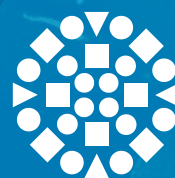




Executive Summary State of Environment Report Portugal

2019 Relatório
do Estado
do Ambiente
Portugal



apa
agência portuguesa
do ambiente

Executive Summary

Portugal's State of the Environment Report (REA) assess, as the name implies, the state of the environment in Portugal – an annual exercise in identifying the progress made, but also the main challenges vis-à-vis the commitments and goals undertaken in this area.

The 2019 edition starts with the usual **national socio-economic framework**, followed by a chapter updating the **macroeconomic scenarios** included in the report since 2013. These are two contrasting scenarios (High and Low) for the possible evolution of the Portuguese economy up to 2050, as well as two international scenarios (High and Low) for global GDP and European Union GDP. The purpose of the scenarios component is to provide a macroeconomic backdrop to the evolution of the state of the environment in Portugal.

The following chapters feature **45 themed fact sheets**, grouped into eight environmental areas: Economy and Environment, Energy and Climate, Transport, Air and Noise, Water, Soil and Biodiversity, Waste and Environmental Risks. As in previous editions, the fact sheets were designed in a short format, presenting solely the main findings for each theme and referring to the [State of the Environment Portal](#) for a more detailed analysis of the evolution of each indicator.

On the “Economy and Environment” domain, the **domestic material consumption** increased again by 6.2% compared to 2016, standing at 163.7 million tonnes (provisional data). The productivity associated with the use of materials – **resource productivity**, decreased by 3.2% in 2017, contradicting the upward trend observed since 2008, except for 2014.

Where **environmentally related taxes** are concerned, a revenue of 5.041 billion was obtained in 2017, the fifth consecutive year in which revenues increased, thus reversing the downward trend observed between 2007 and 2012 (with the exception of 2010).

In the context of **environmental management tools**, throughout the last 10 years, the number of organisations certified by ISO 14001:2004 has grown steadily: from 468 in 2008 to 1145 in 2018. On the other hand, although the number of organisations registered in EMAS has been decreasing in Portugal (78 in 2008 to 51 in 2018), there has been some stabilisation in recent years.

As an indirect indicator of economic activity, the number of **environmental impact assessment** processes, which fell from 202 in 2008 to 63 in 2018, reflected a downward trend over the past few years.

In the “Energy and Climate” domain, **energy imports** in 2017 increased 8.1% from the previous year, while **domestic production** fell 12.7%, due mainly to the strong fall in hydroelectric energy production, as a consequence of the drought which occurred that year. On the other hand, energy consumption rose in 2017, both in **primary energy consumption** +3.7%, and in **final energy consumption** +1.2%, mainly due to consumption of natural gas and coal.

The high **energy intensity of the economy** (104.6 toe/M€ of 2010 GDP in 2017), is therefore maintained, although it has been declining since 2000 (except in 2009, 2011 and 2017). The **dependence on foreign energy** has increased since 2016, standing at 79.7% in 2017.

With regard to **renewable energy**, Portugal had, in 2018, a rate of 55.3% of electricity production from renewable sources (for the purposes of the RES Directive it was 53.7%), confirming the upward trend observed in the last decade. In 2017, the most recent year available from Eurostat, Portugal had a 54.2% share of renewables in the electricity sector, which was the fifth highest in the European Union.

In 2017, the total amount of **Greenhouse Gas (GHG) emissions**, excluding land use, land-use change and forestry (LULUCF), was estimated at about 70.7 million tons of CO₂ equivalent, representing an increase of 19.5% compared to 1990 and 7.0% over 2016. Total GHG emissions including LULUCF were 78.0 Mt CO₂ eq., + 28.5% when compared to 2016, due to the serious forest fires that occurred that year. Despite this increase, total emissions are down by about 18% from 2005 levels and are within the PNAC 2020/2030 target range.

In terms of **emissions by activity sector**, and similarly to previous years, the energy