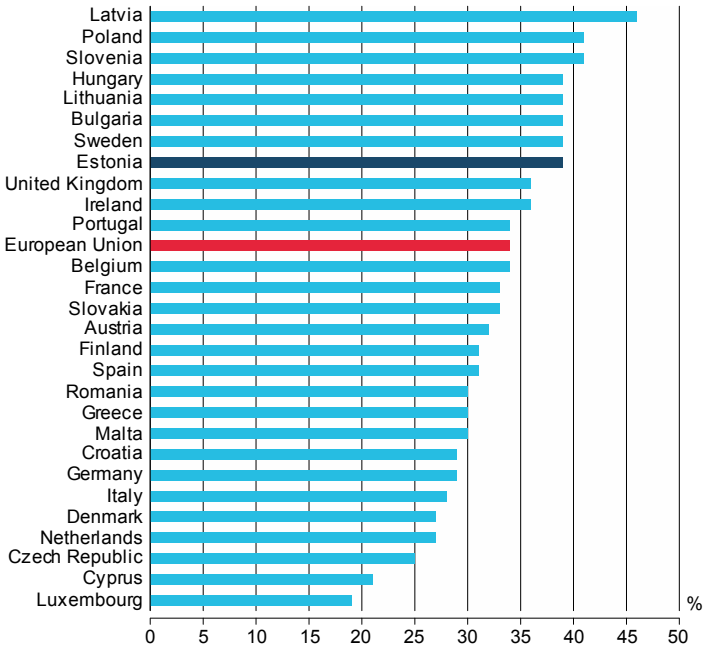
Share of women in managerial positions in Estonia by age, 2006–2017



Source: Eurostat

The share of women in managerial positions is bigger among the population aged 50–74.

Share of women in managerial positions in the European Union, 2017



Source: Eurostat

In Estonia, the share of female managers is 5 percentage points bigger than the EU average.

5 GENDER EQUALITY

5.3. TIME USE OF WOMEN AND MEN

CONCEPTS

Gender differences in time use are measured with the gender equality index in time domain. Gender inequality in time use is assessed, measuring the distribution of care responsibilities between men and women, i.e. how much time is spent on caring for children, the elderly and the disabled, paying attention also on time spent on cooking and housework. In addition, time spent on social activities is measured, i.e. how much women and men take part in sports, cultural and leisure activities outside home and how much time is spent on voluntary and charitable activities.

Gender equality is measured in different domains and it shows the general level of gender equality in the society. The gender equality index describes the combined effect of six main domains (work, money, time, knowledge, power and health), considering also the difference between men and women (gender gap) as well as the overall level of the indicator. The index ranges from 1–100, where 1 denotes absolute inequality and 100, absolute gender equality.

SITUATION IN ESTONIA

According to 2017 EIGE report, the gender equality aggregate index in Estonia was 56.7 points. The index in time domain was 74.7 points out of 100 in 2015, on the basis of which Estonia placed 5th among the European Union countries. Compared to 2005, the index has remained at the same level (74.6 points in 2005), but compared to 2012, when the index was 70.1 points, the value has again increased.

The index in time domain increased in 2015, mainly due to improvement in the care activities index. The care activities index in 2015 was 85.9 points out of 100, placing Estonia 4th among the European Union countries. Compared to previous years, the index has increased: compared to 2005, by 2.7, compared to 2010, by 5.2 and compared to 2012, by 12.9 points. The index of the sub-domain has improved because the difference between the shares of men and women caring on a daily basis for children or other family members has significantly decreased. Women, however, continue to spend significantly more time on housework, although the share of the population occupied with cooking and housework on a daily basis has decreased over the past 10 years.

The value of the social activities index in 2015 was 65 points out of 100, having decreased compared to previous years: compared to 2005, by 1.9 and compared to 2010 and 2012, by 2.2 points. All in all, Estonia was 8th among the European Union countries in 2015. This means that in 2015, somewhat more women than men participated in voluntary and charitable activities. At the same time, women engage less than men in sports, cultural and other leisure activities.

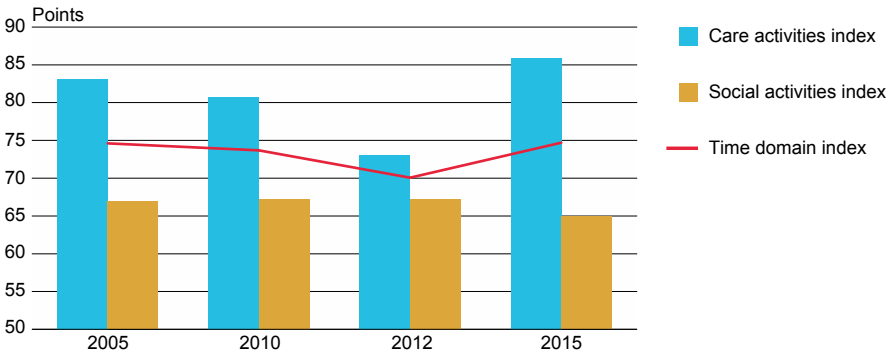
INTERNATIONAL COMPARISON

In 2015, the index in time domain in the European Union was 65.7 points out of 100, which is 9 points smaller than the respective Estonian index. The European Union index has not changed considerably over the past ten years (66.7 points in 2005). Compared to 2012, the index has decreased by 3.2 points.

The care activities index has not changed considerably over the past ten years and the comparison of 2005 and 2015 reveals that the social activities index decreased by 2 points.

Among the European Union countries, the index in time domain is highest in Sweden, where in 2015, it was 90.1 points out of 100, followed by the Netherlands (83.9 points) and Denmark (83.1 points). The index was lowest in Bulgaria (42.7 points), Greece (44.7 points) and Slovakia (46.3 points).

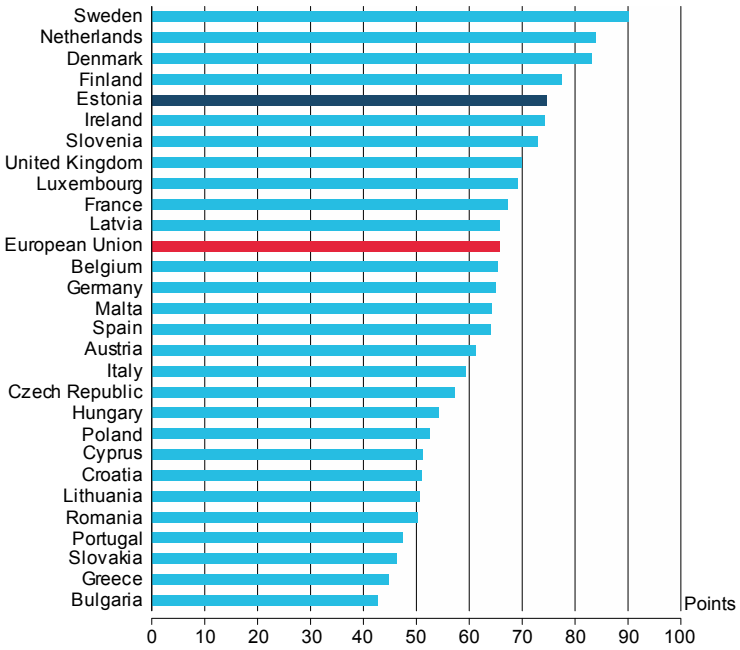
Gender equality index in time domain and its sub-domains in Estonia, 2005–2015



Source: European Institute for Gender Equality (EIGE)

Women continue to participate more than men in care activities and less in social activities.

Gender equality index in time domain in the European Union, 2015



Source: European Institute for Gender Equality (EIGE)

Estonia's index in time domain is 9 points higher than the EU average.

6 CLEAN WATER AND SANITATION

ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

The focus of the global goal "Clean Water and Sanitation" is the need to ensure that people have clean drinking water, sanitation and hygiene conditions. Lack of quality and adequate water supply and sanitation affects reaching other global goals such as healthcare, promoting education and reducing poverty.

The 2030 Agenda[1] sets the target to improve water and sanitation systems to ensure access to quality drinking water and adequate wastewater treatment. Mainly, indirect measures must be taken, for example, improving water resources management, preventing pollution of water bodies with waste, chemicals and materials as well as reducing water consumption. Local and community initiative is vital to water resources management. In order to prevent pollution of waterbodies, waste recycling and safe reuse should be increased. Protection of water resources requires protecting and restoring water-related ecosystems (mountains, forests, wetlands, rivers, aquifers and lakes). It is necessary to expand international cooperation in these areas, especially support to developing countries, in order to increase their capacity in developing various activities, programmes and technologies.

According to the UN progress report[2], in 2015, over 90% of the world population had access to drinking water: 6.6 billion people used improved drinking water sources. 4.9 billion people, i.e. two thirds, had improved sanitation facilities. The greatest insufficiencies were related to sanitation, especially in rural areas, which usually lack sewerage. The construction of drinking water supply and sewage systems must be significantly accelerated in the countries of Central and Southern Asia, Eastern and South-Eastern Asia and several African countries.

About two billion people lack fresh water. In international methodology, water stress is a situation when the ratio of freshwater consumption to water resources exceeds 25%. There is a significant scarcity of fresh water mainly in Northern Africa and Western Asia, as the indicator there is above 60%.

The goal "Ecological balance" of the Estonian sustainable development strategy[3] emphasises the importance of access to and sustainable use of clean water.

The global goal "Ensure availability and sustainable management of water and sanitation for all" is linked in Estonia with the following clean drinking water indicators:

- Properly treated wastewater
- Water quality in public water supply
- Groundwater abstraction
- Status of surface water

Most of the effluent in Estonia is mechanically cleaned and the share of tertiary treatment of effluent (total nitrogen and total phosphorus are removed) is growing year by year. In 2016, the share of consumers in settlements who were connected to public water supply was 98.1%. The main source of freshwater is groundwater. Its overall use decreased in 2000–2016, whereas in the past couple of years the volume of water pumped out of mines and quarries has somewhat increased.

The ecological status of around half of Estonia's surface water bodies is good, but as a percentage, coastal water bodies are in a poorer condition compared to inland water bodies. Compared to other European Union countries, the status of Estonian surface water bodies is quite good.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1*. UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66*. UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

6 CLEAN WATER AND SANITATION

6.1. PROPERLY TREATED WASTEWATER

CONCEPTS

The indicator expresses the quantity of wastewater with at least secondary treatment.

Effluent is used water that is discharged into receiving water bodies.

Wastewater is water that is contaminated beyond the level of harmlessness and requires purification before being discharged into receiving water bodies.

Secondary treatment of wastewater, or biological treatment is the removal of pollutants (BOD7, COD and suspended solids) from wastewater by biological processes. During tertiary treatment, or advanced wastewater treatment, which follows secondary treatment, total nitrogen and total phosphorus are removed from wastewater.

SITUATION IN ESTONIA

In Estonia, 1,820 million cubic metres of effluent was generated in 2016, the majority of which was cooling water, which does not require treatment. 302 million cubic metres of water requiring treatment was generated, of which 99.9% was treated. More than half of the water (61.4%) was treated mechanically (primary treatment), 3.8% biologically (secondary treatment) and 34.7% underwent advanced treatment (tertiary treatment). Compared to 2000, the amount of untreated wastewater requiring treatment has decreased 20 times.

The amount of water undergoing advanced treatment has steadily increased, while the amount of biologically treated water has decreased. The share of tertiary treatment has increased due to the closing of water treatment plants and construction of new plants. The amount of mechanically treated water has varied from one year to the next, but continued to account for the majority of treated effluent. The majority of mechanically treated water is water from mines and quarries, in the case of which, mechanical treatment is sufficient.

Since 2000, the amount of pollutants discharged into the environment with treated effluent has steadily decreased: total phosphorus 3.9 times, organic pollutants 2.4 times and total nitrogen 2.3 times. The amount of discharged pollutants has decreased due to the reconstruction of sewerage piping and water treatment plants, increased pollution charges and tighter requirements for wastewater treatment.

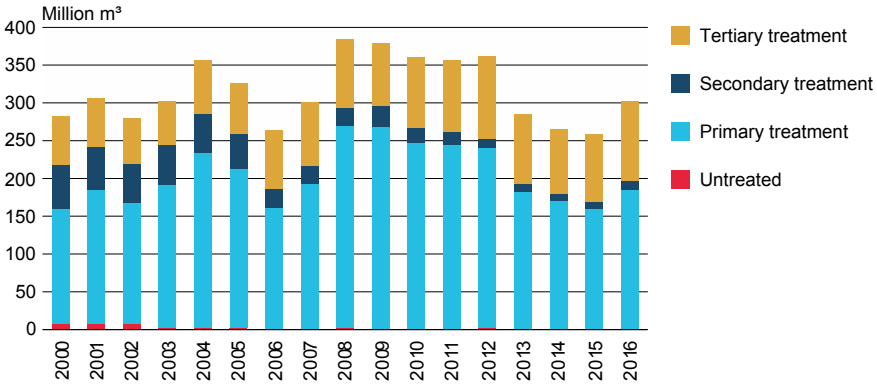
In the European Union, the collection, treatment and discharge of urban wastewater is regulated by the directive concerning urban wastewater treatment. According to the directive, proper public sewerage system needs to be set up and treatment of wastewater guaranteed in all agglomerations with a population equivalent (p.e.)[1] of more than 2,000. In smaller areas, a properly functioning wastewater system has to be guaranteed, but a public sewerage system is not mandatory. According to the urban wastewater treatment directive, the entire territory of Estonia is pollution sensitive. This means that the receiving water bodies can be easily polluted and there is a risk of eutrophication and overgrowing. On average, 83% of the Estonian population had sewerage in 2016.

INTERNATIONAL COMPARISON

For comparison, the last available year, i.e. 2014 or 2015 for most countries has been used. In 2016, the proportion of the population connected to public water supply in Estonia was 83%. All their effluent was properly treated (receiving at least secondary treatment). For instance, almost all households in the United Kingdom and the Netherlands were connected to at least secondary wastewater treatment systems, compared to less than a half of households in Cyprus, Croatia and Romania.

1 Population equivalent (p.e.) is the unit of average potential water pollution load caused by one person per day. The value of the p. e. expressed through the biological oxygen demand (BOD7) is 60 grams of oxygen per day. In addition to the pollution load of the population, also industrial pollution load is included in the calculation of the population equivalent.

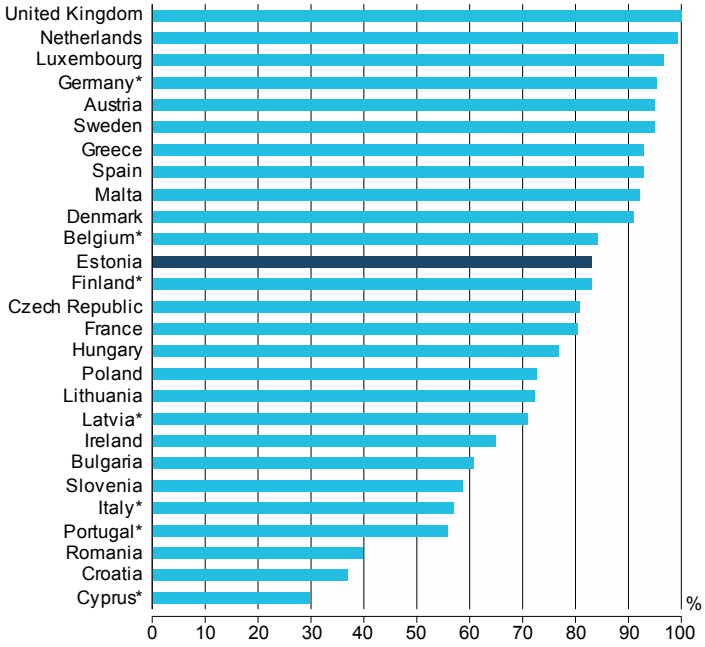
Treatment of effluent in Estonia, 2000–2016



Source: Environment Agency

The majority of effluent is treated mechanically, but the amount of effluent undergoing tertiary treatment is nevertheless rising.

Population connected to at least secondary wastewater treatment systems in the European Union, 2015 or last available year



* 2013 data for Germany, Belgium, Finland and Latvia, 2012 data for Italy, 2009 data for Portugal and 2005 data for Cyprus

Source: Eurostat

Compared to other EU countries, the proportion of households connected to sewerage is quite high in Estonia.

6 CLEAN WATER AND SANITATION

6.2. WATER QUALITY IN PUBLIC WATER SUPPLY

CONCEPTS

The indicator shows the share of consumers connected to public water supply who receive drinking water which meets all the quality requirements. Quality requirements include health security of consumers and service quality. The requirements apply to both microbiological and chemical parameters potentially harmful to human health. In addition, drinking water must meet requirements regarding other parameters which do not directly affect health but may reduce the overall quality of the service. Parameters and maximum limits are laid down by the Council Directive 98/83/EC.

SITUATION IN ESTONIA

Access to clean drinking water is vital for human health. Water quality depends on the hydrogeological conditions in the water generation area. Therefore, the composition of water is different in different groundwater layers and areas. In addition to natural conditions, also depreciated piping, slow movement of water in pipes, failures, pollution, etc. may affect the quality of drinking water. In Estonia, the main source of drinking water is groundwater. Due to extensive use of water for human consumption, surface water is used in Tallinn and Narva.

The population of Estonia has good access to drinking water. In all Estonian cities and many smaller settlements, drinking water is received from public water supplies; their number has increased approximately 1.7 times in Estonia, i.e. from 795 to 1,316 compared to 2001. Since then many accommodation enterprises are under supervision as handlers of drinking water. In Estonia, the coverage of public water supply has since 2000, when it amounted to 80%, increased by approximately 10 percentage points: at the end of 2016, the share of the population receiving water from the public water supply was 89.13%, or 1,172,664 consumers. Compared to 2015, the share has increased by 3 percentage points. In regions with no public water supply, consumers take water from private wells (10.8% of the population). Therefore, it can be said that all Estonian residents have access to drinking water.

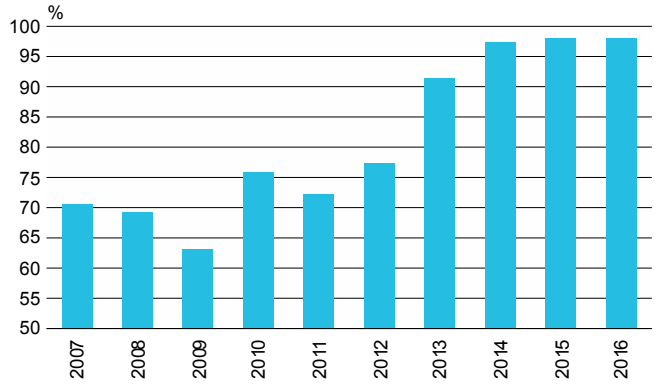
The quality of drinking water in public water supply has improved considerably over the past 20 years. In the 2000s, only 64% of the population had access to quality drinking water, but by the end of 2016, the share was 98.1%. It should be noted, however, that radiological parameters are not considered.[1]

In 2016, microbiological deviations were recorded in six public water supplies. 13 public water supplies did not meet the requirements as regards chemical parameters and parameters potentially harmful to health. In 11 of the 13 public water supplies, the maximum limit for fluoride, and in 4, the maximum limit for boron was exceeded.

In Estonia, most problematic have been substances of natural origin in water, such as fluoride (chemical parameter) in Western Estonia and iron and manganese (other parameters) throughout Estonia. The concentration of fluoride in drinking water has decreased due to adopted technological solutions or small public water supplies having merged with bigger water supplies with better technology. In recent years, also other parameters have improved considerably (mainly iron and manganese). Earlier, an excess of other parameters was allowed under certain conditions, but since 2014, this is no longer the case. Therefore, handlers of water began to also improve parameters which do not directly affect human health, but may reduce the consumers' quality of life.

1 Radiological parameters have so far not been included under factors contributing to non-compliance, as according to risk assessment, the probability of accidental health damage to consumers in Estonia is low.

Share of consumers receiving quality drinking water from public water supply in Estonia, 2007–2016



Source: Health Board

98.1% of consumers received quality drinking water from the public water supply in 2016.

6 CLEAN WATER AND SANITATION

6.3. GROUNDWATER ABSTRACTION

CONCEPTS

The indicator expresses the amount of groundwater abstracted per year in millions of cubic meters. Groundwater is free water in the cracks and spaces of rock and sediments in the earth's crust, which flows by gravity or pressure. Groundwater level is the depth from the ground from where the rock or sediments are saturated with water.

SITUATION IN ESTONIA

The amount of groundwater in Estonia is estimated at 2,000 km^3. In water management, the term used in the assessment of groundwater status is 'groundwater body', which according to the Water Act is a clearly distinguishable mass of water within an aquifer or aquifers. In Estonia, there are 39 bodies of groundwater. Groundwater is the main source of freshwater in Estonia, which is used as drinking water. In groundwater abstraction, groundwater is divided into mine and quarry water, which is pumped out from mines and quarries, and domestic and mineral water, which is extracted from aquifers.

In Estonia, 221 million cubic meters of groundwater was abstracted in 2016. Of this, 80% (177 million cubic meters) was mine and quarry water abstraction. 44 million cubic meters of domestic water was abstracted. The abstraction of mineral water was marginal: 18,000 m^3.

In 2000–2016, the abstraction of mine and quarry water varied by year, as the extraction volume of oil shale changed, but the general trend indicated a decline. The abstraction of domestic water has been stable, but has also shown a slight decline since 2000.

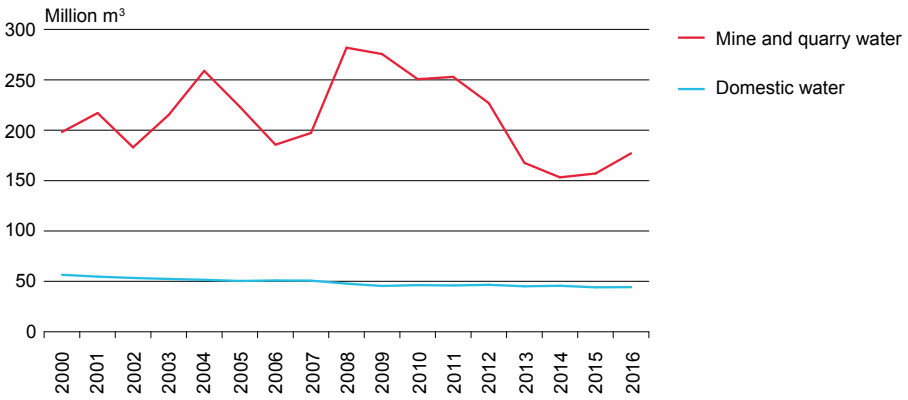
Groundwater abstraction varies considerably by county. In 2016, groundwater abstraction was highest in Ida-Viru county (167.4 million cubic meters) and lowest in Hiiu county (266,000 m^3). The high groundwater abstraction in Ida-Viru county is due to the large amount of water pumped out from oil shale mines and quarries in the county. In 2016, the abstraction of domestic water from groundwater aquifers was highest in Harju county (10.6 million cubic meters), Tartu county (7.4 million cubic meters) and Ida-Viru county (5.7 million cubic meters).

INTERNATIONAL COMPARISON

International data on groundwater abstraction are incomplete. The most recent data have been used for comparison: 2015 or 2014 data for most countries.

Groundwater abstraction per capita was highest in Greece (517 m^3), followed by Portugal (455 m^3) and Cyprus (177 m^3). Estonia was fourth (168 m^3). Groundwater abstraction per capita was lowest in Romania (30 m^3), United Kingdom (32 m^3) and the Czech Republic (35 m^3). However, it has to be taken into account that in some countries, more surface water is used than groundwater.

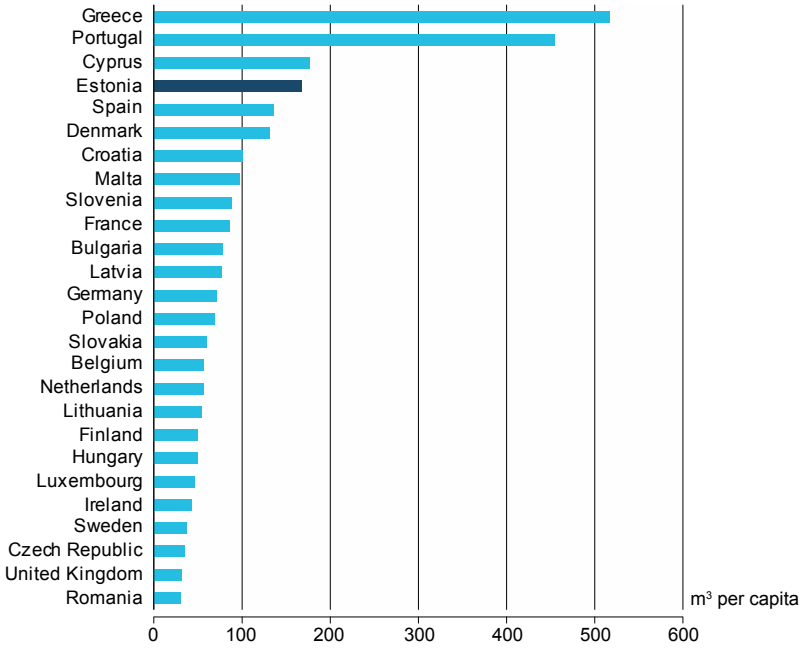
Groundwater abstraction in Estonia, 2000–2016



Source: Environment Agency

Compared to 2000, groundwater abstraction has decreased in Estonia.

Groundwater abstraction in the European Union, most recent data



Source: Eurostat

Groundwater abstraction per capita was highest in Greece. Estonia ranked fourth.

6 CLEAN WATER AND SANITATION

6.4. STATUS OF SURFACE WATER

CONCEPTS

The indicator shows the proportion of surface water bodies in at least good overall status. The status of surface water bodies is assessed on the basis of their ecological and chemical status. Based on the assessment, water protection measures are planned. To improve the status, water management plans are prepared for a period of six years.

The ecological status of surface water bodies is assessed using five quality classes: high, good, moderate, poor and bad. Quality class is determined based on the physical-chemical, hydromorphological and biological (phytoplankton, aquatic flora, phytobenthos, macroinvertebrates, fish fauna) quality indicators. The chemical status of surface water bodies is assessed using two quality classes: good and poor. Quality class is determined based on the concentration of hazardous pollutants in the water body.

The status of surface water is monitored by surface water bodies. There are currently 750 surface water bodies in Estonia – 644 river, 90 lake and 16 coastal water bodies. In the assessment of surface water bodies, 2013 indicators are currently used for reference. The objective is to achieve at least good status for all water bodies by 2027.

SITUATION IN ESTONIA

In 2010, the proportion of surface water bodies in at least good ecological status was 70.5%, in 2012, the share was 65.6% and in 2017, it was 55.2%. Assessments of the chemical status of surface water bodies were made only if enough relevant data had been collected. Due to scarcity of data, assessments of the chemical status are not as reliable as assessments of the ecological status.

In monitored rivers, the status of fish fauna has been problematic for years. Fish fauna and other aquatic biota are affected the most by water shortage in smaller water bodies, restriction of the flow of rivers by dams or beaver dams, poor water quality (primarily oxygen content and an increase in the level of total nitrogen and total phosphorus) and the after-effect of prior pollution. The most common hydrobiological reason for the moderate status of rivers is blocking fish migration with dams.

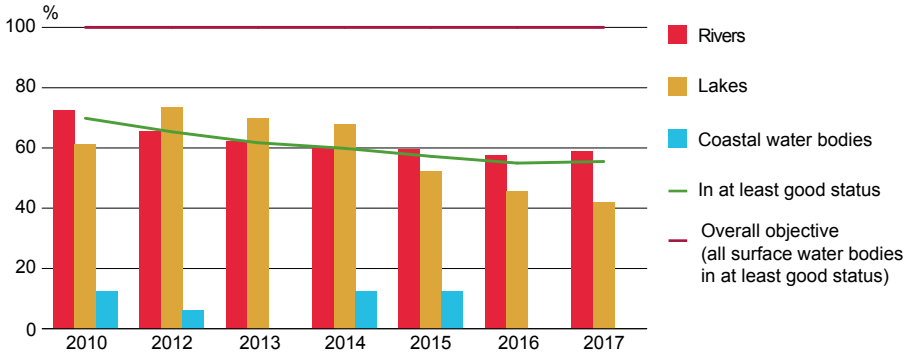
According to the 2017 status assessment of surface water bodies, 4 coastal water bodies were in moderate, 11 in poor and 1 in bad status. This is due to high nutrient levels in the water (total nitrogen and total phosphorus) or high phytoplankton biomass.

INTERNATIONAL COMPARISON

According to the European Environment Agency report, the ecological status of Estonian surface water bodies continues to be among the best in the European Union. 60% of Estonian surface water bodies were in at least good ecological status in 2015. Estonia was fourth after Malta (78%), Finland (74%) and Romania (66%). From countries who presented their data, the share of surface water bodies in at least good status was smallest in the Netherlands (0.3%), Luxembourg (3%) and Germany (8%).

The chemical status of surface water bodies was best in the United Kingdom, Romania and Slovakia, where 96% of surface water bodies were in at least good overall status. As regards the chemical status of surface water bodies, Estonia was at the bottom of the list (10%). The situation was worse only in Denmark (1%) and Belgium (2%). It should be noted, however, that 89% of Estonian surface water bodies have not been monitored and therefore their status is unknown. Only 1% of surface water bodies in Estonia are in poor chemical status.

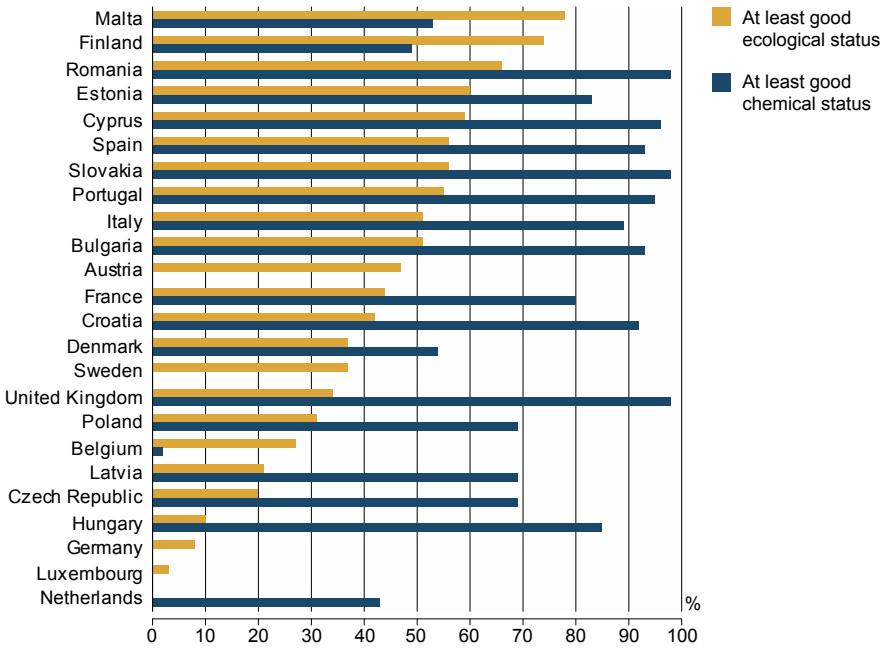
Surface water bodies in at least good overall status in Estonia, 2010–2017



Source: Environment Agency

Approximately half of surface water bodies in Estonia are in at least good overall status; the status of coastal water bodies is worse than that of inland water bodies.

Status of surface water in the European Union, 2015*

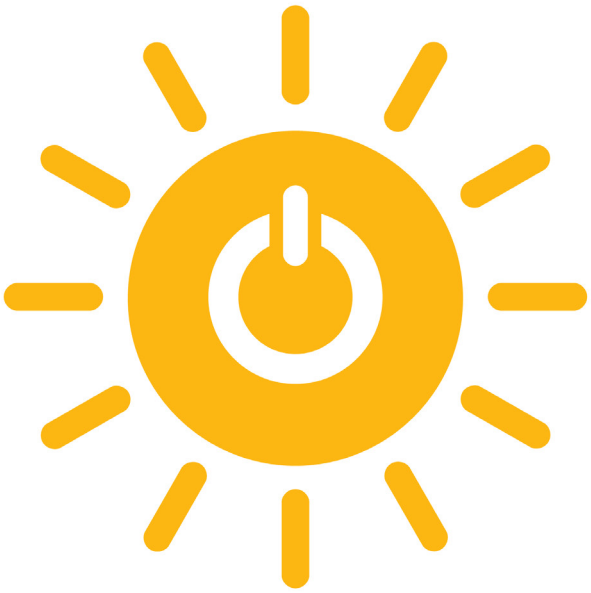


* At least good ecological status: data not available for Ireland, Slovenia, Lithuania and Greece.
At least good chemical status: data not available for Ireland, Slovenia, Lithuania, Greece, Austria, Sweden, Germany and Luxembourg.

Source: European Environment Agency

The status of surface water bodies in Estonia is relatively good compared to other EU countries.

7 AFFORDABLE AND CLEAN ENERGY



ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL

The focus of the goal "Affordable and Clean Energy" is access to reliable, sustainable and affordable energy. Further efforts must be made for the availability of electricity or other energy sources used for preparing food. Energy efficiency and the use of renewable energy must be increased.

The 2030 Agenda[1] sets the target to increase the share of renewable energy in energy production, double the rate of improvement in energy efficiency, i.e. reduce energy intensity per unit of GDP. Specifically, it is important to contribute to the development of better financial instruments, to define clearly areas of development and adopt more eagerly new technologies. The need to use cleaner technologies for fossil fuels has been particularly emphasised.

According to the UN progress report[2], 85.3% of the world population had access to electricity, meaning that over a billion people who mainly live in rural areas must cope without electricity. Three billion people are still cooking on open fire, mainly with coal and without a stove. The share of renewable energy in final energy consumption is increasing globally (in 2014, it was 18.3%), but according to the UN, this increase should take place much faster. Although the use of solar and wind technologies is on the rise, together they still account for a rather modest share of energy consumption. The global goal is to increase the share of renewable energy primarily in the heat and transport sectors, as together they account for around 80% of global energy consumption. The largest energyconsuming countries in the world have substantially increased energy efficiency in 2012–2014, but according to the UN, this is not enough for achieving the global target. Energy efficiency was mainly improved in industry and transport sectors.

The Estonian sustainable development strategy[3] emphasises the need to reorganise energy management in Estonia by supporting and giving preferential treatment to low-energy activities. In addition, the share of renewable energy in total energy should be increased and activities planned to end the use of oil shale in energy production.

The global goal "Ensure access to affordable, reliable, sustainable and modern energy for all" is linked in Estonia to the share of renewable energy as well as to increasing the overall energy efficiency of the economy. The gradual reduction of the use of fossil fuels, i.e. oil shale, has a direct impact on energy efficiency as well as on the share of renewable energy. The share of energy-related expenses in total household expenditure shows the impact that the price of energy has on consumers. The following indicators are used in Estonia to measure progress towards the goal:

- Energy productivity
- Energy dependence
- Energy expenditure of households
- Renewable energy

Estonia is characterised by low energy productivity and low energy dependence rate, which is primarily associated with oil shale based energy sector. In the total expenditure of households, the share of energy has gradually decreased, currently accounting for approximately 10% of the total expenditure. Estonia has fulfilled the European Union target that by 2030 at least 27% of consumed energy must come from renewable sources.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1*. UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66*. UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

7 AFFORDABLE AND CLEAN ENERGY

7.1. ENERGY PRODUCTIVITY

CONCEPTS

The energy productivity indicator shows the amount of gross domestic product (GDP) generated per unit of energy and is expressed as a ratio of the GDP to gross inland energy consumption in one calendar year. The GDP has been calculated using the chain-linking method, with 2010 as reference year.

SITUATION IN ESTONIA

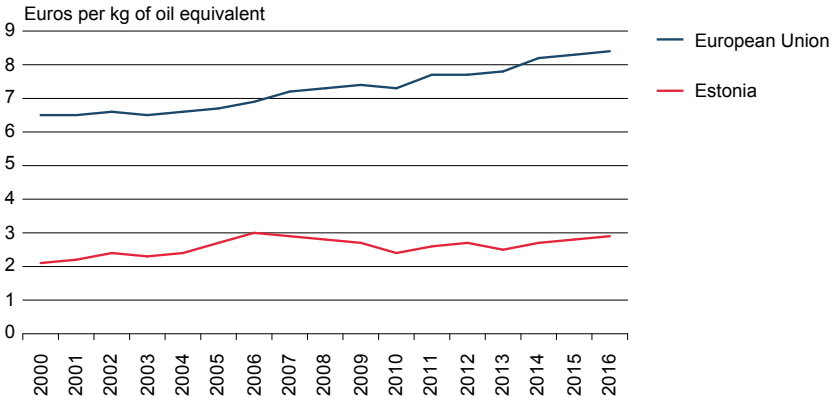
Estonia is a country with high energy consumption, as the production of energy from oil shale is not very efficient (the efficiency of the conversion of oil shale into electricity in Estonia is approximately 30%). In 2016, nearly three times less GDP was generated per unit of gross inland energy consumption in Estonia (2.9 euros) than in the European Union (8.9 euros).

Sustainable and competitive energy is vital for the economy. Balanced use of various resources in the production of energy is an important factor for the development of sustainable energy. In addition to using renewable energy sources, great emphasis is also placed on increasing the energy efficiency of buildings. Energy efficiency measures have an important role also in the new energy sector development plan until 2030.

INTERNATIONAL COMPARISON

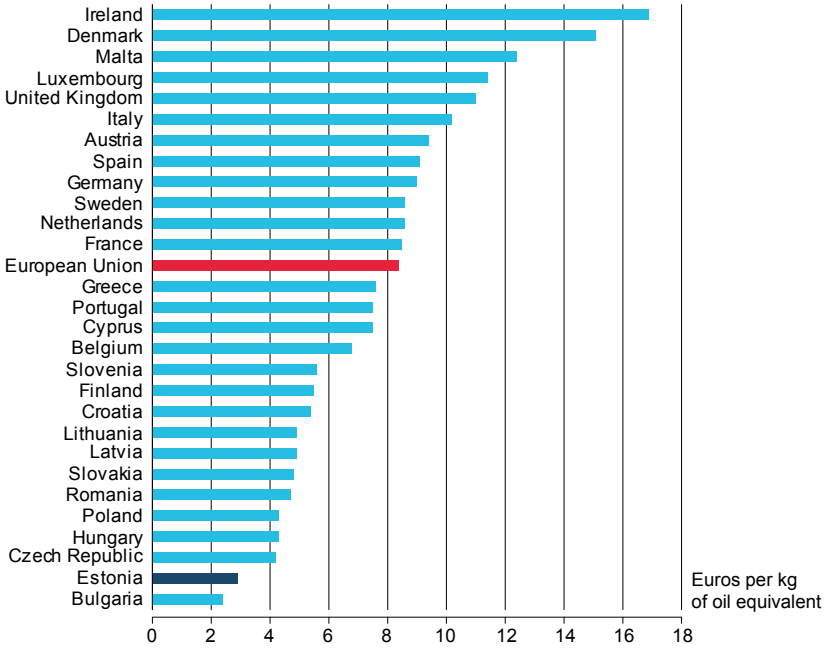
Energy productivity depends on the structure of the energy system and availability of energy resources in the country as well as on the structure and size of the economy. In 2016, the most energy efficient countries in the European Union were Ireland (16.9 euros per kilogramme of oil equivalent), Denmark (15.1 euros per kilogramme of oil equivalent) and Malta (12.4 euros per kilogramme of oil equivalent). The most energy intensive countries were Bulgaria (2.4 euros per kilogramme of oil equivalent) and Estonia (2.9 euros per kilogramme of oil equivalent), where nearly six times more energy was spent for the production of a unit of GDP than in Ireland. Energy intensity is largely determined by the structure of the country's economy, as in countries where the services sector accounts for a large share, energy intensity is generally lower compared to the countries where a large share is held by the industry sector. Regional particularities and climate also have a role in energy intensity.

Energy productivity in Estonia, 2000–2016



Source: Eurostat

Energy productivity in the European Union, 2016



Source: Eurostat

In Estonia, energy productivity is low, as the oil shale industry is not very efficient.

In Estonia, three times less GDP is generated per unit of energy than on average in the EU.

7 AFFORDABLE AND CLEAN ENERGY

7.2. ENERGY DEPENDENCE

CONCEPTS

Energy dependence rate shows the extent to which an economy relies upon imports in order to meet its energy needs. The indicator is calculated as the ratio of the difference between energy imports and exports to gross inland energy consumption.

Energy dependence rate reflects the dependence of a country on energy imports. Energy dependence is mainly affected by changes in energy markets (availability and price). The smaller the dependence on imported energy, the greater the security of energy supply and the more competitive the country. Factors contributing to the reduction of the energy dependence rate include the introduction of domestic energy sources, diversification of energy sources and reduction of energy consumption.

SITUATION IN ESTONIA

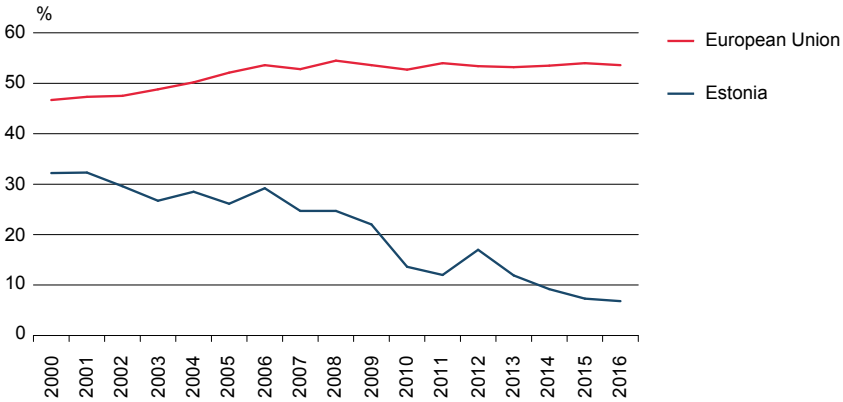
The energy dependence rate of Estonia has been decreasing since 2000 and has remained below 20% since 2010 (European Union average in 2016 was 53.6%). Mainly natural gas, liquid fuels, coal and coke are imported to Estonia for domestic consumption. The main products exported are shale oil, electricity, and peat and wood products. Since 2006, imports of natural gas have nearly halved, while the exports of wood pellets have more than tripled and exports of shale oil nearly doubled. Imports of natural gas, which mainly went to power stations, increased by more than 10% in 2016. Motor spirit imports rose by nearly 9% compared to the preceding year and diesel fuel imports fell by 3.7%. At the same time, the exports of wood pellets increased by 30%. Gross inland energy consumption increased in 2016 compared to 2015 by nearly 7% due to increased consumption of wood fuels.

Although Estonia is one of the least energy-dependent countries in the European Union, its production of electricity is mainly based on a single energy source – oil shale, which is used to produce 90% of the electricity. Therefore, it is essential to continue to diversify the range of energy sources, including in the heating and transport sectors. Energy security will also be improved by investments in cross-border energy connections, such as the third electrical interconnection between Estonia and Latvia or the gas pipeline between Estonia and Finland. The target in the Estonian energy management development plan until 2030 is to gain energy independence by 2030.

INTERNATIONAL COMPARISON

The least energy-dependent European Union countries in 2016 were Estonia (6.8%), Denmark (13.9%) and Romania (22.3%). Energy dependence was highest in Malta (100.9%), Cyprus (96.2%) and Luxembourg (96.1%). The availability of domestic oil shale significantly reduces the share of imported energy in meeting Estonia's energy needs.

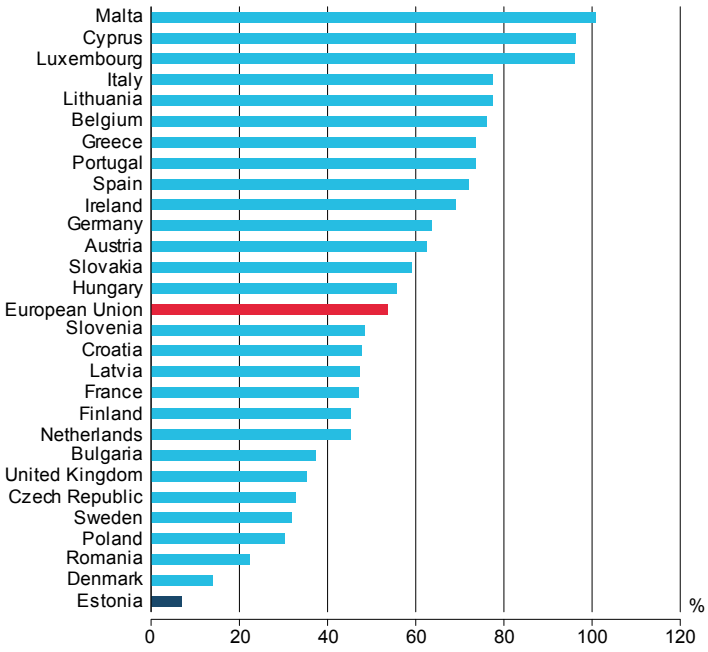
Energy dependence rate in Estonia and the European Union, 2006–2016



Source: Eurostat

In recent years, Estonia's energy dependence rate has fallen and Estonia is therefore more energy independent.

Energy dependence rate in the European Union, 2016



Source: Eurostat

Estonia was the least energy-dependent country in the EU.

7 AFFORDABLE AND CLEAN ENERGY

7.3. ENERGY EXPENDITURE OF HOUSEHOLDS

CONCEPTS

The share of energy expenditure in the total expenditure of households is calculated on the basis of household final consumption expenditure, i.e. private consumption expenditure. Household final consumption expenditure is the major component of the gross domestic product (GDP) compiled using the expenditure method[1]. The GDP compiled using the expenditure approach evaluates the economy through consumption: how and on what the society has spent its money. Energy expenditure includes households' expenditure on electricity, gas, liquid and solid fuel, heat and fuel for personal means of transport.

SITUATION IN ESTONIA

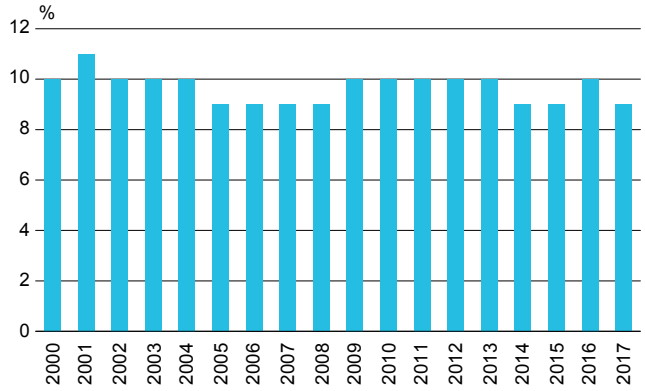
Households require energy for light and heat, cooling and transportation. Therefore, energy expenditure can be classified under such fixed household expenditure which significantly affect the quality of life; also expenditure on other goods and services can be estimated.

Household final consumption expenditure increased steadily in 2000–2017, except during the economic recession (2008–2010). Energy expenditure in the households' total expenditure have remained stable at third place after food expenditure and housing costs. The period 2005–2008 is an exception, as in this period, households were able to spend more on alcohol and tobacco, means of transport, free time and culture; after this period, the share of energy expenditure in total expenditure decreased, ending up at sixth place. The share of energy expenditure in total expenditure is affected primarily by the price of energy products and the income of consumers and not by consumption habits. In 2000–2017, the share of energy expenditure in households' total expenditure fluctuated in the range of 8.6–10.7%. In 2000, the share of energy expenditure was 10.3%, and in 2017, it accounted for 9.2% of the households' total expenditure. By 2017, the share (9.2%) had dropped to the level characteristic of the period (2005–2008) before the economic crisis of 2008. The small share of energy expenditure can be explained by the fact that during the years of faster economic growth, when the income of consumers increased faster than the prices of energy products, the share of energy expenditure in total expenditure decreased, as households were able to spend more on other goods and services.

During the whole period (2000–2017), expenditure on the fuel for personal means of transportation (35–56% of energy expenditure) accounted for the largest share in energy expenditure. This was followed by expenditure on heat and electricity (17–28%). Expenditure on gas, liquid and solid fuel accounted for the smallest share: 7–11% of energy expenditure. The larger share of expenditure on the fuel for personal means of transport was due to the increased income of consumers and steadily increasing number of means of transport in households.

1 In 2017, private consumption expenditure accounted for 48.5% of the GDP.

Share of energy expenditure in households' total expenditure in Estonia, 2000–2017*

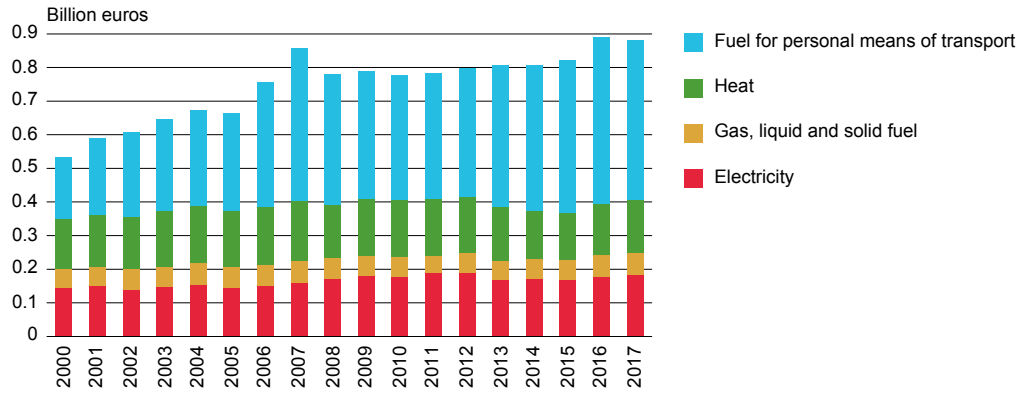


* Chain-linked values of private consumption expenditure have been used (reference year 2010).

Source: Statistics Estonia

In 2017, the share of energy expenditure decreased.

Energy expenditure by expenditure type in Estonia, 2000–2017*



* Chain-linked values of private consumption expenditure have been used (reference year 2010).

Source: Statistics Estonia

Expenditure on the fuel for personal transport has always been the largest and expenditure on gas, liquid and solid fuel has been the smallest.

7 AFFORDABLE AND CLEAN ENERGY

7.4. RENEWABLE ENERGY

CONCEPTS

The renewable energy indicator reflects the share of renewable energy in final energy consumption. Renewable energy sources include hydropower, wind, solar and geothermal energy, wave and tidal energy, biomass, landfill gas, gas from wastewater treatment and biogas.

Final consumption of energy is energy that is obtained and consumed after all interim conversions into other forms of energy (electricity, heat, fuel). Final consumption excludes the use of fuel as a raw material, power plant consumption and losses.

The share of renewable energy in final energy consumption is calculated by combining the final consumption of electricity from renewable energy sources, final consumption of heating and cooling from renewable energy sources and final consumption of renewable energy in the transport sector.

SITUATION IN ESTONIA

The larger the share of renewable energy in final energy consumption, the more sustainable the energy. The use of renewable sources reduces reliance on fossil fuels; in addition, less greenhouse gases are emitted during the production of energy from renewable sources than when using fossil fuels.

The share of renewable energy in the final energy consumption in Estonia has steadily increased since 2006. While in 2006, the share was 16.1%, in 2010, it was 24.6% and in 2016, already 28.8%. The main renewable energy source is biomass (fuel wood, wood chips and wood waste), which accounts for more than 90% of the consumed renewable energy input. The shares of wind energy and hydro power are quite small (respectively 4% and 0.2%). The share of solar energy in Estonia continues to be marginal, remaining below 0.1%, while the consumption of solar energy has increased by more than 60% in the comparison of 2015 and 2014. Heat produced by heat pumps accounted for approximately 4% of the renewable energy consumed in 2015.

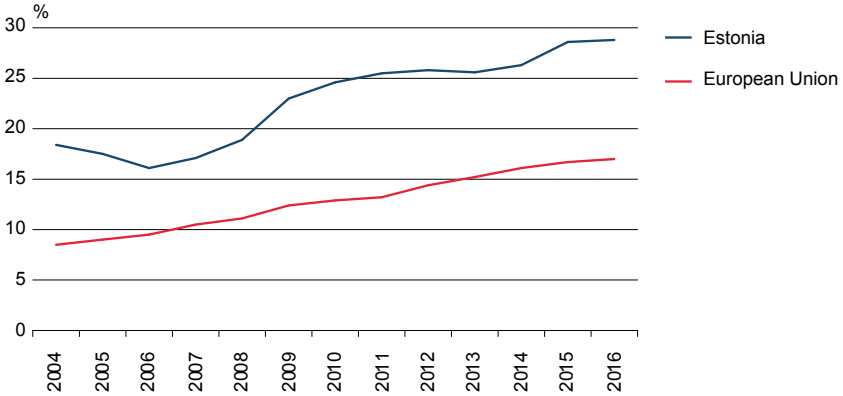
The share of renewable energy has grown significantly due to support provided for combined heat and power plants which produce energy from renewable sources. At the same time, many boiler plants continue to use natural gas or heavy fuel oil in heating. The combined production of electricity and heat on the basis of bio fuel and wind energy have a great potential in renewable energy. In the coming years, attention has to be paid to increasing the use of renewable energy sources also in the transport sector.

The energy sector development plan until 2030 provides that the share of renewable energy in final energy consumption should be at least 50%.

INTERNATIONAL COMPARISON

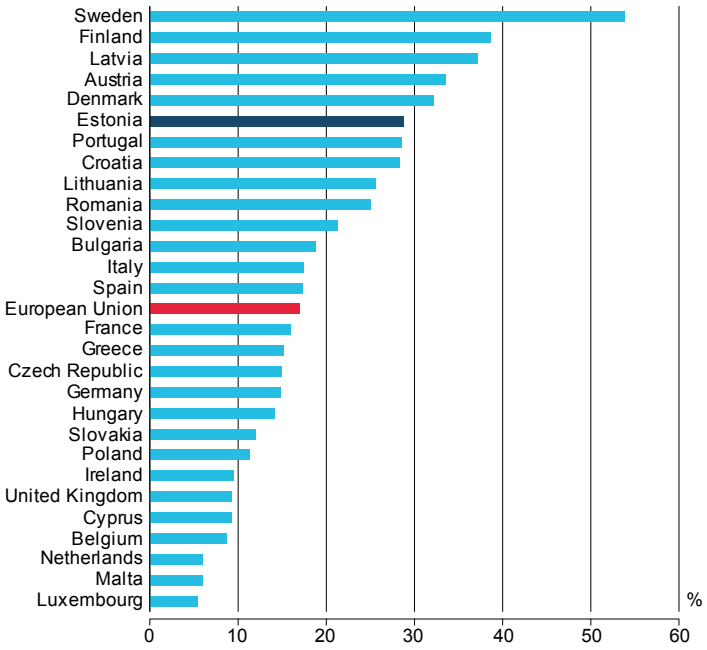
In the European Union, the introduction of renewable sources is considered a key issue in the energy policy, which helps to reduce dependence on energy imported from outside the European Union and carbon dioxide emissions and to decouple energy price from oil price. The EU target is that by 2030, renewable energy should account for at least 27% of the energy consumed in the EU. In 2016, the share of renewable energy in final energy consumption in the EU was 17%. The share has increased in all EU countries. The renewable sources with the largest shares are biomass and bio-waste, hydropower and wind energy. The utilisation rate of renewable energy sources depends on natural conditions and the structure of the energy system. In Mediterranean countries, e.g. in Cyprus, solar energy holds a considerable share; in forest-rich countries, e.g. in Slovenia, Sweden and Latvia, mainly biomass is used; in mountainous countries, e.g. in Austria and Sweden, hydropower is especially important. In 2016, the share of energy produced from renewable sources in final energy consumption was largest in Sweden (53.8%), Finland (38.7%) and Latvia (37.2%). In Estonia, the share was 28.8%.

Share of renewable energy in final energy consumption, 2004–2016



Source: Eurostat

Share of renewable energy in final energy consumption in the European Union, 2016



Source: Eurostat

According to 2016 data, Estonia was 21.2 percentage points behind the target (50%) set in the energy sector development plan until 2030.

In 2016, the share of renewable energy in final energy consumption in Estonia was nearly twice the EU average.

8 DECENT WORK AND ECONOMIC GROWTH

PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

The focus of the global goal "Decent Work and Economic Growth" is to ensure sustainable and environmentally friendly economic growth that would not involve excessive and unsustainable use of resources. Sustainable economic growth helps people escape poverty and find employment.

The 2030 Agenda[1] sets a target to achieve higher economic productivity, using diversification, technological upgrades and innovation, and focusing among else on sectors that have high value added and are labour-intensive. It is also expected that governments support the creation of decent jobs, entrepreneurship, creativity and innovation and encourage establishing micro-, small- and medium-sized enterprises, making also financial services more accessible.

Another global target is safe working condition for all workers. Efficient use of natural resources is important while paying attention not to cause environmental degradation. This target relates to the sustainable tourism one, which deserves special attention in the agenda, adding jobs, promoting local culture and products, while taking into account the principles of sustainable tourism.

According to the UN progress report[2], the annual global growth rate of gross domestic product was on average 1.6% in 2010–2015. The labour productivity rate in 2009–2016 averaged 1.9%.

The global unemployment rate was 5.7% in 2016, and it was highest among women and young people. In 2016, youth unemployment was approximately three times that of adults – 12.8% and 4.4%, respectively. While using child labour has decreased, there is still a significant number of children aged 5–17 doing hazardous work or working in agriculture. 2012 data show that 168 million minors participated in employment across the world.

Access to financial services (loans, insurance) enables enterprises and individuals to better manage their incomes, financial risks and make necessary investments. In 2015, globally, there were 60 ATMs and 17 commercial bank branches per 100,000 adults. In 2010–2015, the greatest rise was in digital access to financial services. In 2011–2014, the share of bank account holders increased from 51% to 61%.

The Estonian sustainable development strategy[3] emphasises the need to value Estonia as the place to realize one's potential, live and work.

The global goal "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all" is linked in Estonia with the following labour and resource productivity and employment indicators:

- Real GDP growth rate
- Resource productivity
- Productivity
- Employment rate
- Long-term unemployment
- Young people neither in employment nor in education and training

In 2017, economic growth, which had begun in the second half of 2016, continued in Estonia. The same trend appeared in also in other European Union countries. Estonia was one of the top five European Union countries in terms of the GDP growth rate. Despite rapid GDP growth, resource productivity has remained low due to intensive material use. At the same time, labour productivity growth rate has outpaced real GDP growth rate in Estonia. Whereas unemployment is relatively low and employment is high, the long-term unemployment rate is of concern. In 2017, it was 1.9% in Estonia.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1.* UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66.* UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

8 DECENT WORK AND ECONOMIC GROWTH

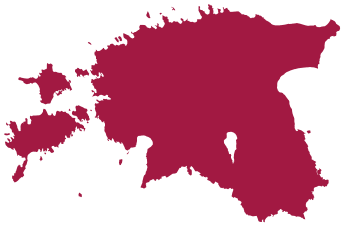
8.1. REAL GDP GROWTH RATE

CONCEPTS

Gross domestic product (GDP) is defined as the value of all goods and services produced in the country less the value of any goods or services used in their creation.

Conventionally, the percentage change of GDP is used to measure economic growth. GDP is calculated at current as well as constant prices. For measuring economic development, GDP should be comparable over time. GDP at current prices covers also price changes (inflation) and does not indicate changes in the value of output.

In order to compare the dynamics of GDP over time and get information about its real growth, the impact of price changes should be eliminated. For measuring the real GDP growth rate, its components are recalculated into average prices of the base year, or constant prices.



SITUATION IN ESTONIA

In 2017, compared to 2016, Estonia's GDP increased 4.9%, which was the fastest growth in five years. The last time economic growth in Estonia was so fast was in 2010. Estonia's GDP at real prices recovered to the pre-crisis level in 2016. In 2000–2017, the GDP at constant prices increased 79.7%.

Economic growth in 2017 was substantial and most of the economic activities contributed to this growth. The main contributors were construction, transport, information and communication. The contribution of manufacturing also increased gradually during the year. No economic activity inhibited economic growth significantly in 2017. The contribution of agriculture, which had hindered economic growth since the second quarter of 2016, also began to grow in the second half of the year.

Net taxes on products, which had risen substantially in previous years, remained nearly unchanged in 2017 compared to the previous year.

Net exports reached 1,076 million euros in 2017, i.e. 4.6% of the GDP. This is the biggest rate in six years. Growth of domestic demand amounted to 4.2%. For the second consecutive year, the growth in domestic demand was driven by investments, which increased 12.5% in 2017. Private consumption increased 2.5%. Final consumption expenditure of the general government sector increased 0.6%, supported by the EU presidency.

INTERNATIONAL COMPARISON

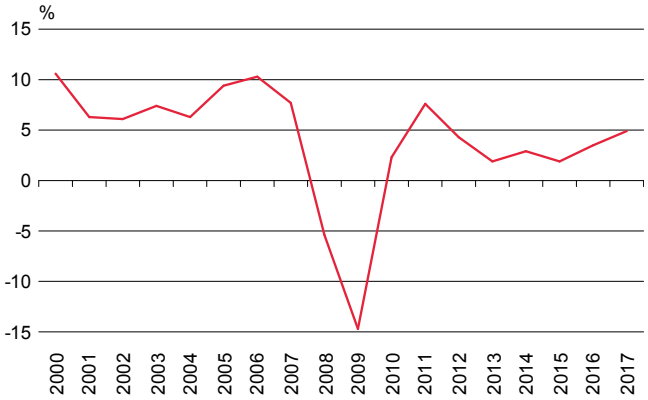
The European Union economies grew 2.4% in 2017. The economies of all Member States grew – this happened last before the crisis in 2007. Economic growth in the European Union (0.4%) slowed down in 2008 due to the international financial and economic crisis and it was followed by a decline in 2009.

In the years 2010 and 2011, the European Union economy recovered gradually, declining again after that (decline in 2012 was 0.4%). After 2012, the European Union economy started to recover again: GDP growth was 0.3% in 2013, 1.8% in 2014, 2.3% in 2015 and 2.0% in 2016.

Compared to 2016, the highest GDP growth rates among the Member States were in Ireland (7.2%), Romania (6.9%) and Malta (6.4%). The lowest growth rate was in Greece (1.4%), followed by Italy (1.5%) and the United Kingdom (1.7%).

The fastest economic growth among the Baltic countries was in Estonia (4.9%). The real GDP growth rate was 4.5% in Latvia and 3.8% in Lithuania.

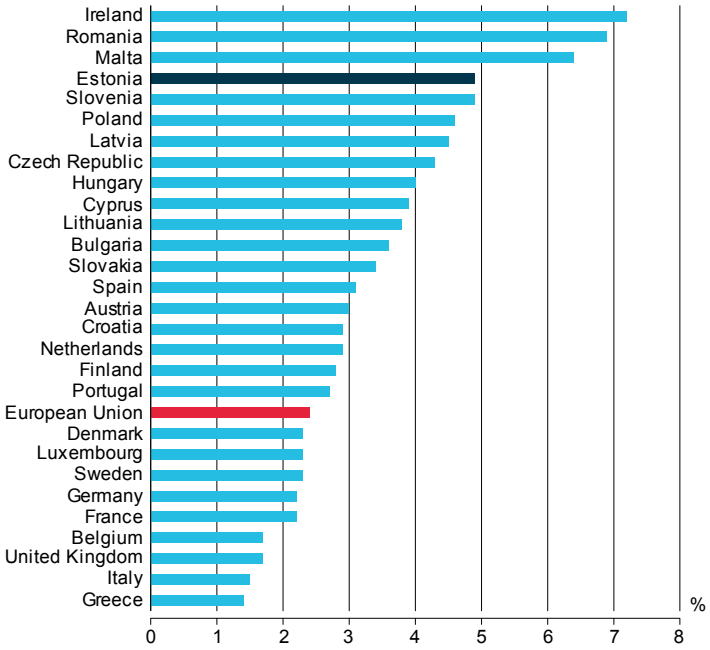
GDP change in Estonia compared to previous year (chain-linked), 2000–2017



Statistics Estonia

Economic growth that started in Estonia in the second half of 2016 continued in 2017.

GDP change in the European Union compared to previous year (chain-linked), 2017



Source: Eurostat

In 2017, the economies of all EU countries grew and Estonia was among the top five fastest growing economies.

8 DECENT WORK AND ECONOMIC GROWTH

8.2. RESOURCE PRODUCTIVITY

CONCEPTS

Resource productivity is defined as a ratio of domestic material consumption to gross domestic product (GDP).

Domestic material consumption comprises the quantity of raw materials extracted from the domestic territory, plus all physical imports, less all physical exports.

Resource productivity indicates the amount of economic benefit in euros generated per kilogramme of material consumed in that country.

SITUATION IN ESTONIA

Resource productivity in Estonia has been low for years. This is due to high material consumption as well as small gross domestic product. Material consumption is high mainly because of the use of oil shale for energy production.

In 2000–2015, resource productivity varied. In 2015, the GDP per one kilogramme of materials consumed was 0.49 euros (chain-linked value of GDP, reference year 2010) in Estonia, while in 2015, resource productivity was 0.53 euros/kg, which was also the highest value of the indicator in the period under study. The decline implies that in 2015, compared to 2005, the consumption of physical materials was greater than the growth of GDP in that period. It should be taken into consideration that the period 2005–2015 witnessed an economic boom as well as a decline, which allows concluding that differences between changes in material consumption and GDP have been relatively stable.

In 2005, the resource productivity rate was one of the highest of the whole reference period; in 2003, however it was one of the lowest. The main reason for the low level was a sharp increase in the use of sand and gravel. The rate fell drastically in 2007, mainly due to the extensive consumption of non-metallic minerals (sand, gravel, limestone) and wood, and slower growth of GDP. Although the resource productivity rate has rather risen since 2009, a decline could still be observed in 2013 when again more non-metallic minerals were used than in previous years.

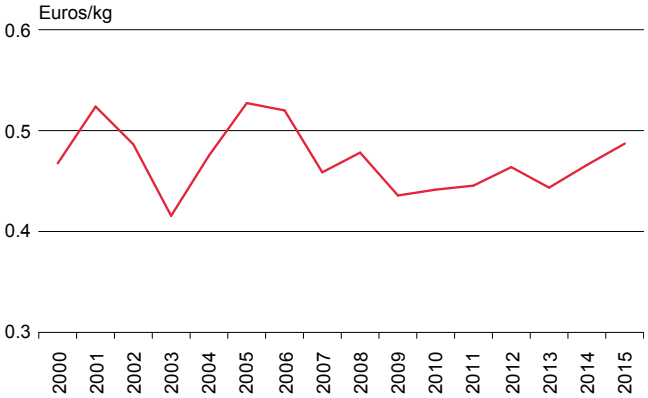
The largest shares in the domestic consumption of raw materials are held by oil shale (among fossil fuels), sand and gravel (non-metallic minerals), and wood (biomass), which together account for 70–80% of the domestic raw materials consumption.

INTERNATIONAL COMPARISON

In 2015, Estonia's resource productivity was one of the lowest in the European Union, outranking only Bulgaria and Romania. The highest resource productivity in the European Union is in Luxembourg, the United Kingdom and the Netherlands, which produced around seven times more value added per one kilogramme of materials consumed than Estonia.

The average resource productivity of the European Union countries exceeded that of Estonia by nearly fourfold. Reasons for the low resource productivity in Estonia are high resource intensity of the Estonian economy, on the one hand, and its low GDP, on the other hand.

Resource productivity in Estonia, 2000–2015

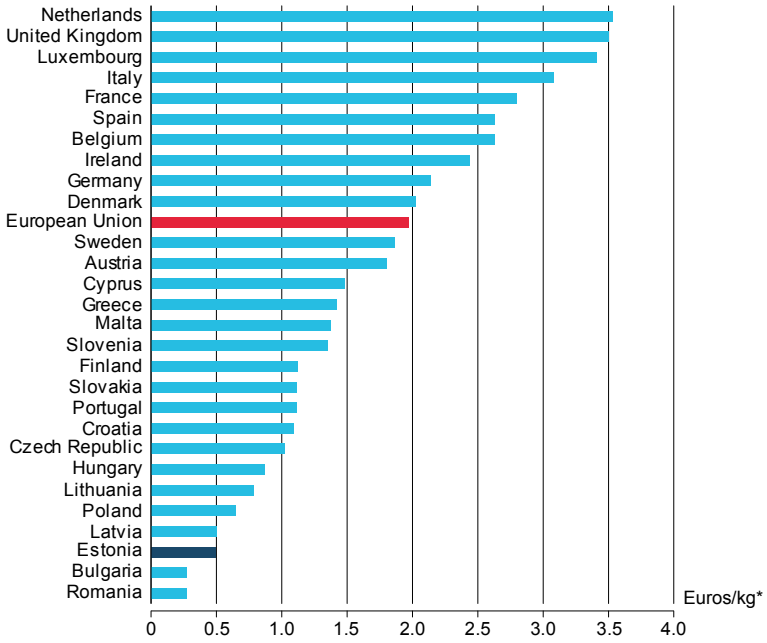


* Chain-linked value of GDP (reference year 2010).

Source: Statistics Estonia

Resource productivity in Estonia has been increasing since 2009.

Resource productivity in the European Union, 2015



* Chain-linked value of GDP (reference year 2010).

Source: Eurostat

Estonia's resource productivity is one of the lowest among EU countries.

8 DECENT WORK AND ECONOMIC GROWTH

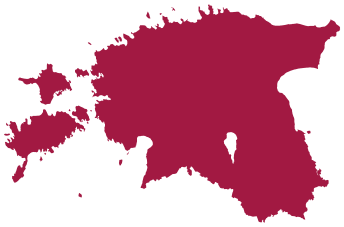
8.3. PRODUCTIVITY

CONCEPTS

Productivity indicates the contribution per unit of labour input to value added production. It is measured as a ratio of gross domestic product (GDP) to hour worked or person employed.

In international comparisons, productivity is measured as a ratio of GDP to person employed, expressed in terms of the purchasing power standard (European Union 28 countries = 100).

Productivity is used to measure efficiency of economic activity. More productive are those economic activities which create more value added with fewer hours worked and fewer employees. Higher labour productivity indirectly characterises competitiveness of the national economy, often indicating the innovativeness and higher qualification of the labour force. Hence, higher labour productivity is a characteristic of sustainable society.



SITUATION IN ESTONIA

In 2017, labour productivity in Estonia was 16.1 euros per hour, productivity per person employed was 29,860 euros. Compared to 2000, the number of persons employed (9.6%) as well as the number of hours worked (2.9%) have increased, while GDP has increased 79.7%. Hence, productivity per hour worked has increased by 74.9%, or 6.9 euros per hour, compared to 2000. At the same time, productivity per person employed has increased by 63.9%.

In 2017, the growth of both GDP and labour productivity accelerated, like in 2016. In 2017, the GDP growth rate outpaced for the second consecutive year the increase in the number of hours worked and the number of persons employed, by 2.8% and 2.6%, respectively. Therefore, productivity per hour worked increased by 1.9% and per person employed by 2.1%.

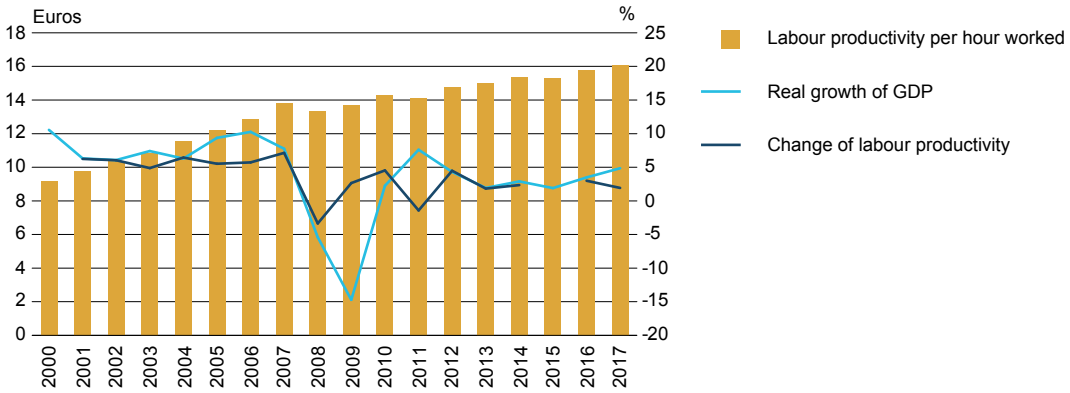
Labour costs for the production of GDP have also increased. Compensations paid to employees increased faster than productivity per employee in 2016 as well as in 2017; hence, the unit labour costs increased by 2.9% and 4.7%, respectively.

INTERNATIONAL COMPARISON

In 2017, productivity per person employed in Estonia was 75% of the European Union average. This is the same as the highest share so far, in 2014. A target set in the national reform programme "Estonia 2020" is to increase labour productivity to 80% of the European Union average by 2020.

In 2017, productivity per person employed was the highest in Ireland, where it exceeded the European Union average by 89 percentage points. In Luxembourg, it was 61 percentage points higher than the European Union average and in Belgium 29 percentage points higher. The countries with the lowest productivity in 2017 were Bulgaria (46% of the European Union average) and Romania (65%). Productivity per person employed in Latvia and Lithuania was 67% and 75% of the European Union average, respectively.

Labour productivity per hour worked in Estonia, 2007–2017

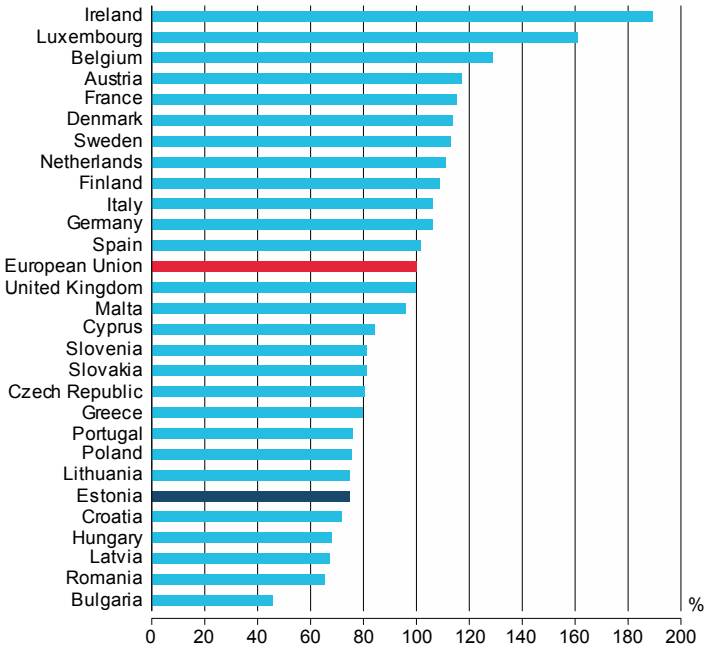


Source: Statistics Estonia

Like in the pre-crisis period, growth of labour productivity in Estonia has been faster than the real GDP growth in recent years.

Labour productivity in the European Union, 2017

(European Union = 100)



Source: Eurostat, as at 05.09.2018

In 2017, the highest productivity in the EU was in Ireland and the lowest in Bulgaria; Estonia was among the last ten.

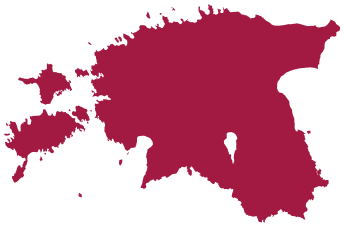
8 DECENT WORK AND ECONOMIC GROWTH

8.4. EMPLOYMENT

CONCEPTS

The employment rate is defined as the percentage of 20–64-year-old employed persons in the respective age group.

An employed person is a person who during the reference period performed work for pay as a wage earner, entrepreneur or freelancer. The pay may be also in kind. Employed persons are also those who work for a family business or farm without direct pay if at least some of the production is for sale. Persons on parental leave, by way of exception, are considered inactive, even if they have a formal employment relationship with an employer.



SITUATION IN ESTONIA

Employment rates are sensitive to the economic cycle and national education, social protection, health and other policies. The higher the employment rate, the higher the proportion of the population who contribute to their own prosperity growth and therefore also to the wealth of society.

In 2017, the employment rate for Estonians was 80.7% and for non-Estonians 73.8%; the gap 6.9 percentage points. The employment rate of non-Estonians has been constantly lower than for Estonians, partly due to different age structure. Non-Estonians' employment is more sensitive to labour market changes and it recovers more slowly.

The employment rate by county was highest in Harju county (83.7%) and lowest in Ida-Viru county (64.8%). The difference in employment rates is due to better job opportunities in Harju county and higher shares of older population and non-Estonians in Ida-Viru county.

Information on the employment of people with reduced capacity for work is available since 2008. At the time, their employment rate was 44.5% and the unemployment rate 9.1%. Like employment of the whole age group, employment of people with reduced capacity for work decreased sharply. The lowest employment rate and highest unemployment rate were observed in 2010 (33.3% and 32.6%, respectively). The employment rate has been increasing since then and in 2017, 52% of people with reduced capacity for work were employed. Unemployment decreased at the same time, with the unemployment rate in 2017 at 13.5%.

In 2000, of the persons employed (total for public and private sector), 29% worked in small enterprises (1–10 employees). Employment in small enterprises was the lowest in 2008 (22.8%), a rise with small fluctuations followed, and by 2017, 26% of the persons employed worked in small enterprises.

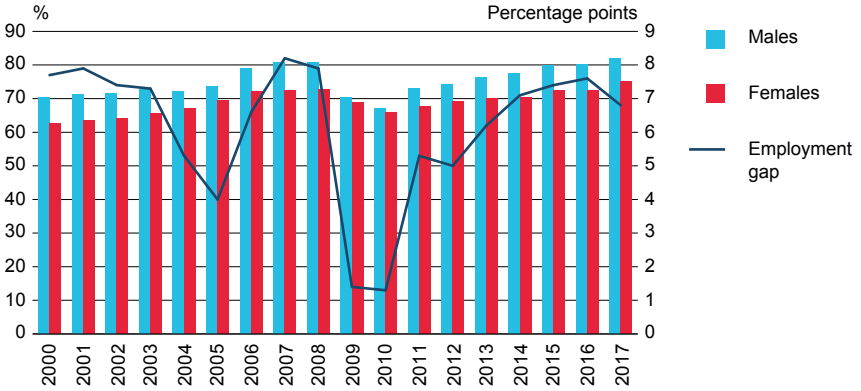
Employment is enhanced by flexible working conditions, e.g. part-time and remote work, and life-long learning opportunities, e.g. retraining and upgrading of professional skills. The opportunity to use social services, e.g. a place for child in a pre-school childcare institution, is also important. In 2016, the work ability reform was initiated with a goal to bring together employers and persons with reduced capacity for work.

INTERNATIONAL COMPARISON

In 2017, as in Estonia, the European Union average employment rate was the highest in 20 years (72.2%). However, there are big differences between the Member States. In 2017, rates were higher than in Estonia only in Sweden (81.8%) and Germany (79.2%). The lowest employment rate was in Greece (57.8%, difference of 24 percentage points from Sweden).

A target of the Europe 2020 strategy laid down that 76% of people aged 20–64 in Estonia would be in work. Estonia achieved this in 2015. In 2017, the target level was surpassed by nine countries, which is two countries more than in 2016. These countries are Ireland, Czech Republic, Lithuania, Estonia, Germany, Latvia, Sweden, Malta and Croatia.

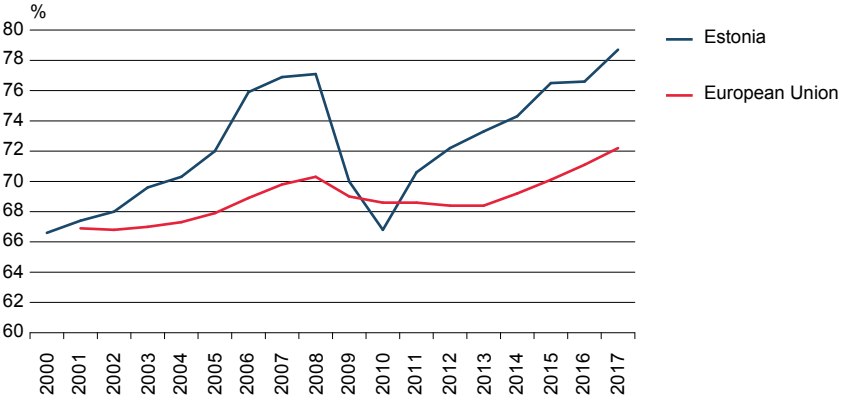
Employment rate and gender employment gap of persons aged 20–64 in Estonia, 2000–2017



Source: Statistics Estonia

The employment rate increased among both men and women; however, the gender employment gap decreased.

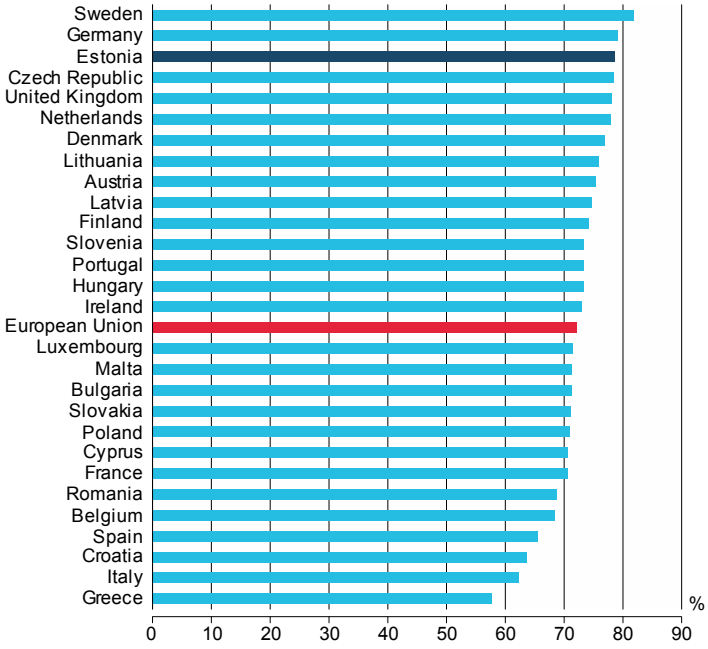
Employment rate in Estonia and in the European Union, 2000–2017



Source: Eurostat

Changes in employment in Estonia are greater than in the EU on average.

Employment rate of persons aged 20–64 in the European Union, 2017



Source: Eurostat

In 2017, the employment rate in Estonia was among the highest in the EU.

8 DECENT WORK AND ECONOMIC GROWTH

8.5. LONG-TERM UNEMPLOYMENT

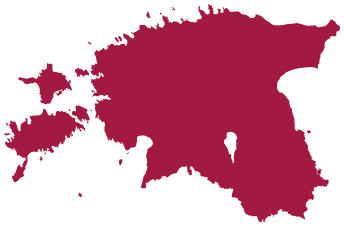
CONCEPTS

Long-term unemployment rate expresses the share of the long-term (at least 12 months) unemployed in the labour force (total number of employed and unemployed persons aged 15–74).

Long-term unemployed are people who are out of work, have been seeking employment for at least a year and are available to start work within the next two weeks.

Duration of unemployment is the period of seeking employment, or if job search started when the person was still employed, the period after leaving last employment.

A high level of long-term unemployment indicates that there is a mismatch between the skills of unemployed persons and available jobs and that the labour market is inefficient.



SITUATION IN ESTONIA

The long-term unemployed are more at risk of poverty than the short-term unemployed. Because of losing work habits, erosion of the skills and knowledge, they become less attractive for employers and it will be more difficult for them to return to the labour market.

In 2017, there were around one third as many unemployed (40,300) and around one fourth as many long-term unemployed (13,500) as in 2010; the long-term unemployment rate was 1.9% instead of the previous 7.6%. The long-term unemployment rate for men was higher than for women, partly because while unemployed men identify themselves as unemployed (actively seeking work), unemployed women identify themselves rather as inactive (e.g. children-related reasons, studies). In 2000, the gender gap in the long-term unemployment rate was 1.9 percentage points, in 2005 it was nearly non-existent (0.3 percentage points), but in 2010 as high as 3.5 percentage points due to faster disappearance of men's jobs. In 2017, the long-term unemployment rate for men was 2.2%, that for women 1.6% (gap 0.6 percentage points).

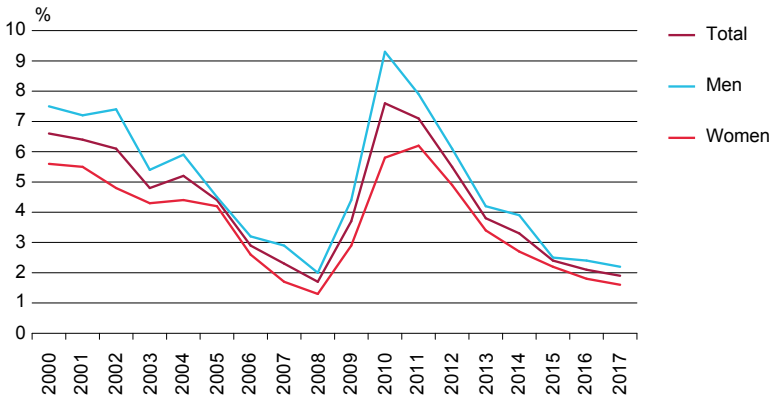
The long-term unemployment rate for non-Estonians was higher than for Estonians. According to estimates, there were 3,900 long-term unemployed persons who could not speak Estonian, a half of them had been seeking work for at least 24 months. Those who had been looking for a job for a year or longer are more numerous also among older and lower educated people.

INTERNATIONAL COMPARISON

In 2017, the long-term unemployment rate was 1.9% in Estonia and 3.4% in the European Union on average. The rate in Estonia has fallen faster than the European Union average.

In 2010, the long-term unemployment rate in Estonia was nearly twice as high as the European Union average, while in the last five years, the Estonian rate has been lower than the European Union average. The long-term unemployment incidence was highest in Greece (15.6%), Spain (7.7%) and Italy (6.5%), lowest in the Czech Republic (1%), the United Kingdom (1.1%) and Sweden (1.2%).

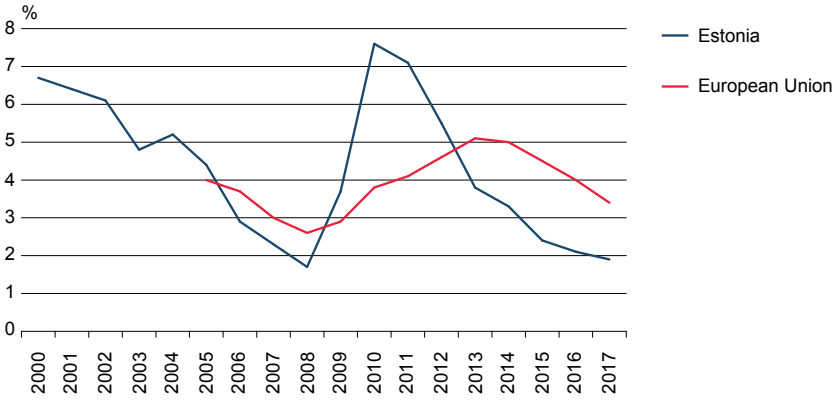
Long-term unemployment rate of persons aged 15–74 in Estonia, 2000–2017



Source: Statistics Estonia

Long-term unemployment is higher among men.

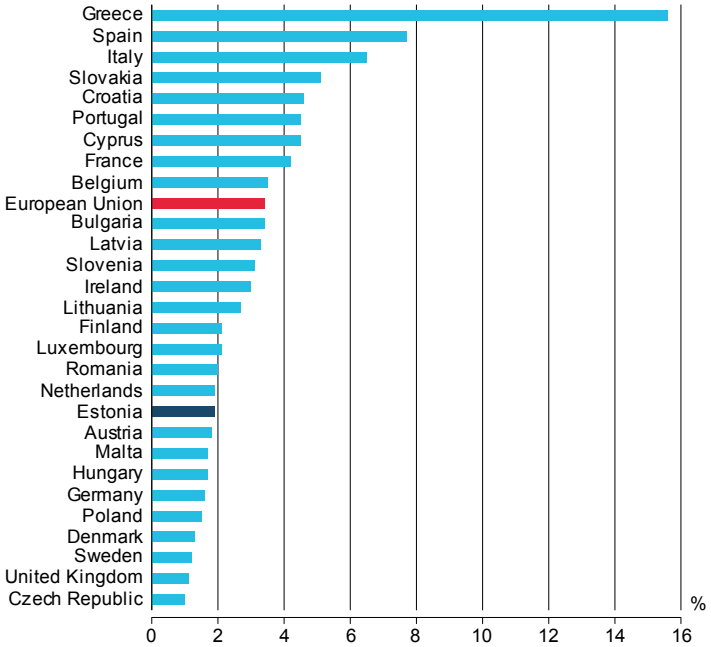
Long-term unemployment rate in Estonia and in the European Union, 2000–2017



Source: Eurostat

Changes in Estonia are bigger than in the EU on average.

Long-term unemployment rate of persons aged 15–74 in the European Union, 2017



Source: Eurostat

In 2017, the long-term unemployment rate in Estonia was lower than the EU average.

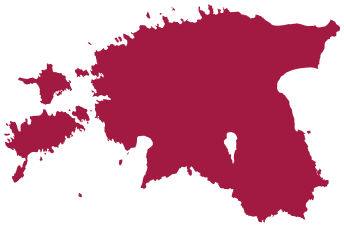
8 DECENT WORK AND ECONOMIC GROWTH

8.6. YOUNG PEOPLE NEITHER IN EMPLOYMENT NOR IN EDUCATION OR TRAINING

CONCEPTS

The indicator expresses the percentage of young people aged 15–24 neither in employment nor in education or training (NEET) in the given age group. The indicator has been studied separately for two groups: young people aged 15–19 and 20–24.

The share of young people neither in employment nor in education or training is an indicator of poor social cohesion. These young people often drop out of social life also. In economic terms, a major concern is the unused potential of young people.



SITUATION IN ESTONIA

In 2017, according to estimates, there were 11,700, or 9% of young people in Estonia who were neither working nor studying; in 2000, they numbered approximately 31,600, or 15%. In 2015–2017, the share of these young people started to decrease gradually, falling from 11% to 9%. A reason could be the improved labour market situation: there are more vacancies, which in turn contributes to young people staying in the labour market. In other words, the economic situation has an impact on how many young people don't work or study: during the economic boom in 2006–2008, the rate was 9%, but it rose to 15% by the economic crisis in 2009.

Young people neither in employment nor in education or training have been slightly more numerous among females than males. Years 2010, 2011 and 2014 were exceptional, as the share of males was higher than that of females. The higher share of females among NEET youth may be due to that mostly women look after other family members or children. Currently, parental leave or maternity and pregnancy leave are also covered in the calculation of this indicator in Estonia.

Compared to 15–19-year-old population, the share of those neither in employment nor in education or training is higher among people aged 20–24. The trend has been similar for years. In 2017, NEET youth accounted for 6% of people aged 15–19, and 13% of people aged 20–24. NEET youth may be more numerous among 20–24-year-old population because in this age young people begin their working life. They have normally acquired general education and no longer need to go to school, but not everything may go as planned. Women are more numerous among young people aged 20–24 neither in employment nor in education or training than men because people on parental leave are not considered employed in Estonia.

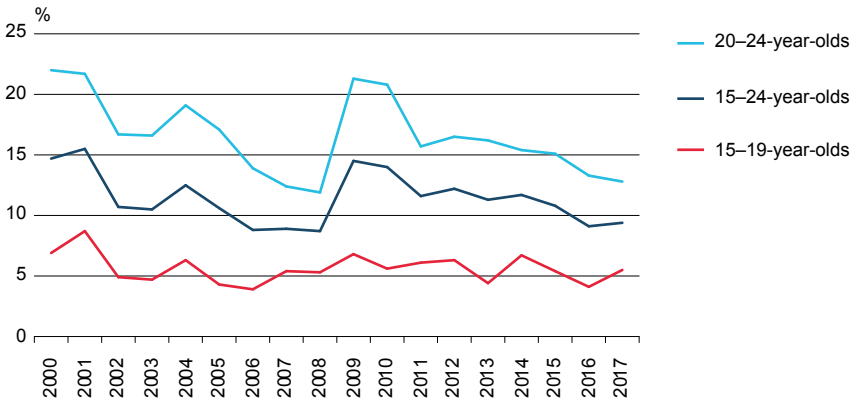
In 2017, the share of young people neither in employment nor in education or training was higher in rural settlements (11%) than in urban settlements (8%).

INTERNATIONAL COMPARISON

In 2017, the share of young people aged 15–24 neither in employment nor in education or training was 11% in the European Union countries, which was two percentage points higher than in Estonia in the same year (9%). The share of NEET youth was highest in Italy (20%), Cyprus (16%), Greece, Croatia, Bulgaria and Romania (all 15%). The share was lowest in the Netherlands (4%), Luxembourg, Sweden, Czech Republic and Germany (all 6%). The share of NEET youth aged 15–24 in Finland, Portugal, Belgium and Lithuania (9%) was the same as in Estonia.

The share of young males aged 15–24 neither in employment nor in education or training in Estonia was three percentage points lower than the European Union average, while the female rate was at the same level as the EU average. The share of young people aged 15–19 was also at the same level as the EU average (6%), that of people aged 20–24 was in Estonia three percentage points lower than the EU average.

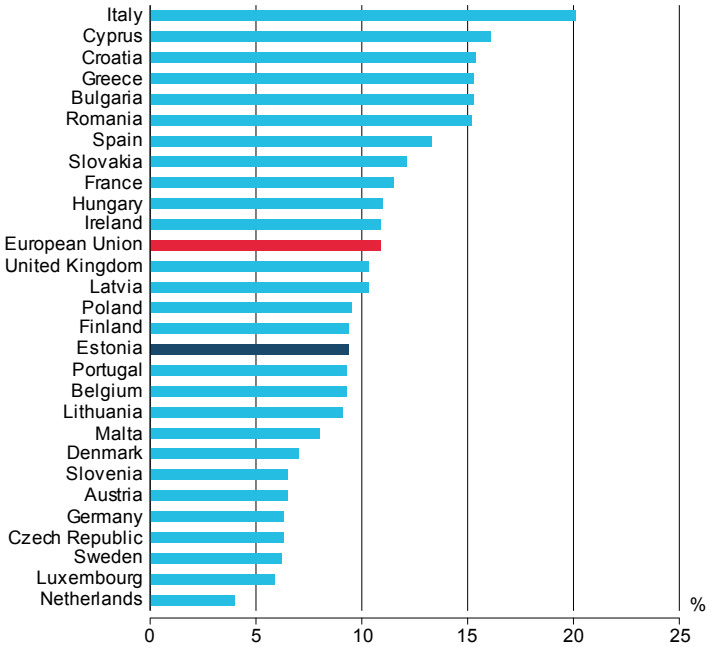
Share of young people neither in employment nor in education or training in Estonia, 2000–2017



Source: Statistics Estonia

Economic situation affects NEET youth: their share was high during the economic crisis in 2009.

Share of young people aged 15–24 neither in employment nor in education or training in the European Union, 2017



Source: Eurostat

The share of young people aged 15–24 neither in employment nor in education or training in Estonia is lower than in the EU on average.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALISATION AND FOSTER INNOVATION

The focus of the global goal "Industry, Innovation and Infrastructure" is infrastructure development, industrialisation and innovation, which are three important pillars of economic growth. If action in these areas is resilient, inclusive and sustainable, economic growth will support sustainable development.

The 2030 Agenda[1] targets include increasing the share of industry in employment and GDP; this indicator should double in the least developed countries. The agenda lays down improving access to financial services, raising efficiency in environmentally sound use of natural resources, enhancing research, increasing the number of researchers as well as including the private sector. Universal access to the internet must significantly expand already by 2020.

According to the UN progress report[2], in 2016, mobile service was available to 95% of the world population, including to 85% of the population of the least developed countries. The importance of infrastructure projects is demonstrated also by the fact that the main portion of official development assistance (ODA) has been directed to transport and energy sectors. At the same time, transport and industry have the greatest impact on the environment. The global target requires that emissions from industry not increase, and therefore, innovative technologies must be applied. It is important to invest more in R&D (in 2014, the share was 1.7% of the gross world product). Manufacturing is also moving towards technologically more complex products. Statistics for 2014 show that world-wide there were approximately 1,000 researchers per million inhabitants. However, this number varied from 63 in developing countries to 3,500 in Europe and Northern America.

The Estonian sustainable development strategy[3] emphasises securing fast internet in the educational system and digital availability of cultural records and texts.

The global goal "Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation" is linked in Estonia to the following indicators of R&D, availability of fast internet and transport of passangers and goods:

- Research and development expenditure
- Employment in research and development
- Fast internet
- Internet use
- Carriage of passengers and goods

In Estonia, the number of researchers and engineers has increased by more than a half compared to 2000, but the state and private sector expenditure on R&D activities has not grown at the same pace or to the same extent. In 2016, the share of funding to R&D was just 1.3% of the GDP, which remains significantly below the 2020 target (3% of the GDP).

In information technology, progress has been made towards faster connection speeds, and the number of internet users has increased. The digital divide between the younger and older age group is shrinking.

In 2016, the share of public transport in total land transport in passenger-kilometres was 19.9%, i.e. slightly above the EU average (17.1%). Nevertheless, the share of road transport in carriage of goods is increasing, accounting for over a half of the carriage of goods by land transport.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1.* UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66.* UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

9.1. RESEARCH AND DEVELOPMENT EXPENDITURE

CONCEPTS

The indicator of research and development (R&D) expenditure expresses the share of this expenditure in the gross domestic product (GDP). Expenditure can be observed by institutional sector.

Institutional sectors are divided according to international methodology into business enterprise sector and non-profit sector consisting of higher education sector, government sector and private non-profit sector.

SITUATION IN ESTONIA

After a rise in research and development expenditure in 2000–2011, the expenditure has decreased sharply in the past five years – in 2010–2012, large one-off investments were made, followed by falls in the following two years due to lack of new bigger investments. Nevertheless, R&D expenditure has increased compared to the beginning of 2000s.

The target set in the *Estonian Research, Development and Innovation Strategy 2014–2020* provides that by 2020, public investment level accounts for 3% of the GDP. In 2016, research and development funding accounted for only 1.3% of the GDP.

Research and development funding from the state budget includes also European Union support. Compared to previous years, the share of public funding decreased somewhat in 2016, accounting for 37%, as one Structural Funds funding round had just ended and another had not started yet.

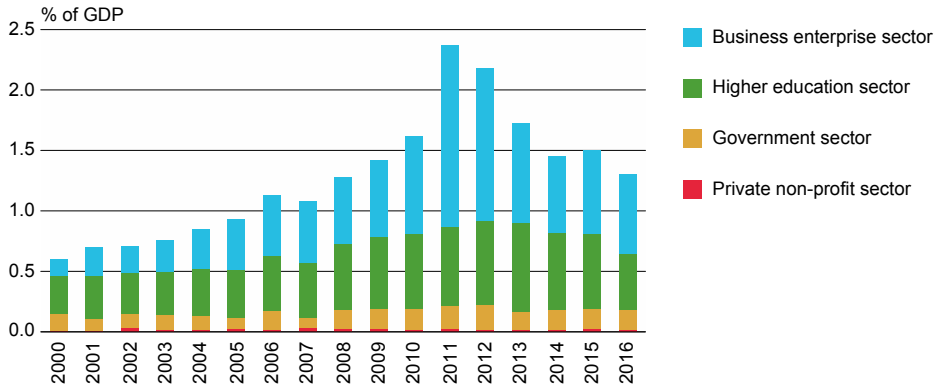
INTERNATIONAL COMPARISON

In 2016, research and development expenditure in the European Union accounted on average for 2.03% of the GDP. In only two countries, it accounted for more than 3% of the GDP: Sweden (3.25%) and Austria (3.09%). These countries have met the Europe 2020 target to increase by 2020 the share of R&D expenditure to 3%. Germany (2.94%), Denmark (2.87%) and Finland (2.75%) were quite close to the 3% target. In nine countries, R&D expenditure accounted for less than 1%; the share was lowest in Latvia (0.44%). The indicator for Estonia (1.28% of the GDP) was 0.75 percentage points lower than the European Union average.

Also in other European Union countries, the business enterprise sector contributes the most to research and development: the contribution of the business sector was biggest in Sweden (2.26% of GDP), Austria (2.20% of GDP) and Denmark (1.89% of GDP). The contribution of the business sector was smallest in Latvia (0.11% of GDP), where the non-profit institutional sector contributed the most to research and development (0.33% of GDP).

In 2016, the research and development intensity indicator in Estonia was 1.28; with this indicator, Estonia was 13th among the European Union countries.

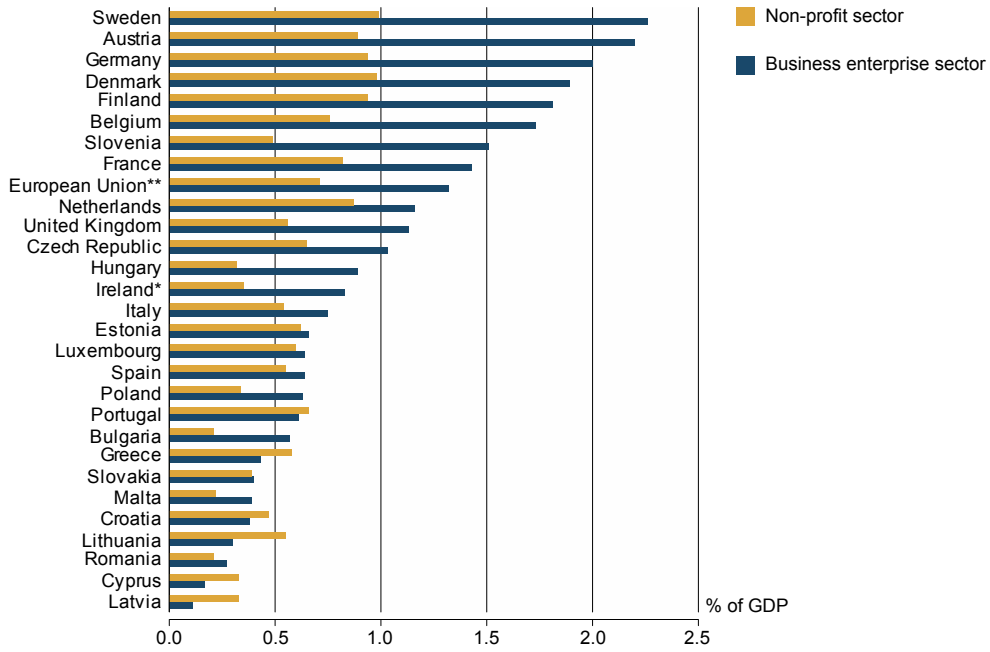
Research and development expenditure in Estonia, 2006–2016



Source: Statistics Estonia

R&D expenditure of the business enterprise sector has increased since 2000, but the target (2% of the GDP) is still out of reach.

Research and development expenditure in the European Union, 2016



* Data for Ireland are estimated.

** Data for the European Union are preliminary.

Source: Eurostat

In 2016, R&D expenditure in Estonia was 0.75 percentage points lower than on average in the EU.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

9.2. EMPLOYMENT IN RESEARCH AND DEVELOPMENT

CONCEPTS

Employment in research and development (R&D) expresses the number of full-time researchers and engineers per 100,000 inhabitants.

SITUATION IN ESTONIA

In 2000, the number of full-time employees in research and development was 2,666, of whom 90% were employed in the non-profit institutional sector.[1] In 2016, the number of full-time employees in R&D was 4,338, of whom 70% were employed in the non-profit institutional sector and the remaining 30% in the business enterprise sector. The number or researchers and engineers has increased by almost a fifth (17%) in ten years; compared to 2000, their number has more than doubled (63%). Per 100,000 inhabitants, the number of researchers and engineers employed in R&D has increased from 190 to 330 compared to 2000.

The share of women among researchers and engineers was 41% in 2016; the share has been stable since 2000. By sector, female researchers accounted in 2016 for the biggest share in the government sector (61%) and higher education sector (44%). In the business enterprise sector, female researchers accounted for 28% in 2016, which is 4% less than in 2000.

In 2016, the share of researchers and engineers with doctoral degree in the non-profit institutional sector was 55%, and researchers with master's degree accounted for 33.5%. Compared to 2000, the share of researchers and engineers with doctoral degree has increased by more than 10%. The share of women among researchers with master's degree in 2016 was 58%. In 2000, women with doctoral degree accounted for only 31%, but in 2016, their share was 42%. Among persons employed in R&D in the business enterprise sector in 2016, 9% had a doctoral degree and 35% had a master's degree.

In 2016, there were 402 foreign researchers from 57 countries employed in Estonia: 112 women and 290 men. The largest number came from Germany (50), Russia (37), Italy (27) and Finland (27). The number of foreign researchers has increased considerably over the past three years. The largest number of foreign researchers was recorded in 2014, when 426 foreign researchers from 59 countries were working in Estonia. Ten years earlier in 2004, there were 58 foreign researchers working in Estonia. Researchers from the Philippines, Guatemala, Trinidad and Tobago and Venezuela have worked in Estonia.

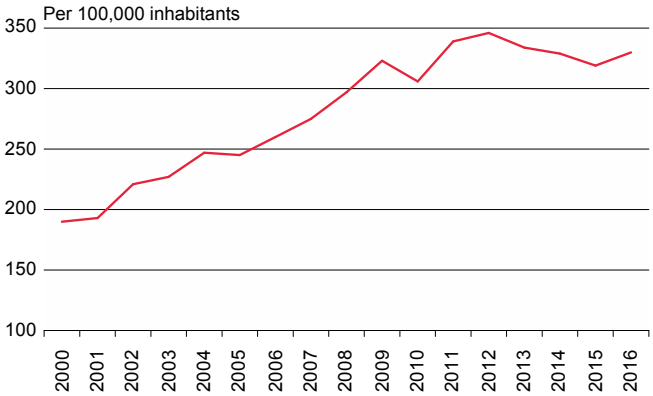
INTERNATIONAL COMPARISON

The number of researchers has increased in recent years also in the EU: in 2016, the number of researchers working in the EU was 1.88 million (in full-time units). Compared to 2006, the number grew by almost a third (32.2%). In 2016, compared to 2006, the number of researchers doubled in Ireland (from 12,200 to 26,300). Their number increased significantly in Portugal (65.3%), Malta (59.1%), Bulgaria and the Netherlands (both 54.8%), Belgium (54.2%) and Austria (53.9%). At the same time, the number of researchers fell in Latvia (19.9%), Finland (11.1%) and Romania (5.1%).

The distribution of researchers was quite different by sector. In 2016, the biggest shares of researchers were employed in the business enterprise sectors of Sweden (67%) and Austria (64%). In Latvia and Greece, less than a fifth of researchers were employed in this sector. In the higher education sector, the situation varied: the largest share of researchers was recorded in Portugal (64.9%) and Latvia (61.7%).

1 Higher education sector, government sector and private non-profit sector

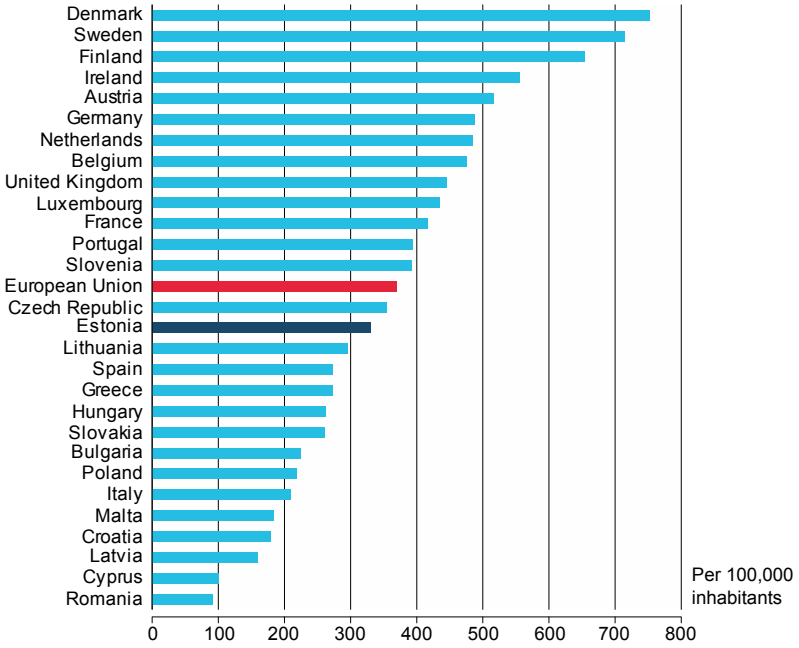
Researchers and engineers in Estonia, 2000–2016



Source: Statistics Estonia

The number of researchers and engineers in Estonia has more than doubled compared to 2000.

Full-time researchers and engineers in the European Union, 2016



Source: Eurostat

Compared to the EU average, there are fewer researchers and engineers per 100,000 inhabitants in Estonia.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

9.3. FAST INTERNET

CONCEPTS

The indicator of fast internet shows the share of 100 Mbit/s or faster connections in the total number of fixed broadband connections.

Fixed broadband connections are connections via fibre-optic, copper or coaxial cable in a house, apartment, office, etc.

SITUATION IN ESTONIA

Before 2011, providers of electronic communications services did not provide 100 Mbit/s or faster internet connection to the general public; it was available to large business clients (e.g. banks, insurance companies, etc.) upon special request. In 2011, the share of 100 Mbit/s or faster connections in the total number of fixed connections was 3%. By 2016, however, 100 Mbit/s or faster connections accounted for 11.5% of all fixed internet connections in Estonia.

Mainly two factors affect the use of the service: cost and people's desire or need for 100 Mbit/s or faster connection. For normal viewing of websites, using public eservices and other similar activities, also 30–100 Mbit/s is sufficient. In recent years, internet traffic has increased considerably mainly due to watching videos and downloading and streaming (Netflix, etc.). Therefore, to watch high-quality HD and 4K videos, people are willing to pay for faster connections.

In addition to the increasing share of 100 Mbit/s or faster connections, also subscriptions for 10–100 Mbit/s have increased. The share of bit rate 10–30 Mbit/s in all fixed connections in 2017 was 41% and the share of bit rate 30–100 Mbit/s was 26%. The share of bit rates below 10 Mbit/s have been steadily decreasing in recent years.

59% of households were estimated to have fixed broadband connection in 2014. By the end of the 3rd quarter of 2017, the share was 68%. By the end of the 4th quarter of 2014, nearly 85% of the end users of broadband connection had a package solution (were using other services besides broadband connection), and by the end of the 3rd quarter of 2017, the share was nearly 90%. Package solutions are usually offered at a lower price and therefore it is not reasonable to use broadband separately.[1]

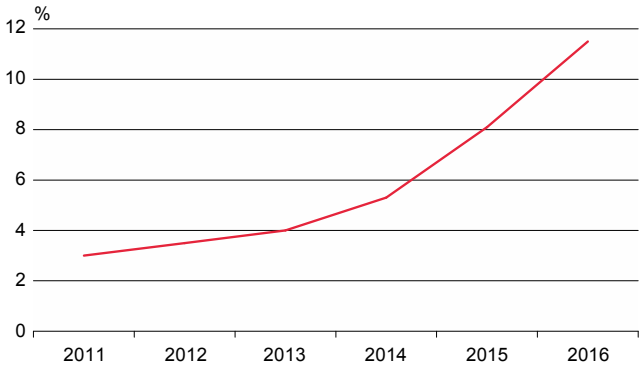
INTERNATIONAL COMPARISON

International data for July 2017 show that the share of 100 Mbit/s or faster connections in all broadband connections in Estonia was 11.5% (data for Estonia are from 2016). With this Estonia ranked 22nd among the European Union countries. The European Union average was 20.4%.

The shares of 100 Mbit/s or faster fixed connections were largest in Romania (65.5%) and Sweden (60.8%), and the smallest shares were recorded in Croatia (2.01%), Cyprus (0.3%) and Greece (0.02%). Besides Estonia, a stable increase in the share of 100 Mbit/s or faster fixed connections in the total number of broadband connections has occurred also in other European Union countries.

1 Elektroonilise side ülevaade. 4th quarter 2014 and 3rd quarter 2017. Technical Regulatory Authority.

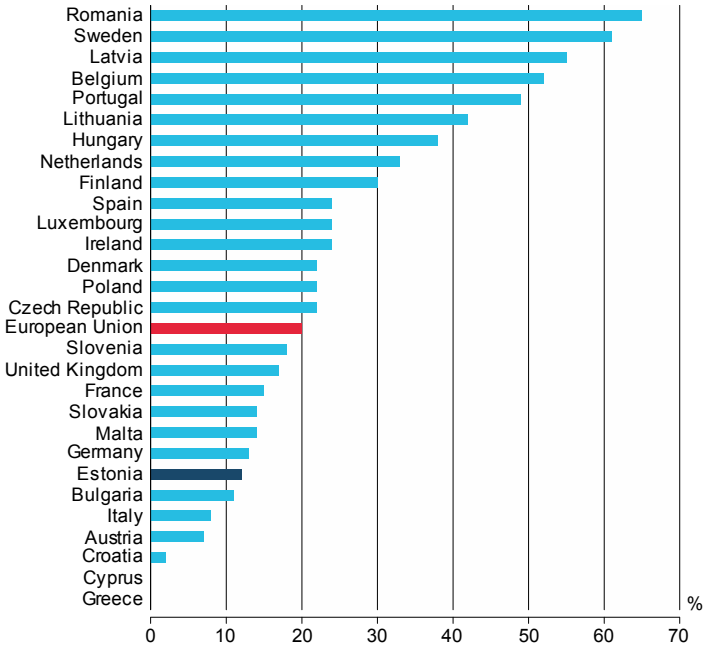
Change in share of 100 Mbit/s or faster connections in total number of fixed internet connections in Estonia, 2011–2016



Source: European Commission

In Estonia, the share of 100 Mbit/s or faster connections in the total number of fixed connections has increased.

Share of 100 Mbit/s or faster connections in total number of fixed internet connections in the European Union, 2016*



* July 2017 data of the European Commission. 2016 data for Estonia.

Source: European Commission

In the EU on average, the share of 100 Mbit/s or faster connections is approximately 9 percentage points bigger than in Estonia.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

9.4. INTERNET USE

CONCEPTS

The indicator of internet use expresses the share of persons aged 16–74 who have used the internet in the last three months. This includes internet use anywhere (at home, work or elsewhere) and via any device (e.g. desktop or laptop computer, tablet, mobile or smart phone, smart watch, game console, e-reader, etc.).

SITUATION IN ESTONIA

In 2015–2017, the share of internet users aged 16–74 remained stable at 88%. The comparison of age groups reveals that young people aged 16–34 account for the largest share of internet users – almost everyone in this age group uses the internet. Among persons aged 35–54, on average 9 persons out of 10 use the internet. Over the years, the share of 55–74-year-old internet users has increased: 59% of them were using the internet in 2014, while in 2017, the share was 68%. This indicates that the digital gap between the younger and older generation is narrowing.

In 2005, there were more men (60%) than women (56%) among internet users, but over the years, the gap has narrowed. In 2017, the share of both men and women was 88%.

Daily internet users account for 90% and daily computer users for 85% of internet users, which points to the fact that the internet is accessed increasingly via portable devices, e.g. laptops, smart phones, smart watches.

In the last three months, the internet was used on the move (away from home or office) via mobile phone or smart phone by 73% (66% in 2016) and via portable computer by 32% of internet users (29% in 2016).

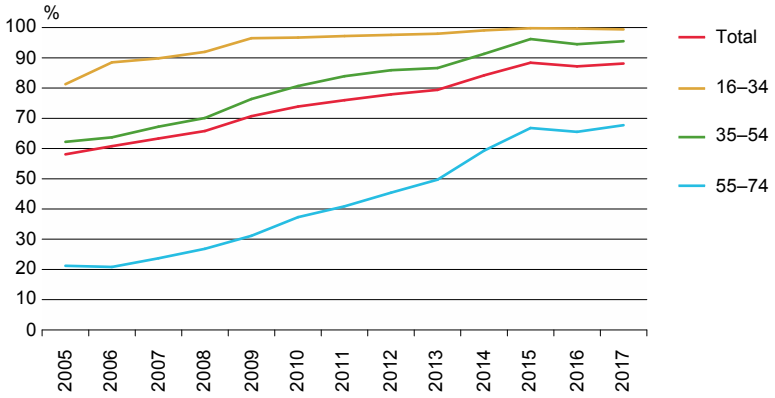
INTERNATIONAL COMPARISON

In the European Union, the average share of internet users among the population aged 16–74 was 84%, which is 4 percentage points less than in Estonia. The share of internet users was biggest in Luxembourg and Denmark (both 97%), Sweden (96%), the United Kingdom and the Netherlands (both 95%); the share was smallest in Bulgaria (63%), Romania (64%) and Croatia (67%). Estonia shares 8th to 10th place with Austria and Belgium in terms of the share of internet users.

99% of the population aged 16–24 in Estonia use the internet, i.e. more than on average in the European Union (97%). The situation is similar in the age group 55–74 – the share in Estonia (68%) is bigger than the European Union average (64%). The share of internet users among the population aged 55–74 is biggest in Luxembourg (93%) and smallest in Romania (31%).

In the European Union on average, the share of men (85%) among internet users exceeds the share of women (82%). In the European Union, 87% of internet users used the internet daily, which is 3 percentage points less than in Estonia (90%).

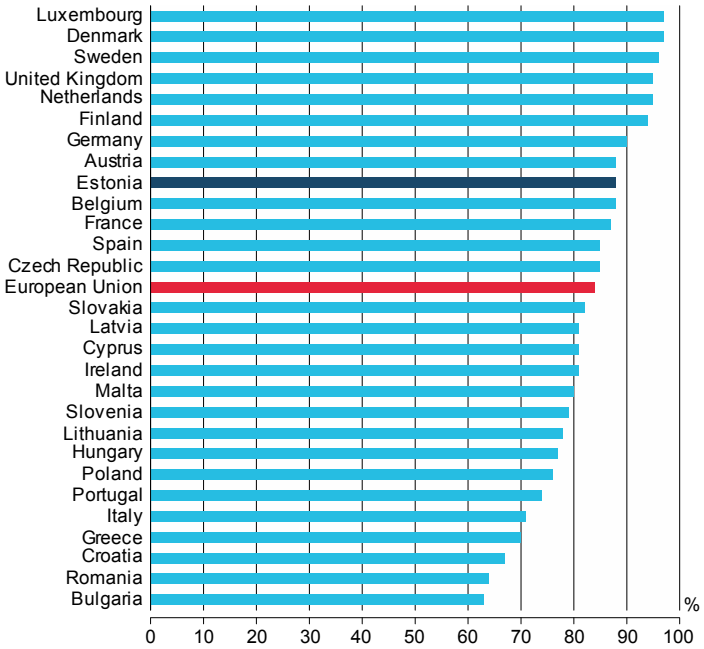
Internet use of population aged 16–74 in Estonia, 2005–2017



Source: Statistics Estonia

The digital gap between the younger and older generation has decreased in 2005–2017.

Internet use of population aged 16–74 in the European Union, 2017



Source: Eurostat

Estonia shares 8th to 10th place with Austria and Belgium in terms of the share of internet users.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

9.5. CARRIAGE OF PASSENGERS AND GOODS

CONCEPTS

Carriage of passengers by type of transport shows how the carriage of passengers depends on the type of land transport. The indicator[1] expresses the share (in percentages) of passengers carried by passenger cars, buses and trains in the total carriage of passengers by land transport (measured in passengerkilometres).

Carriage of goods by type of transport shows how the carriage of goods depends on the type of land transport. The indicator is expressed as a share (in percentages) of road, rail and inland waterways transport in total carriage of goods by land transport (in tonne-kilometres).[2]

Sustainable transport is a development direction preferring in the carriage of passengers and goods the types of transport with lower energy consumption, use of resources (incl. land use) and environmental impact. Generally, water transport is considered the most favourable, followed by railway transport, and the most energy-intensive are road transport and air transport. The environmental impact of different types of transport is different, and therefore, it can be assessed based on their distribution, whether, when and to what extent the transition to more environmentally sustainable types of transport is taking place.

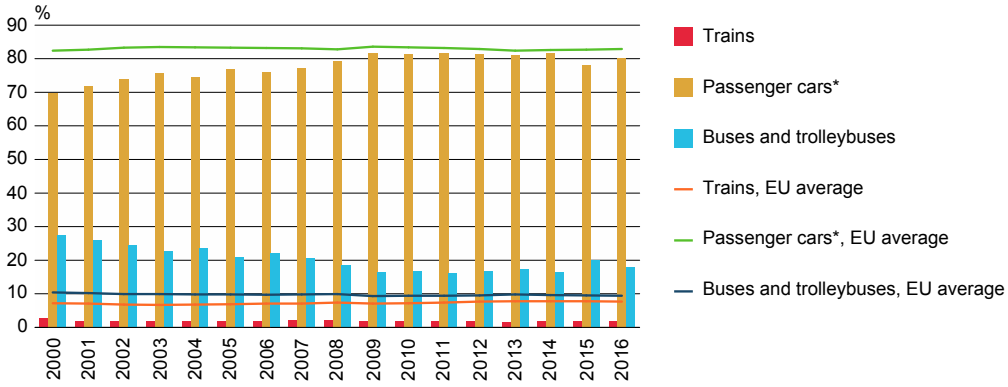
SITUATION IN ESTONIA

In 2000, passenger transport by passenger cars was estimated to have accounted for 69.8%, by trains for 2.7% and by buses and trolleybuses for 27.5% of passenger kilometres (public land transport accounted for 30.2%). In 2016, the respective shares were 80.1%, 2.0% and 17.9%. The share of public transport in 2016 was 19.9% of total land transport in passenger-kilometres, i.e. slightly more than the European Union average (17.1%). New trains have made railway transport more popular in Estonia in recent years, but the share of railway transport in passenger-kilometres is still small compared to road transport.

In 2005, carriage of goods by road accounted for 20.1% and carriage of goods by rail for 79.9% of land transport tonne-kilometres. Inland waterway are not used for carriage of goods in Estonia. In the years under study, the share of railway transport in the carriage of goods decreased in Estonia due to changes in the political (as regards Russia) and economic situation. Transit transport of goods by railway has decreased considerably. In 2016, the share of road transport in Estonia was 57.1% of total land transport in tonne-kilometres, i.e. smaller than on average in the European Union. The share of railway transport was 42.9%, i.e. bigger than on average in the European Union. In 2016, the respective shares in the European Union were 76.4% and 17.4%.

1 Eurostat has calculated some indicators on the basis of the number of vehicles and capacity, applying the annual average growth rate.
2 The basis for railway and inland waterways transport data is transport in the territory of a country (principle of territoriality), regardless of the nationality of the vehicle or vessel. Eurostat has converted the road transport data according to the principle of territoriality and they include data on the movement of vehicles registered in EU countries. The indicator is available since 2005.

Carriage of passengers by land transport in Estonia, 2000–2016

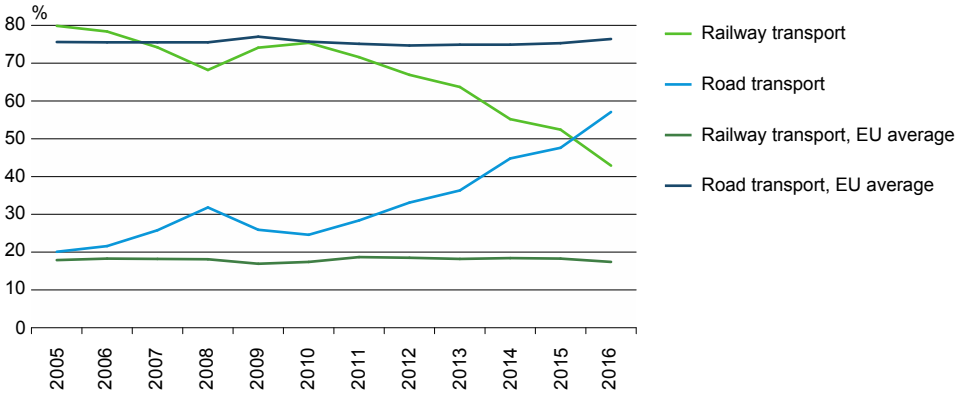


* The estimates for the use of passenger cars have been calculated on the basis of the number of passenger cars and capacity data, using the annual average growth rate.

Source: Eurostat

In 2016, the share of public transport in Estonia was 19.9% of total land transport, which is more than in the EU.

Carriage of goods by land transport in Estonia, 2005–2016



Source: Eurostat

In 2016, in Estonia, road transport had a smaller share and railway transport a bigger share than in the EU.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

9.5. CARRIAGE OF PASSENGERS AND GOODS

INTERNATIONAL COMPARISON

According to the sustainable development strategy of the European Union, the aim of sustainable transport is to make sure that transport systems meet the needs of society, minimising at the same time their unwanted impact on the economy, society and the environment.

The shares of different types of transport have not changed significantly in land transport in passenger-kilometres since 2000. Compared to 2000, the share of passenger cars as well as trains in the carriage of passengers increased by 0.5% by 2016, but the share of buses and trolleybuses decreased by 1%. Therefore, there has not been a noticeable change towards more environmentally sustainable types of passenger transport. Since 2000, more than 82% of passenger transport in passenger-kilometres has been by passenger cars in the European Union. The situation varies across countries. In 2016, the share of public land transport was biggest in Hungary (31%) and the share of bus transport in public land transport was also biggest in Hungary (21.7%). The share of railway transport was biggest in Austria (12.1%).

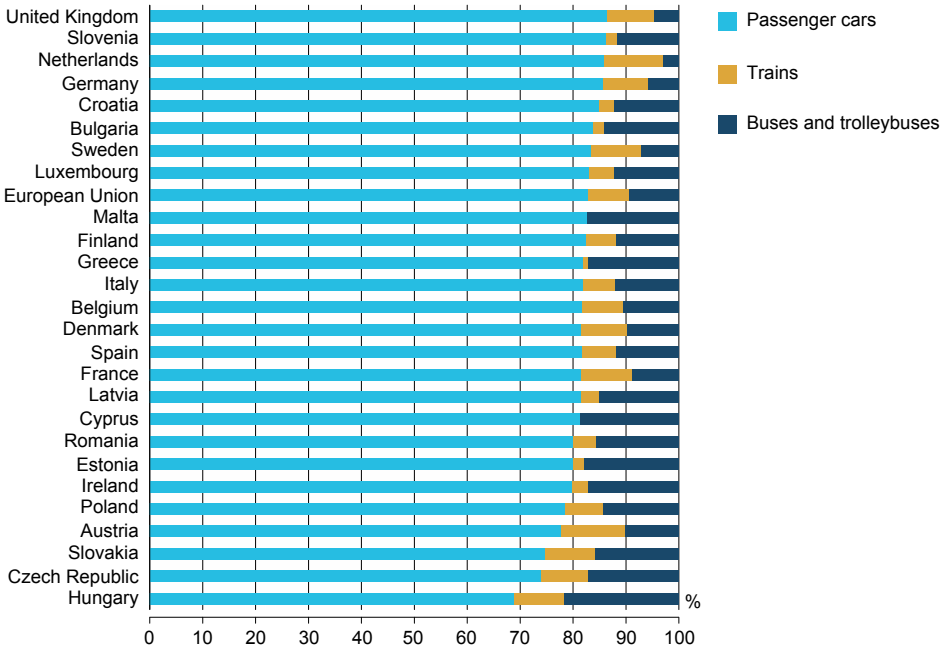
In 2000, the carriage of passengers by passenger cars accounted for 82.4%, by trains for 7.2% and by buses and trolleybuses for 10.4% of passenger-kilometres in the European Union (therefore, public land transport in the European Union was 17.6%). In 2016, the respective shares were 82.9%, 7.7% and 9.4%. In 2016, public transport accounted for 17.1% of total land transport in passenger-kilometres in the European Union.

Political situation and economic conditions affect the carriage of goods more than they affect passenger transport. The share of road transport decreased due to the economic recession in some years during the period 2005–2016. More than three quarters of the carriage of goods in the European Union in tonne-kilometres was by road transport. Compared to 2005, the share of road transport in the carriage of goods has increased in the European Union by 0.8%, and the shares of railway transport and inland waterways transport have decreased by 0.5% and 0.2%, respectively. A significant shift towards more economically sustainable types of transport have not been detected in the carriage of goods.

The situation varies across countries. In 2016, the share of railway transport in the European Union was biggest in Latvia (76.6%), and the share of inland waterways transport was biggest in the Netherlands (44.6%). In Malta and Cyprus, there are no railways or inland waterways.

In 2005, road transport accounted for 75.6% of land transport tonne-kilometres in the European Union; railway transport accounted for 17.9% and inland waterways transport for 6.4%. In 2016, the respective shares were 76.4%, 17.4% and 6.2%.

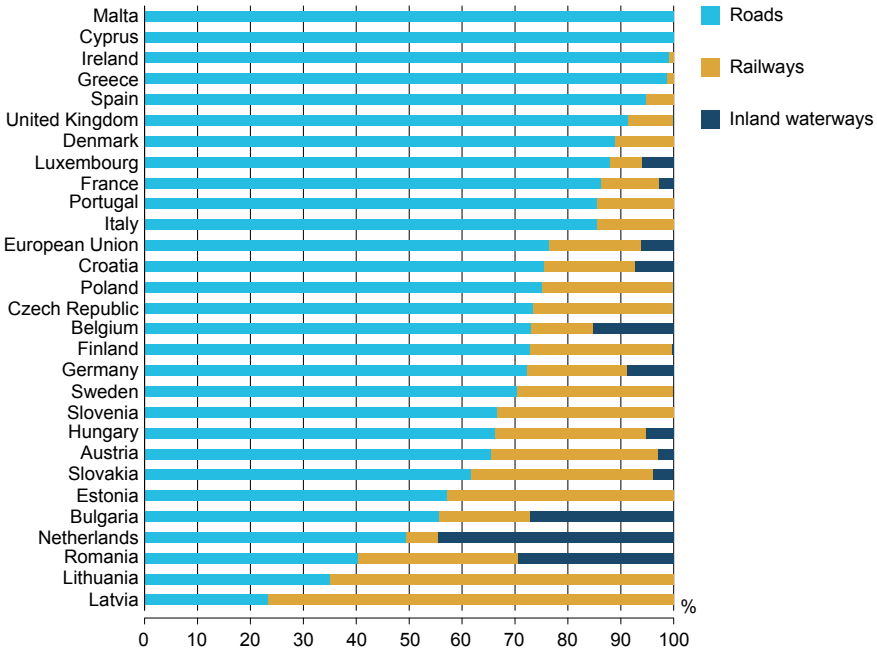
Carriage of passengers (in passenger-kilometres) by type of transport in the European Union, 2016



Source: Eurostat

The use of more environmentally sustainable transport has not increased considerably in the EU, with passenger cars still accounting for the largest share.

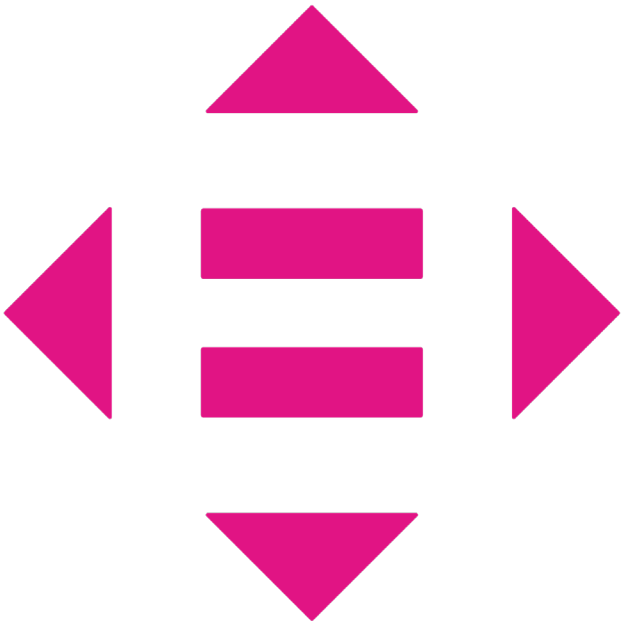
Carriage of goods (in tonne-kilometres) by type of transport in the European Union, 2016



Source: Eurostat

Road transport continues to account for the biggest share in land transport in the EU.

10 REDUCED INEQUALITIES



REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES

The focus of the global goal "Reduced Inequalities" is safe, controlled and regular migration, and increasing the influence of developing countries in making economic and financial decisions.

The 2030 Agenda[1] lays down that the incomes of the 40% of population earning the least must grow faster than national averages. Also, all people must be treated equally, irrespective of their age, sex, disability, race, ethnicity, origin, religion, economic or other status, while their social, economic and political inclusion must be promoted. The same principles must also apply in the case of migration.

According to the UN progress report[2], postal and money transfer enterprises mostly charge a 6% transfer fee, whereas commercial banks might charge up to 11%. The fees are lower (2–4%) in case of mobile transfers, but because of the limited availability of this service, it is less common. The target is to reduce transfer fees to 3%.

One of the issues in reducing inequality between countries is the treatment of trade of developing countries on the world market. Higher customs duties and limited access to export markets hold developing countries further back.

The Estonian sustainable development strategy[3] emphasises the need to reduce economic inequality, promote social inclusion and regional balance.

The global goal "Reduce inequality within and among countries" is linked in Estonia with the following inequality indicators:

- Income per household member
- Income inequality
- Accessibility of health care

Although income per household member has increased in Estonia since 2011, the European Union average is 1.6 times higher. At the same time, incomes have not grown for all households. Income inequality in Estonia has fluctuated since 2000, but it exceeds the European Union average. Income inequality is also expressed in the accessibility of specialised medical care and dental care, as people with lower incomes lack money for these services.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1*. UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66*. UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

10 REDUCED INEQUALITIES

10.1. INCOME PER HOUSEHOLD MEMBER

CONCEPTS

Equivalised income, i.e. total household's income (in euros) divided by the sum of equivalence scales, shows income per household member in a year. The indicator provides an equivalent for statistical comparison based on which it is possible to estimate the size of income of a household member. It is better to draw statistical conclusions and make generalisations based on this indicator rather than on monthly gross wages and salaries, monthly net wages or salaries or disposable (net) income of a household member. The indicator is calculated by household type, sex, age group, county, ethnic nationality and level of education.

SITUATION IN ESTONIA

In 2016, the average income per household member in Estonia was 10,941 euros. In 2003, it was 3,244 euros.

Income per household member depended on household type. Income per household member was highest in households of couples aged under 65 without children. Their income per household member in 2016 was 13,188 euros. Next by income level were couples with one child – income 12,954 euros. Couples with two children ranked third – income 12,605 euros. Income was smallest per household member in households with single person aged 65 and over. Income per household member in these households was 5,655 euros.

The biggest income by sex and age group in 2016 was earned by women aged 25–34 (12,980 euros). Next were men of the same age group (12,784 euros). Women aged 65 and over earned the least (7,249 euros). The income of men in the same age group was 8,221 euros. In some age groups, men earn more (16–24, 55–64 and 65 and over), and in some age groups, women earn more (0–15, 25–34, 35–44 and 45–54).

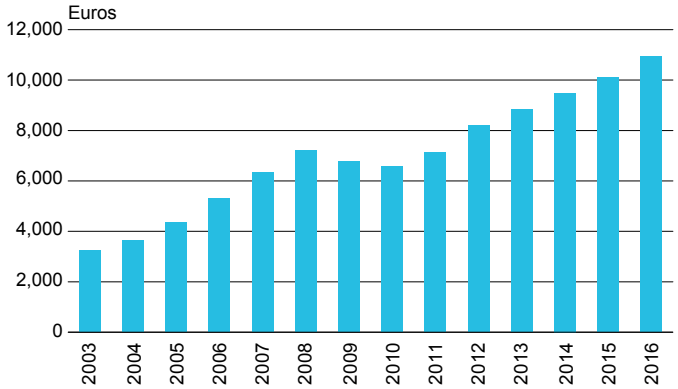
In 2016, the largest aggregate for women and men by county was recorded in Harju county (12,848 euros) and the smallest in Põlva county (7,988 euros). The indicator for Tallinn was (12,744 euros).

By ethnic nationality, Estonians earned the largest income per household member (11,562 euros) and non-Estonians earned less (9,387 euros) in 2016. By level of education, persons with tertiary education earned the most (13,624 euros). Persons with secondary education (9,547 euros) and persons with primary education or less (7,922 euros) earned less.

INTERNATIONAL COMPARISON

In 2016, Estonia was 18th among the European Union countries as regards income per household member. Income per household member was largest in Luxembourg (28,087 euros), Austria (22,524 euros), Germany (21,198 euros) and Denmark (21,116 euros). Income per household member was smallest in Romania (4,794 euros), Bulgaria (6,735 euros), Hungary (8,395 euros) and Croatia (8,829 euros). The so-called old Europe is clearly in the lead and the new Europe (Eastern European countries) is lagging behind.

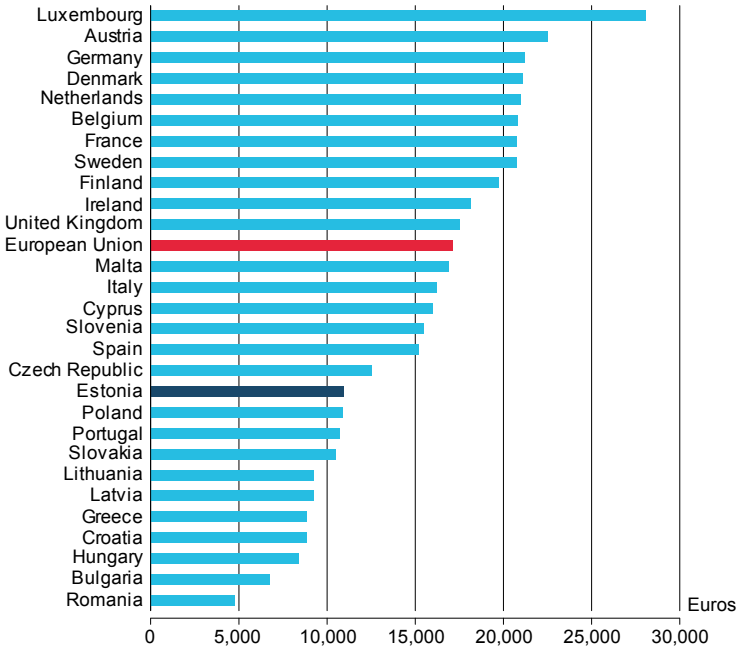
Income per household member in Estonia, 2003–2016



Source: Statistics Estonia

Income per household member has increased since 2011.

Income per household member in the European Union, 2016



Source: Eurostat

In 2006, income per household member on average in the EU was 1.6 times bigger than in Estonia.

10 REDUCED INEQUALITIES

10.2. INCOME INEQUALITY

CONCEPTS

The indicator is the quintile share ratio, i.e. the ratio of total equivalised disposable income of persons in the top quintile to that of persons in the bottom quintile. Income quintile is a fifth of the population ranked by the total annual equivalised disposable income. The fifth of the population with the smallest total equivalised disposable income is in the lowest quintile and the fifth of the population with the highest income in the top quintile.

Equivalised disposable income is household's disposable income divided by the sum of household members' equivalence scales.

Income inequality shows how many times the income of the highest quintile exceeds the income of the lowest quintile. The higher the indicator, the bigger the income inequality. The indicator provides a statistical equivalent for comparison, based on which it is possible to assess overall income inequality and draw conclusions. It is better to draw statistical conclusions and make generalisations based on this indicator rather than on quintile share ratio that has been calculated, for instance, on the basis of monthly gross wages and salaries, monthly net wages and salaries or disposable (net) income.

SITUATION IN ESTONIA

In 2000–2016, income inequality has varied in Estonia, declining from 6.3 to 5.6. The income inequality of men decreased by 12% (from 6.9 to 6.1) and that of women by 18% (from 6.8 to 5.6). The decline in income inequality was not linear. Income inequality was smallest in 2007 at 5.0 (5.5 for men and 4.9 for women).

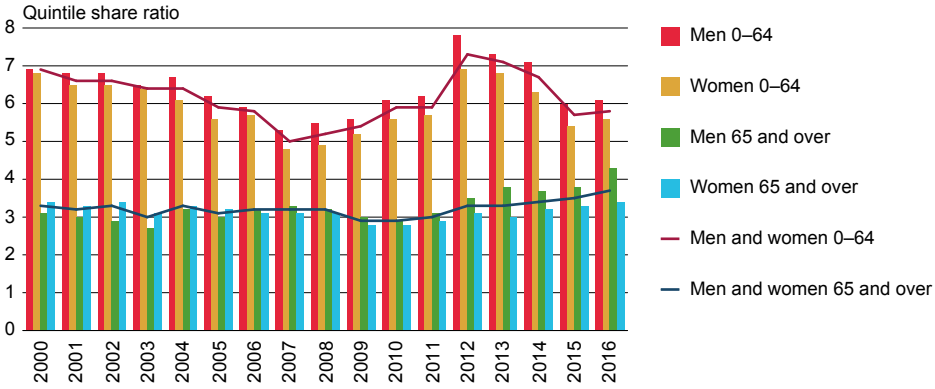
In the period 2000–2016, income inequality was biggest among the population aged 0–64 in 2012, when it was 7.3 (7.8 for men and 6.9 for women). This shows that by 2012, economic recession was reflected also in income inequality. After 2012, income inequality has decreased as the economic situation has improved.

The dynamics of income inequality of the population aged 65 and over has been different. There was no 2007 minimum or 2012 maximum. Income inequality in this age group was smallest in 2009–2010. Income inequality of the population aged 65 and over did not decrease in 2000–2016 as it did in the case of the population aged 0–64. The indicator for women remained the same (3.4) and the indicator for men increased (from 3.1 to 4.3). The aggregate indicator increased (from 3.3 to 3.7). This is mostly due to the fact that this age group does not directly benefit from the economic success and the logic behind their income is different. The main income of the population aged 65 and over is pension, which increases but does not correlate with economic cycles.

INTERNATIONAL COMPARISON

In 2016, in terms of income inequality, Estonia was 11th (ratio of 5.6) among the European Union countries. Income inequality was smallest in the Czech Republic (3.5), followed by Finland, Slovenia and Slovakia (3.6 in each). Income inequality was biggest in Bulgaria (7.9), followed by Romania (7.2), Lithuania (7.1), Greece (6.6) and Spain (6.6). Income inequality is one of the indicators in the case of which the so-called old and rich European countries are not different from the new and poor countries. The indicator largely results from national practices.

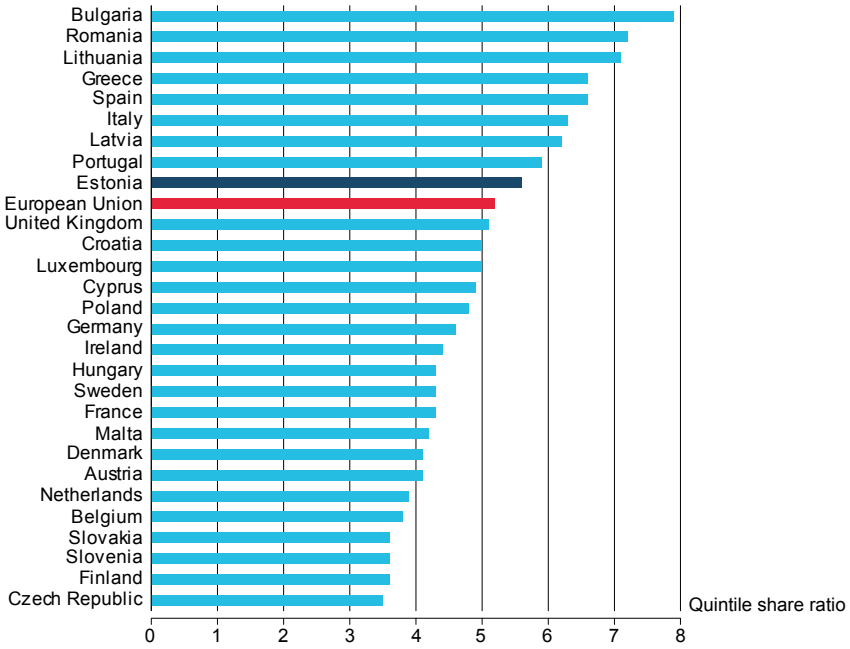
Income inequality in Estonia, 2000–2016



Source: Statistics Estonia

Income inequality has fluctuated more among 0–64-year-olds compared to older persons.

Income inequality in the European Union, 2016



Source: Eurostat

In 2016, income inequality in Estonia was higher than the EU average.

10 REDUCED INEQUALITIES

10.3. ACCESSIBILITY OF HEALTH CARE

CONCEPTS

Accessibility of health care among persons aged 16 and over is viewed by kind of health care and equivalised disposable income. Persons with unmet needs for health care are those who needed health care in the past 12 months but did not get it for some reason.

Accessibility of health care is measured by three kinds of health care: primary care, specialised medical care and dental care.

Equivalised disposable income is household's disposable income divided by the sum of household members' equivalence scales.

International comparison is provided for accessibility of dental care.

SITUATION IN ESTONIA

Accessibility of health care varies across types of health care. In 2017, specialised medical care was the most difficult to access for Estonian inhabitants. 1.6% of the population in need did not have access to a family physician and 7% to dental care, but the share of those with unmet needs for specialised medical care was considerably larger: 12.4%. The share of the population not having access to a family physician is low in all income quintiles, but the share of population not having access to specialised medical care and dental care is bigger in lower income quintiles.

In 2004–2014, the share of the population with unmet needs for specialised medical care was less than 10%. The share was biggest in 2016, when almost every sixth person (15.7%) did not get specialised medical care for some reason. By income, the difference is biggest between the population in the lowest and highest income quintile: in 2017, the share of the population with unmet needs for specialised medical care among the population with low income was 14.9%, while the share among the population with higher income was 10.8%. On average every seventh person among the population living below the at-risk-of-poverty threshold did not receive specialised medical care for some reason.

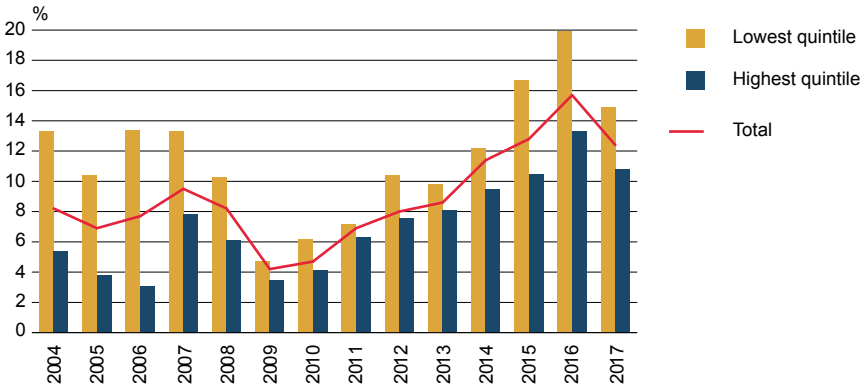
There are no significant problems with primary care accessibility, as the share of the population with unmet needs for this care has been under 7% for years, and under 4% since 2008. The comparison of income quintiles shows a difference in the case of the population in the lowest quintile: in 2017, the share of those who did not receive care was 2.8%, while the share in other income quintiles ranged from 1.1–1.4%.

Dental care was the most difficult to access for population aged 16 and over in 2015, when on average every eighth inhabitant (12%) did not receive care. Since then, access to dental care has improved: in 2017, the share of the population who did not get help with their problems was 7%. The comparison of income quintiles shows that also access to dental care is worse in lower income quintiles. The difference in access to dental care between the population in the highest and lowest quintiles is 10.2 percentage points. Access to dental care among the population below the at-risk-of-poverty threshold is more than a half lower.

INTERNATIONAL COMPARISON

Estonia ranked low among the European Union countries, in terms of access to dental care. In the European Union countries, an average of 5.5% of the population did not get help with their problem in 2016. In Estonia, the indicator was 10.4%, i.e. nearly twice the size. The share was bigger than in Estonia in only three countries: Greece, Latvia and Portugal.

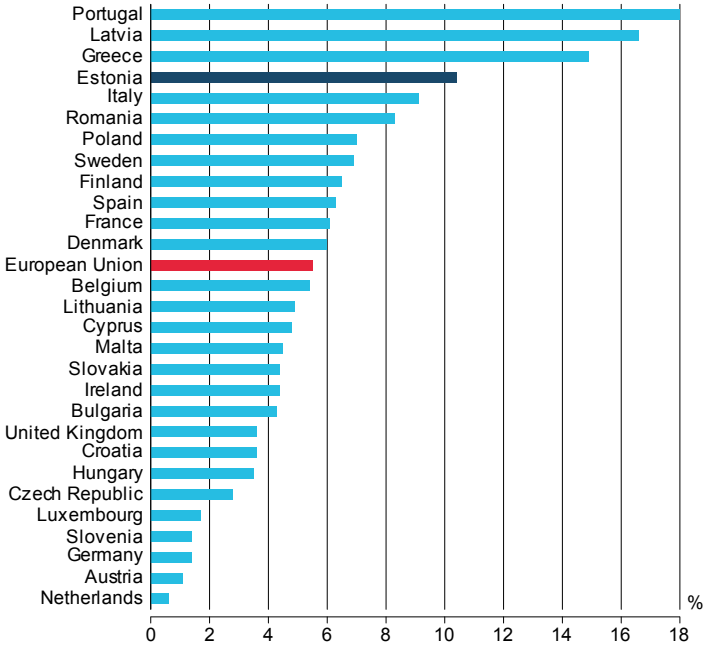
Unmet needs for specialised medical care among population aged 16 and over in Estonia, 2004–2017



Source: Statistics Estonia

The share of unmet needs for specialised medical care is bigger among persons with lower income.

Unmet needs for dental care among population aged 16 and over in the European Union, 2016



Source: Eurostat

Compared to the EU average, it is two times more difficult to access dental care in Estonia.

11 SUSTAINABLE CITIES AND COMMUNITIES

MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE

The focus of the global goal "Sustainable Cities and Communities" is problems related to rapid urbanisation. Although cities are sources of innovation and exhibit fast growth in the number of jobs as well as economic growth, urbanisation also causes problems, such as poor living conditions, air pollution, poor access to services and lacking infrastructure.

The 2030 Agenda[1] includes a global target to ensure everybody adequate, safe, affordable housing and basic services, and improve slums. Efficient waste management and availability of transport networks, especially of public transport, is considered important. Urban dwellers must be ensured access to green areas and other public spaces.

According to the UN progress report[2], major urbanisation has taken place across the world in recent decades. In 2015, there were four billion people (54% of the world population) living in cities, and it is projected that by 2030, this number will increase to five billion. Rapid urbanisation has resulted in challenges that the governments have to face, such as growing slums (in 2014, an estimated 880 million people lived in slums), worsening air quality (in 2014, nine out of ten people living in cities were breathing unclean air), pressure on urban infrastructure and services, unplanned expansion to suburban areas, etc. Rapid urban sprawl is accompanied by reduced capacity to offer basic services to city dwellers at the same rate (waste management, drinking water supply and sanitation). The resilience of cities and their resistance to natural disasters (floods and heat waves) has weakened.

The Estonian sustainable development strategy[3] emphasises the need to develop urban spaces into diverse, attractive and human-friendly environments.

The global goal "Make cities and human settlements inclusive, safe, resilient and sustainable" is linked in Estonia with the following indicators of urban environment (structures, air quality, green areas, etc.):

- Architectural monuments in good and satisfactory condition
- Casualties of traffic accidents in cities
- Emissions of fine particulate matter
- Green areas in cities
- Satisfaction with condition of dwelling
- People commuting by public transport, bicycle or on foot

In cities, architecture is important, especially valuable historical architecture. In 2017, the share of architectural monuments in good and satisfactory condition was 65.3%. Urban air quality is affected by both the choice of transportation (car, public transport, bicycle or walking) and the type of heating.

The number of persons killed in traffic accidents has decreased in Estonia compared to 2000, but approximately half of the accidents happen in larger cities. Green areas relieve traffic noise and air emissions and are also important for satisfying people's health and cultural needs.

Access to public green areas is good in Estonia; however, their quality has not been assessed. Unfortunately, motorisation is increasing, as the share of people commuting by public transport, bicycle or on foot is decreasing.

People are more and more satisfied with the condition of dwellings, primarily as the share of new and renovated dwellings has increased.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1*. UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66*. UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

11 SUSTAINABLE CITIES AND COMMUNITIES

11.1. ARCHITECTURAL MONUMENTS IN GOOD OR SATISFACTORY CONDITION

CONCEPTS

The indicator expresses the proportion of architectural monuments in good or satisfactory condition in the total number of architectural monuments.

Architectural monuments mainly include manor building and parks, places of worship and residential buildings, but also administrative buildings, fortification architecture, schools, theatres, railway buildings, industrial buildings and landmarks from windmills to lighthouses. It is characteristic of architectural monuments in Estonia that objects that are a part of a whole are listed as separate monuments: for instance, churchyards and enclosure walls and gate structures of churchyards are separate architectural monuments.

SITUATION IN ESTONIA

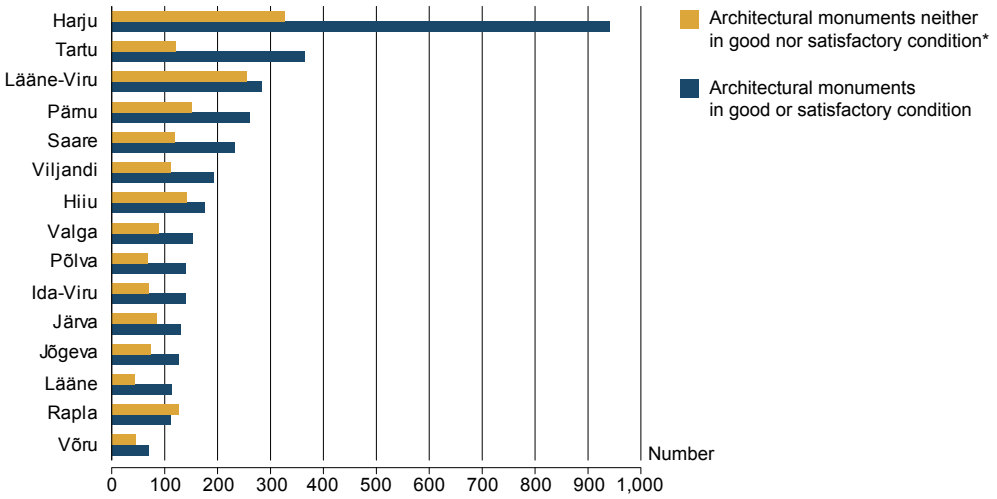
The condition of cultural heritage in Estonia shows the sustainability of Estonian culture and public awareness of the values of cultural heritage. Estonian cultural heritage forms a part of the European cultural heritage and the preservation thereof is important not only in the Estonian but also in the European and global context. A good condition of architectural monuments ensures the preservation of the tangible cultural heritage and transmission of historical memory.

In the National Registry of Cultural Monuments, there are 26,466 protected objects, including 5,264 architectural monuments and 12 heritage conservation areas. Tallinn Old Town heritage conservation area and three objects on the Struve Geodetic Arc on the territory of Estonia are in the UNESCO World Heritage List.

According to the National Registry of Cultural Monuments, 3,436 architectural monuments, i.e. 65.3% of the total number of architectural monuments, are in good or satisfactory condition. 1,828 architectural monuments are neither in good nor satisfactory condition, of which 143 objects are currently being restored, and it may be presumed that the condition of such architectural monuments shall improve in the near future.

The share of architectural monuments in good or satisfactory condition is biggest in Tartu, Harju and Lääne counties (respectively 75%, 74% and 72%) and smallest in Rapla county (47%). More than half of architectural monuments in Harju county are in Tallinn, where 87% of the objects are in good or satisfactory condition. Among the rest of architectural monuments in Harju county, only 60% are in good or satisfactory condition. The general trend in Estonia is that most architectural monuments in good or satisfactory condition are in bigger cities. The condition of architectural monuments is worse in rural areas where the population is decreasing and many buildings have been abandoned.

Condition of architectural monuments by county, 2017

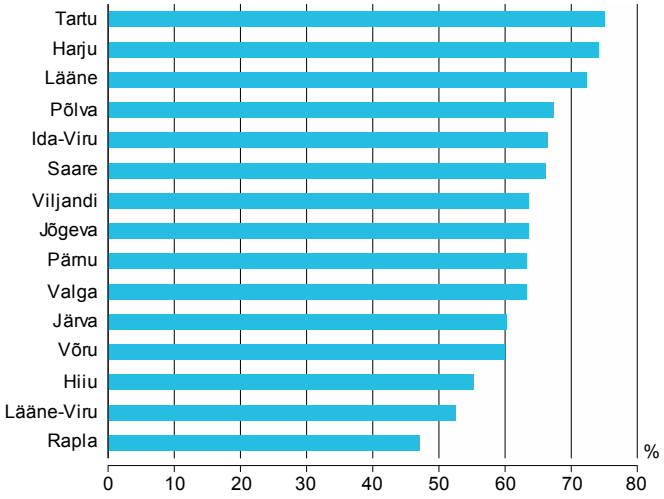


* Neither good nor satisfactory condition – unsafe, inferior, unmaintained, destroyed, restoration work, damaged, in ruins.

Source: National Heritage Board

3,436 architectural monuments, i.e. 65.3%, were in good or satisfactory condition in Estonia.

Share of architectural monuments in good or satisfactory condition by county, 2017



Source: National Heritage Board

The share of architectural monuments in good or satisfactory condition was biggest in Tartu county.

11 SUSTAINABLE CITIES AND COMMUNITIES

11.2. CASUALTIES OF TRAFFIC ACCIDENTS IN CITIES

CONCEPTS

The indicator shows the number persons injured or killed in traffic accidents in bigger cities in Estonia (Tallinn, Tartu, Pärnu and Narva).

Traffic accident is an event in which an individual is injured or killed or material damage is suffered as a result of at least one vehicle moving on or leaving the road. Traffic accidents in cities include all traffic accidents which have taken place on the administrative territory of a city.

Person injured is a person who is administered medical first aid due to an injury suffered in a traffic accident or to whom outpatient or hospital treatment has been prescribed.

Person killed is a person who died at the scene of a traffic accident or within 30 days following the traffic accident because of injuries received in the accident.

SITUATION IN ESTONIA

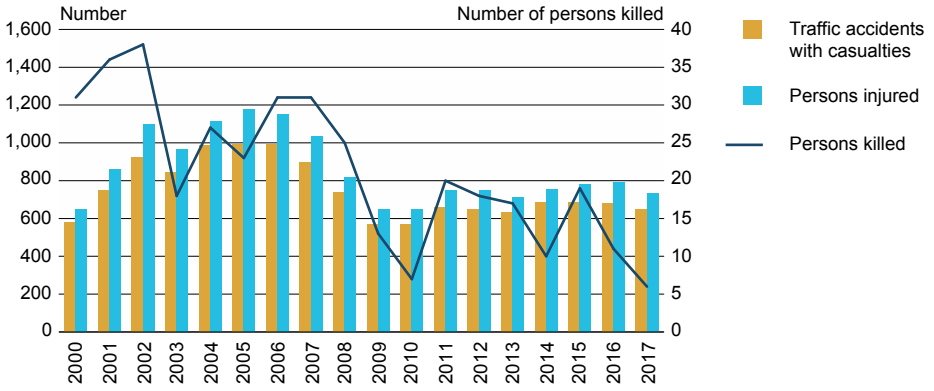
Traffic accidents in four bigger cities in Estonia account for approximately a half of all traffic accidents. The number of traffic accidents with casualties has not changed significantly since 2013, with 1,400 on average. In 2017, there were 1,406 accidents with casualties in Estonia, i.e. 107 accidents per 100,000 inhabitants. In 2013–2017, the proportion of traffic accidents by county remained the same: the number was highest in Harju, Tartu and Ida-Viru counties. The number of traffic accidents per 100,000 inhabitants was largest in Võru (146), Saare (132) and Harju counties (119).

The majority of traffic accidents take place in settlements – approximately 62% in 2017. The share has remained the same since 2013, having changed only by a few percentages. In 2017, of all the traffic accidents with casualties, 46% took place in the four bigger cities. The largest number of traffic accidents considering population size and traffic volume happened in Tallinn (74%), followed by Tartu (13%), Pärnu (7%) and Narva (6%). In 2013–2017, the average number of persons injured in these cities was 754 and the number of persons killed was 13.

The number of persons injured in traffic accidents did not decrease in the reference period, but a decrease can be detected in the number of persons killed: in 2013, the total number of persons killed in the four cities was 17, but in 2017, it was 6. The most accidents involve pedestrians: In 2017, in four bigger cities of Estonia, 247 pedestrians were injured and 5 were killed. 4 of those killed in Tallinn in 2017 were pedestrians. Compared to 2013, the number of accidents involving pedestrians has decreased by approximately 4%. In Tallinn, Tartu, Pärnu and Narva combined, traffic accidents involving cyclists numbered 89, with 80 persons injured and none killed.

In 2017, the government adopted a road traffic safety programme for 2016–2025, to ensure road safety and improve the situation. The number of persons injured and killed in traffic accidents must be reduced. By 2025, the three-year average (2023–2025) number of persons killed in traffic accidents should not exceed 40 and the number of persons injured 330. The short-term objective is that the three-year average (2018–2020) number of persons killed in traffic accidents is below 50 and the number of seriously injured persons is below 370.

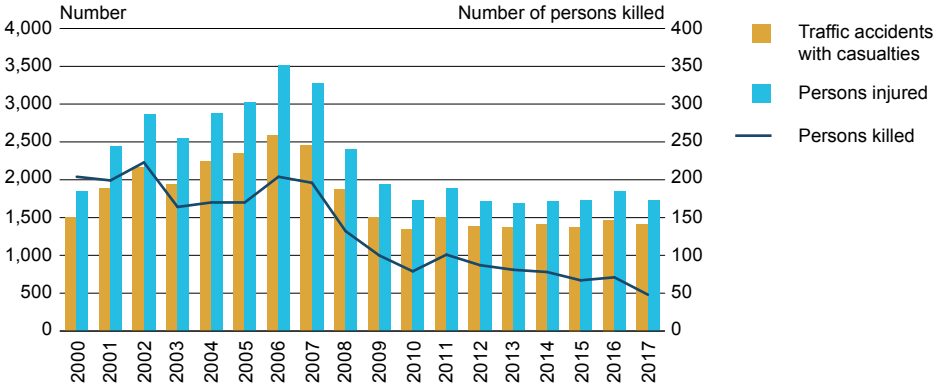
Traffic accidents with casualties and persons injured or killed in these in Tallinn, Tartu, Pärnu and Narva, 2000–2017



Source: Estonian Road Administration

Traffic accidents with casualties in four bigger cities in Estonia account for approximately half of all traffic accidents with casualties.

Traffic accidents with casualties and persons injured or killed in these in Estonia, 2000–2017



Source: Estonian Road Administration

The number of persons killed has decreased considerably since 2000, but the number of accidents with casualties has remained the same in recent years.

11 SUSTAINABLE CITIES AND COMMUNITIES

11.3. EMISSIONS OF FINE PARTICULATE MATTER

CONCEPTS

The indicator of emissions of fine particulate matter expresses the annual emissions of fine particles PM_{10} and $PM_{2.5}$ Fine particles are a complex mixture of extremely small solid particles and liquid droplets, made up of a number of components and having a diameter under 10 micrometres (PM_{10}) or, in the case of ultrafine particles, a diameter under 2.5 micrometres ($PM_{2.5}$).

Fine particles originate mainly from the soil, road surfaces and industrial enterprises. The main sources of ultrafine particles are motor vehicle emissions, combustion and chemical reactions in the atmosphere. Particulate matter in ambient air cause respiratory and cardiovascular diseases and reduce average life expectancy.

SITUATION IN ESTONIA

In 2016, the emissions of fine particles (PM_{10}) totalled 11,200 tonnes and the emissions of ultrafine particles ($PM_{2.5}$) were 7,500 tonnes. In 2016, compared to 2015, the emissions of fine particles decreased by a fifth, whereas in 2000, there had been almost three times more air emissions. In 2010–2012, the emissions of fine particulate matter increased temporarily due to a rise in electricity production. In 2011, the emissions of fine particles increased sharply due to the deployment of a unit with unrenovated electrostatic precipitators in the Balti Power Plant. In 2016, the majority of the emissions of fine particles originated from wood burning by households (26.6%) and oil shale burning in the energy sector (26.3%). Other major fine particle emitters in 2016 were the combustion of fuels in the industry sector (14.9%), transport (12.6%) and construction (7.7%).

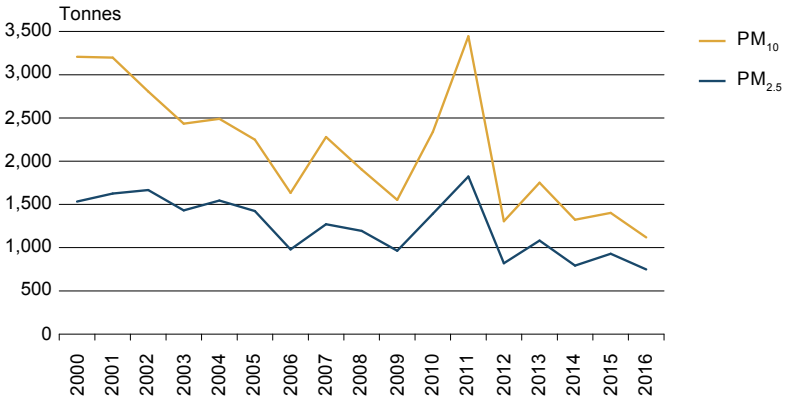
Fine particular matter (PM_{10}) in ambient air is monitored in Tallinn, Tartu, Narva and Kohtla-Järve. Monitoring data show that the level of fine particles in the ambient air of bigger cities in Estonia has decreased in recent years.

INTERNATIONAL COMPARISON

In 2015, the emissions of fine particles PM_{10} per capita in Estonia was approximately three times greater than on average in the European Union. The indicator was greater only in Latvia. The emissions per capita were lowest in Malta, the Netherlands, Cyprus and the United Kingdom.

At the same time, there is no direct connection between the air emissions of fine particles and the concentration of fine particles in ambient air, as a large share of ultrafine particles in ambient air are so-called secondary fine particles, which are formed in chemical reactions in the atmosphere (involving gases such as SO_2, NOx, NH_3 and volatile organic compounds). The data of the European Environment Agency, which are based on annual average measurements of the quality of ambient air in all monitoring stations in European Union countries, revealed that in 2015, the average concentration of fine particles (PM_{10}) in ambient air was 13 µg/m^3 in Estonia, whereas the average in the European Union was 22.8 µg/m^3. The concentration of fine particles in ambient air exceeded 30 µg/m^3 in Bulgaria, Cyprus, Poland and Italy.

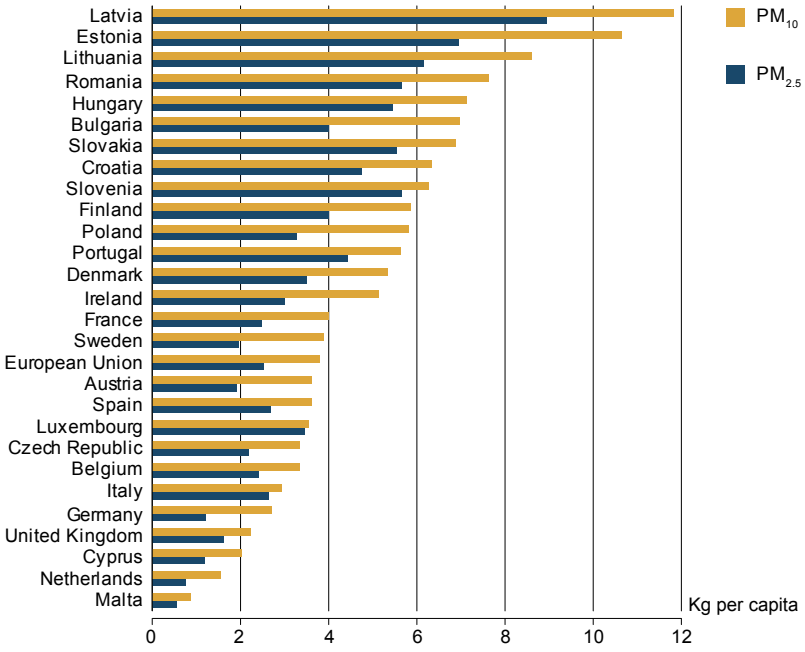
Emissions of fine particular matter in Estonia, 2000–2016



Source: Environment Agency

Emissions of fine particles have decreased in Estonia compared to 2000.

Emissions of fine particular matter in the European Union, 2015



Source: Eurostat

In Estonia, more fine particles are emitted per capita than in other EU countries.

11 SUSTAINABLE CITIES AND COMMUNITIES

11.4. GREEN AREAS IN CITIES

CONCEPTS

The indicator expresses the share of the population in densely populated areas (population up to 5,000) with very good access to public green areas. Public green areas include grassland, forests, bogs and other green areas (cemeteries, parks, shrubbery), which are not private property and the area of which is at least 0.5 ha. Very good access means that the public green area is located within 200 m radius from the place of residence.[1]

SITUATION IN ESTONIA

790,900, or approximately 90% of persons living in densely populated areas had very good access to green areas in 2017. There were no considerable differences in access to green areas by age group, and green areas were equally accessible to both men and women. There were some differences among women: access to green areas among the population aged 15–24 was somewhat worse (88%) than access among those aged 25–64 (90%), and 65 and older (91%).

Access to green areas is different in densely populated areas. As at 1 January 2017, all inhabitants in high-density areas of Maardu, Narva, Sillamäe, Järve, Kiviõli and Ahtme had very good access to green areas. Access was somewhat lower in Tartu and Pärnu (city centre and Raeküla) densely populated areas (82%). In high-density area of Kuressaare, only 73% of inhabitants had very good access to green areas.

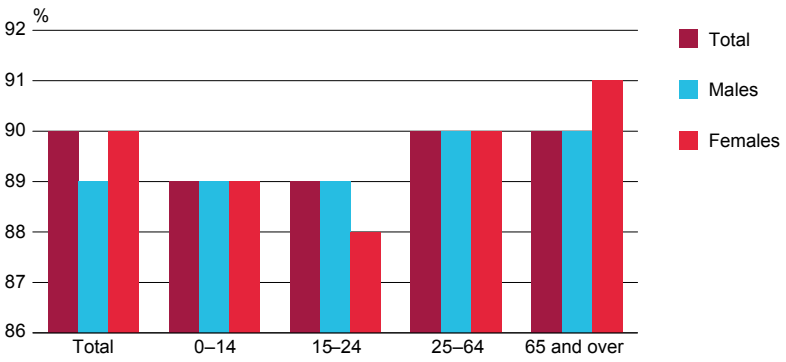
For the most part, all inhabitants in densely populated areas have very good access to green areas, but the quality of these areas and the available activities are not the same. Green areas also include, for instance, roadside forest stands and grass strips, grass stadiums and railway edges, which people do not usually perceive as green areas.

INTERNATIONAL COMPARISON

Currently, Estonian data can only be compared to Swedish data, as the data are comparable. In Sweden, 92% of the residents in densely populated areas have very good access to green areas. There were no differences by sex or age group in Sweden. Data for Sweden show slight differences by city: for instance in Upplands Väsby, all inhabitants had very good access to green areas, while in Karlskrona, the share was only 79%. Similar results were recorded also in Estonia when comparing densely populated areas.

1 Adjacent green areas are regarded as one large green area if the distance between the areas is under two meters. Public green areas are determined by removing from green areas the cadastral units in private ownership. Green areas also include roadside grass strips, lines of trees and railway edges, which people usually do not perceive as green areas. Estonian Topographic Database has been used to calculate the share of city residents in Estonia with very good access to green areas.

Share of population with very good access to green areas in densely populated areas in Estonia, 2017



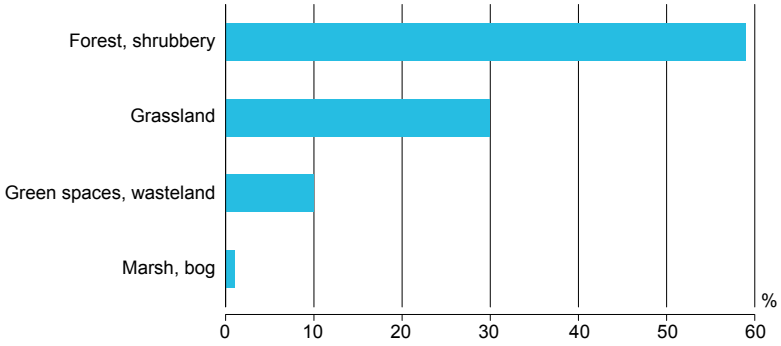
Source: Statistics Estonia

Access to green areas in Estonia, 2017

Densely populated area	Access to green areas, %	Densely populated area	Access to green areas, %
Maardu	100	Jõgeva	93
Narva	100	Viljandi	92
Sillamäe	100	Tallinn	89
Järve	100	Keila	89
Kiviõli	100	Valga	89
Ahtme	100	Pirita–Maardu	89
Sindi	99	Haapsalu	88
Elva	99	Rakvere	87
Põlva	99	Paide	87
Võru	97	Pärnu (Vana-Pärnu and Ülejõe)	85
Peetri	96	Tapa	84
Türi	94	Tartu	82
Rapla	94	Pärnu (city centre and Raeküla)	82
Saue	94	Kuressaare	73
Jõhvi	93		

Source: Statistics Estonia

Green areas in densely populated areas in Estonia, 2017



Source: Statistics Estonia

Access to green areas was very good in all age groups (88–91%).

Forest and shrubbery accounted for the largest share in all green areas.

11 SUSTAINABLE CITIES AND COMMUNITIES

11.5. SATISFACTION WITH CONDITION OF DWELLING

CONCEPTS

Satisfaction with the condition of the dwelling reflects the expectations, wishes and necessities regarding a dwelling and the resulting satisfaction. The indicator is expressed as a share of households satisfied with the condition of their dwelling in all households. The indicator value is calculated by assessing the compliance of the technical condition of the dwelling with social expectations and standards. The time of completion, number of rooms per household member, condition of the dwelling (whether the roof is leaking; whether the walls, floor or foundation are damp; whether it is too dark in the dwelling; whether the noise level is high), crime and pollution in the vicinity of the dwelling are taken into account.

Satisfaction assessment is carried out based on the assumption that the better the condition of the dwelling, the greater the satisfaction of its inhabitants. Later completion time of the dwelling, more rooms, better condition of the dwelling (the roof is not leaking; the dwelling is not damp, dark or noisy), low or non-existent crime and pollution in the vicinity of the dwelling ensure greater satisfaction.

SITUATION IN ESTONIA

In 2000–2016, satisfaction increased: 71.6% of the inhabitants were satisfied with their dwelling in 2000 and 83.1% in 2016. In 2016, satisfaction was slightly lower than a year earlier, in 2015 (83.3%).

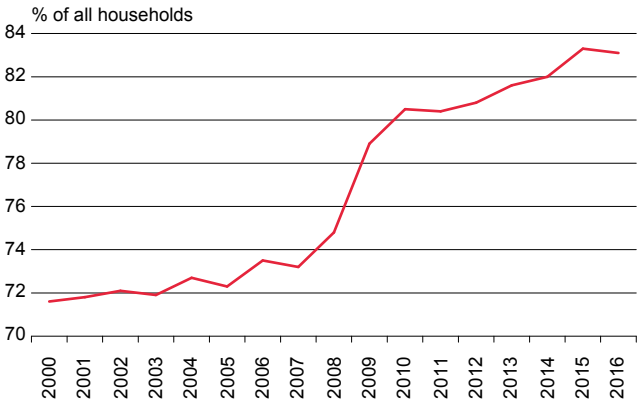
Satisfaction with the condition of the dwelling is largely based on the technical condition of the dwelling: the better the technical condition, the greater the satisfaction with its condition. Construction quality has increased year by year, which means that in 2016, a five-year-old dwelling was in a better condition than a five-year-old dwelling in 2000. This explains the continuously increasing satisfaction.

Satisfaction with the condition of the dwelling increased substantially in 2007–2010. This was the time after the credit and construction boom when new and modern housing was constructed. Satisfaction decreased slightly in 2011 compared to 2010, but after that it increased again until 2015. New housing is being constructed, which meet strict construction standards, and this also increases the satisfaction of inhabitants.

INTERNATIONAL COMPARISON

In 2016, Estonia was 18th among the European Union countries in terms of satisfaction with the condition of the dwelling (83.1%). The average for European Union countries was 84.8%. Satisfaction with the condition of the dwelling was greatest in the Netherlands (96.4%) and Finland (96.2%). Satisfaction was lowest in Bulgaria (54.8%), preceded by countries with somewhat greater satisfaction level – Latvia (69.2%), Greece (70.6%), Croatia (71.8%) and Hungary (73.6%).

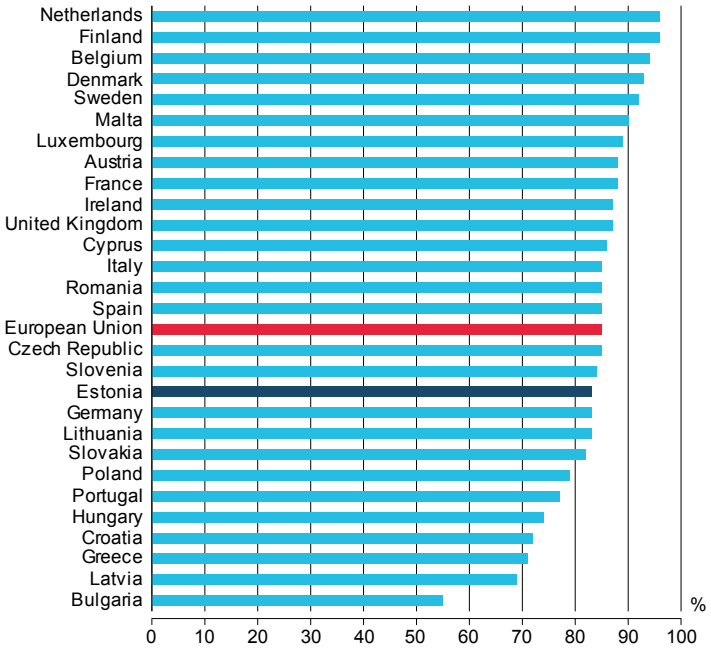
Satisfaction with condition of dwelling in Estonia, 2000–2016



Source: Statistics Estonia

Satisfaction with the condition of dwelling has increased in Estonia, especially after the construction boom in 2007–2010.

Satisfaction with condition of dwelling in the European Union, 2016



Source: Eurostat

In Estonia, satisfaction with the condition of dwelling in 2016 was slightly lower than on average in the EU.

11 SUSTAINABLE CITIES AND COMMUNITIES

11.6. PEOPLE COMMUTING BY PUBLIC TRANSPORT, BICYCLE OR ON FOOT

CONCEPTS

The indicator expresses the share of persons employed who go to work every day by public transport, bicycle or on foot.

SITUATION IN ESTONIA

Using public transport, cycling and walking help to save energy and reduce emissions from transport. A large number of users of these modes of transport indicates successful implementation of sustainable transport policies, a well-functioning public transport system and a widening network of bike and pedestrian paths.

The share of persons commuting by public transport, bicycle or on foot has decreased by a quarter a year over the past 17 years. In 2000, the share was 64%, but in 2017, it had decreased to 39%, as the number of those using a private or official car has increased, i.e. motorisation is increasing. This is a problem also in many other countries.

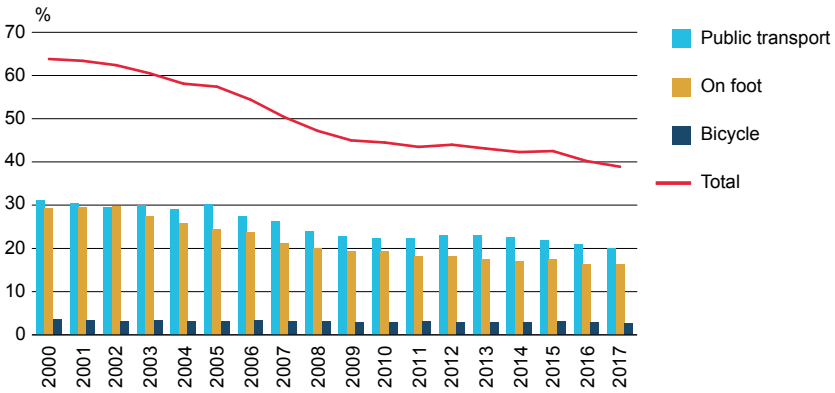
20% of the persons employed commuted in 2017 by public transport (31% in 2000), 16% commuted on foot (29% in 2000) and 3% commuted by bicycle (4% in 2000). The share of persons commuting by car increased, as the share of those commuting by public transport and on foot decreased.

In 2017, slightly more than two thirds (68%) of men and slightly less than a half (43%) of women commuted by private or official car. Women commuted more often by public transport than men (difference 15 percentage points); in addition, the share of women commuting on foot was larger (difference 12 percentage points). 3% of both men and women commuted by bicycle.

The average commute time (23 minutes) was the same in both 2000 and 2017. Four persons out of ten commuted by private car, as this saves on average 12 minutes compared to public transport. Commuting on foot takes on average 15 minutes, which indicates that the places of residence and work are not far. Commute by public transport is the most time-consuming (33 minutes on average). This may be one of the reasons why the share of persons using public transport has decreased over the years.

The choice of the mode of transport depends a lot on the distance between the place of residence and workplace: the longer the distance, the more often motor vehicles are used. According to 2017 data, persons commuting on foot worked on average two kilometres away, those commuting by bicycle four kilometres away and those commuting by private or official car over ten kilometres away from their place of residence.

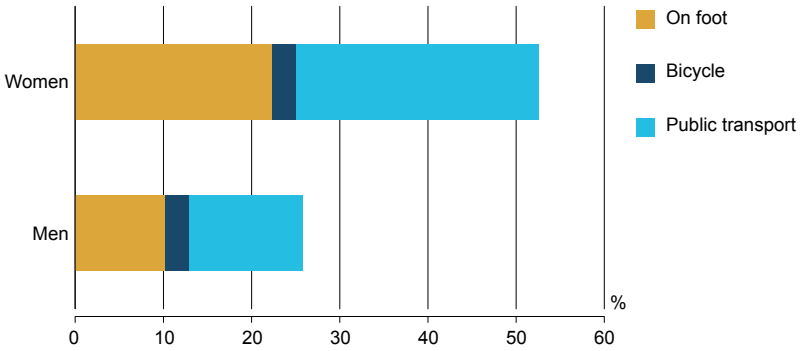
Share of persons commuting by public transport, bicycle or on foot in Estonia, 2000–2017



Source: Statistics Estonia

The share of persons commuting by public transport, bicycle or on foot is decreasing.

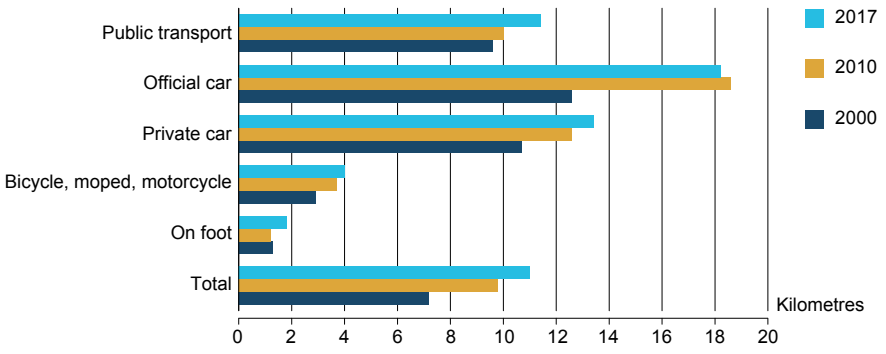
Men and women commuting by public transport, bicycle or on foot in Estonia, 2017



Source: Statistics Estonia

Compared to men, women more often commute by public transport and on foot.

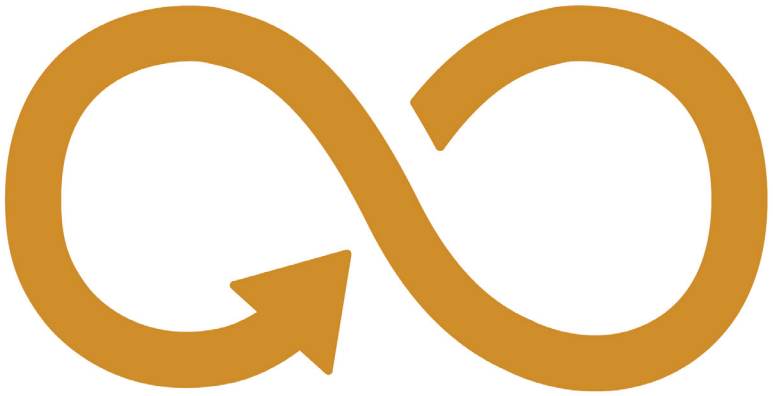
Average distance between place of residence and workplace by mode of transport in Estonia, 2000, 2010, 2017



Source: Statistics Estonia

The further the workplace is from the place of residence, the more often are motor vehicles used for commuting.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

The focus of the global goal "Responsible Consumption and Production" is sustainable production and consumption patterns, more efficient use of resources and activities that reduce human impact on the environment and health.

The 2030 Agenda[1] lays down implementing the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns. The essence of the programmes is sustainable management and efficient use of natural resources. Food waste must be reduced by a half and food losses must be reduced in production and supply chains.

The agenda highlights the need for environmentally sound treatment of chemicals and all other waste, in order to prevent their release into the environment (air, water, soil) and, consequently, harm to human health. Waste generation must be prevented and reduced, more waste should be recycled and reused. A separate target is to eliminate fossil-fuel subsidies that promote wasteful consumption. The agenda encourages enterprises to act sustainably and inform of the relevant activities in their reports. State authorities are called on to organise green public procurement practices, in order to increase knowledge about sustainable development among enterprises and all consumers. For achieving all the aforementioned targets, it is necessary to develop a programme of sustainable consumption and production that is closely integrated with policies.

According to the UN progress report[2], domestic material consumption (use of natural resources in economic activity) has increased in the world in 2000–2010 from 1.2 kg to 1.3 kg per unit of GDP.

The Estonian sustainable development strategy[3] emphasises reducing waste generation and the importance of waste sorting and recycling.

The global goal "Ensure sustainable consumption and production patterns" is linked in Estonia with the following indicators of reducing waste generation, recycling and sound environmental management:

- Waste generation
- Recycling of municipal waste
- Recovery of hazardous waste
- Implementation of environmental management systems
- Oil shale mining

It is important to avoid waste generation, but if not possible, recycling has an important role to play. As a result of economic growth and higher incomes, consumption has increased in Estonia, and in line with that, the related municipal waste generation by households. At the same time, the share of recycled municipal waste in total waste generation has increased. It is necessary to improve waste sorting in households, as in 2016, Estonia's indicator was one of the lowest in the European Union.

The most problematic in Estonia is recovery of hazardous waste, as its main share is ash from oil shale power plants, for which secondary uses are still being sought. The annual volume of oil shale mining has been around 10–16 million tonnes in the past two decades. This volume per capita of mining a natural resource for fossil fuel is the highest among European Union countries.

Environmental management systems are being implemented more – these help organisations make energy and water use more efficient and reduce waste generation; however, this requires continuous work within and outside organisations. In Estonia, there are over 400 organisations implementing ISO environmental management system standard. Under ten organisations are registered with the European Union eco-management and audit scheme (EMAS).

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1.* UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66.* UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

12.1. RECYCLING OF MUNICIPAL WASTE

CONCEPTS

The indicator expresses the share of recycled municipal waste in total municipal waste generation[1]. Municipal waste covers household waste and waste similar in nature and composition from sources such as shops, services, offices, etc. Recycling includes recovery of materials, composting and anaerobic degradation of waste. It does not include incineration of waste for energy production. Municipal waste generation data contain estimates of the waste generation of inhabitants not covered by organised waste collection.

SITUATION IN ESTONIA

The recycling of municipal waste has increased year by year. In 2000, the recycling rate of municipal waste was 2%; in 2016, it amounted to 28%. The share of composting is small, accounting for 3% of total municipal waste in 2016.

In 2016, 494,000 tonnes of municipal waste were generated in Estonia, slightly over a half (52%) of this by households. Municipal waste accounted for 2% of the total waste generation. Compared to 2004, the generation of municipal waste has been decreasing, while in households it has been more or less stable. The reduction has been on account of municipal waste generated, for example, in commerce, services and elsewhere.

Municipal waste generation depends largely on the economic situation and the related consumption. At the same time, methodological changes in calculating municipal waste generation have also affected the indicator. A substantial decrease in municipal waste generation in the years 2008–2013 was due to economic decline and lower purchasing power of the population, on the one hand, and the increasing rate of recycling packaging waste by type, on the other hand, which reduced the estimated generation of municipal waste.

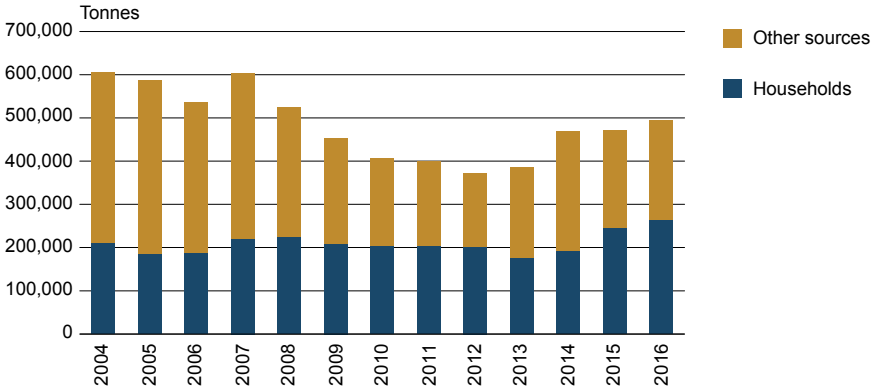
INTERNATIONAL COMPARISON

In 2016, municipal waste generation in Estonia was 376 kg per capita. This was one of the lowest figures in the European Union (482 kg of municipal waste per capita in the European Union). In 2016, municipal waste generation per capita was smaller than in Estonia only in Romania (261 kg), Poland (307 kg), Czech Republic (339 kg) and Slovakia (348 kg). Municipal waste generation per capita was the largest in Denmark (777 kg), Cyprus (640 kg) and Germany (627 kg).

In 2016, the recycling rate of municipal waste was 46% in the European Union. Estonia's rate was 28%, or one of the lowest in the European Union. The target of the European Union for 2020 is to increase the preparing for re-use and the recycling of waste (paper, metal, plastic and glass) from households and from other sources as far as these waste streams are similar to waste from households, to a minimum of overall 50% by weight. More than half of municipal waste was recycled in Germany (66%), Slovenia (58%), Austria (58%), Belgium (54%) and the Netherlands (53%). The recycling rate of municipal waste was lowest in Malta (7%) and Romania (13%).

1 Municipal waste generation data contain estimates of the waste generation of inhabitants not covered by organised waste collection.

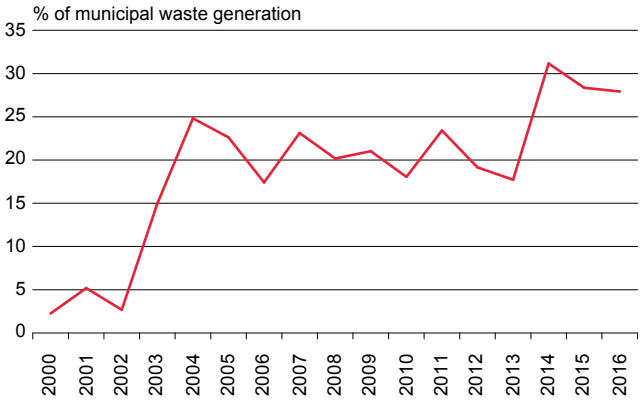
Municipal waste generation in Estonia, 2004–2016



Source: Environment Agency

Compared to 2004, municipal waste generation has decreased in general, but has increased in households.

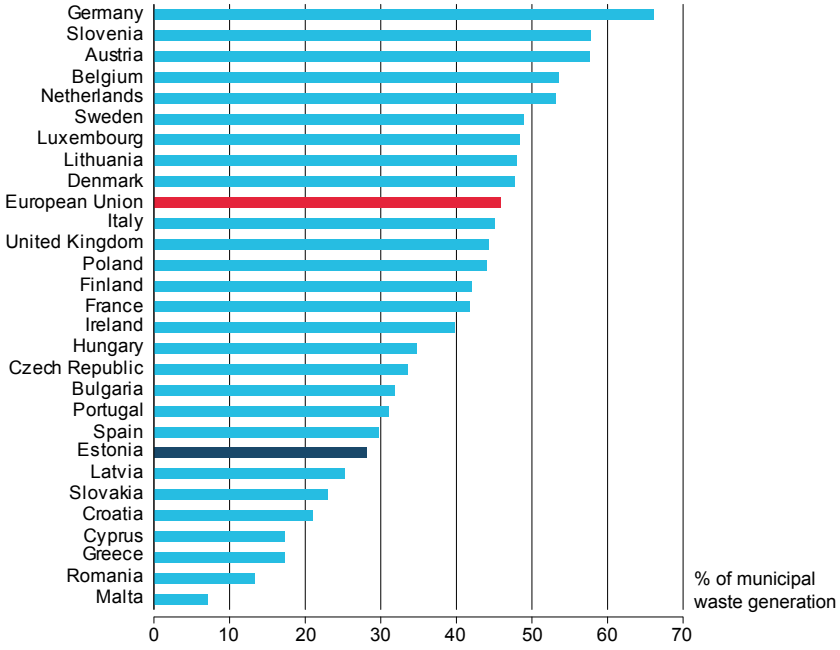
Recycling rate of municipal waste in Estonia, 2000–2016



Source: Environment Agency

Every year more municipal waste is recycled.

Recycling rate of municipal waste in the European Union, 2016



Source: Eurostat

In 2016, the recycling rate of municipal waste in Estonia was one of the lowest in the EU.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

12.2. WASTE GENERATION

CONCEPTS

The indicator expresses the annual generation of waste in tonnes. It covers both non-hazardous and hazardous waste as well as secondary waste originating from waste treatment facilities.

SITUATION IN ESTONIA

24.4 million tonnes of waste were generated in Estonia in 2016. Of this, 83% (20.3 million tonnes) was oil shale excavation and processing waste: 10.8 million tonnes of waste rock from oil shale mining, 8.9 million tonnes of oil shale ash and 0.6 million tonnes of oil shale pyrolysis waste. Waste generation increased year by year since 2002 and had nearly doubled by 2016. Waste generation has increased because more oil shale is extracted and consumed. Therefore, the amount of oil shale processing waste has also increased. In the same period decreased generation of waste of origin other than oil shale. In 2016, approximately 40% of waste was classified as hazardous according to the list of waste.[1] Most of the hazardous waste originates from oil shale combustion and processing.

Construction and demolition waste dominates among waste other than oil shale processing waste – 1.7 million tonnes in 2016. The share of construction and demolition waste has been increasing over the years among waste not related to oil shale processing. In 2016, the relevant share was 42%. Approximately half of construction and demolition waste were soil and rocks, one quarter were concrete, bricks, tiles and ceramics. The share of metal waste was approximately 10% of construction and demolition waste in 2016.

The generation of municipal waste increased constantly throughout 2002–2007, after which it started to decrease and has remained stable at around 400,000 tonnes in recent years. At the same time, the generation of packaging waste has increased by nearly 20 times compared to 2002 (from 10,000 tonnes in 2002 to 189,000 in 2016). In 2016, most of the packaging waste was paper and cardboard (54,000 tonnes).

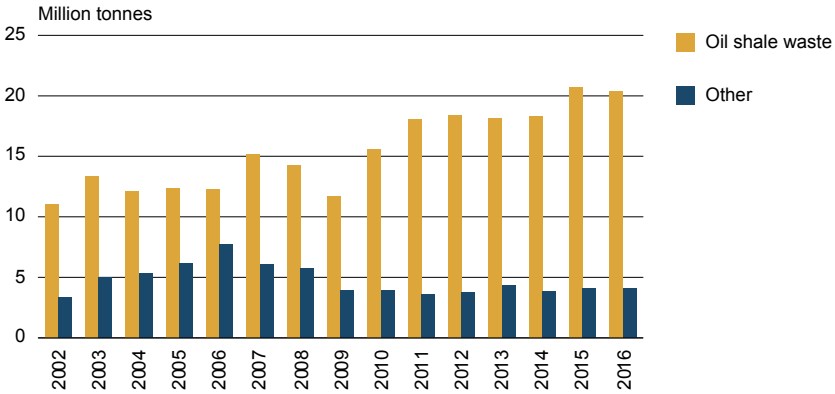
In 2016, over half of the waste was landfilled (12.9 million tonnes) and 28.8% was recovered (incl. incinerated for energy generation).

INTERNATIONAL COMPARISON

In 2014, waste generation per capita in the European Union ranged from 24.9 tonnes in Bulgaria to 0.9 tonnes in Croatia. 5.1 tonnes of waste was generated per capita in the European Union in 2014. Over three times more waste (16.6 tonnes) was generated per capita in Estonia in the same period. With this, Estonia ranks fourth among European Union countries in terms of waste generation. In addition to Bulgaria, more waste per capita than in Estonia was generated in Finland (17.5 tonnes) and Sweden (17.1 tonnes). In 2014, considerably less waste per capita than on average in the European Union was generated in addition to Croatia also in Latvia (1.3 tonnes) and Portugal (1.4 tonnes).

1 Jäätmete, sealhulgas ohtlike jäätmete nimistu (RT I 2004, 23, 155)

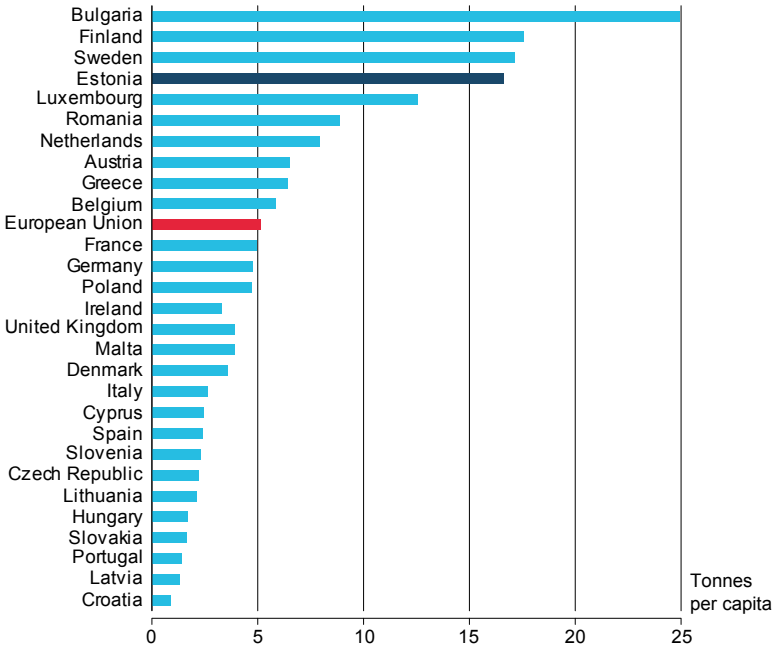
Waste generation in Estonia, 2002–2016



Source: Environment Agency

Compared to 2002, waste generation has increased year by year and almost doubled by 2016.

Waste generation in the European Union, 2014



Source: Eurostat

As regards waste generation, Estonia ranked fourth in the EU.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

12.3. RECOVERY OF HAZARDOUS WASTE

CONCEPTS

The indicator expresses the share of recovered hazardous waste of all hazardous waste. Hazardous waste are listed in the 2004 government regulation.[1] Recovery means re-use as materials and incineration for energy production.

SITUATION IN ESTONIA

In 2016, 9.7 million tonnes of hazardous waste were generated in Estonia. 98% of this (9.5 million tonnes in total) was hazardous waste from oil shale excavation and processing: 8.9 million tonnes of oil shale ash and 0.6 million tonnes of oil shale pyrolysis waste. In 2016, the generation of hazardous waste other than oil shale utilisation waste amounted to 232,000 tonnes, including 64,000 tonnes of waste from cleaning shipping and storage tanks and casks, 33,000 tonnes of oil and liquid fuel waste, 13,000 tonnes of end-of-life vehicles. Waste treatment facilities created 63,500 tonnes of hazardous waste.

Compared to 2002, the generation of hazardous waste has increased by 51%, whereas the amount of oil shale processing waste has increased the most. At the same time, the generation of hazardous waste from sources other than oil shale has remained more or less stable over the years.

In 2016, most of the hazardous waste was landfilled. Compared to 2002, the share of hazardous waste recovery increased considerably (from 5% to 19% in 2002–2012). Thereafter, the share of recovery started to decrease, dropping to 4% in 2016 dropped. The reason is a sharp decline in the recovery of oil shale ash, from 485,000 tonnes in 2015 to 13,000 tonnes in 2016. Considering only hazardous waste other than oil shale related, over 50% of the waste was recovered in 2016. At the same time, the share of waste other than oil shale waste also decreased. It amounted to 87% in 2010.

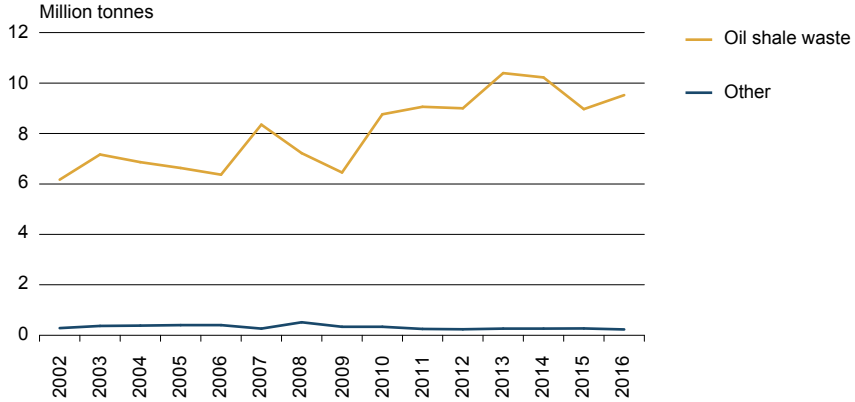
INTERNATIONAL COMPARISON

In 2014, 187 kg of hazardous waste were generated per capita in the European Union. The quantity in Estonia was 7,912 kg per capita in the same year, which is the biggest in the European Union, exceeding second-ranking Bulgaria by nearly five times. In 2014, 11% of total hazardous waste generation in the European Union originated from Estonia. Such a large quantity of hazardous waste generation is due to large amounts of oil shale ash generated in the process of electricity production from oil shale, which, because of being alkaline, is classified as hazardous waste.

In 2014, 33% of hazardous waste was recovered in the European Union on average, while 27% of the hazardous waste was recycled and 6% was incinerated for energy production. The recovery rate of hazardous waste varied considerably in the European Union countries. The share of hazardous waste recovery in Poland was 89%, whereas Malta did not recover any hazardous waste and Bulgaria recovered only 1% of hazardous waste. In 2014, the hazardous waste recovery rate in Estonia was 13%, which was one of the lowest figures in the European Union.

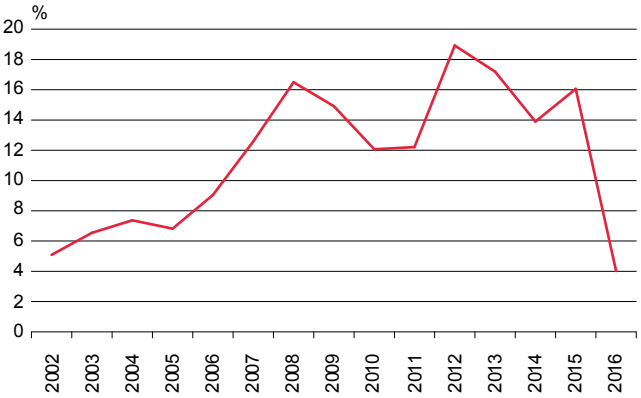
1 Jäätmete, sealhulgas ohtlike jäätmete nimistu (RT I 2004, 23, 155)

Generation of hazardous waste in Estonia, 2002–2016



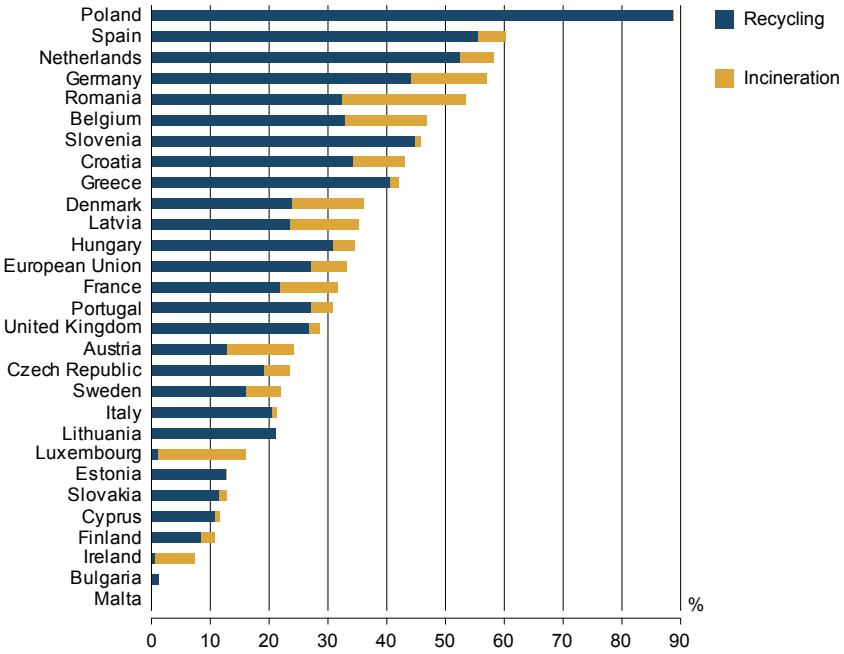
Source: Environment Agency

Recovery of hazardous waste in Estonia, 2002–2016



Source: Environment Agency

Recovery of hazardous waste in the European Union, 2014



Source: Eurostat

Generation of hazardous waste has increased since 2002. Most of the hazardous waste is oil shale ash.

Recovery of hazardous waste has diminished in recent years.

The hazardous waste recovery rate in Estonia is lower than in most EU countries.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

12.4. IMPLEMENTATION OF ENVIRONMENTAL MANAGEMENT SYSTEMS

CONCEPTS

The indicator shows the number of private or public sector organisations which have achieved the certification of the environmental management systems' (EMS) international standard ISO 14001:2004 and its new version 14001:2015 or a certificate of registration with the eco-management and audit scheme (EMAS) pursuant to the Regulation No 1221/2009 of the European Parliament and the Council.

It is voluntary to implement environmental management systems; this indicates the willingness of organisations to be environmentally friendly in their activities. Environmental management system is a part of the organisation's management system, which determines the processes aimed at environmental protection in the organisation. The system adds credibility to the organisation and increases its competitiveness. Implementation of environmental management systems helps to save resources, reduce negative environmental impacts and prevent problems. Additionally, it helps to increase the staff's environmental awareness and create a more favourable environment for the implementation of innovative and sustainable work processes.

SITUATION IN ESTONIA

The society is moving more and more towards resource-efficient economy and various measures are taken to achieve this, including implementation of environmental management systems. By now, the EMS certificate is a precondition for successful business in many areas of activity.

The first EMAS registration was issued in 2005. As at 2017, five organisations in Estonia had a certificate of EMAS registration, two of them in the public sector. Two organisations have relinquished the certificate in the last couple of years.

Organisations with EMAS registration are considerably fewer in Estonia than the ISO 14001 certificate holders. The number of ISO 14001 certificates has been increasing compared to EMAS registrations. The first ISO 14001 certificates in Estonia were issued in 1999: according to the International Organization of Standardization (ISO) survey, four companies received the certificate. Since then, the implementation of environmental management systems has been increasing in Estonia and at the end of 2017, there were 582 valid ISO 14001 certificates.

The principles of EMAS and ISO environmental management systems are similar and focus on the implementation of environmentally friendly processes. The biggest differences arise from additional requirements, primarily the requirement of publishing a public environmental report annually. EMAS organisations are expected, compared to ISO 14001, to be more open and credible in the development and promotion of environmental activities.

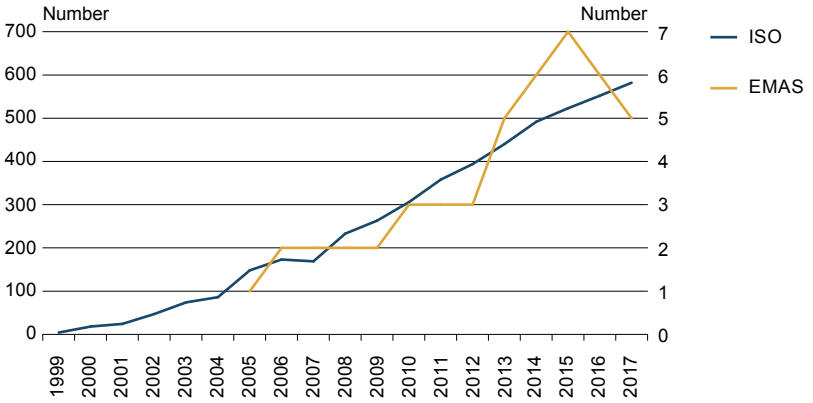
INTERNATIONAL COMPARISON

In 2016, Italy had the most companies that had implemented environmental management systems (EMAS and ISO 14001): 27,645. The next was the United Kingdom with 16,783 organisations. Estonia is among the last five in the European Union in terms of environmental management systems implementation. The number is still smaller in Slovenia, Latvia, Luxembourg and Cyprus. In the Baltic countries, Lithuania (672) implemented the systems the most, followed by Estonia (482) and Latvia (309).

As at October 2017, in the European Union, 3,865 organisations had an EMAS registration; the most in Germany (1,237) and Italy (983). Compared to neighbouring countries, Estonia stands out with small but mostly stable number of EMAS registrations. In Latvia, not a single organisation had an EMAS registration. Lithuania and Finland with four registrations are similar to Estonia, while Sweden had 17 registrations.

ISO 14001 certificates have been issued considerably more than EMAS registrations in the European Union, and the number is increasing. In 2016, there were 120,595 ISO 14001 certificates in the European Union: the most in Italy (26,655). Successful in terms of ISO 14001 certificate holders, in addition to Italy, are the United Kingdom (16,761), Spain (13,717), Germany (9,444), France (6,695) and Romania (6,075).

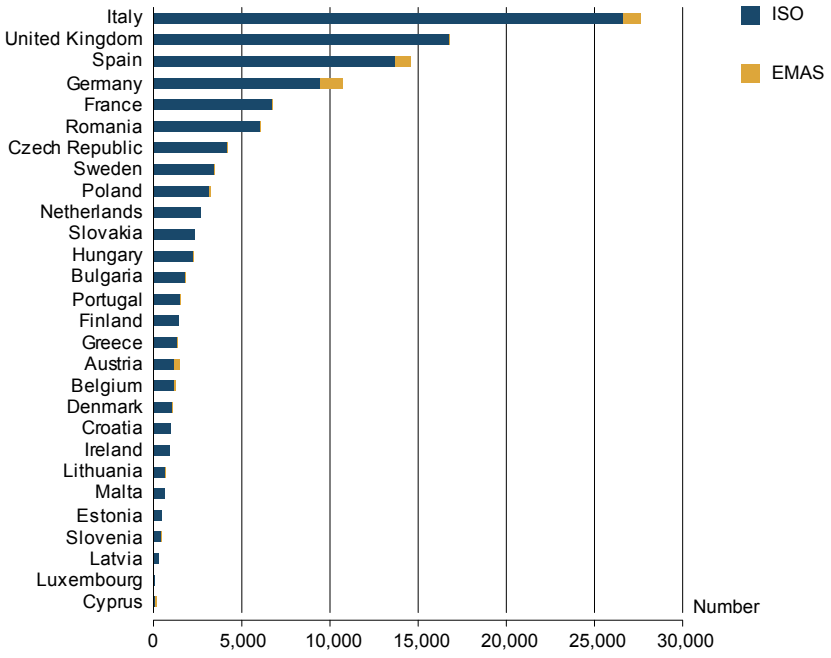
Organisations implementing environmental management systems in Estonia, 1999–2017



Sources: International Organisation of Standardisation, Environment Agency

The number of organisations implementing ISO and EMAS environmental management systems increased in Estonia until 2015.

Implementation of environmental management systems in the European Union, 2016



Sources: European Commission, International Organisation of Standardisation

Italy is implementing environmental management systems the most, Estonia is among the last five.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

12.5. OIL SHALE MINING

CONCEPTS

The indicator expresses the annual volumes of oil shale mining. International comparisons are based on the annual mining volumes of lignite. The classification of solid fuels used in the European Union groups fuels based on their carbon content and calorific value. Oil shale is in the same category as lignite (brown coal).

SITUATION IN ESTONIA

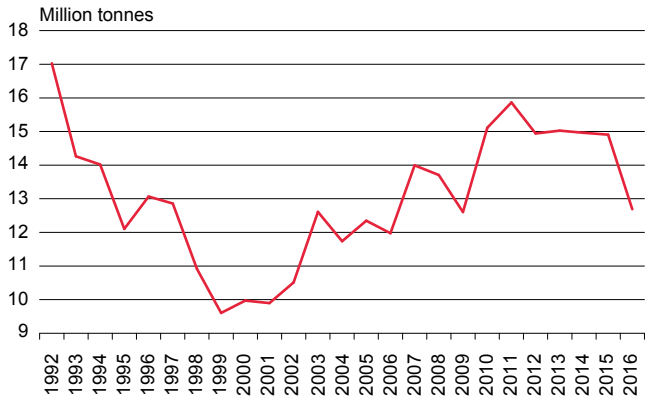
Oil shale is used in Estonia as fuel in electricity production as well as raw material of shale oil production. The national development plan for the use of oil shale in 2016–2030 sets the maximum annual limit for oil shale mining at 20 million tonnes. Oil shale mining has decreased over the last five years (2012–2016), mostly remaining around 15 million tonnes a year, while 12.7 million tonnes were excavated in 2016. Such a volume was last extracted in 2009.

The volume of oil shale mining that started to decrease at the beginning of the 1990s was at its lowest in 1999 when only 9.6 million tonnes were excavated. Although the mining volumes decreased in subsequent years, they were smaller than in 1992 (17 million tonnes a year). The decline was caused by the gradually falling prices of petroleum products in the world market as well as suspension of mining operations and mine closures. In addition to prices of energy carriers in the world market, the European Union pollution abatement policies also have a major effect on oil shale utilisation. Oil shale mining and consumption involves major environmental pressures: large quantities of air pollutants and greenhouse gas emissions; very large quantities of waste, including hazardous waste (oil shale ash and pyrolysis waste); large quantities of groundwater pumped out of the mines and quarries and large quantities of water for cooling power plants. Furthermore, oil shale mining causes problems to accessibility of drinking water in the mining regions, polluting groundwater layers. The utilisation of oil shale in the energy sector creates in addition to waste also large quantities of water used for cooling, which in turn has been physically transformed to be different from that in the natural environment. Although the quantities of waste from oil shale mining are below the average among the European Union countries, the total quantity of emissions into the air from oil shale combustion, abstraction and oil shale waste per capita in Estonia is one of the biggest in the European Union. Therefore, Estonia is polluting the environment quite a lot.

INTERNATIONAL COMPARISON

Lignite is a fossil fuel with carbon content 25–35% and calorific value 10–20 MJ/kg. Lignite (brown coal and/or oil shale) is produced in ten European Union countries. In 2015, the largest volumes of lignite were produced in Germany – 178.6 million tonnes. It was followed by Poland (63.1 million tonnes) and Greece (46.3 million tonnes). Lignite production per capita was the biggest in Estonia – twice as much as the second largest producer Bulgaria (11.3 and 5 tonnes per capita, respectively).

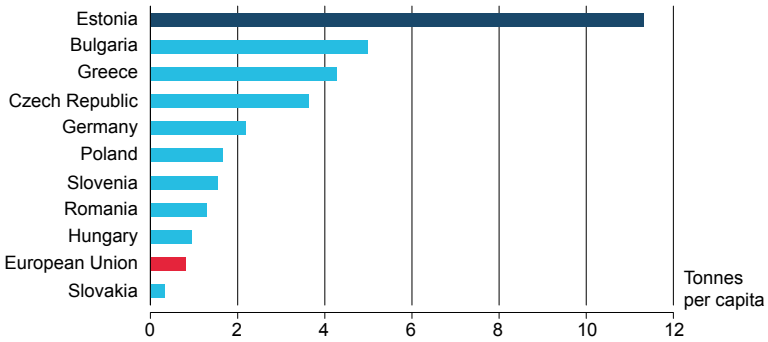
Oil shale mining in Estonia, 1992–2016



Source: Estonian Land Board

Oil shale mining has decreased in Estonia since 2012.

Excavation of lignite in the European Union, 2015



Sources: *European Mineral Statistics*, Eurostat, Statistics Estonia

The volume of lignite extracted per capita in Estonia is the biggest among EU countries.

13 CLIMATE ACTION

TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS

The focus of the global goal "Climate Action" is to mitigating the impact from climate change and adapting to it. The average global temperature continues to rise and global sea ice is shrinking. This causes floods and natural disasters to occur more often and increases the risk of species extinction.

The 2030 Agenda[1] lays down the target to mitigate climate change as well as adapt to it. Political programmes and strategies must include these topics. It is necessary to raise awareness about climate change, capacity to mitigate it and adjust to it, reduce its impact and provide early warning. On a global level, it is important to adhere to the Paris Agreement on Climate Change. Developed countries have committed to raise from all sources, by 2020, a total of 100 billion US dollars each year for the Green Climate Fund for addressing the needs of developing countries.

According to the UN progress report[2], the World Meteorological Organization (WMO) reported that global warming continued also in 2016. A new record of 1.1 degrees Centigrade above the preindustrial period was reached. Areas experiencing drought conditions have expanded across the globe. The area of global sea ice (4.14 million km^2) was second smallest ever recorded. Atmospheric CO_2 level reached 400 ppm. The Paris Agreement, which came into force on 4 November 2016, requires serious efforts by countries to achieve adequate resilience to risks and natural disasters caused by climate change. With the Paris Agreement, countries committed to make financial contributions to global climate action and climate projects in developing countries. By 20 April 2017, 136 countries and the European Union had communicated their contribution to the secretariat of the UN Framework Convention on Climate Change. By the same date, seven developing countries had reported on the completion of their climate change adaptation plans. There is a great need for disaster risk management plans, as the number of deaths related to storms, floods and droughts is still on the rise. In 1990–2015, over 1.6 million people died in recorded natural disasters.

The Estonian sustainable development strategy[3] emphasises the need to reduce greenhouse gases and improve air quality.

The global goal "Take urgent action to combat climate change and its impacts" is linked in Estonia with the following indicators of reducing greenhouse gases:

- Greenhouse gas emissions
- Greenhouse gas emissions from the energy sector
- Greenhouse gas emissions from the transport sector

In Estonia, greenhouse gas emissions are increasing mainly because of oil shale based electricity and heat production. Motorisation and fuel combustion in transport also play a role. Estonia differs from other European Union countries with more greenhouse gases produced per capita. At the same time, the GDP is growing faster than greenhouse gas emissions, i.e. overall emissions from the economy are low.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1.* UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66.* UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

13 CLIMATE ACTION

13.1. GREENHOUSE GAS EMISSIONS

CONCEPTS

The greenhouse gas emissions indicator expresses greenhouse gas emissions into the air due to human activity in CO_2 equivalent kilogrammes per euro of gross domestic product (GDP). The indicator is also expressed as an index with the year 2000 as the base year.

Greenhouse gases are carbon dioxide (CO_2), methane (CH_4), dinitrogen monoxide (N_2O) and fluorinated greenhouse gases or F-gases (hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3)) emitted as a result of human activities.

SITUATION IN ESTONIA

In 2016, greenhouse gas emissions in Estonia amounted to 19.6 million CO_2 equivalent tonnes. Carbon dioxide constituted the majority of greenhouse gases (89.1%). The share of methane was 5.4%, that of dinitrogen monoxide 4.3% and F-gases 1.2%. The majority of greenhouse gases were generated in the energy sector (89%). 7% of greenhouse gases originated from agriculture, 3% from industry and 2% from waste management. In 2016, the share of carbon dioxide was 89% in the energy sector and over 99% in industry. In waste management and agriculture, methane held the largest share, constituting 90% and 57% of greenhouse gases, respectively.

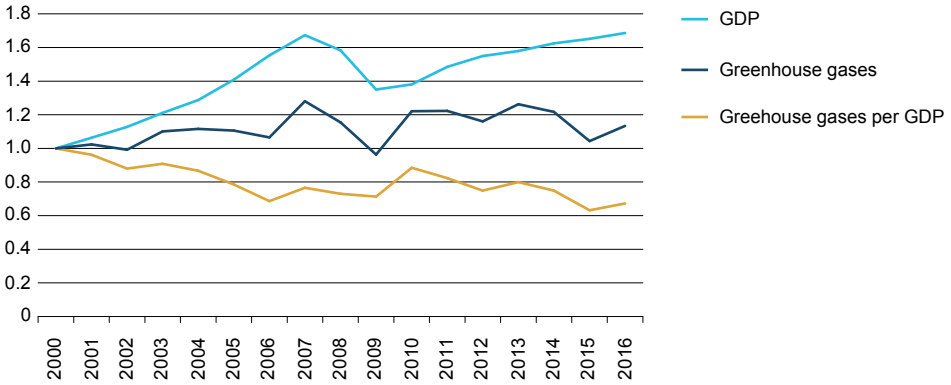
In 2016, greenhouse gas emissions increased over 13% compared to 2000. From 2000 to 2016, greenhouse gas emissions were increasing in industry (21%) and the energy sector (17%) and decreased in waste management (46%). In agriculture, greenhouse gas emissions have varied from year to year, but the overall trend still is downwards.

In 2016, 1.1 CO_2 equivalent kilogrammes of greenhouse gases were generated per euro of GDP. In 2000–2016, greenhouse gas emissions as well as GDP increased. GDP grew faster than greenhouse gas emissions, which shows that during the period under study, greenhouse gas emissions were partially decoupled from GDP. In 2016, there were 50% less greenhouse gases per euro of GDP than in 2000 (1.6 kg of CO_2 equivalent). The likely reason for this is that GDP increased primarily in less energy-intensive economic sectors.

INTERNATIONAL COMPARISON

Even though greenhouse gas emissions were decoupled from GDP, three times more greenhouse gases were produced in Estonia per euro of GDP in 2015 than on average in the European Union. Only Bulgaria had a figure greater than Estonia. The least greenhouse gases per euro of GDP were produced in Sweden (0.13 kg of CO2 equivalent), Denmark (0.19 kg of CO_2 equivalent), France (0.22 kg of CO_2 equivalent) and Luxembourg (0.22 kg of CO_2 equivalent). Since the indicator is a ratio, Estonia's indicator is affected by large greenhouse gas emissions in the energy sector as well as a relatively small GDP.

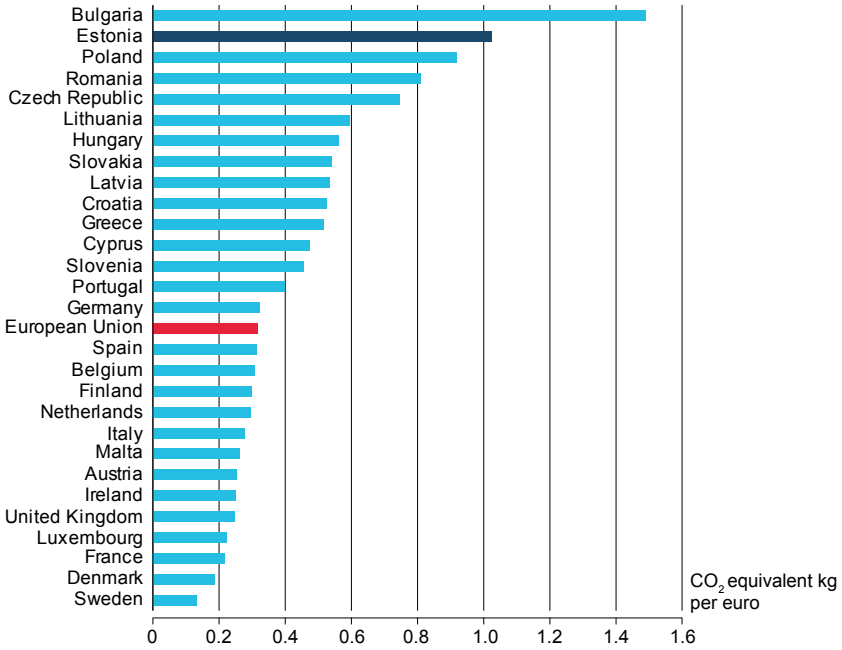
Changes in greenhouse gas emissions and GDP in Estonia, 2000–2016 (2000 = 1)



Sources: Statistics Estonia, Ministry of the Environment

From 2000 to 2016, GDP grew faster than greenhouse gas emissions.

Greenhouse gas emissions in the European Union, 2015



Source: Eurostat

In 2015, greenhouse gas emissions per euro of GDP in Estonia were larger than in most EU countries.

13 CLIMATE ACTION

13.2. GREENHOUSE GAS EMISSIONS FROM THE ENERGY SECTOR

CONCEPTS

Greenhouse gas emissions from the energy sector express the emissions from fossil fuel combustion in this sector in CO_2equivalent tonnes. Greenhouse gas emissions from biomass combustion are not included.

Greenhouse gases are carbon dioxide (CO_2), methane (CH_4) and dinitrogen monoxide (N_2O). Fluorinated greenhouse gases or F-gases, such as hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3), are not generated in the combustion of fossil fuels.

The indicator includes greenhouse gas emissions from the combustion of fuels in energy, industry, construction, transport and other sectors, and fugitive emissions of fuel. Emissions from ships sailing in international waters and aircraft flying on international routes are not included.

SITUATION IN ESTONIA

The main source of greenhouse gas emissions in Estonia is the energy sector where 88–89% of greenhouse gases are generated. In 2016, the energy sector produced 17.5 million CO_2 equivalent tonnes of greenhouse gases. The majority of it was generated from fuel combustion. Fugitive emissions of fuel accounted for just 0.1%.

The majority of greenhouse gases in the energy sector are generated in the production of electricity and heat: 13.8 million CO_2 equivalent tonnes of greenhouse gases in 2016. This constituted 78.9% of greenhouse gas emissions generated in the energy sector and 70.4% of total greenhouse gas emissions. The second major source of greenhouse gases in the energy sector is the combustion of fuels in transportation. In 2016, the share of greenhouse gases from transportation in the energy sector was 13.6%, i.e. 2.4 million CO_2 equivalent tonnes. The share of industry was 3%, i.e. 523,100 CO_2 equivalent tonnes, whereas other sectors contributed 4.2%, i.e. 733,300 CO_2 equivalent tonnes.

Compared to the year 2000, greenhouse gas emissions in the energy sector have increased. Greenhouse gas emissions from the energy sector are largely determined by how much fossil fuels are combusted in the production of electricity and heat. Greenhouse gas emissions increased in 2003 because the export of electricity from oil shale increased. The increase in greenhouse gas emissions in 2006 and 2007 and their decrease in 2009 was related to the overall economic growth and the economic downturn that followed. In recent years, greenhouse gas emissions have mainly been affected by the export of electricity produced from oil shale.

Greenhouse gases are also generated in the combustion of biomass. In 2016, biomass combustion produced 4.1 million CO_2 equivalent tonnes of greenhouse gases. Approximately half of this was generated by households burning wood. Since 2000, greenhouse gas emissions from biomass combustion have nearly doubled.

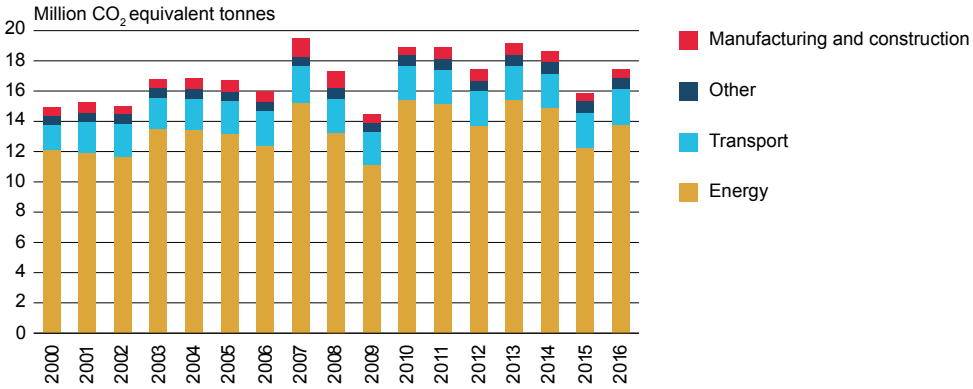
INTERNATIONAL COMPARISON

In 2015, greenhouse gas emissions from the Estonian energy sector per capita (12.1 CO_2 equivalent tonnes) were almost twice as large as the European Union average (6.6 CO_2 equivalent tonnes).

The main source of greenhouse gases in the energy sector varies from country to country. In Estonia, Bulgaria, Greece and the Czech Republic, the majority of greenhouse gases were the result of electricity and heat production, whereas in Luxembourg, Sweden, Lithuania and Latvia, the majority originated from transportation.

In comparison with the year 2000, the European Union average greenhouse gas emissions in the energy sector have been decreasing, whereas in Estonia they have increased.

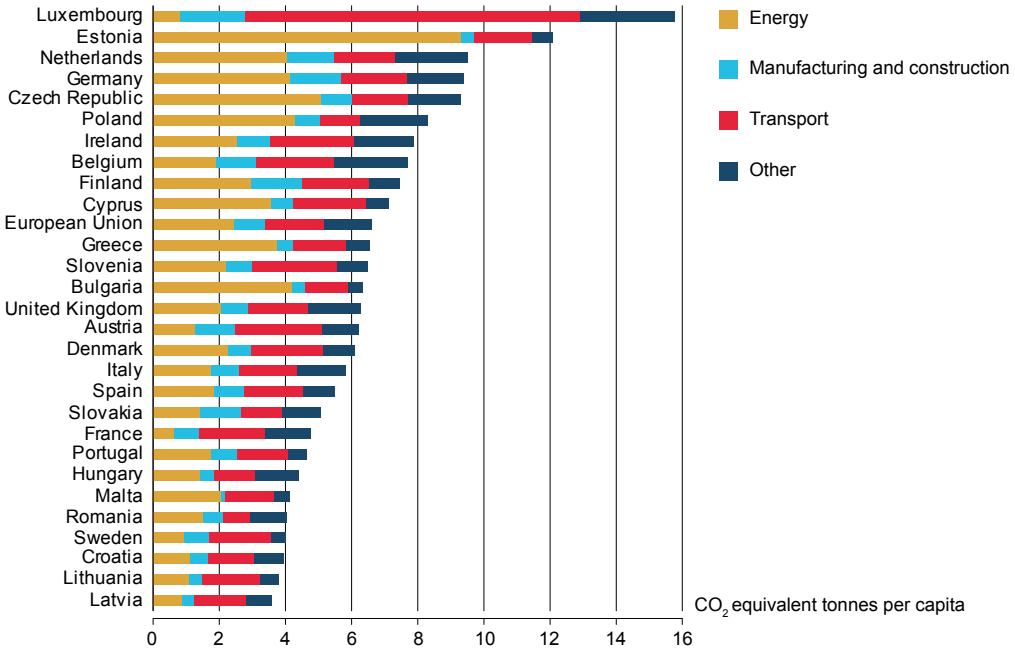
Greenhouse gas emissions from the energy sector in Estonia, 2000–2016



Source: Ministry of the Environment

The main source of greenhouse gases in Estonia is the combustion of fossil fuels in the production of electricity and heat.

Greenhouse gas emissions from the energy sector in the European Union, 2015



Source: Eurostat

Greenhouse gas emissions per capita from the Estonian energy sector are one of the highest in the EU.

13 CLIMATE ACTION

13.3. GREENHOUSE GAS EMISSIONS FROM THE TRANSPORT SECTOR

CONCEPTS

Greenhouse gas emissions from the transport sector express emissions generated in this sector by fuel combustion in CO_2 equivalent tonnes. Greenhouse gases are carbon dioxide (CO_2), methane (CH_4) and dinitrogen monoxide (N_2O). Fluorinated greenhouse gases or F-gases, such as hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3), are not included.

The transport sector includes road transport, railway, water and air transport within Estonia. Emissions from ships sailing in international waters and aircraft flying on international routes are not included.

SITUATION IN ESTONIA

Greenhouse gas emissions from the transport sector contribute 10–13% of the total annual greenhouse gas emissions. 99.98% of this are CO_2 emissions. Compared to the year 2000, greenhouse gas emissions from transportation have somewhat increased. Since 2006, they have remained relatively stable.

From 2000 to 2016, the majority of greenhouse gas emissions originated from road transport. The share of road transport in the emissions of the transport sector had increased from 90% to 95% by 2016 compared to 2000. The majority of road transport emissions were generated by passenger cars (64%), followed by heavy goods vehicles and buses (28% in total). The share of light commercial vehicles was 8% and that of motorcycles just 0.3%.

The second largest source of emissions in the transport sector was water transport. Compared to 2000, greenhouse gas emissions from water transport increased by nearly three times. However, water transport emissions still constituted only 2.6% of the transport sector emissions in 2016. Greenhouse gas emissions from railway transport decreased by 2.5 times and contributed 2.0% of the transport sector emissions in 2016. Greenhouse gas emissions produced by air transport were insignificant. In 2016, their share in the transport sector emissions was 0.06%.

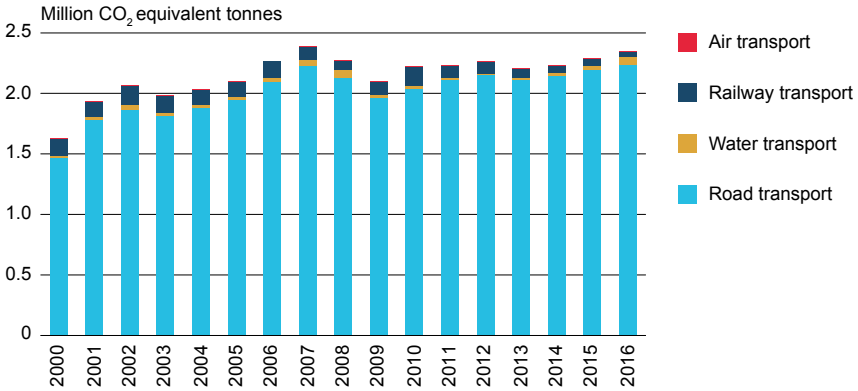
F-gases are not produced in the combustion of fuels. At the same time, F-gas emissions in the transport sector contributed about a third of total annual emission of F-gases. 82,000 CO_2 equivalent tonnes of F-gases were generated in the transport sector in 2016, about a third of which (29,000 tonnes of CO_2 equivalents) originated from the refrigeration equipment of trucks and ships and two thirds (53,000 tonnes of CO_2 equivalents) from the air conditioners of transport equipment. 28,000 CO_2 equivalent tonnes of F-gases (12% of the total emission of F-gases) were produced by air conditioners of passenger cars in 2016.

INTERNATIONAL COMPARISON

In 2015, greenhouse gas emissions generated in the Estonian transport sector per capita corresponded to the average of the European Union (1,800 tonnes of CO_2 equivalents). In 2015, the average share of road transport in greenhouse gas emissions in the European Union was 95%. The share of passenger cars, heavy goods vehicles and buses in road transport emissions was slightly lower than the figures in Estonia (58% and 25%, respectively), whereas the share of light commercial vehicles and motorcycles was higher.

In 2015, greenhouse gas emissions from the transport sector per capita were the highest in Luxembourg (10,110 tonnes of CO_2 equivalents) and lowest in Romania (800 tonnes of CO_2 equivalents), Poland (1,200 tonnes of CO_2 equivalents) and Slovakia (1,200 tonnes of CO_2 equivalents).

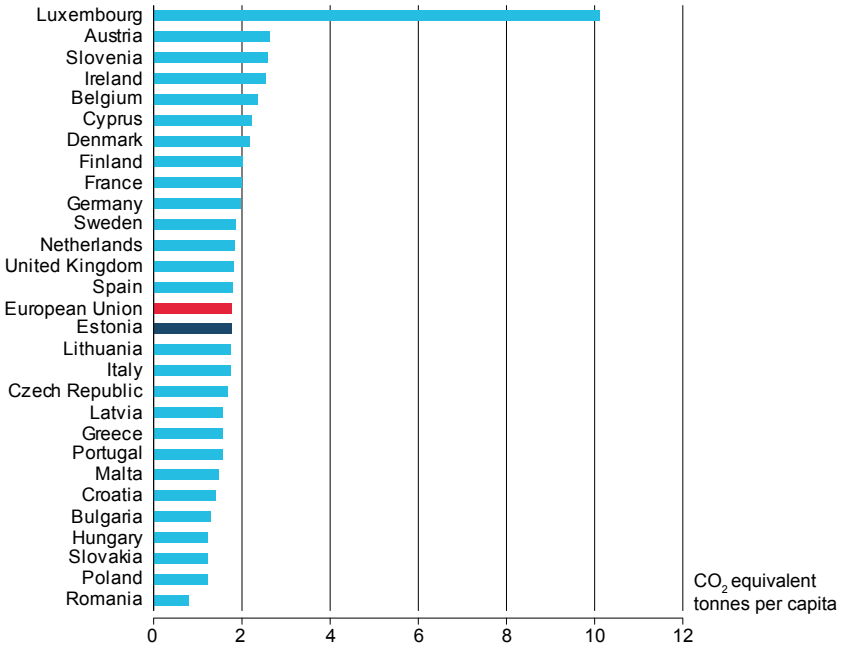
Greenhouse gas emissions in Estonia by mode of transport, 2000–2016



Source: Ministry of the Environment

In 2000–2016, the majority of greenhouse gas emissions from the transport sector originated from road transport.

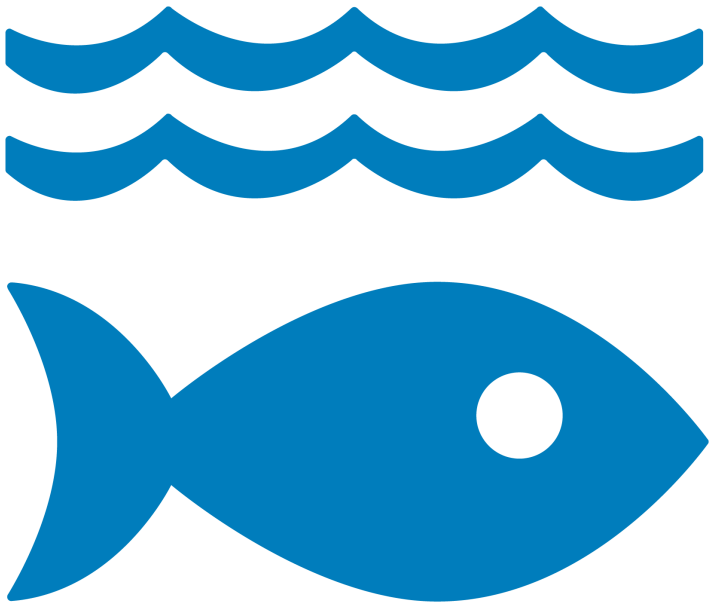
Greenhouse gas emissions from the transport sector in the European Union, 2015



Source: Eurostat

Greenhouse gas emissions from the transport sector per capita in Estonia are at the EU average.

14 LIFE BELOW WATER



CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT

The focus of the global goal "Life Below Water" is the protection of the ecosystems of seas and oceans and sustainable use of marine resources. Marine acidification caused by climate change and pollution of the world seas and oceans as well as overfishing have a major impact on marine ecosystems.

The 2030 Agenda[1] includes the target to reduce marine pollution of all kinds (first target date 2025) and ensure sustainable management, protection and restoration of marine and coastal ecosystems (first target date 2020). A separate target is providing access for small-scale artisanal fishers to marine resources and markets. By 2020, fishing must be regulated much more effectively, overfishing must be ended, and illegal, unreported and unregulated fishing must be prohibited. It is important to continue and expand the areas of marine research.

According to the UN progress report[2], the condition of coastal waters continues to deteriorate because of both pollution and the introduction of excessive nutrients, which cause algal growth and consequently death of marine life from lack of oxygen. 16% of marine ecosystems belong to the high or the highest risk category for coastal eutrophication.

Ocean acidification is caused by higher CO_2 concentrations, which affect the balance of carbonate compounds, which in turn affect marine species such as reef-building corals and shelled molluscs. The marine status has been harmed by overfishing, which reduces food resources. For sustainable use and protection of marine ecosystems, it is necessary to review policies and implement strategies. It is important to establish and manage marine protected areas. In 2017, marine protected areas accounted for 13.2% of marine areas under national jurisdiction and 5.3% of the global ocean area. The target is to protect by 2020 at least 10% of coastal and marine areas.

The Estonian sustainable development strategy[3] emphasises the importance of the good state of the coastal sea and use of fish stock not in excess of natural regeneration.

The global goal "Conserve and sustainably use the oceans, seas and marine resources for sustainable development" is linked in Estonia with the following indicators of marine protected areas, commercial fishing and coastal water bodies:

- Marine protected areas
- Spawning stock biomass
- Status of coastal water bodies

Estonia is contributing more to the protection of marine natural resources. The objective to protect by 2020 at least 10% of coastal and marine areas has been achieved. Protection of marine areas contributes directly to the status of fish species and spawning stock biomass. The spawning stock biomass of Baltic herring and sprat in the Gulf of Riga and Baltic Proper is in good status, whereas the spawning stock biomass of the cod population in the Western Baltic has been below the reference point due to excessive fishing pressure.

In 2017, only one out of 16 coastal water bodies was in good overall status. This is mainly the result of high nutrient load and lack of water transparency (physical-chemical indicators), excessive phytoplankton and poor status of phytobenthos, and the concentration of hazardous substances exceeding the environmental quality limits.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1.* UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66.* UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

14 LIFE BELOW WATER

14.1. MARINE PROTECTED AREAS

CONCEPTS

Marine protected areas are created to protect certain sea areas, their biota and habitats. The indicator shows the share of the total surface area of marine protected areas in Estonian marine waters (territorial waters). To calculate the indicator, natural objects covering an area that are listed in Section 4 of the Nature Conservation Act have been included from Estonian marine waters: protected areas, limited-conservation areas, species protection sites and protection zones of nature monuments.

All areas protected under international agreements are already under national protection as a protected area, limited-conservation area or a species protection site. Protected areas may overlap. For example, Vilsandi National Park is a bird sanctuary and a nature reserve according to the Ramsar Convention, HELCOM as well as Natura 2000.

SITUATION IN ESTONIA

SA major change in the surface area or marine protected areas in Estonia occurred in 2004, when the Natura 2000 network was created (increase from 3% to 26%). Since then, the surface area of protected marine areas has moderately and constantly increased. As at 31 December 2017, the share of Estonian territorial waters under protection was 27%. According to the environmental register, there are a total of 3,865 natural objects under national protection in Estonia, 80 of which are more or less in marine waters.

Most marine protected areas in Estonia are in the West Estonian Archipelago. The largest marine protected area in Estonia is Kura kurgu hoiuala (limited-conservation area), with the total surface area of 189,447 ha (including marine waters of 189,430 ha). Next in area is Pärnu lahe hoiuala, with the total area of 101,605 ha (including marine waters of 101,151 ha), followed by Väinamere hoiuala in Lääne county (66,200 ha, including marine waters of 63,226 ha), Väinamere hoiuala in Hiiu county (60,253 ha, including marine waters of 57,008 ha) and Väinamere hoiuala in Saare county (42,618 ha, including marine waters of 41,544 ha).

In 2017, Ramsar sites accounted for 3%, HELCOM areas for 24% and marine waters of the Natura network for 27% of Estonian marine waters.

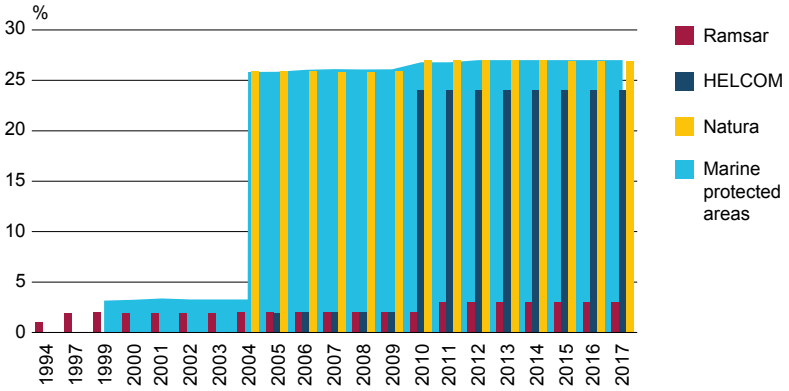
INTERNATIONAL COMPARISON

According to the European Environment Agency report[1], marine protected areas in the Natura 2000 network in 2012 accounted for 4% of the marine waters in Europe; their share in 2017 was 8.9%.[2] In 2012, Natura 2000 areas and protected areas designated in the European Union countries covered 5.9% of the marine waters in the European Union (200 nautical miles from the coast). By the end of 2016, already 10.8% of marine waters were under protection, which means that the target set for 2020, to protect at least 10% of the marine waters in Europe, was achieved. The share of marine protected areas is largest in the Baltic Sea region, amounting to 16.5%. The share of marine protected areas in the North-East Atlantic Ocean is 9.9%.

Based on the most recent comparable data[3], among European Union countries, the total surface area of marine protected areas was largest in Italy (27,000 km^2) and Germany (15,000 km^2). The area was smallest in Cyprus, Belgium, Bulgaria and Ireland (below 20 km^2).

1 *State of Europe's seas*, EEA Report No 2/2015. European Environment Agency, 2017.
2 *Marine protected areas*. European Environment Agency, 2018.
3 *Spatial analysis of marine protected area networks in Europe's seas*, EEA Technical report. European Environment Agency, 2015 .

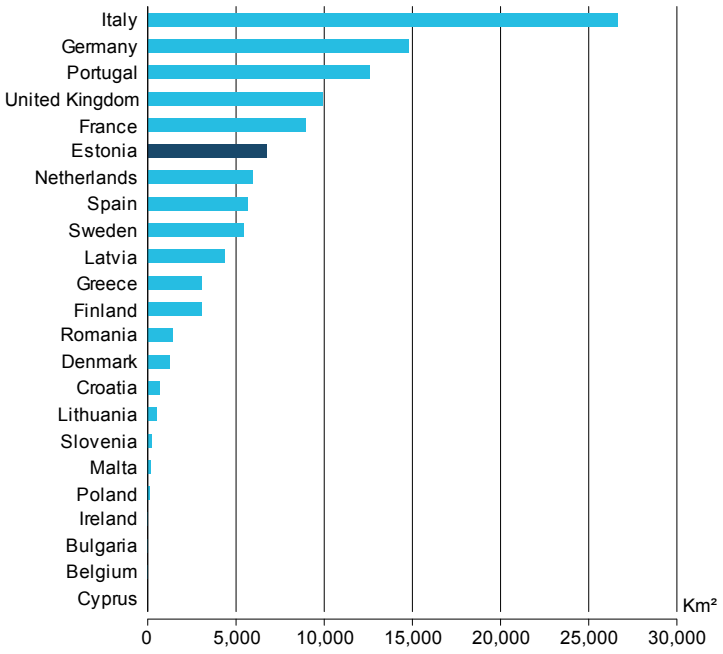
Share of marine protected areas in marine surface area in Estonia, 2017



Source: Environment Agency

Estonia has exceeded the target set for 2020 to protect 10% of its coastal and marine areas.

Marine protected areas in the European Union, 2013



Source: European Environment Agency

Estonia is sixth in terms of the total surface area of marine protected areas among the 23 EU countries with marine waters.

14 LIFE BELOW WATER

14.2. SPAWNING STOCK BIOMASS

CONCEPTS

The indicator shows the size of the spawning stock biomass of the economically important populations of the main commercial fish species of Estonia – sprat, Baltic herring and cod – in the Baltic Sea, which can be viewed in comparison with the spawning stock biomass reference point ($B_{trigger}$). The spawning stock biomass reference point indicates the level below which specific management measures should be taken to ensure that exploitation rates in combination with natural variations rebuild stocks above levels capable of producing maximum sustainable yield in the long term.

The levels of the spawning stock biomass reference point have been developed by the International Council for the Exploration of the Sea (ICES). Observed populations include Baltic herring populations in the Gulf of Riga and Baltic Proper, sprat population in the Baltic Sea and cod population in the Western Baltic.

SITUATION IN ESTONIA

In the Baltic Sea, there are many independent Baltic herring populations and one sprat population. In 2017, Estonian fishermen caught a total of 58,000 tonnes of sprat and Baltic herring during trawl and coastal fishing activities. This is approximately 75% of the commercial catch.

Since 2002, the spawning stock biomass of the Baltic herring population in Baltic Proper has increased. In 2006, it exceeded the spawning stock biomass reference point. The Baltic herring stock most likely increased due to reducing the catch by approximately a half in 2000–2002. The conditions in recent years have been favourable, and in 2015, according to estimations, the Baltic herring population was largest in history.

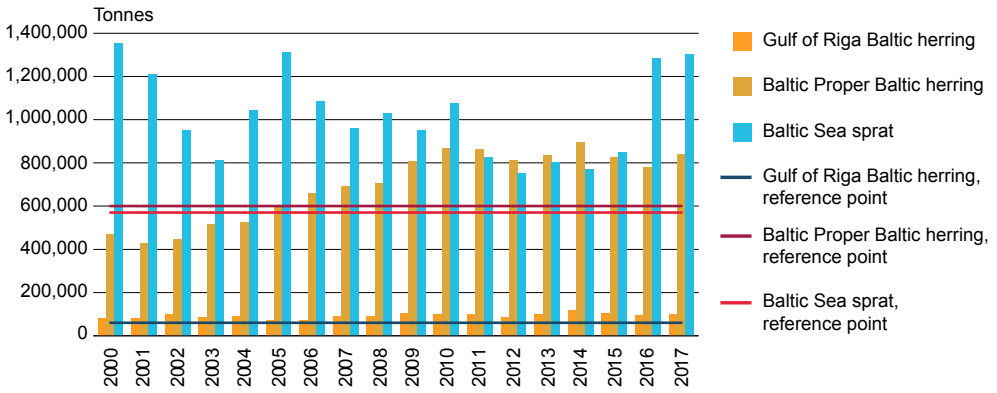
In 2000–2017, the spawning stock biomass of the Baltic herring population in the Gulf of Riga was rather stable and did not fall below the reference point level at any point. The size of the Baltic herring population can be affected besides the fishing pressure also by the food base. The Baltic herring stocks in the Gulf of Riga are not currently affected by the local cod population, as it is relatively small in the Gulf of Riga.

The spawning stock biomass of the sprat population in the Baltic Sea has declined compared to 2000, but has not fallen below the spawning stock biomass reference point. In addition to fishing, the abundance of Baltic herring as a competitor for food and cod as a predatory fish, the abundance of sprat is affected also by the salinity of the Baltic Sea.

Compared to the spawning stock biomass of the Baltic herring population in the Baltic Proper and Gulf of Riga, the spawning stock biomass of the sprat population in the Baltic Sea has declined more. One of the reasons may be that the sprat has a shorter lifespan than the Baltic herring. Therefore, very large and very small sprat generations affect the sprat population more.

The spawning stock biomass of the cod population in the Western Baltic has been well below the reference point. Therefore, the situation of the sprat and Baltic herring as prey fish of the cod has been quite favourable. In addition to unfavourable reproduction conditions, the sparse cod population is mostly the result of excessive fishing pressure. Reproduction conditions are poor, as oxygen-rich salt water does not regularly flow into the Baltic Sea. The development of cod eggs, however, depends on the oxygen level in the water column. In 2005–2007, the spawning stock biomass was above average due to strong inflow of oxygen-rich salt water in 2003.

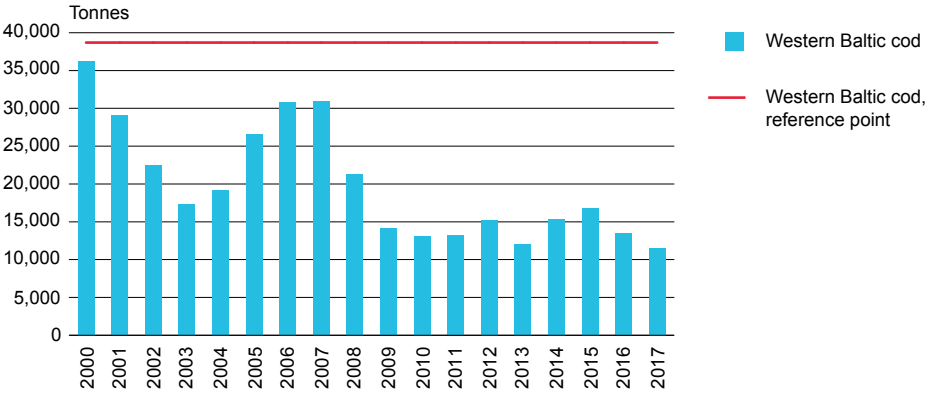
Spawning stock biomass of Baltic herring and sprat in the Baltic Sea, 2000–2017



Source: International Council for the Exploration of the Sea

The spawning stock biomass of the Baltic herring population in the Gulf of Riga and Baltic Proper and of the Baltic Sea sprat population are above the reference point.

Spawning stock biomass of cod in the Baltic Sea, 2000–2017



Source: International Council for the Exploration of the Sea

The Western Baltic cod population faced high fishing pressure in 2000–2017, due to which, the spawning stock biomass was below the reference point.

14 LIFE BELOW WATER

14.3. STATUS OF COASTAL WATER BODIES

CONCEPTS

The indicator shows the proportion of coastal water bodies in at least good status. The status of coastal water bodies is assessed based on their ecological and chemical status. The ecological status[1] of coastal water bodies can take one of the five status classes: high, good, moderate, poor or bad. The status class is determined on the basis of biological, physical-chemical and hydromorphological quality elements. The chemical status of coastal water bodies can be good or poor. The status class is determined on the basis of the concentration of hazardous substances.[2]

SITUATION IN ESTONIA

There are 16 coastal water bodies in Estonia. Their ecological status is assessed at least once in six years. The indicator is calculated on the basis of the data for the last reference year.

The aim is that all coastal water bodies will have achieved at least good status by 2027.

In 2017, only one coastal water body in Estonia was in at least good status (6.25%). 25% (4) coastal water bodies were in moderate status, 62.5% (11) were in poor status and 6.25% (1) were in bad status.

The Baltic Sea is one of the most anthropogenically impacted marine ecosystems in the world. Chemical status is generally poor, as mercury content in marine biota exceeds the maximum allowable concentration. In 2015–2016, the share of coastal water bodies in at least good chemical status was 6.25%.

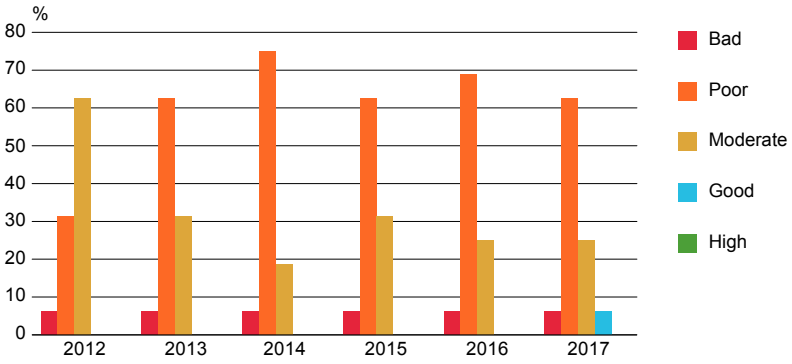
The ecological status of coastal water bodies has improved: in 2012, the share of coastal water bodies in at least good ecological status was 6.25% and in 2017, the share was 18.75%. The ecological status of the remaining coastal water bodies (81.25%) in 2017 was moderate (62.5%), poor (12.5%) or bad (6.25%).

INTERNATIONAL COMPARISON

According to the 2015 *State of Europe's seas* report[3], in which the data of the first River Basin Management Plans (2009–2014) have been used, approximately half of the 2,394 coastal water bodies in the European Union did not achieve at least good ecological status by 2015. According to the European waters assessment report (2018)[4] of the European Environment Agency, in which the Member States' data of the second River Basin Management Plans (2015–2021) have been used, 46% of the coastal water bodies in 20 European Union countries were in at least good ecological status.

1 Pinnaveekogumite moodustamise kord ja nende pinnaveekogumite nimestik /…/ Regulation No 44 of the Minister of the Environment of 28 July 2009. Riigi Teataja I, 25.11.2010, 15.
2 Prioriteetsete ainete ja prioriteetsete ohtlike ainete nimistu /…/ Regulation No 77 of the Minister of the Environment of 30 December 2015, § 2 and 3. Riigi Teataja I, 8.01.2016, 10.
3 *State of Europe's seas*, EEA Report No 2/2015. European Environment Agency, 2017.
4 *European waters – assessment of status and pressure 2018*, EEA report 7/2018. European Environment Agency, 2018.

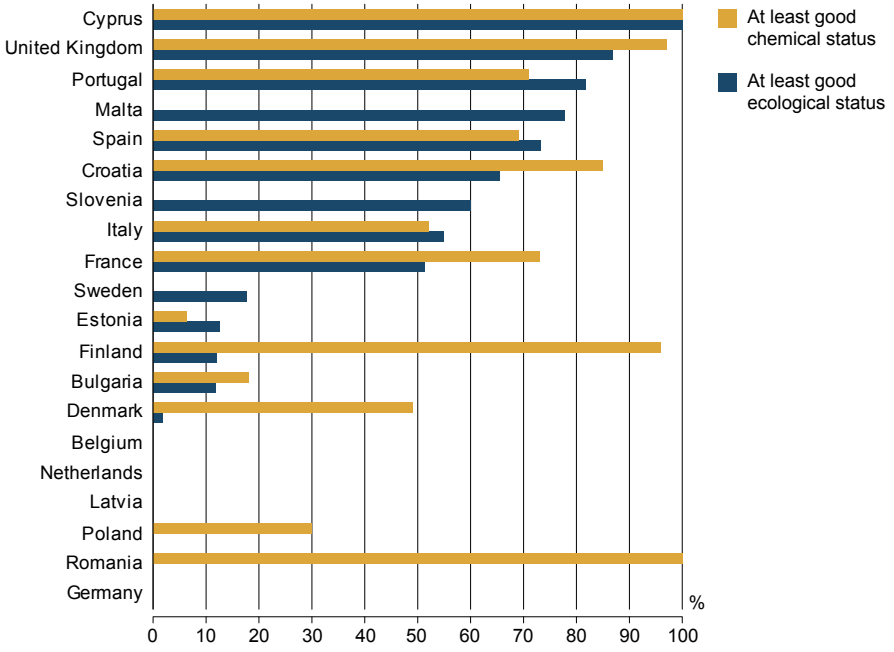
Overall status of coastal water bodies in Estonia, 2012–2017



Source: Environment Agency

In 2012–2016, there were no coastal water bodies in Estonia in at least good status; in 2017, there was one.

Status of coastal water bodies in the European Union, 2015–2017



Source: European Environment Agency

The share of coastal water bodies in at least good ecological or chemical status in Estonia is smaller than in many other EU countries.

15 LIFE ON LAND

PROTECT, RESTORE AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS, SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS

The focus of the global goal "Life on Land" is sustainable use and efficient protection of terrestrial ecosystems and the species living there. Protected and conserved ecosystems and biodiversity help to reduce human pressure on the environment and mitigate natural disasters. Ecosystems that are healthy and have integrity maintain resilience to the impacts of climate change and benefit the populations depending on these ecosystems.

The 2030 Agenda[1] emphasises the need to implement first the prior global agreements (Convention on Biological Diversity, the Nagoya Protocol, etc.). It is important to ensure the protection, restoration and sustainable use of terrestrial ecosystems and inland freshwater ecosystems and the related ecosystem services. Separate targets include protecting and using forest, mountain and dryland ecosystems sustainably. The status of all natural habitats and threatened species must be improved and poaching and trafficking of protected plant and animal species must be ended. Another target is managing invasive alien species and curbing their impact. The 2030 Agenda calls on countries to consider in all policy areas the need to sustain biological diversity and contribute more financial resources.

According to the UN progress report[2], global forest loss is slowing down and forest biomass stock per hectare is stabilising as more forests are being protected or long-term management plans are developed. Nevertheless, land productivity, loss of biodiversity and trafficking of wildlife are still serious problems. Although 15% of land is protected in some way, this does not include all areas important for biodiversity. The Red List Index clearly shows increasing loss of species biodiversity. In 1998–2013, land productivity declined; one fifth of global land territory is experiencing loss in soil productivity, which poses a threat to food production and to economic development in general.

The Estonian sustainable development strategy[3] emphasises the preservation of traditional land use practices, semi-natural landscapes and species diversity. Investments into environmental protection and environmental education are considered important.

The global goal "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss" is linked in Estonia with the following indicators of protection of species and habitats, incl. forest protection:

- Protected natural objects
- Protected forest land
- Emissions of acidifying pollutants
- Habitats in favourable conservation status
- Species in favourable conservation status

18.8% of the land territory of Estonia was under protection in 2017. Protected forests accounted for the largest share (13.1%). Area-based protection has ensured that habitats and species of European interest have a better status in Estonia than on average in the European Union.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1*. UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66*. UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

15 LIFE ON LAND

15.1. PROTECTED NATURAL OBJECTS

CONCEPTS

The indicator shows the share of protected natural objects created for the protection of biodiversity in national land territory. Protected natural object is an area or individual object protected under the Nature Conservation Act, where human activity is restricted or prohibited (strict nature reserves). In Estonia, protected natural objects are divided as follows: protected areas (national parks, nature reserves, protected landscapes and its special types arboretums, parks and forest stands), limited-conservation areas, species protection sites, protected nature monuments with protection zones and natural objects protected at the municipal level.

SITUATION IN ESTONIA

The total surface area of protected natural objects has increased over the years both in Estonia and in the European Union. The global biodiversity strategy adopted in 2010 provides that by 2020 at least 17% of the terrestrial and inland water areas of countries should be placed under protection (Aichi Target 11). In addition to land and freshwater, 10% of coastal and marine areas need to be protected. According to the target, the areas of particular importance for biodiversity and ecosystem services need to be conserved. Conservation is ensured through effectively and equitably managed, ecologically representative and well-connected systems of protected natural objects and other effective area-based conservation measures.

In 1999–2003, the total surface area of protected natural objects did not change considerably, but increased sharply in 2004, when Estonia acceded to the European Union and the Natura 2000 network was established. This resulted in an increase in the share of protected natural objects on land from 11% to 17%. At the end of 2017, protected natural objects in Estonia accounted for 18.8% of the terrestrial area – Aichi[1] Target 11 has been reached.

Natural values requiring protection are most numerous in Western Estonia. 28.7% of Lääne county is covered with protected natural objects, 26.7% of Pärnu county and 23.4% of Hiiu county. The share of protected natural objects is smallest in Põlva county (8.2%).

At the end of 2017, there were 3,856 protected natural objects in Estonia, including 165 nature reserves, 150 protected landscapes, 5 national parks, 71 areas with old, i.e. not renewed protection regime, 523 parks and forest stands, 328 limited-conservation areas, 1,480 species protection sites, 23 natural objects protected at the municipal level and 1,114 nature monuments.

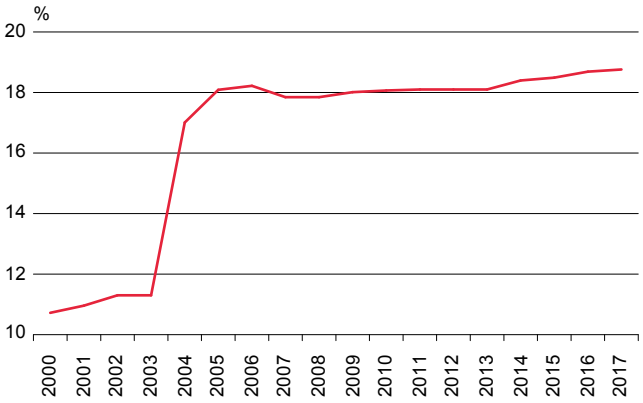
INTERNATIONAL COMPARISON

According to the World Bank, in 2016, protected areas in the European Union accounted for an average of 25.8% and in OECD countries for 14.5% of the land territory. According to the United Nations Environment Programme, the average share of protected areas in the land territory of the world was 14.4%.

According to the European Environment Agency, in 2016, Estonia was 20th among the European Union countries in terms of the share of the surface area of protected areas in land territory. Protected areas account for the largest share of territory in Slovenia (53.7%), followed by Bulgaria (40.5), Croatia (37.4%), Germany (37.1%), Slovakia (36.6%) and Greece (34.7%). The share was smallest in Denmark and Ireland – 12.3% and 13.8%, respectively.

1 *Global biodiversity strategy 2011–2020*

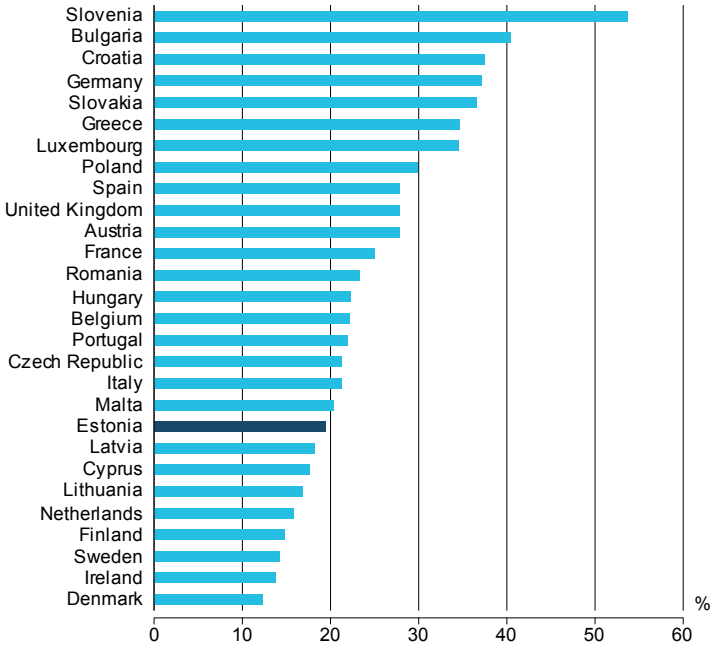
Share of protected natural objects in land territory in Estonia, 2000–2017



Source: Environment Agency

18.8% of land in Estonia was under protection at the end of 2017.

Share of protected areas in land territory in the European Union, 2016*



* Due to the use of aggregated data, the data of the European Environment Agency differ somewhat from the national data.

Source: European Environment Agency

In terms of the share of protected areas in land territory, Estonia ranks 20th in the EU.

15 LIFE ON LAND

15.2. PROTECTED FOREST LAND

CONCEPTS

The indicator shows the share of protected forest land in the total area of forest land. Protected forest land includes strictly protected forest land and limited management forest land. Strictly protected forest land includes strict nature reserves, natural and managed conservation zones, conservation zones of species protection sites, habitats of species in the protected category I, key habitats and planned protection areas based on the planned regime. Limited management forest land includes limited management zones of protected areas, limited management zones of species protection sites, limited-conservation areas, forest in water protection zones, forest in areas of infiltration, forest designated by a plan for the protection of environment, planned protection areas based on the current regime and other protected areas the protection rules of which have not yet been renewed.

The share of strictly protected forest land (previously "protected forest") and limited management forest land (previously "protection forest") in total forest land area is an important indicator for the biodiversity of forest habitats and species.

SITUATION IN ESTONIA

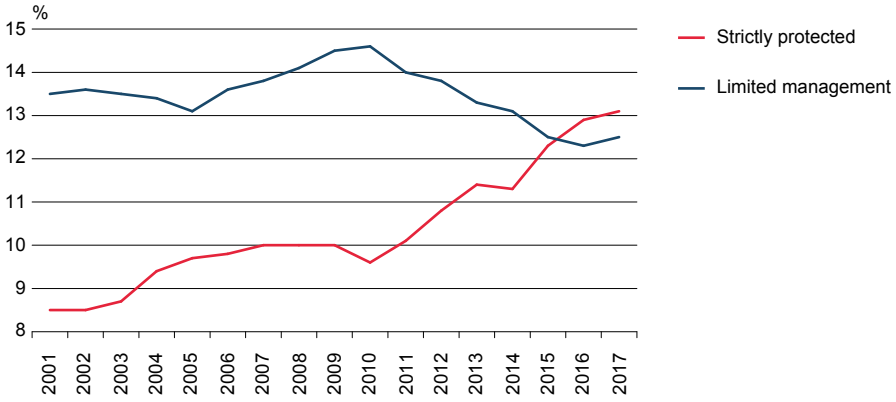
In Estonia, the protection of forests is based on the Nature Conservation Act and the Forest Act. According to the Nature Conservation Act, mainly the use of areas of natural value should be restricted, to preserve nature and its biodiversity. The Forest Act regulates the protection of forest as an ecosystem and sustainable forest management.

Estonian Forestry Development Plan 2020 provides that the area of strictly protected forest land should account for at least 10% of the total forest land area. In 2017, there were 0.31 million hectares of strictly protected forests in Estonia, i.e. 13.1% of the total forest land area. Therefore, the 10% target has been reached. Compared to 2007, the area of strictly protected forest land has increased 1.34 times, as mostly limited management forest land has decreased. The total area of limited management forest land in 2017 was 0.29 million hectares, or 12.5% of the total forest land area. It is difficult to compare data, as the classification principles of strictly protected and limited management forest land have changed somewhat. The estimation error as regards strictly protected and limited management forest land is approximately 5%.

Despite the fact that the 10% target for strictly protected forests has been reached, the typological representation of strictly protected forests requires specification also in the future, gaps need to be assessed and bridged mainly on account of existing protected areas and limited-conservation areas. According to the Nature Conservation Development Plan, typological representation requires strict additional protection as regards mesoeutrophic forests, nemoral forests and herb-rich forests on gley soil. In 2017, the area of strictly protected forests increased, as nemoral and mesoeutrophic forests were placed under protection.

Mostly older forests with greater biological diversity have been placed under protection. In 2017, 41% of strictly protected forests, or 124,000 hectares were in the mature stand development class and the largest share (40%), or 116,000 of limited management forests in the middle-aged stand development class.

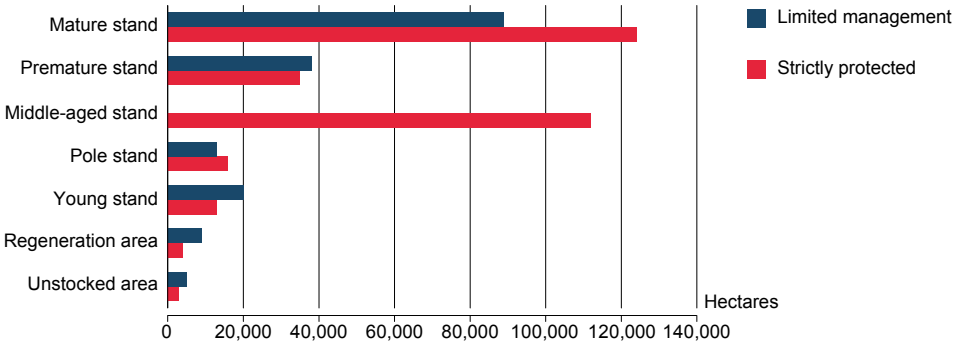
Share of protected forests in total forest land area in Estonia, 2001–2017



Source: Environment Agency (National Forest Inventory)

Strictly protected forests account for 13.1% of total forest land area in Estonia.

Area of protected forests by development class in Estonia, 2017



Source: Environment Agency

The most protected types of forest are middle-aged and mature forests.

15 LIFE ON LAND

15.3. EMISSIONS OF ACIDIFYING POLLUTANTS

CONCEPTS

The indicator expresses the total anthropogenic emissions of sulphur dioxide (SO_2), nitrogen oxides (NO_x) and ammonia (NH_3) expressed in acidifying equivalents.

Acid rain has a lower pH than natural precipitation. Acid rain forms mainly due to sulphur and nitrogen compounds which are soluble in water and lead to the acidification of precipitation. Acid rain is a hazard to the environment, damaging the soil, vegetation and aquatic ecosystems but also buildings and other property. Acid rains are a global problem, as air currents carry them from one country to another. The energy sector is the main source of SO_2 emissions, the emissions of nitrogen oxides originate mainly from the use of petrol and diesel fuel in road transport and ammonia emissions are mainly caused by livestock farming and use of fertilisers in agriculture.

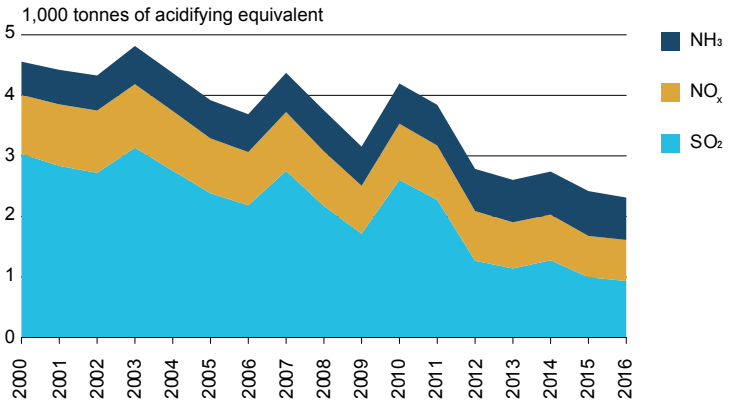
SITUATION IN ESTONIA

Expressed in acidifying equivalents, a total of 2,300 tonnes of acidifying pollutants were emitted in Estonia in 2016. Sulphur dioxide was the main acidifying gas in Estonia, accounting for 40% of the total emission of acidifying gases; nitrogen oxides and ammonia each made up approximately 30% of the total emission. Compared to 2000, the emission of acidifying pollutants has halved, mainly due to a decrease in SO_2 emissions. In the same period, the emission of nitrogen oxides has decreased by 30%, but the emission of ammonia has increased by 30% compared to 2000. In the past six years, the emissions of ammonia have been consistently high.

INTERNATIONAL COMPARISON

In 2015, the emissions of acidifying pollutants of European Union countries totalled 491,000 tonnes in acidifying equivalents. The biggest amount of emitted acidifying pollutants was recorded in Germany – 81,000 equivalent tonnes, or 17% of the total European Union emission of acidifying pollutants. Other big emitters of acidifying pollutants were France (13%) and Spain (11%). The share of Estonia in the total emission of acidifying pollutants in the European Union was 0.4%. At the same time, Estonia was one of the biggest emitters of acidifying pollutants per capita. A higher per capita emission of acidifying pollutants was recorded only in Ireland. In 2015, the per capita emission of acidifying pollutants was lowest in Malta, United Kingdom and Sweden. While in Estonia, acid rain is mainly caused by the emission of SO_2 from the energy sector, the main cause in the European Union is agriculture. The second largest emitter of acidifying pollutants was transport – the majority of the emission of nitrogen oxides originated from this sector. In 2015, the share of SO_2 in the acidifying pollutants in the European Union was 18%.

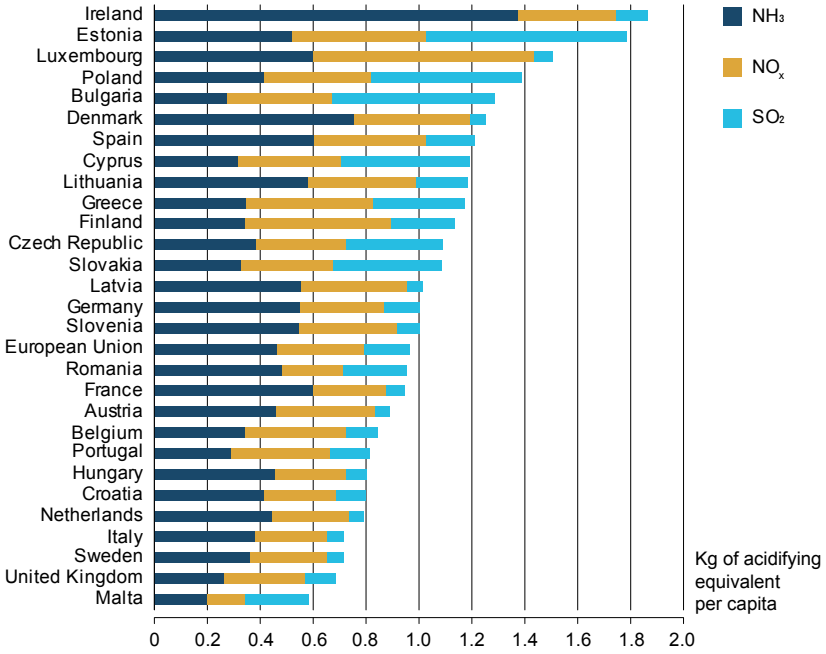
Emissions of acidifying pollutants in Estonia, 2000–2016



Source: Environment Agency

Compared to 2000, emissions of pollutants causing acid rain have followed a downward trend due to a decrease in SO_2 emissions.

Emissions of acidifying pollutants per capita in the European Union, 2015



Source: Eurostat

Compared to other EU countries, emissions of acidifying pollutants per capita were high in Estonia.

15 LIFE ON LAND

15.4. HABITATS IN FAVOURABLE CONSERVATION STATUS

CONCEPTS

The indicator expresses the share of habitat types of European Union interest in favourable conservation status in Estonia. Included are habitat types listed in Annex I of the European Union Habitats Directive, which are in favourable conservation status according to reports drawn by the Member States every six years under Article 17 of the Directive.

In Annex I to the Habitats Directive, 233 habitat types of European Union interest have been listed, 60 of which can be found in Estonia. A habitat type can be assessed as being favourable, unfavourable-inadequate, unfavourable-bad or unknown. Habitat types are in favourable status if their natural range and area are stable or increasing, the specific structure and functions which are necessary for the long-term maintenance of the habitat type exist and are likely to continue to exist for the foreseeable future and the conservation status of typical species is favourable.

SITUATION IN ESTONIA

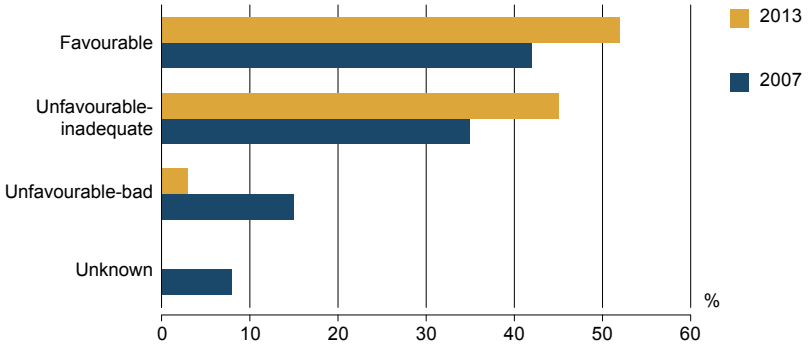
The status of habitat types of European Union interest has improved in Estonia in recent years. While in 2007, the share of habitat types of European Union interest in favourable status was 42%, in 2013, the share was already 52% (31 habitat types). 45% (27) of habitat types were in unfavourable-inadequate status and 3% (2) were in unfavourable-bad status. Among the habitat types in favourable status, marine and coastal habitats are the most numerous; the status of forests, however, is worse. The status of swamp forests and herb-rich spruce forests is especially bad, as their area continues to show a downward trend. According to Annex I to the Habitats Directive, there are 10 semi-natural communities, of which only three are in favourable status. The main and more representative semi-natural communities (e.g. alvars and wooded meadows) are mostly (70%) in unfavourable-inadequate status. However, the efforts in recent years (restoration and maintenance of meadow communities) have been sufficient to inhibit the degradation of these habitat types.

The improvement of the status of many habitat types has largely been possible due to European Union funding, which has been used to carry out practical conservation work, for restoring and maintaining habitats, investments in conservation infrastructure and preparing and establishing more precise and appropriate conservation guidelines.

INTERNATIONAL COMPARISON

Compared to other European Union countries, the state of nature in Estonia is quite good. According to the report *State of nature in the EU: Results from reporting under the nature directives 2007–2012* of the European Environment Agency, only 16% of habitat types in the European Union were in favourable status. According to the previous report (2007), the share of habitat types in favourable status was slightly bigger – 17%. In the European Union, 30% of all habitat types protected under the Habitats Directive are in unfavourable-bad and 47% in unfavourable-inadequate status; the status of 7% of habitat types is unknown. The situation is the most favourable in Cyprus, where 97.6% of habitat types are in favourable status. More than half of habitat types are in favourable status in Romania and Estonia. The situation is worst in the Netherlands, Denmark, United Kingdom, Belgium and Ireland, where less than 10% of habitat types are in favourable status.

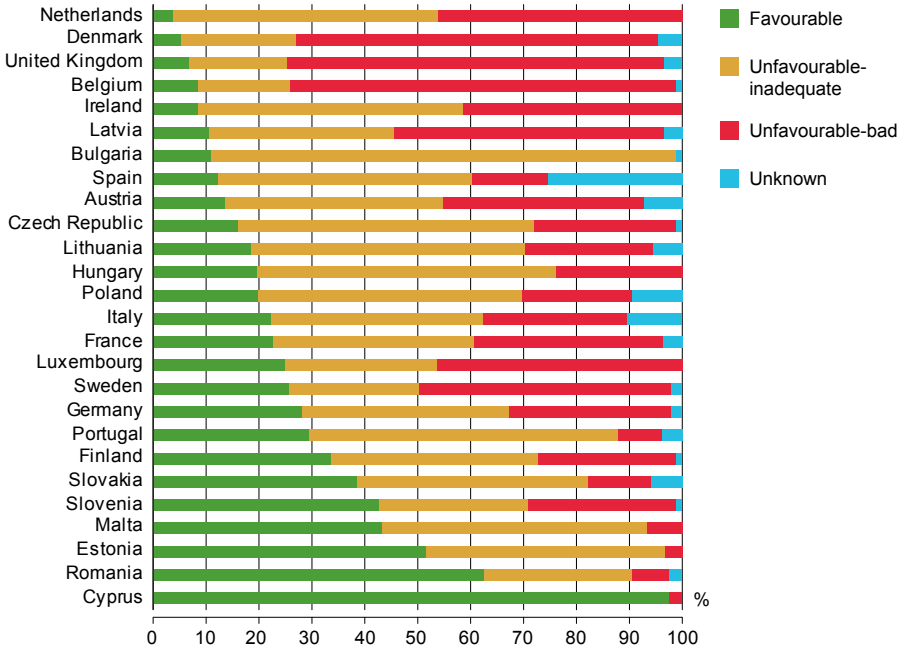
Share of habitat types of European Union interest by status class in Estonia, 2007 and 2013



Source: Environment Agency

The status of habitat types of European interest has started to improve in Estonia due to the nature protection activities of recent years.

Share of habitat types of European Union interest by status class in the European Union, 2007–2012*



* Data not available for Greece.

Source: European Environment Agency

In Estonia, habitat types of European interest are in better state than in the EU.

15 LIFE ON LAND

15.5. SPECIES IN FAVOURABLE CONSERVATION STATUS

CONCEPTS

The indicator shows the share of species of European Union interest in favourable conservation status in Estonia. Included are species listed in Annex II of the European Union Habitats Directive, which are in favourable conservation status according to reports drawn by the Member States every six years under Article 17 of the Directive.

In Annex II to the Habitats Directive, 1,387 species of European Union interest have been listed, 99 of which can be found in Estonia. The assessment of a species can be favourable, unfavourable-inadequate, unfavourable-bad or unknown. Species are in favourable status if the population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future and there is, and probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

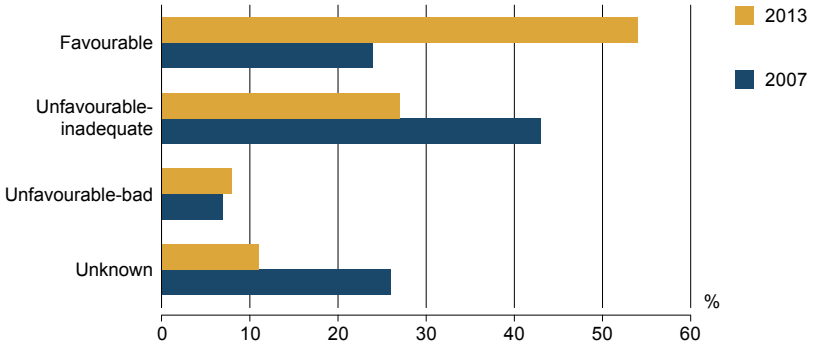
SITUATION IN ESTONIA

The status of many species of European Union interest has started to improve in Estonia due to conservation activities undertaken in recent years. For instance, the status of the globally endangered European mink, but also of the asp and the grayling, some dragonfly and butterfly species have improved in Estonia. However, the status of the freshwater pearl mussel, the natterjack toad and the Siberian flying squirrel continues to deteriorate. While according to the 2007 report, only 24% of the species of European Union interest were in favourable status in Estonia, in 2013, the share was already 54%. In 2013, the share of species in unfavourable-inadequate status was 27% (27 species) and the share of species in unfavourable-bad status was 8% (8 species). The status of some species listed in the Habitats Directive in Estonia remains unknown according to experts (11%).

INTERNATIONAL COMPARISON

According to the report *State of nature in the EU: Results from reporting under the nature directives 2007–2012* of the European Environment Agency, 23% of the species were in favourable status (17% in the previous reference period), 18% in unfavourable-bad status, 42% in unfavourable-inadequate status and the status of 17% of the species was unknown. According to the report, besides Estonia, more than half of the species were in favourable status also in Cyprus, Bulgaria and Ireland. The situation is worst in Austria, Luxembourg, Romania, Belgium, Portugal and Slovakia, where less than a fifth of species are in favourable status. However, as the species in the Annexes to the Habitats Directive are endangered in the European Union, they cannot all be in favourable status.

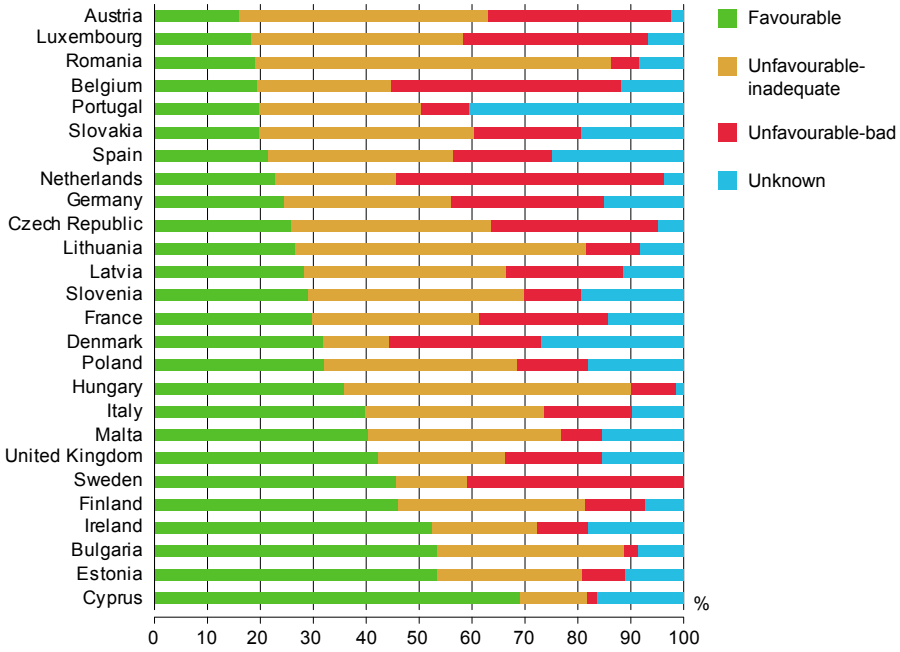
Share of species of European Union interest by status class in Estonia, 2007 and 2013



Source: Environment Agency

The status of species of European interest has improved in recent years due to more emphasis on nature conservation.

Share of species of European Union interest by status class in the European Union, 2007–2012*



* Data for Greece are unavailable.

Source: European Environment Agency

In Estonia, species of European interest are in better state than in the EU.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

PROMOTE PEACEFUL AND INCLUSIVE SOCIETIES FOR SUSTAINABLE DEVELOPMENT, PROVIDE ACCESS TO JUSTICE FOR ALL AND BUILD EFFECTIVE, ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS

The focus of the global goal "Peace, Justice and Strong Institutions" is people's overall security. Mainly attention is paid to regions of military conflict, but the goal is to increase security everywhere.

The 2030 Agenda[1] targets emphasise the need to reduce violence and the number of related deaths, especially among children. Child abuse and exploitation, trafficking in children, violence against and torture of children must be ended. The activities of countries must be based on the rule of law. Corruption is to be reduced, while other 2030 targets include reducing illegal financial and arms flows, improving the recovery and return of stolen assets and fighting organised crime. Institutions at all levels should be effective, accountable and transparent, and the decisionmaking process should first be inclusive.

According to the UN progress report[2], homicide rate has declined in the last decade, but remains relatively high. Both physical and psychological violence against children and women are widespread. In the area of legal protection, timely and fair trials and access to justice must be ensured. Globally, the progress has been slow: in 2003–2005 and 2013–2015, the share of prisoners who had not been sentenced was 32% and 31%, respectively. In a 2015 worldwide corruption survey, 18% of enterprises reported that representatives of public authorities had requested a bribery payment from them at least once. The share of such companies reached 25% in low and lowermiddleincome countries, in highincome countries the share was 4%.

Birth registration is considered important, as it is the first step to ensuring individual rights and access to legal and social services. In many countries, all births are registered, but globally this indicator was 71% in 2010–2016.

By the end of 2016, there was a national human rights institution (compliant with the Paris Principles) in 37% of countries; in 57% of countries, some other institution reviewed human rights compliance.

The Estonian sustainable development strategy[3] emphasises security as an important part of wellbeing.

The global goal "Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels" is linked in Estonia with the following indicators of corruption and people's security:

- Perception of corruption
- Unspecified citizenship
- Neighbourhood security
- Deaths due to assault
- Victims of violence

Estonian inhabitants perceive corruption less and less. In terms of the Corruption Perceptions Index, Estonia ranks 11th among the European Union countries.

In the last twenty years, the number of persons with unspecified citizenship has decreased by 2.3 times.

Security in the society is perceived ever better. Estonian inhabitants feel more secure in their neighbourhood than people do on average in the European Union. Reduction in the number of deaths due to assault is a contributing factor.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1.* UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66.* UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

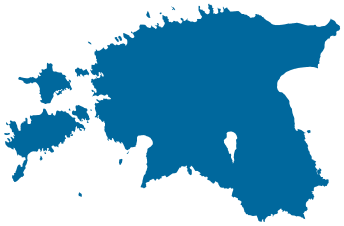
16.1. PERCEPTION OF CORRUPTION

CONCEPTS

Corruption Perceptions Index ranks countries by their perceived levels of corruption in the public sector. The index combines various surveys carried out by Transparency International. The Corruption Perceptions Index ranks countries on a scale of 0 to 100, in which 0 indicates high perceived corruption. The maximum score of 100 is given to a country that is perceived as free of corruption.

For instance, 13 surveys published by 12 different institutions were used for the compilation of the Corruption Perceptions Index 2017, which assessed the perception of corruption within the last two years. The surveys contain questions about the corruption of public service, so-called service fees of public procurements and embezzlement of public funds as well as questions aimed at the efforts of the public sector in combating corruption and the efficiency of such efforts.

Corruption is most commonly defined as misuse of one's position or power for personal gain. The broader definition regards corruption as a breach of trust.[1]



SITUATION IN ESTONIA

Estonia received 71 points in the Corruption Perceptions Index in 2017, thus ranking 21st out of 180 countries. The year before, Estonia ranked 22nd (70 points), and in 2015, was placed 23rd (70 points). In 2012, Estonia's index was 64 and was ranked 32nd. Therefore, Estonia's score has increased by seven points in the last six years and Estonia climbed 11 places in the ranking.

The Corruption Perceptions Index shows that Estonia is moving closer to countries where corruption is felt less intensively. However, recording of many corruption cases and the number of criminal matters still demonstrates that corruption remains a problem area in society. 288 corruption offences were recorded in Estonia in 2017, which is the lowest level in five years.[2] However, the number of recorded corruption offences reached a record high in 2016, when 550 offences were recorded.

2017 saw the recording of significantly more corruption offences related to the field of medicine and offences regarding breaches of procedural restrictions by officials of local governments (decisions or self-dealing). At the same time, the previous trend of most recorded offences belonging to the area of roadworthiness testing continued. Corruption offences were also recorded in the registration of vehicles and issue of driving licences.

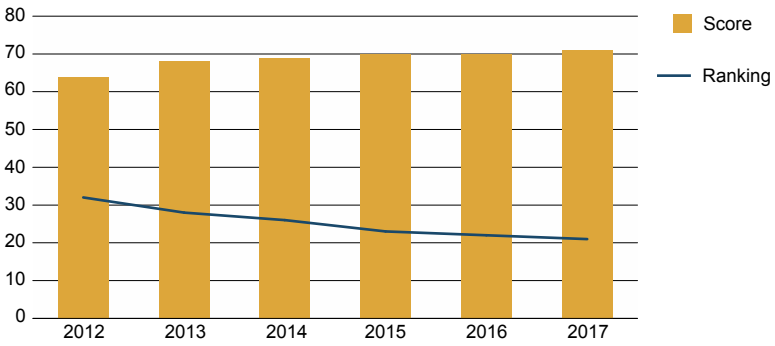
INTERNATIONAL COMPARISON

In 2017, the average score of the Corruption Perceptions Index of the European Union countries was 65. Estonia ranked 11th among the European Union countries. Similarly to previous years, Scandinavian countries had the highest scores among EU countries, whereas Eastern European countries had the lowest scores. In 2017, Denmark (88 points) received the highest score, followed by Finland (85 points) and Sweden (84 points). The worst-performing countries were Bulgaria and Hungary with 43 and 45 points, respectively.

1 Korruptsioon.ee

2 In addition to criminal official misconduct, embezzlement and fraudulent conduct by officials, bribery offences in the private sector and making prohibited donations are also included.

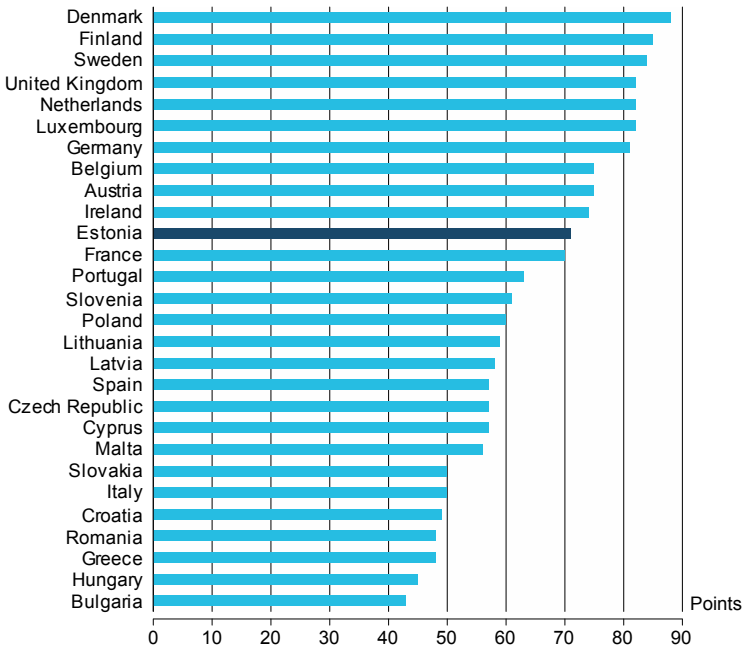
Estonia's ranking and Corruption Perceptions Index among 180 countries, 2012–2017



Source: Transparency International

The Corruption Perceptions Index has been steadily improving in Estonia.

Corruption Perceptions Index in the European Union, 2017



Source: Transparency International

Estonia ranks 11th among EU countries according to the Corruption Perceptions Index.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

16.2. UNSPECIFIED CITIZENSHIP

CONCEPTS

A person with unspecified citizenship is someone who has lost his/her previous citizenship due to the country of citizenship ceasing to exist and who has not realised the opportunity to obtain the citizenship of a successor state. The unspecified citizenship indicator expresses the number of such persons.

A person with unspecified citizenship is not the same as a stateless person, as persons with unspecified citizenship have the option to obtain citizenship of the Russian Federation by registration.

Stateless persons are not citizens of any country and they cannot freely obtain citizenship of any country.

SITUATION IN ESTONIA

In 2000, there were 170,349 persons with unspecified citizenship in Estonia, who accounted for 12.4% of the total population (PHC 2000)[1]. Less than half of them had unspecified citizenship by the time of the next population census: 85,961 persons, accounting for 6.6% of the total population (PHC 2011). There were 10,000 fewer persons with unspecified citizenship living in Estonia at the beginning of 2018 than six years prior, i.e. 75,628 persons with unspecified citizenship, and they constituted 5.7% of the total population.

Unspecified citizenship is more characteristic of the older population. The number and share of retirement-aged persons with unspecified citizenship in total population has increased in the last six years. The figures of other age groups are steadily declining. In 2016, a law amendment entered into force according to which children who would have unspecified citizenship through their parents shall acquire Estonian citizenship by naturalisation as of the moment of birth. This also applies to other children with unspecified citizenship who are under 15 years of age. After this amendment, the number of under 15-year-old children with unspecified citizenship has decreased considerably.

Persons with unspecified citizenship are generally located in Harju and Ida-Viru counties. These are areas that had the largest immigrant workforce during the Soviet era and which also have the biggest problems with integration because the Russian-speaking population is large enough to not come into contact with the native people. According to 2018 data, 60% of all persons with unspecified citizenship are in Harju county and 28% in Ida-Viru county. The share of such persons is minimal in other counties. Persons with unspecified citizenship constitute 15% of the total population in Ida-Viru county and 8% in Harju county, followed by Valga county with 4%. Overall, persons with unspecified citizenship are urbanised to a large extent: 88% of them live in urban and 12% in rural settlements. Overall, 69% of the Estonian population live in urban settlements.

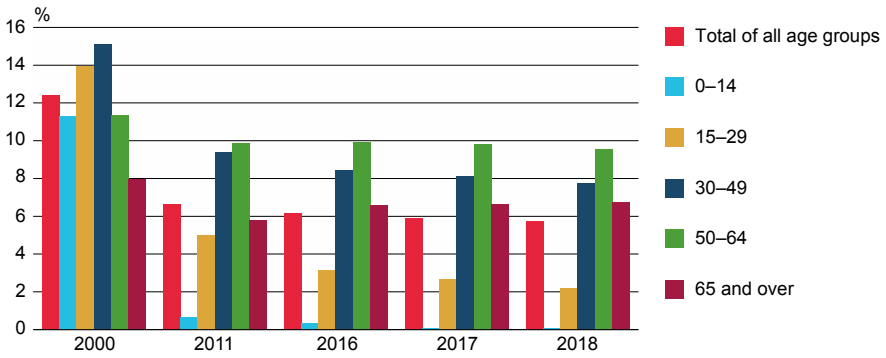
INTERNATIONAL COMPARISON

In Europe, persons whose citizenship was left unspecified as result of the collapse of the Soviet Union mostly live in Estonia and Latvia. Persons with unspecified citizenship constitute 11% of the total population in Latvia and 6% in Estonia. There are three times more persons with unspecified citizenship in Latvia than there are in Estonia, even though the population of Latvia is only 1.5 times bigger.

The number of such persons is declining in both countries, as persons with unspecified citizenship are mostly older people. The number of persons with unspecified citizenship decreased by 13% in Estonia and 17% in Latvia in 2013–2017.

1 Population and Housing Census

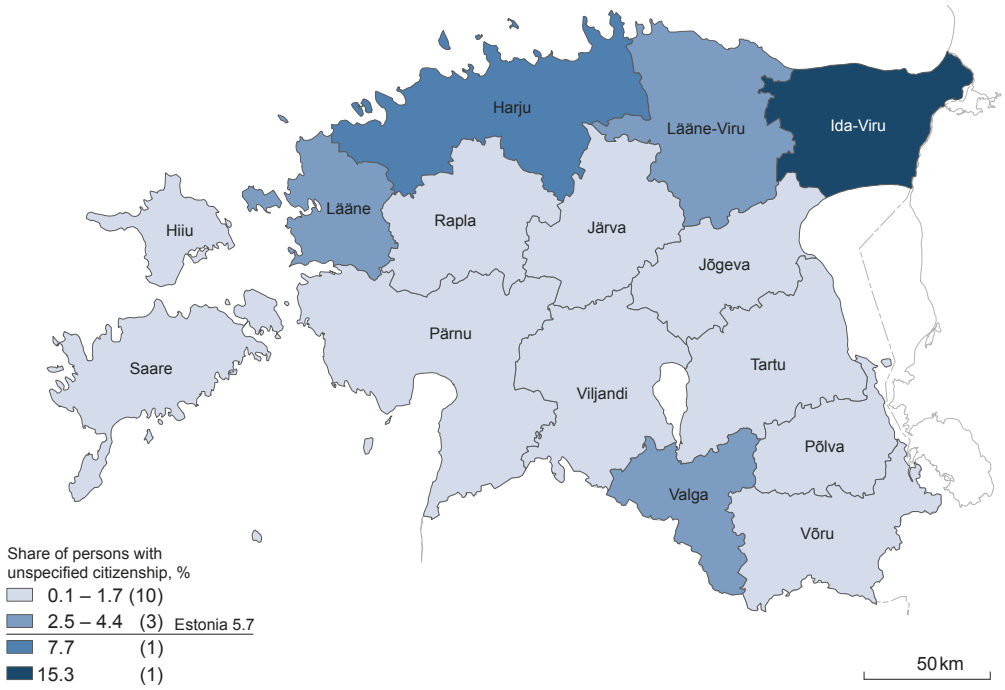
Persons with unspecified citizenship by age group in Estonia, 2000–2018



Source: Statistics Estonia

In around two decades, the number of persons with unspecified citizenship has decreased from 12.4% to 5.7%.

Persons with unspecified citizenship by county, 2018



Source: Statistics Estonia

Distribution of persons with unspecified citizenship is similar to the distribution of immigrants who arrived during Soviet times: they live mostly in Ida-Viru and Harju counties.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

16.3. NEIGHBOURHOOD SECURITY

CONCEPTS

The neighbourhood security indicator is defined as the share of the population of Estonia who consider their immediate neighbourhood secure. The indicator is calculated based on the question asked in Eurobarometer surveys: "To what extent do you agree with the statement that your neighbourhood is a secure place to live in?" Possible answers were as follows: "Totally agree", "Tend to agree", "Tend to disagree", "Totally disagree", "Don't know". The shares of statements "Totally agree" and "Tend to agree" have been summed in the calculation process.

Various factors have been taken into account during the process of determining and evaluating inhabitants' perception of security: crime rate, confidence in internal security authorities, awareness of how to act in the event of danger.

SITUATION IN ESTONIA

Estonian inhabitants think their neighbourhood is a secure place to live. Eurobarometer 2017 survey 464b[1] revealed that 94% of Estonian inhabitants considered their neighbourhood secure. The indicator improved gradually from 2011 to 2017 (from 56% to 65%), while the share of people who thought their neighbourhood was completely secure increased significantly.

In 2017, 29% of Estonian inhabitants thought their neighbourhood was rather secure. The fact that people think their immediate neighbourhood is secure was also confirmed by the 2014 survey Standard Eurobarometer 81, according to which 82% of Estonian inhabitants felt very secure or rather secure while walking around in their neighbourhood during nighttime, whereas only 3% considered it to be unsafe to walk around during nighttime.

The perception of Estonian inhabitants regarding the security of their country coincides with the overall perception of security in their immediate neighbourhood, constituting 94% in 2017. The increase in the feeling of security has been due to decline in recorded offences as well as the continuously strong confidence in internal security authorities, police and the rescue board; moreover, people are also more aware of how to act in the event of danger.

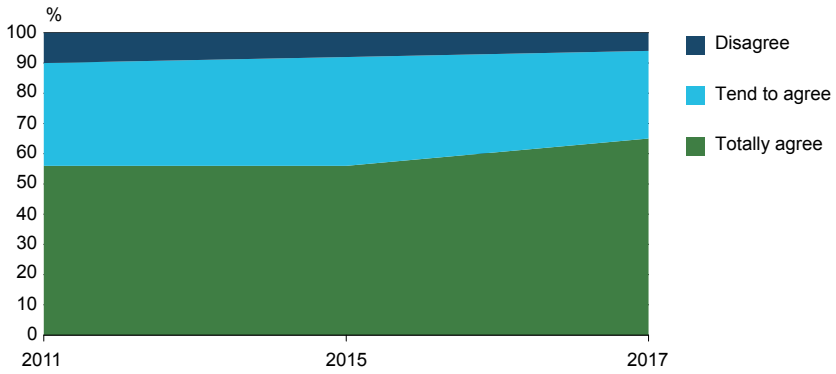
INTERNATIONAL COMPARISON

In 2017, 99% of the inhabitants of Finland and 98% of the inhabitants of the Netherlands, Ireland and Portugal thought their neighbourhood was secure. In 2017, Bulgarian and Italian inhabitants assessed the security of their neighbourhood the lowest, at 81% and 84%, respectively. At the same time, the Estonian ratio was 94%, exceeding the European Union average by 3 percentage points.

Similarly to Estonia, general perception of security in the immediate neighbourhood has improved in European Union countries. The share of persons who think their neighbourhood is completely secure has increased as well. Estonia ranked 15th in the European Union with this great result. In 2017, an average of 34% of inhabitants in the European Union thought their immediate neighbourhood was rather secure. The share was lowest in Finland, Denmark and Sweden – 10%, 15% and 17%, respectively. The share of persons who thought their immediate neighbourhood was rather secure was highest in Italy, Belgium and Slovakia (53%, 42% and 42%, respectively).

1 *Special Eurobarometer 464b: Europeans' attitudes towards security, 2017.*

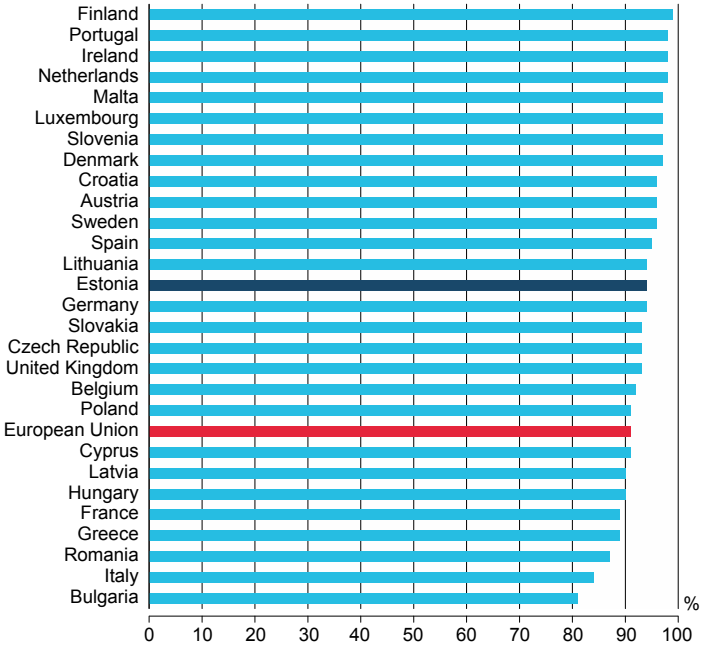
Share of inhabitants who think their neighbourhood is secure in Estonia, 2011–2017



Sources: Eurobarometer 380, Eurobarometer 432, Eurobarometer 464b

Estonian inhabitants feel secure in their immediate neighbourhood.

Share of inhabitants who think their neighbourhood is secure in the European Union, 2017



Source: Eurobarometer 464b

Estonian inhabitants evaluate the security of their neighbourhood better than inhabitants on average in EU countries.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

16.4. DEATHS DUE TO ASSAULT

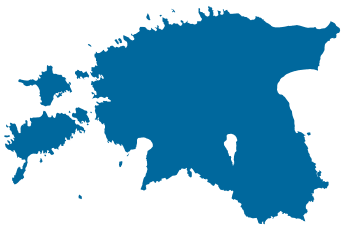
CONCEPTS

The indicator of deaths due to assault expresses mortality of persons due to assault cases per 100,000 inhabitants. Assault means injuries inflicted by another person with any weapon with the intention to injure or kill.

Attempted manslaughter and attempted murders recorded in crime statistics are not defined as assault, neither are deaths due to legal intervention or combat.

Assault includes cases set out in sections X85–Y09 of the International Statistical Classification of Diseases and Related Health Problems (ICD-10).

Data used for international comparison have been presented as a standardised death rate.



SITUATION IN ESTONIA

In 2017, there were 2.2 deaths due to assault per 100,000 inhabitants in Estonia, 3.4 of whom were male and 1.1 were female. 1994 was the most tragic year after the restoration of independence, as there were 29.1 deaths due to assault per 100,000 inhabitants. Since then, the indicator has been constantly declining with minor fluctuations. In 2000, there were 13.6 deaths due to assault in Estonia, which means that deaths as a result of assault occurred 6 times more often than in 2017.

On average, 11.4 males and 3 females died due to assault between 2000–2017, which means that for every female 3.8 males died. The sex ratio of deaths due to assault has remained stable throughout the period following the restoration of independence, with only slight fluctuations (around one female for every four males). In 2000, the ratio was 5.3 males for every female, and 3 males for every female in 2017. The greatest difference, however, was in 1995 (7.7 males for every female).

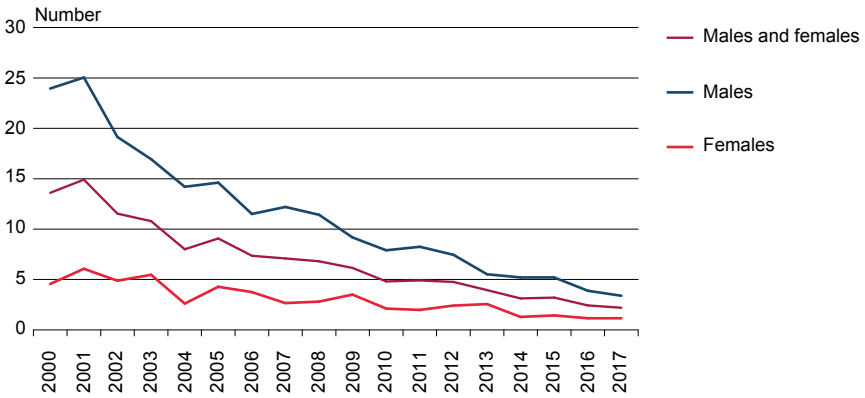
The number of deaths due to assault has significantly decreased among all age groups since the year 2000. The number of deaths of children under one year of age due to assault per 1,000 persons of the same age has decreased from 0.158 to zero since 2000. The number of deaths of persons aged 25–34 has significantly decreased as well: from 0.207 to 0.015 per 1,000 inhabitants.

INTERNATIONAL COMPARISON

Even though the number of deaths due to assault has decreased in Estonia in recent decades, it is still significantly higher than on average in the European Union. According to the data of 2015, there were an average of 0.69 deaths due to assault per 100,000 inhabitants in European Union countries, while Estonia's ratio was 3.64. Estonia ranked 26th among European Union countries. Estonia's figure is only exceeded by Lithuania (4.1) and Latvia (5.1).

The number of deaths due to assault is constantly declining, however, Estonia's ranking among European Union countries is unlikely to change according to current data, as the number of deaths due to assault is also on the decline in other countries. There should be under 1.5 deaths due to assault in Estonia, i.e. less than 20 persons per 100,000 inhabitants per year, in order to catch up with higher-ranking countries.

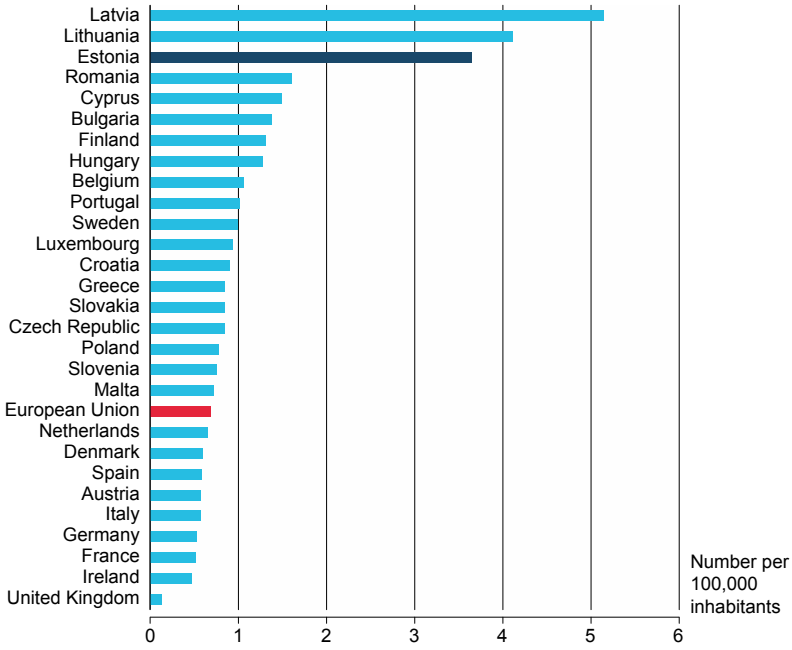
Deaths due to assault per 100,000 inhabitants in Estonia, 2000–2017



Source: Statistics Estonia

The number of deaths due to assault has significantly decreased since 2000 and continues to do so.

Deaths due to assault in the European Union, 2015



Source: Eurostat

The number of deaths due to assault should significantly decrease in Estonia to reach the EU average.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

16.5. VICTIMS OF VIOLENCE

CONCEPTS

The indicator of victims of violence expresses the share of inhabitants aged 15–74 who have fallen victim to a crime of violence within the last 12 months.

The calculation of the share of victims of violence is based on population surveys (victimisation surveys), which examine whether the respondent has fallen victim to a crime during the 12 months preceding the survey. Three types of cases are included: assault, threat of violence (cases where the respondent was "really afraid") and robbery (something was taken or attempted to be taken with violence).

SITUATION IN ESTONIA

In 2017, 0.9% of respondents of the victimisation survey had fallen victim to assault within the last 12 months, whereas 1.6% of respondents had been exposed to threats of violence and 0.9% of respondents to robbery. Considering the statistical confidence limit, these figures have not substantially declined in the last few years; however, there has been a significant drop in cases of assault and threats of violence in comparison with the year 2010.[1]

In surveys carried out between 2010 and 2017, the share of victims of assault and threats of violence has been higher than average among persons aged under 30 and significantly lower than average among persons aged 50 and over. The share of persons who have fallen victim to robbery has also been mostly higher than average among persons under 30; however, there have been no clear distinctions between other age groups.

In comparison of cases involving men and women, there have been on average one third more male than female victims of assault (2.8% and 2.1%, respectively) according to surveys carried out between 2010 and 2017. The gender gap has been smaller in the case of threats of violence (average share of victims among men is 3.7% and 3.3% among women). In the case of robbery, the share of victims among men is 1.5 times higher than among women (1.8% and 1.2%, respectively).

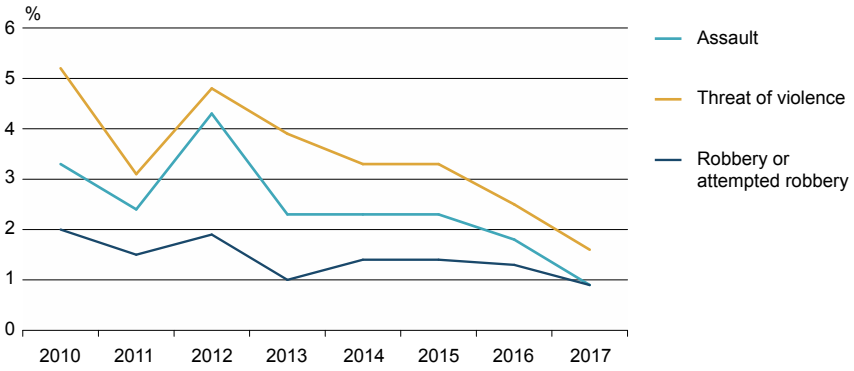
INTERNATIONAL COMPARISON

he latest data from international victimisation surveys are from 2004,[2] no surveys using a common methodology have been conducted later. This data is comparable with the data of Estonian victimisation surveys from 2003 and 2009.[3] In 2003, 2.7% of the respondents had fallen victim to assault or threat of violence. However, in 2009, 3.7% of the respondents had fallen victim to the aforementioned crimes, which ranked Estonia in the top 25% of EU countries in terms of the share of victims of crimes of violence.

According to the latest Estonian victimisation survey, the share of victims of crimes of violence is lower in Estonia than in the United Kingdom, Ireland and the Netherlands, and is approximately at the same level as in Belgium and Sweden.

1 Level of credibility at 95%.
2 Dijk, J., Kesteren, J., Smit, P. (2007) Criminal Victimisation in International Perspective. Key findings from the 2004–2005 ICVS and EU ICS. WODC, No 257.
3 Kuriteoohvrite uuring 2009. (2010). Kriminaalpoliitika uuringud 14. Ministry of Justice. Tallinn.

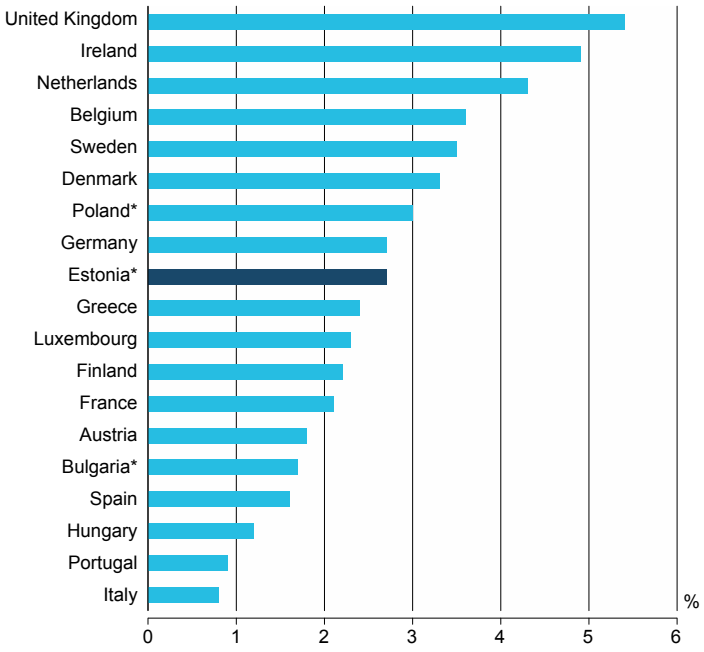
Share of victims of crimes of violence in Estonia, 2010–2017



Source: Ministry of Justice

Threats of violence are the most common. In 2017, there were fewer victims of crimes of violence than at the beginning of the decade.

Share of victims of assault and threats in the European Union, 2004

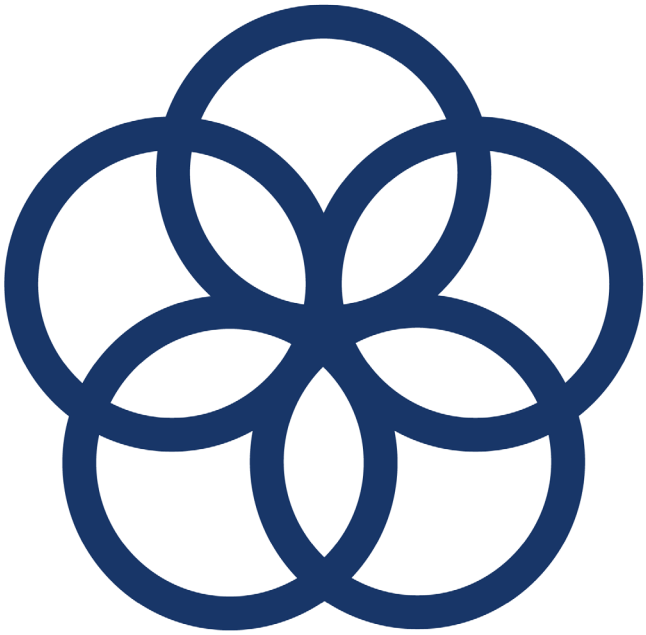


* 2003 data for Poland, Estonia and Bulgaria

Sources: ICVS and ICS, Ministry of Justice (data for Estonia)

The share of victims of crimes of violence has been higher in Northwestern European countries and lower in Southern European countries.

17 PARTNERSHIPS FOR THE GOALS



STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT

The focus of the global goal "Partnerships for the Goals" is cooperation and partnership for achieving all SDGs. It requires more effective cooperation at all levels, international and national.

In the 2030 Agenda[1], this goal is divided into five topics: finance, technology, capacity-building, trade and systemic issues. The primary requirements are strengthening partnership and ensuring cohesive sustainable development activities both nationally and internationally. It is important to achieve public and private sector as well as civil society partnerships, using their experience and relevant funding strategies.

According to the UN progress report[2], the official development assistance (ODA) rose 8.9% in OECD countries. A significant reason for this was aid spent on refugees. Some of the developed member countries of the UN have set a target to keep the ODA level at 0.7% of GNI. In 2016, this indicator stood at 0.32% globally. In 2015, the total ODA contributed across the world to capacity-building totalled 21 billion US dollars, which accounted for 19% of the total ODA.

In 2016, the share of inhabitants in developed countries who had fixed-broadband internet was 30%, while it was 0.8% in the least developed countries. In 2016, there were 12% more male than female internet users globally, while the gap was 31% in the least developed countries.

In world trade, the share of developing countries has increased in the last 15 years, whereas the share of exports from the least developed countries has decreased primarily due to a fall in the prices of consumer goods. Average tariffs on imports from developing to developed countries have not changed. By 2020, the share of exports from the least developed countries in global exports must be doubled.

Under systemic issues, the focus is on implementing and monitoring the global SDGs. In 2016, 125 countries engaged in development monitoring and 54 countries made general progress towards achieving the development goals.

The Estonian sustainable development strategy[3] does not cover topics of global cooperation, but *The Strategy for Estonian Development Cooperation and Humanitarian Aid 2016–2020*[4] has set a target to contribute to ending global poverty and achieve sustainable development goals.

The global goal "Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development" is linked in Estonia with the following indicators of international development assistance, general government budget and environmental taxes:

- Official development assistance
- General government balance
- General government consolidated debt
- Environmental taxes

Estonia is allocating more funds to official development assistance (0.19% of the GNI in 2016), but it remains well under the European Union target (0.33% of the GNI).

Government finance is nearly balanced as shown by the structural balance of the general government consolidated budget. The ratio of debt to GDP is one of the smallest among the European Union countries.

The ecological tax reform of 2005 has not been fully implemented. Its purpose was to direct tax burden from labour force to consumption, and thereby, reduce pressure on the environment.

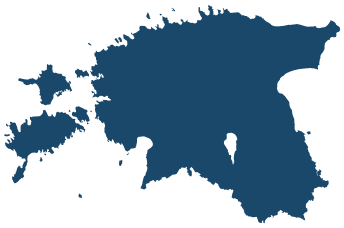
1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1.* UN General Assembly, 2015.
2 *Report of the Secretary-General, Progress towards the Sustainable Development Goals, E/2017/66.* UN Economic and Social Council, 2017.
3 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.
4 *The Strategy for Estonian Development Cooperation and Humanitarian Aid 2016–2020.* Ministry of Foreign Affairs.

17 PARTNERSHIPS FOR THE GOALS

17.1. OFFICIAL DEVELOPMENT ASSISTANCE

CONCEPTS

The indicator expresses the share of official development assistance in gross national income (GNI). Official development assistance (ODA) is defined as government aid given to developing countries to promote their economic development and welfare. It includes grants, "soft" loans with at least 25% grant element and technical assistance, which a donor country gives to the recipient directly (bilateral cooperation) or through international organisations such as the UN or the World Bank (multilateral cooperation). ODA does not include aid for military purposes.



SITUATION IN ESTONIA

In 2016, the official development assistance of Estonia amounted to 40.3 million euros, i.e. 0.19% of the GNI. 18.3 million euros were used in bilateral cooperation and 22 million euros in multilateral cooperation. In recent years, Estonia's ODA has increased mainly on account of bigger contributions to the European Union development cooperation. In 2015–2016, Estonia's contribution to the EU budget increased from 10.6 million euros to 15.9 million euros and the contribution to the EU Development Fund from 1.7 million euros to 2.5 million euros. Costs related to receiving refugees rose and contributions were made to new refugee funds.

In the provision of humanitarian aid, Estonia mainly considers specific needs caused by natural disasters or crises resulting from human activity. In 2016, Estonia allocated 3.7 million euros to humanitarian aid, i.e. 9.2% of Estonia's ODA budget. The largest shares of Estonia's humanitarian aid were contributed to mitigating the effects of the crises in Ukraine (1.2 million euros) and Syria (0.9 million euros).

Estonia engages in bilateral development cooperation mainly with countries to which it can offer added value based on its experiences. According to the Development Cooperation and Humanitarian Aid Strategy[1] the priority partner countries in bilateral cooperation are Ukraine (2.5 million euros in 2016), Afghanistan (1.26 million euros in 2016), Georgia (0.96 million euros in 2016), Moldova (0.86 million euros in 2016) and Belarus (0.24 million euros in 2016).

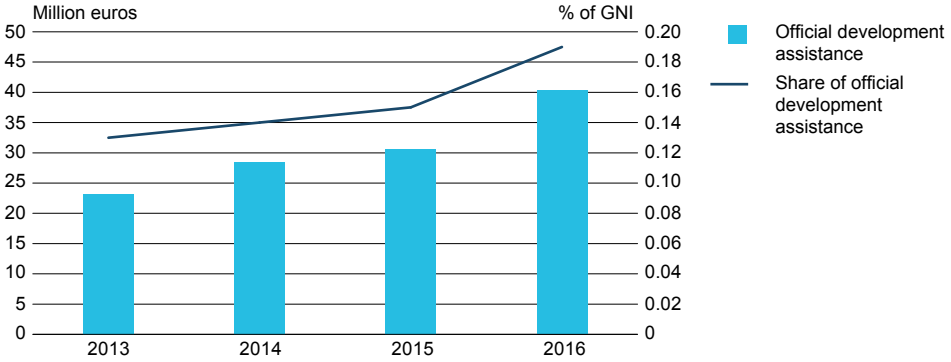
INTERNATIONAL COMPARISON

European Union countries have set a target that by 2030 ODA should account for 0.7% of the GNI. For countries that joined the European Union since 2004, the target is 0.33%.

The European Union is the largest donor of development assistance in the world. It also contributes the most to achieving the Paris Agreement climate goals. In 2013–2016, the value of the contribution almost doubled, i.e. increased by 20.4 billion euros. The European Union is also the main supporter of research, technology and innovation in developing countries and offers the most stipends to students from developing countries. The European Union wishes to increase the share of assistance to the least developed countries. In 2016, the share of this assistance was 0.11%, but the target[2] is to increase it to 0.15–0.2% of the GNI.

1 *The Strategy for Estonian Development Cooperation and Humanitarian Aid 2016–2020.* Ministry of Foreign Affairs.
2 Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1. UN General Assembly, 2015.

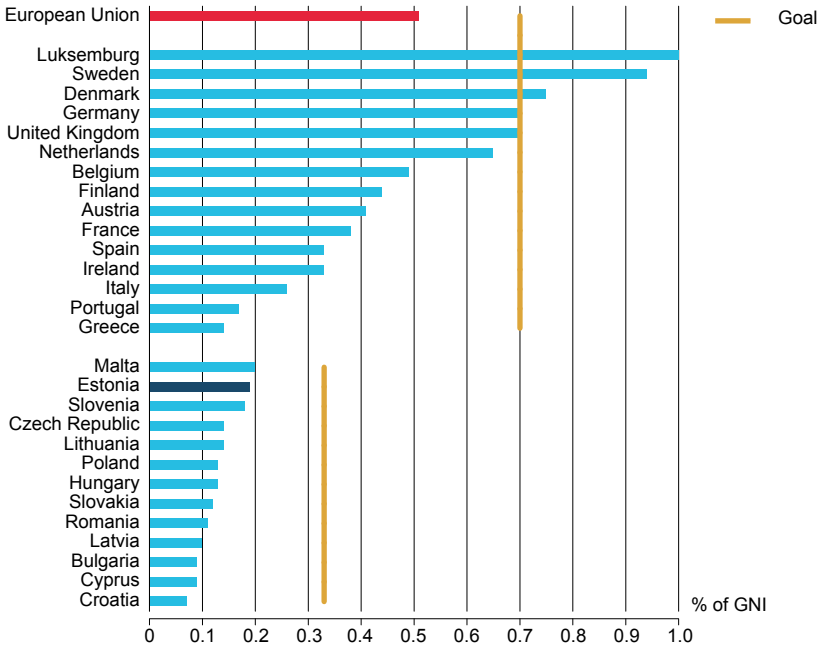
Estonia's official development assistance, 2013–2016



Sources: Ministry of Foreign Affairs, OECD

In recent years, Estonia's ODA has increased from 23.2 million euros to 40.3 million euros.

Official development assistance in the European Union, 2016



Sources: OECD, Eurostat

In 2016, on average in the EU, the ratio of ODA to GNI was 0.51%.

17 PARTNERSHIPS FOR THE GOALS

17.2. GENERAL GOVERNMENT BALANCE

CONCEPTS

General government balance expresses the structural balance of the general government budget, which is the revenue and expenditure of all levels of government (nominal budget balance), corrected by effects of the economic cycle as well as one-off and temporary factors that could affect the balance. Structural balance of the budget provides an adequate and undistorted overview of government finance.

The effect of the economic cycle is estimated by the GDP gap, which shows the difference between the actual and potential GDP. The potential GDP is the maximum gross output that can be produced with the existing factors of production (labour, capital, productivity, skills) without excessive inflation pressure. One-time and temporary factors have a temporary and one-off effect on the cyclically adjusted budget balance.

SITUATION IN ESTONIA

At the beginning of the 2000s, the general government budget was close to balancing. During the economic boom, however, a budget deficit occurred, as the potential rate of economic growth was surpassed. Before the economic crisis, the potential growth rate was up to 6%, but at times, it actually reached 10%. This meant that demand was much higher than gross output and incomes. Due to excessive demand, the GDP gap exceeded its potential by approximately 14% in 2007. The negative structural balance showed that although the nominal budget was in surplus during the economic boom, if the effect of the economic cycle was taken into account, the nominal surplus should have been even larger.

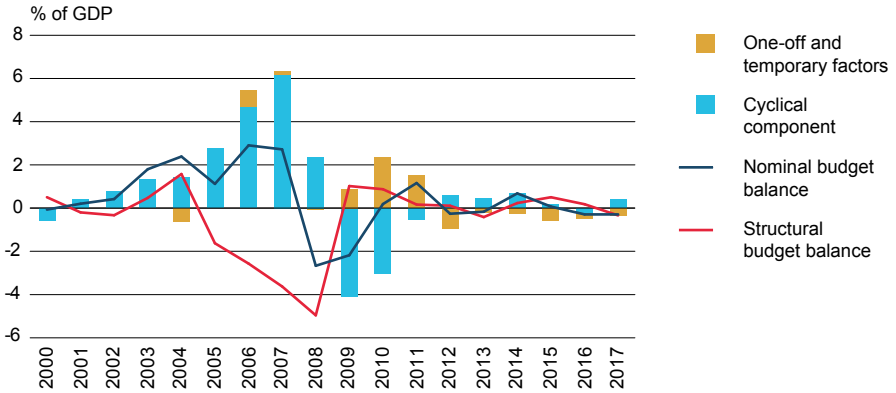
The government has set an objective in the state budget strategy that the budget is planned taking into account the economic cycle or by implementing a counter-cyclical budget policy, in which case the economy is cooled during a boom and boosted during a crisis. The objective is that the general government structural budget deficit would be under 0.5% of the GDP. This objective is in accordance with the 2013 Treaty on Stability, Coordination and Governance in the Economic and Monetary Union and with the State Budget Act. The EU countries set an objective for at least three years and commit to meeting it or at least making progress towards it.

INTERNATIONAL COMPARISON

According to the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union, a structural budget is balanced, if the budget deficit is up to 0.5% of GDP; in special cases it can be up to 1% of GDP, if the sustainability of public finance is not at risk and the public debt is under 60% of GDP. Whether a structural budget of an EU Member State is in compliance with budgetary rules, is assessed on the basis of general criteria as well as by the objectives set by the state.

During the economic crisis, nominal as well as structural budget deficit grew in all European Union countries. After the crisis, the gaps between countries started to widen. There are countries where the nominal and structural balance improved: Austria, Estonia, the Netherlands, Ireland, Greece, Cyprus, Lithuania, Luxembourg, Latvia, Malta, Germany, Slovakia and Finland. At the same time, there are countries where the nominal balance improved, but the structural balance objective has not been reached yet and the progress is not rapid enough. These countries are Belgium, Spain, Italy, Portugal, France and Slovenia.

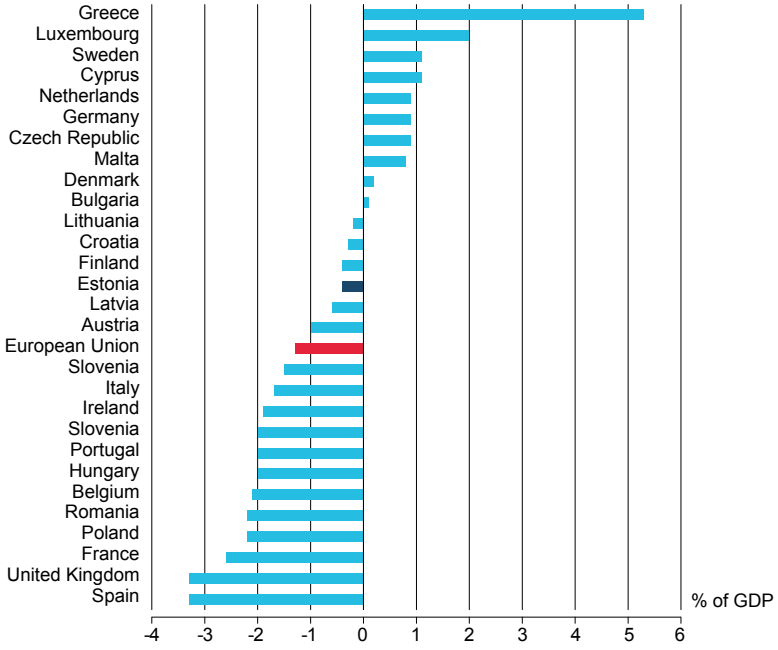
General government structural balance in Estonia, 2000–2017



Sources: Statistics Estonia, Ministry of Finance

Estonia's general government structural balance is sustainable.

General government structural balance in the European Union, 2016



Source: European Commission

Estonia's and Finland's general government structural balance is similar.

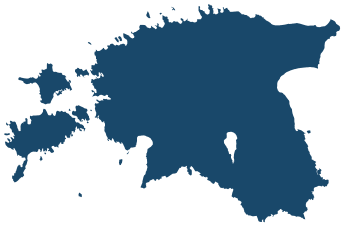
17 PARTNERSHIPS FOR THE GOALS

17.3. GENERAL GOVERNMENT CONSOLIDATED DEBT

CONCEPTS

The general government consolidated debt, gross debt or Maastricht debt comprises the general government sector liabilities outstanding at the end of the budgetary period, which are categorized as the following financial assets: currency and deposits, debt securities and loans. It is expressed as a ratio of the GDP.

Members of the Economic and Monetary Union have an obligation to meet the Maastricht criteria. The general government deficit must not exceed 3% of the GDP, the consolidated debt must not exceed 60% of the GDP, and inflation and interest rates must be low.



SITUATION IN ESTONIA

In 2017, Estonia's general government gross debt was 2.07 billion euros, i.e. 9.0% of the GDP. This was the lowest indicator since 2012. During the economic crisis in 2008–2010, Estonia's general government gross debt grew less than in many other European Union countries, because the budgetary deficit was kept under control. The budgetary deficit was partially compensated from reserves, which held the surpluses of prior years. Therefore, it was not necessary to take new loans and it was possible to repay the existing loans on schedule.

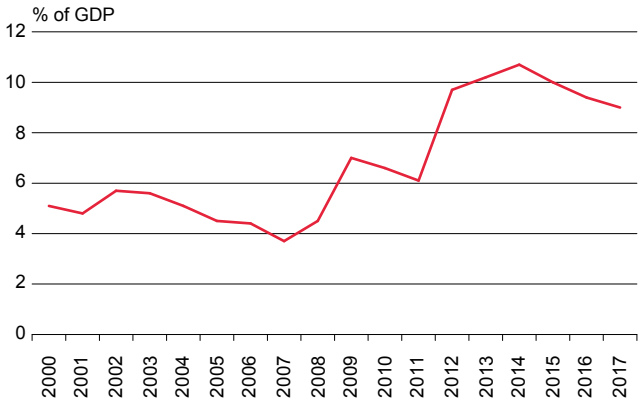
In 2012, the general government gross debt changed abruptly, as the European Financial Stability Facility (EFSF) was established, which was used to provide financial assistance to Greece, Portugal and Ireland. Due to establishing financial assistance programmes, EFSF loans from money markets were reflected in the eurozone general government gross debt. EFSF liabilities account for a fifth of the general government consolidated debt of Estonia.

INTERNATIONAL COMPARISON

In 2017, the general government debt was 81.6% of the GDP in the European Union. The debt was largest in Greece (176.6%), Italy (131.8%), Portugal (125.7%), Belgium (103.1%), Spain (98.3%), Cyprus (97.5%) and France (97%). The debt was smallest in Estonia (9%), followed by Luxembourg (23%) and Bulgaria (25.4%) where the indicators were more than twice that of Estonia. In the rest of the countries, the debt was over 30% of the GDP.

Estonia also differs with the breakdown of its liabilities. In the European Union, 81% of the liabilities are debt securities, 14% are loans and 4% are currency and deposits. In Estonia, loans account for the largest share of liabilities and the share of debt securities is small (11%). The share of debt securities is similar only in Greece (17%) where the debt was restructured in 2012 with the assistance of international assistance packages. In earlier years, the share of debt securities had exceeded three quarters in Greece.

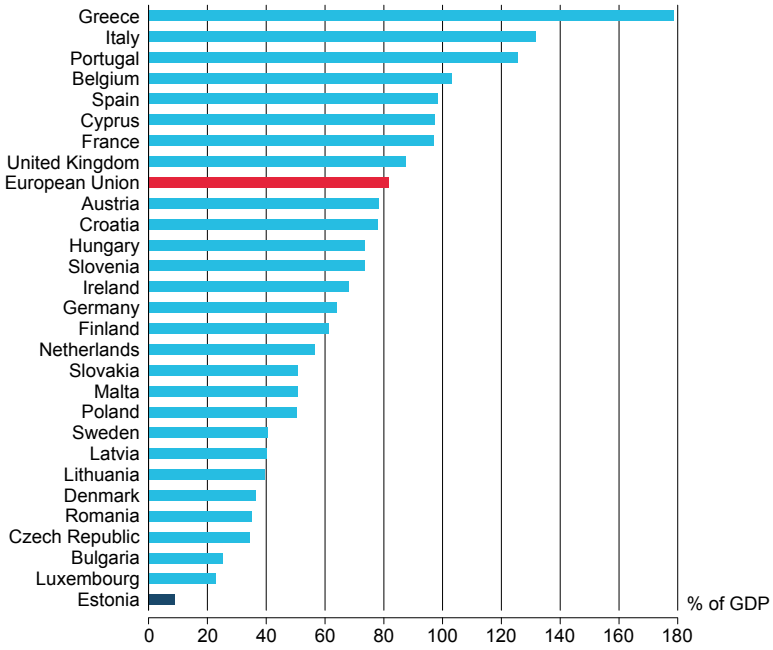
General government debt in Estonia, 2000–2017



Source: Statistics Estonia

The ratio of the general government debt to the GDP has decreased in Estonia since 2015.

General government debt in the European Union, 2017



Source: Eurostat

Estonia's general government debt was the smallest in the EU in 2017.

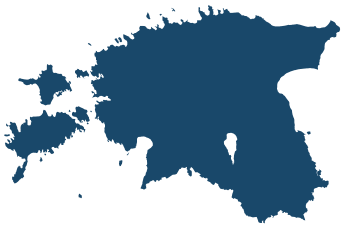
17 PARTNERSHIPS FOR THE GOALS

17.4. ENVIRONMENTAL TAXES

CONCEPTS

Environmental taxes have been established in order to reduce negative impact on the environment, promote environmentally more sustainable consumption and production practices and reduce environmental pollution. Environmental tax is established in case of a proven, specific negative impact. The purpose, tax base and efficiency in promoting environmental sustainability of these taxes are significant.

In comparison to other EU countries, there are quite few environmental taxes in Estonia. The relevant taxes in Estonia are energy, transport, pollution and resource tax, but there are no taxes on carbon dioxide, traffic congestion or excises on pesticides and fertilisers. Energy taxes include fuel and electricity excise duties, liquid fuel stock payment and income from emissions trading. Transport taxes are heavy goods vehicles tax and personal vehicle registration fee[1]. Pollution taxes are effluent, waste and air emissions fees and excise duty on packaging. Resource taxes are charges for the right to the special use of water and fishing rights. Charges for the right to mine minerals are not considered resource taxes, as these are treated as property income in the national accounts.



SITUATION IN ESTONIA

In 2005, the ecological tax reform was introduced in Estonia with the purpose to increase taxes on environmental burden and reduce taxes on labour force. The share of environmental taxes in tax revenue has increased over the years in Estonia. In 2005, it was 7.6%, and in 2017, it was 8.6%. This shows that the ecological tax reform has helped to increase the share of environmental taxes in tax revenue. The gross value of environmental taxes has also increased. In 2005, environmental taxes were collected in the amount of 256 million euros, but in 2017, the total was 681 million euros, i.e. 425 million euros more. The share of environmental taxes has increased as tax rates were raised, demand grew and new environmental taxes were added. For example, in 2014, income from emissions trading was added to the list of environmental taxes.

In Estonia, around 80% the environmental taxes come from fuel excise duty. This is used to tax one of the biggest sources of environmental burden: fuel use which covers the use of unrecoverable natural resources and air emissions from fuel combustion. More fuel excise duty is collected if the excise rates are raised and more fuel is consumed. This shows that raising the fuel excise duty has not reduced fuel consumption as much as was hoped.

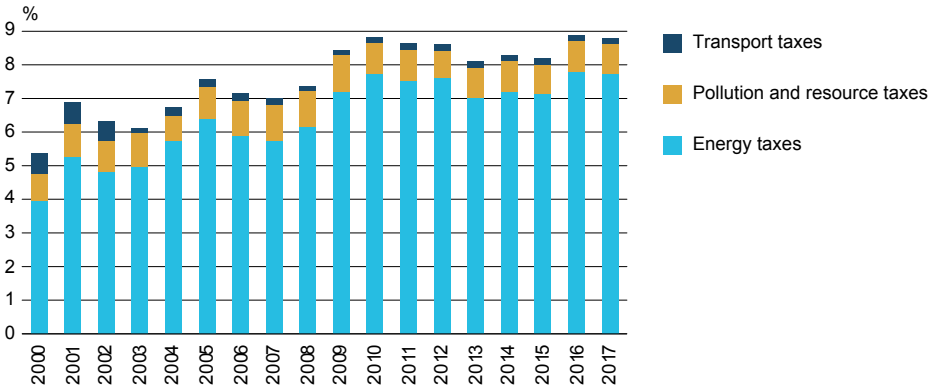
INTERNATIONAL COMPARISON

In the European Union countries, the share of environmental taxes in tax revenue was smallest in Luxembourg (4.6%) and biggest in Latvia (11.7%). Estonia's indicator (8.9%) was slightly higher than the European Union average (6.3%). Since 2009, the average share of environmental taxes in tax revenue in the European Union has been 6.3–6.4%. In Estonia, the share has been 8.1–8.9%. Similarly to other EU countries, in Estonia, energy taxes account for the main share of environmental taxes. However, Estonia differs with no vehicle use tax or road tax. Therefore, the share of transport taxes in environmental taxes in Estonia is the lowest in the European Union.

The share of environmental taxes in tax revenue varies in the European Union countries for different reasons. The share could be small due to low excise duty rates as well as due to the impact that high excise duty rates have on the consumption of the taxed products. The share could be large when excise duty rates are high, but also when low excise duty rates increase the consumption of the taxed products.

1 Personal vehicle registration fee is a state fee that is considered an environmental tax in the national accounts. According to the harmonised methodology of environmental taxes in the EU, environmental taxes are all taxes that are related to using or starting to use vehicles.

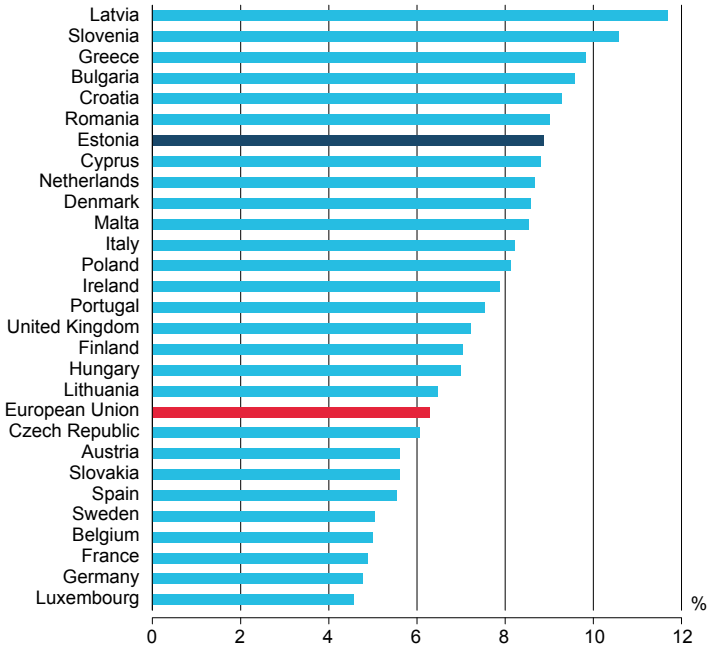
Environmental taxes in Estonia, 2000–2017



Source: Statistics Estonia

As a result of more fuel excise duty collected, the share of environmental taxes has increased in tax revenue in Estonia.

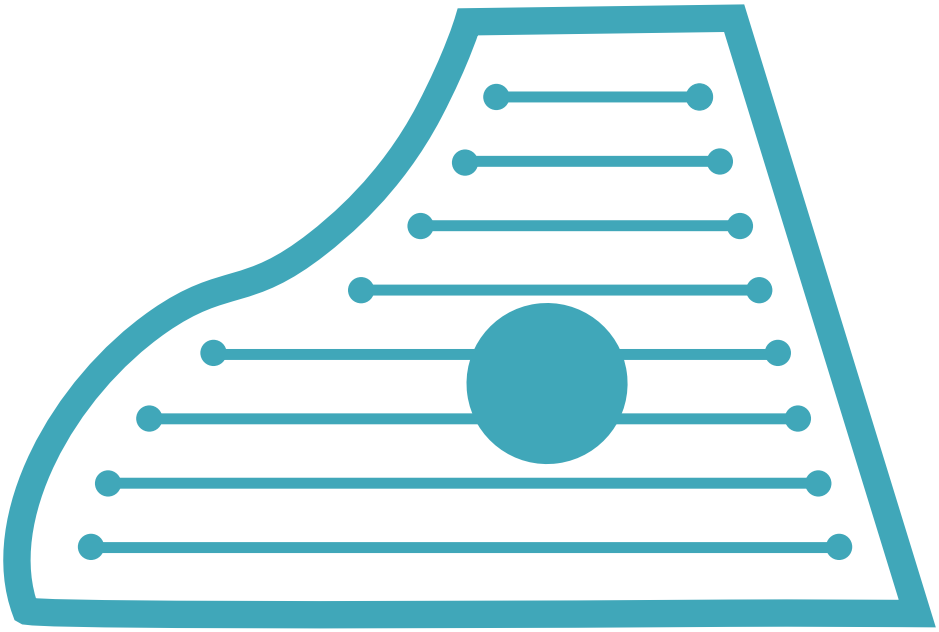
Environmental taxes in the European Union, 2016



Source: Eurostat

In 2016, the share of environmental taxes in tax revenue in Estonia exceeded the EU average.

18 CULTURE



VIABILITY OF THE ESTONIAN CULTURAL SPACE

The focus of the goal "Viability of Cultural Space" is ensuring through culture the sustainability and viability of Estonia as a nation state. The values, principles, methods, behavioural patterns, ways of thinking and life associated with sustainable development represent social innovation, a fundamental change in social life, which can be successfully carried out through culture.

The UN 2030 Agenda[1] does not include goals or target levels directly associated with culture. Some principles related to culture are however highlighted. In the preamble of the agenda it is noted that importance is placed on respect for ethnic and cultural diversity, intercultural understanding, tolerance, mutual respect and ethic of global citizenship and shared responsibility. These principles are repeated under the education goal and its target 4.7 (need for appreciation of cultural diversity and to offer knowledge of culture's contribution to sustainable development). Promoting local culture and products are viewed under goals 8 (sustainable economic growth) and 12 (sustainable consumption and production) and their targets 8.9 and 12.b with regards to promoting sustainable tourism. The UN sustainable development goal 11 focuses on sustainable development in cities and the need to safeguard the world's cultural and natural heritage (target 11.4).

Ensuring the viability of the Estonian cultural space is one of the four sustainable development goals of the Estonian Sustainable Development Strategy[2]. The Estonian cultural space is interpreted as the Estonian natural and living environment as well as the Estonian sign environment (communication language, symbols, personal and geographic names, colour preferences, building and home design practices, generally known pieces of art and literature and historical figures, historical anniversaries and calendar, etc.). Preservation of a nation is conditioned first of all on the existence of cultural mechanisms; the core of such mechanisms is national-language education and cultural creation (incl. research) based on the national language, and the functionality of national-language communication and national cultural values and behaviour patterns in everyday life and in all spheres of life. Cultural events and products such as books, theatre, film, etc. reflect and contribute to togetherness and sustain continuity in the society.

The Estonian sustainable development goals in the domain of viability of the cultural space concern topics of preserving the Estonian people, language and culture.

The following indicators are used to assess the viability of the Estonian cultural space:

- Natural increase
- Total fertility rate
- Speakers of Estonian
- Attendance of cultural activities
- Performers in cultural activities

In countries with ageing population such as Estonia, natural increase is negative, however, in recent years, natural increase has improved. The number of speakers of Estonian is decreasing, but their share has remained stable: 67–68% of the population speak Estonian as their first domestic language. It is positive that people in Estonia value the Estonian culture.

1 *Transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1*. UN General Assembly, 2015.
2 Estonian National Strategy on Sustainable Development *Sustainable Estonia 21*. Ministry of the Environment, 2005.

18 CULTURE

18.1. NATURAL INCREASE

CONCEPTS

Natural population increase is the difference between the number of live births and deaths during a year. It is positive if the number of births is larger than the number of deaths, and negative if the number of deaths exceeds the number of births.

Natural increase is an indicator of population change. The impact of natural increase on the number of population is measured by the crude rate of natural increase, which is the number of live births minus deaths per 1,000 inhabitants in a year. The rate is calculated on the basis of annual average population. The crude rate of natural increase is used in international comparisons.

SITUATION IN ESTONIA

At the beginning of the 2000s, the population of Estonia decreased due to negative natural increase (by 5,000–6,000) rather than emigration. In 2004, natural increase started to rise and in 2010 became positive. It declined in the subsequent years and remained negative by 1,300–1,900.

In 2010–2017, there were 15,000–16,000 deaths annually. Although the proportion of older people in the population is increasing, life expectancy is also increasing and the number of deaths has not changed yet. The annual number of births was approximately 13,000 at the beginning of 2000s. By 2008, it had increased to slightly over 16,000. In 2013, there were 2,500 fewer births than in 2008. In 2017, births totalled nearly 13,800, denoting a small increase. The increase was not big, but the birth rate is relatively stable considering that the number of women in fertile age is decreasing.

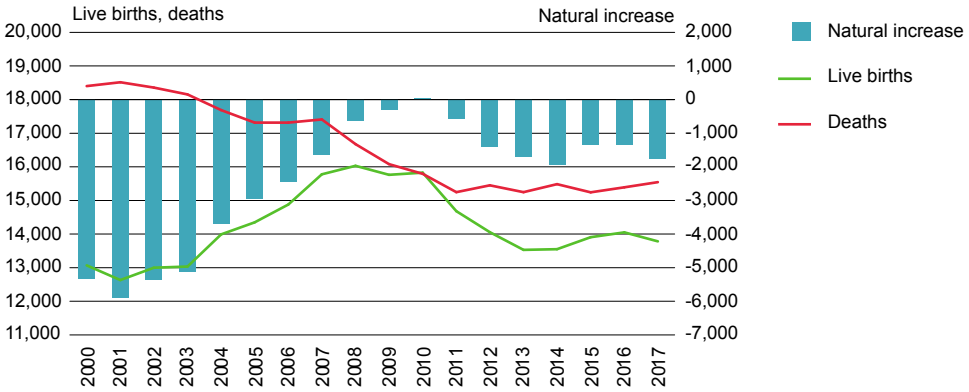
The natural increase trend by sex shows only minor differences. In addition to slightly more boys being born than girls, the annual number of deaths is different. Since 2009, the death rate of men has been lower than that of women. Therefore, the natural increase of men was positive in 2009–2011 and 2016. Women's natural increase was negative in 2000–2017. The difference can be explained by the fact that the number of older women is much higher than that of older men in Estonia: ¾ of the population aged 80 and over are women.

Natural population increase depends on the percentage of older people in the population. Regional age differences in Estonia are quite big. In 2017, natural increase was positive in two counties of Estonia: Harju and Tartu, where the population is younger than average. The highest death rate and lowest natural increase were in Ida-Viru county. Population numbers vary by county, and therefore, crude rates of natural increase are used for comparisons. The share of deaths was highest in Ida-Viru county (8.3%), followed by Valga county (7.2%), Jõgeva county (6.6%) and Võru county (6.3%).

INTERNATIONAL COMPARISON

Compared to other European Union countries, the crude rate of natural increase in Estonia was lower than average. The European Union average was 0% in 2016; Estonia's rate was –1%. The population decreased the most in Bulgaria (6%), followed by Lithuania, Croatia, Latvia and Hungary (3–4%). The crude rate of natural increase was highest in Ireland (7%), where the birth rate is high, followed by Cyprus (4.7%) and Luxembourg (3.6%), where the population is younger than average.

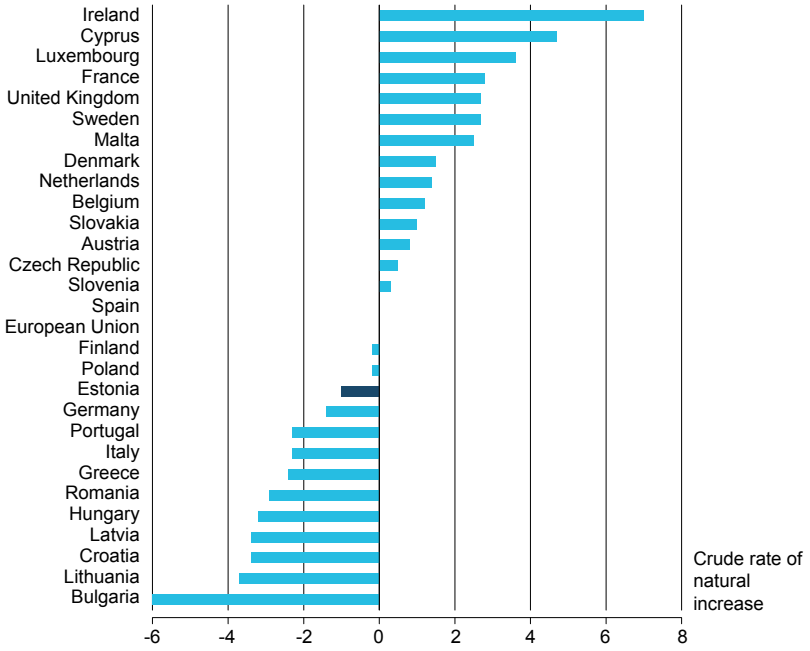
Natural increase in Estonia, 2000–2017



Source: Statistics Estonia

Natural increase has been bigger in recent years than in early 2000s, but is still negative.

Crude rate of natural increase in the European Union, 2016



Source: Eurostat

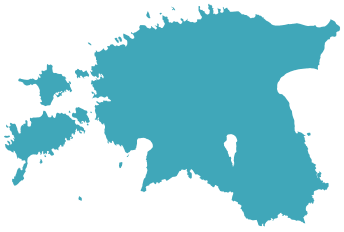
The crude rate of natural increase is lower in those EU countries where the population is older than average.

18 CULTURE

18.2. TOTAL FERTILITY RATE

CONCEPTS

The total fertility rate is defined as the mean number of children who would be born to a woman during her lifetime if she were to pass through her childbearing years conforming to the age-specific fertility rates in a given year. The total fertility rate can be interpreted as the mean number of children born to a mother by the end of her fertile years. The rate is compared to the natural replacement rate, which is 2.1 per woman.



SITUATION IN ESTONIA

In 2017, the total fertility rate was 1.59 in Estonia. Compared to 2000 when the rate was 1.35, the trend is upwards. However, in 2008–2010, the total fertility rate was 1.70–1.72. The rate has not attained this level again.

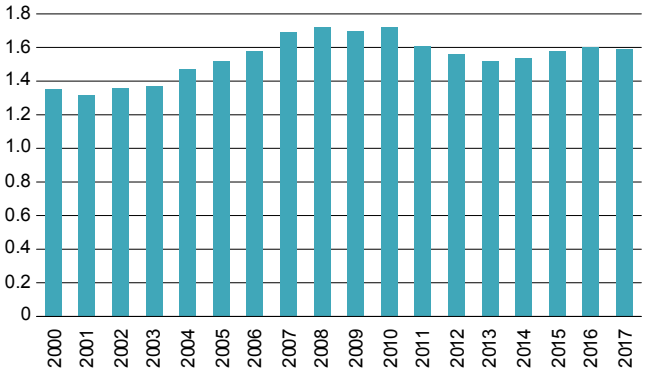
The fertility rate depends on subjective as well as objective factors. When economic confidence increases, families can bring up more children and vice versa: when an economic or social factor is unstable, childbirth is postponed. During the economic growth in mid-2000s, the total fertility rate increased by 0.3 points in four years. Later, as a result of the economic crisis, it declined by 0.2 points in three years. Fertility rate remained high also during the economic crisis and started to decline a few years later. The current growth in the fertility rate is significantly smaller. The total fertility rate rose less than 0.1 points in three years. However, it should be taken into consideration that the initial comparison base was higher.

INTERNATIONAL COMPARISON

In the 2000s, the European Union average total fertility rate increased from 1.46 to 1.62. At the beginning of the 2000s, Estonia's rate was lower than the European Union average. It has been higher since 2005. The European Union average has remained around 1.6 since then. In 2007–2010, the total fertility rate increased in most of the European Union countries. After that, the rate fell. The trend is slightly upward again.

In all of the European Union countries, fertility rates were below the natural replacement rate. The highest rate was in Ireland (2.06) in 2008–2009. In 2016, the total fertility rate was highest in France (1.92), Sweden (1.85) and Ireland (1.81). It was lowest in Mediterranean countries: in Spain (1.34), Italy (1.34), Portugal (1.36), Cyprus (1.37), Malta (1.37) and Greece (1.38). The rates in Estonia's neighbouring countries Latvia and Lithuania have been higher than in Estonia in recent years. Unlike at the beginning of 2000s, when the total fertility rates there were even lower than 1.3, the rate in Latvia and Lithuania was 1.7 in 2016.

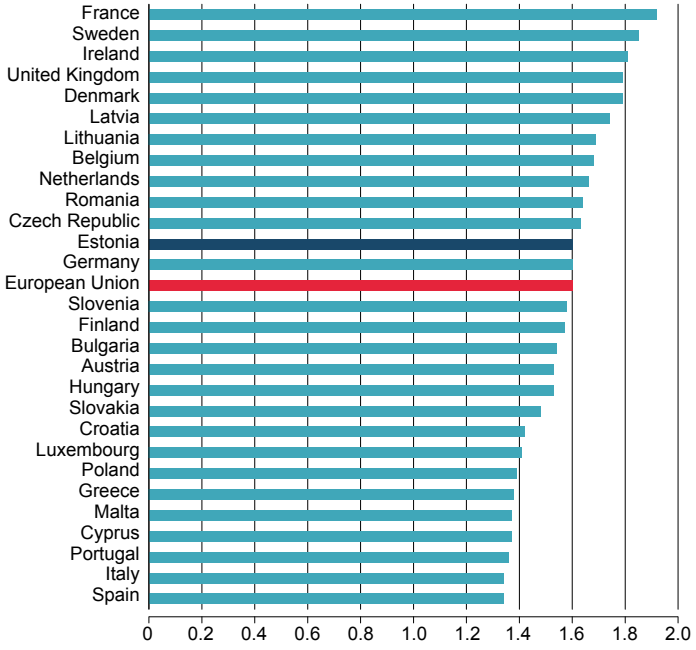
Total fertility rate in Estonia, 2000–2017



Source: Statistics Estonia

The total fertility rate is rising, but is lower than in 2008–2010.

Total fertility rate in the European Union, 2016



Source: Eurostat

The total fertility rate was below the natural replacement level in all EU countries in 2016.

18 CULTURE

18.3. SPEAKERS OF ESTONIAN

CONCEPTS

The indicator expresses the share of persons speaking Estonian as their first domestic language among the population aged 15–74 in Estonia.

SITUATION IN ESTONIA

The number of people speaking Estonian indicates the viability of the Estonian culture. Language is a vehicle of culture, which helps to convey the common values, traditions and beliefs of a nation and is a part of the national identity and sense of unity. As the official language, Estonian is an integral part of the state.

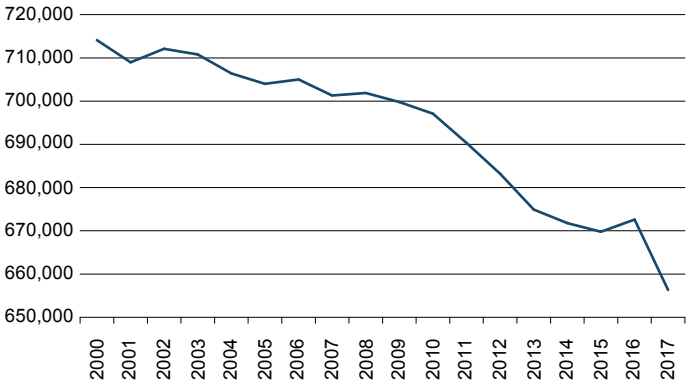
In 2000–2017, the share of Estonian speakers was 66–67%. Although the share has been stable, the number of speakers has declined each year. In 2000, the estimated number of Estonian speakers was 714,100, but in 2017, they totalled 656,300, i.e. there were 57,800 fewer speakers of Estonian.

The number of Estonian speakers is among other factors affected by natural increase, emigration and net migration. Natural increase has been negative in Estonia almost the entire time since the restoration of independence. It was slightly on the positive side only in 2010. Long-term negative natural increase means that there are fewer potential Estonian speakers. The same happens when emigration increases.

Emigration has increased over the years. In 2015–2017, the average number of people emigrating from Estonia was 12,000–13 000. This is one of the reasons for the decline in the number of speakers of Estonian. To observe the change in the number of Estonian speakers, emigration and natural increase are summed up. In 2015–2017, the sum of emigration and natural increase ranged from 10,000 to 12,000. Moreover, the net migration of Estonian citizens has been negative in the last decade. In 2017, net migration was positive: there were 535 more immigrants than emigrants. In this respect, it should be noted that both Estonians and non-Estonians contribute to emigration and natural increase. Therefore, the sum of natural increase and emigration does not equal the decline in the number of speakers of Estonian.

The number of Estonian speakers is declining and the factors affecting it indicate that this trend will continue in the coming decades. While a decline in the number of mother tongue speakers by a few thousand may not be significant in countries with a bigger population, for a small country like Estonia, it may mean that in the long run, the language will gradually disappear, and with it, also the culture and nation state.

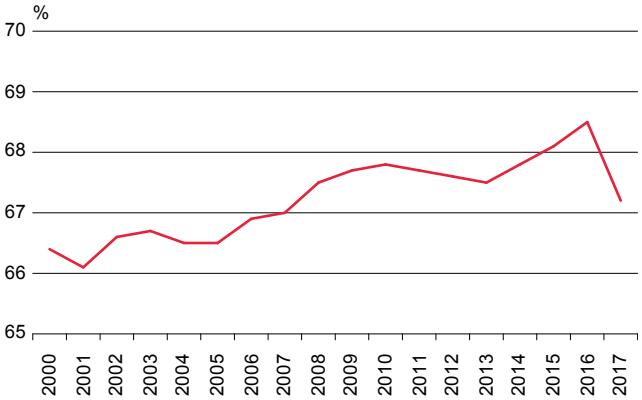
Estonian inhabitants aged 15–74 with Estonian as first domestic language, 2000–2017



Source: Statistics Estonia

The number of Estonian speakers is declining.

Share of speakers of Estonian as first domestic language among population aged 15–74 in Estonia, 2000–2017



Source: Statistics Estonia

The share of Estonian speakers has been stable (67–68%) in recent years.

18 CULTURE

18.4. ATTENDANCE OF CULTURAL ACTIVITIES

CONCEPTS

The indicator of attendance of cultural activities shows the share of the population aged 20–64 who go to the theatre, cinema, concerts, art exhibitions, museums, library, etc. and visit cultural monuments.

Attendance of cultural activities shows the activity level and the opportunities of the population to consume culture, illustrating also access to cultural activities and events. This characterises the viability of culture. Attendance of cultural activities is not the sum of all subcategories, as one person may attend different cultural activities and events.

In international comparison, the share of persons attending cultural activities among the population aged 15 and over is observed.

SITUATION IN ESTONIA

Attendance of cultural activities is popular in Estonia. In 2015, the share of those who had attended cultural activities was 89%, which is the largest in the past decade.

In 2007, Estonian inhabitants preferred going to concerts and the theatre, whereas in 2015, museums, art exhibitions and cultural monuments were most popular. The share of those who went to concerts and the theatre dropped sharply during the economic crisis, probably because of high ticket prices. Therefore, museums and cultural monuments were preferred, as tickets there are on average cheaper and entrance is often free of charge.

It should be noted that attendance of cultural activities did not drop considerably even during the economic crisis. In the past decade, the share was 80–90%. Hence, attending cultural activities is important for most people in Estonia, and even in more difficult economic circumstances, people do not give up on it. They do, however, pay more attention to prices and prefer going to places where it is cheaper.

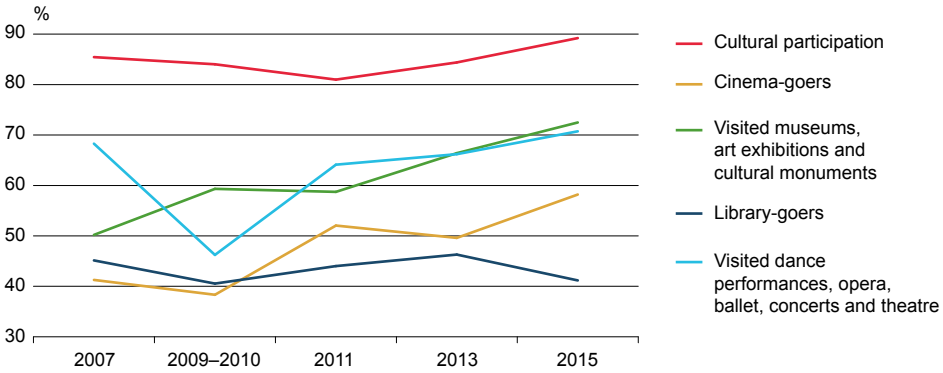
The share of library visitors has been rather stable in the past decade (40–50%). In 2015, library was the least preferred cultural activity. Cinema attendance, however, has increased: 40% of the population went to the cinema in 2007 and 60% in 2015. The increase in the popularity of the cinema may be due to an increase in the number of cinemas and a significantly wider selection of films.

INTERNATIONAL COMPARISON

The comparison of European Union countries shows that Estonian inhabitants visit cultural activities more than average. 82% of the Estonian population aged 15 and over visited cultural activities in 2013. The share was biggest in Sweden (97%). Bigger shares were recorded also in the neighbouring countries Finland (86%) and Latvia (84%). The share was smallest in Portugal (45%). Shares below 50% were recorded also in Romania and Greece.

Participation in cultural activities depends largely on the economy and standard of living in the country. Cultural attendance is higher in countries with a high living standard (Sweden, Denmark, the United Kingdom, Luxembourg) and smaller in countries with a lower living standard (Romania, Bulgaria) or in countries which have not fully recovered from the economic crisis (Portugal, Greece). In wealthier countries, the government can contribute more to improving access to cultural activities.

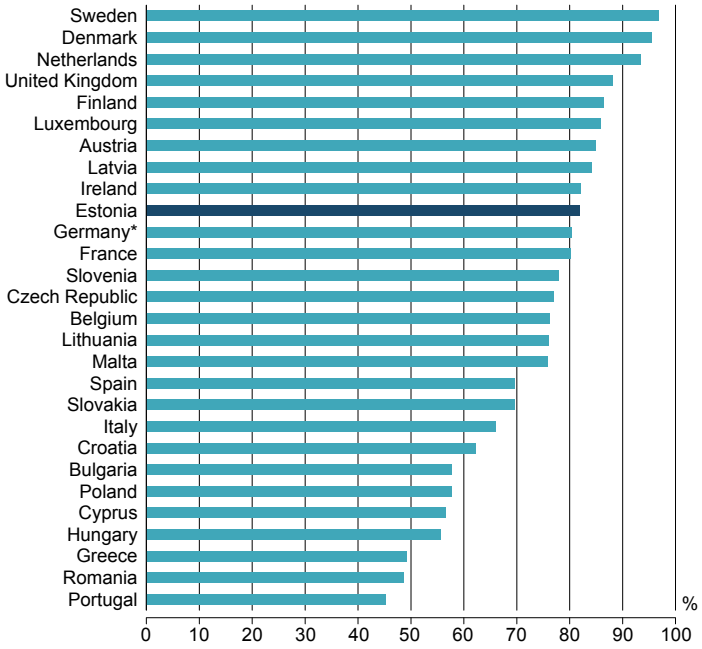
Attendance of cultural activities among population aged 20–64 in Estonia, 2007–2015



Source: Statistics Estonia, Eurobarometer 399

In Estonia, people prefer visiting museums, art exhibitions and cultural monuments.

Attendance of cultural activities among population aged 15 and over in the European Union, 2013



* Data for Germany are estimated.

Source: Eurobarometer 399

Estonian people rank 10th in the EU in terms of attendance of cultural activities.

18 CULTURE

18.5. PERFORMERS IN CULTURAL ACTIVITIES

CONCEPTS

The indicator of participation as performers in cultural activities expresses the number of persons aged 20–64 who have participated as performers in at least one cultural activity in the past 12 months. Cultural activities are play-acting, creative writing (poetry, stories etc.), playing a musical instrument, photography or filming, arts (painting, sculpture, web design, etc.) singing and dancing. Cultural activities do not include paid employment. Sport and fitness include any leisure activity that requires physical effort.

Studying and working in the cultural sector were also considered cultural activities until 2015. Data for Estonia are based on the new definition. International data, however, are based on the previous definition and therefore cannot be compared with Estonian data. In international comparison, cultural activities do not include sports. The indicator for Estonia has been presented both with and without sports.

The number of persons participating as performers in cultural activities does not equal the sum of the subcategories, as one person can engage in several cultural activities.

SITUATION IN ESTONIA

The number of participants as performers in cultural activities is rather high in Estonia: in 2015, they numbered more than 640,000, i.e. 80% of the population. Sports activities are the most popular: 70% of the population in 2015 participated in sports. Excluding sports from cultural activities, the share of the population who participated as performers in cultural activities was 43% in 2015.

Next in popularity in 2015 was handicraft, with 125,000 (16%) persons engaged in the activity, followed by photography (58,000) and music (54,000), which accounted for a similar share (approximately 7%).

The least popular activity was making films or videos – only 4,300 (0.5%) inhabitants had engaged in this activity. Less popular were also web and fashion design with less than 6,000 persons engaged in each activity (0.7%). These activities require considerable prior knowledge and specific tools, which require investment, and therefore not many people engage in them.

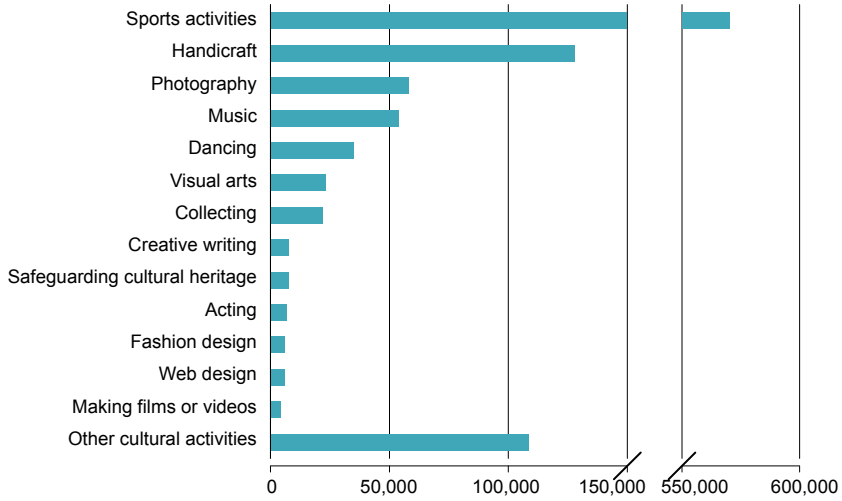
Sports activities are popular, as access to these activities is better and sporting lifestyle is widespread; these activities are also constantly promoted in the media. Physical activities can be engaged in anywhere: in nature or in the gym. Often no previous knowledge or specific skills are required. Sports activities include many different hobbies, and therefore, the number of people engaging in these activities is larger.

INTERNATIONAL COMPARISON

The comparison of European Union countries reveals that Estonian inhabitants are rather actively involved in cultural activities. Excluding sports activities, 47% of Estonian inhabitants participated as performers in cultural activities in 2013. The share was largest in Denmark, with 75% of the population engaged as performers in cultural activities, followed by other Nordic countries Sweden (68%) and Finland (64%). At the same time, the share in Estonia was considerably higher than in other Baltic countries Latvia (36%) and Lithuania (25%).

The share of participants as performers in cultural activities was smallest in Bulgaria, where only 13.5% of the population was engaged in these activities. Bulgaria was followed by Malta (16.5%) and Italy (21%). Overall, the level of participation as performers in cultural activities is higher in the northern part of the European Union. The involvement in cultural activities is somewhat lower in the southern part.

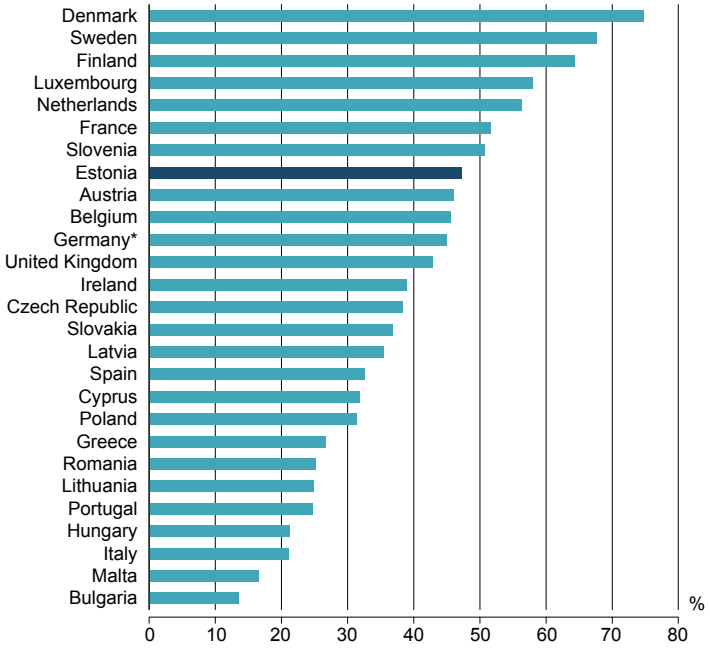
Performers in cultural activities among population aged 20–64 in Estonia, 2015



Source: Statistics Estonia

In Estonia, people prefer sports activities and handicraft.

Performers in cultural activities among population aged 20–64 in the European Union, 2013



* Data for Germany are estimated.
Data not available for Croatia.

Source: Eurobarometer 399

In Estonia, people are quite active as performers in cultural activities compared to other EU countries.

Aggregate trend assessments of sustainable development goals and assessments of indicator trends in Estonia, 2007–2016*

Goal name and aggregate trend assessment	Indicator number and trend assessment										
1. No Poverty	1.1	1.2	1.3	1.4							
2. Zero Hunger	2.1	2.2	2.3	2.4	2.5						
3. Good Health and Well-being	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10	3.11
4. Quality Education	4.1	4.2	4.3	4.4	4.5	4.6					
5. Gender Equality	5.1	5.2	5.3								
6. Clean Water and Sanitation	6.1	6.2	6.3	6.4							
7. Affordable and Clean Energy	7.1	7.2	7.3	7.4							
8. Decent Work and Economic Growth	8.1	8.2	8.3	8.4	8.5	8.6					
9. Industry, Innovation and Infrastructure	9.1	9.2	9.3	9.4	9.5						
10. Reduced Inequalities	10.1	10.2	10.3								
11. Sustainable Cities and Communities	11.1	11.2	11.3	11.4	11.5	11.6					
12. Responsible Consumption and Production	12.1	12.2	12.3	12.4	12.5						
13. Climate Action	13.1	13.2	13.3								
14. Life Below Water	14.1	14.2	14.3								
15. Life on Land	15.1	15.2	15.3	15.4	15.5						
16. Peace, Justice and Strong Institutions	16.1	16.2	16.3	16.4	16.5						
17. Partnerships for the Goals	17.1	17.2	17.3	17.4							
18. Viability of Cultural Space	18.1	18.2	18.3	18.4	18.5						

Aggregate assessments

- Poor
- Average
- Good

Indicator trend assessments

- Improving
- Worsening
- No trend assessment

* Or latest available year

The colour-coded table enables to assess whether in the last decade the situation in Estonia is getting better, has not changed or is getting worse. The base year is 2007 (or the closest available year) and the end year is 2016 (or the latest available year). The assessment of trends has been visualized as follows: an indicator showing a positive trend is marked in green, a stable trend in yellow and a negative trend in red.

The aggregated assessment of the trends is shown as the average of individual trend assessments for each goal. A negative trend contributes 0 points to the aggregated assessment and a positive trend gives 10 points. White cells mean that in the time series there are no comparable data that would allow for a trend assessment.

Estonian indicators of sustainable development based on UN sustainable development goals

Indicator number	Indicator name
1.1.	Absolute poverty
1.2.	At-risk-of-poverty rate
1.3.	Household saving
1.4.	People at risk of poverty or social exclusion
2.1.	Agricultural productivity
2.2.	Organic agricultural area
2.3.	Organic production
2.4.	Sales of pesticides
2.5.	Use of fertilisers
3.1.	Life expectancy
3.2.	Healthy life years
3.3.	Overweight and obesity
3.4.	Fatal accidents, poisonings and injuries
3.5.	Avoidable mortality
3.6.	Deaths due to chronic diseases
3.7.	Incidence of communicable diseases
3.8.	Suicides
3.9.	Mental and behavioural disorders
3.10.	Consumption of alcohol
3.11.	Consumption of tobacco
4.1.	Participation in lifelong learning
4.2.	Tertiary education
4.3.	Digital competence
4.4.	Top performers
4.5.	Hobby education
4.6.	Early leavers from education and training
5.1.	Gender pay gap
5.2.	Women in managerial positions
5.3.	Time use of women and men
6.1.	Properly treated wastewater
6.2.	Water quality in public water supply
6.3.	Groundwater abstraction
6.4.	Status of surface water
7.1.	Energy productivity
7.2.	Energy dependence
7.3.	Energy expenditure of households
7.4.	Renewable energy
8.1.	Real GDP growth rate
8.2.	Resource productivity
8.3.	Labour productivity
8.4.	Employment
8.5.	Long-term unemployment
8.6.	Young people not in education, employment or training
9.1.	Research and development expenditure
9.2.	Employment in research and development

Indicator number	Indicator name
9.3.	Fast internet
9.4.	Internet use
9.5.	Carriage of passengers and goods
10.1.	Income per household member
10.2.	Income inequality
10.3.	Accessibility of heath care
11.1.	Architectural monuments in good and satisfactory condition
11.2.	Casualties of traffic accidents in cities
11.3.	Emissions of fine particulate matter
11.4.	Green areas in cities
11.5.	Satisfaction with condition of dwelling
11.6.	People commuting by public transport, by bicycle or on foot
12.1.	Recycling of municipal waste
12.2.	Waste generation
12.3.	Recovery of hazardous waste
12.4.	Implementation of environmental management systems
12.5.	Oil shale mining
13.1.	Emissions of greenhouse gases
13.2.	Emissions of greenhouse gases from the energy sector
13.3.	Emissions of greenhouse gases from the transport sector
14.1.	Marine protected areas
14.2.	Spawning stock biomass
14.3.	Status of coastal water bodies
15.1.	Protected natural objects
15.2.	Protected forest land
15.3.	Emissions of acidifying pollutants
15.4.	Habitats in favourable conservation status
15.5.	Species in favourable conservation status
16.1.	Perception of corruption
16.2.	Unspecified citizenship
16.3.	Neighbourhood security
16.4.	Deaths due to assault
16.5.	Victims of violence
17.1.	Official development assistance
17.2.	General government balance
17.3.	General government debt
17.4.	Environmental taxes
18.1.	Natural increase
18.2.	Total fertility rate
18.3.	Speakers of Estonian
18.4.	Attendance of cultural activities
18.5.	Performers in cultural activities

Aggregate assessments of sustainable development goals and position of each Estonian indicator in comparison with European Union countries*

Goal and aggregate trend assessment	Indicator number and position in comparison with EU countries										
1. No Poverty	1.1	1.2	1.3	1.4							
2. Zero Hunger	2.1	2.2	2.3	2.4	2.5						
3. Good Health and Well-being	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10	3.11
4. Quality Education	4.1	4.2	4.3	4.4	4.5	4.6					
5. Gender Equality	5.1	5.2	5.3								
6. Clean Water and Sanitation	6.1	6.2	6.3	6.4							
7. Affordable and Clean Energy	7.1	7.2	7.3	7.4							
8. Decent Work and Economic Growth	8.1	8.2	8.3	8.4	8.5	8.6					
9. Industry, Innovation and Infrastructure	9.1	9.2	9.3	9.4	9.5						
10. Reduced Inequalities	10.1	10.2	10.3								
11. Sustainable Cities and Communities	11.1	11.2	11.3	11.4	11.5	11.6					
12. Responsible Consumption and Production	12.1	12.2	12.3	12.4	12.5						
13. Climate Action	13.1	13.2	13.3								
14. Life Below Water	14.1	14.2	14.3								
15. Life on Land	15.1	15.2	15.3	15.4	15.5						
16. Peace, Justice and Strong Institutions	16.1	16.2	16.3	16.4	16.5						
17. Partnerships for the Goals	17.1	17.2	17.3	17.4							
18. Viability of Cultural Space	18.1	18.2	18.3	18.4	18.5						

Aggregate assessments

- Above average
- Average
- Below average
- Poor

Indicator position assessments

- Among best three
- Above average
- Average
- Below average
- Among last three
- No comparable data

* Data for 2017 or the latest available year

The comparison table for Estonia and the European Union allows for an assessment of the situation in Estonia compared to the European Union (on the basis of the latest available year). Estonia's position for selected indicators has been evaluated against the ranking of EU Member States. The comparison is based on whether Estonia's position is better (green) or worse (red) or near the EU average. Indicators in the case of which Estonia's position is much better or worse than the EU average have been indicated separately: dark green when Estonia is among the first three and dark red when it is among the last three countries. Indicators at the average EU level (+/- one place) have been marked with yellow. White cells mean that there are no data for international comparison. The choice of indicators affects to a great extent the overall goal level assessment for Estonia's position in the EU context.

Every overall goal (18) level assessment has been shown as an average of individual indicator positions (indicators have an equal weight). An extremely low position of an indicator contributes 0 points, lower than average position 2.5 points, average position 5 points, higher than average position 7.5 points and highest position 10 points to the aggregated assessment.

Estonian indicators of sustainable development based on UN sustainable development goals

Indicator number	Indicator name
1.1.	Absolute poverty
1.2.	At-risk-of-poverty rate
1.3.	Household saving
1.4.	People at risk of poverty or social exclusion
2.1.	Agricultural productivity
2.2.	Organic agricultural area
2.3.	Organic production
2.4.	Sales of pesticides
2.5.	Use of fertilisers
3.1.	Life expectancy
3.2.	Healthy life years
3.3.	Overweight and obesity
3.4.	Fatal accidents, poisonings and injuries
3.5.	Avoidable mortality
3.6.	Deaths due to chronic diseases
3.7.	Incidence of communicable diseases
3.8.	Suicides
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3.11.	Consumption of tobacco
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5.3.	Time use of women and men
6.1.	Properly treated wastewater
6.2.	Water quality in public water supply
6.3.	Groundwater abstraction
6.4.	Status of surface water
7.1.	Energy productivity
7.2.	Energy dependence
7.3.	Energy expenditure of households
7.4.	Renewable energy
8.1.	Real GDP growth rate
8.2.	Resource productivity
8.3.	Labour productivity
8.4.	Employment
8.5.	Long-term unemployment
8.6.	Young people not in education, employment or training
9.1.	Research and development expenditure
9.2.	Employment in research and development

Indicator number	Indicator name
9.3.	Fast internet
9.4.	Internet use
9.5.	Carriage of passengers and goods
10.1.	Income per household member
10.2.	Income inequality
10.3.	Accessibility of heath care
11.1.	Architectural monuments in good and satisfactory condition
11.2.	Casualties of traffic accidents in cities
11.3.	Emissions of fine particulate matter
11.4.	Green areas in cities
11.5.	Satisfaction with condition of dwelling
11.6.	People commuting by public transport, by bicycle or on foot
12.1.	Recycling of municipal waste
12.2.	Waste generation
12.3.	Recovery of hazardous waste
12.4.	Implementation of environmental management systems
12.5.	Oil shale mining
13.1.	Emissions of greenhouse gases
13.2.	Emissions of greenhouse gases from the energy sector
13.3.	Emissions of greenhouse gases from the transport sector
14.1.	Marine protected areas
14.2.	Spawning stock biomass
14.3.	Status of coastal water bodies
15.1.	Protected natural objects
15.2.	Protected forest land
15.3.	Emissions of acidifying pollutants
15.4.	Habitats in favourable conservation status
15.5.	Species in favourable conservation status
16.1.	Perception of corruption
16.2.	Unspecified citizenship
16.3.	Neighbourhood security
16.4.	Deaths due to assault
16.5.	Victims of violence
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17.2.	General government balance
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17.4.	Environmental taxes
18.1.	Natural increase
18.2.	Total fertility rate
18.3.	Speakers of Estonian
18.4.	Attendance of cultural activities
18.5.	Performers in cultural activities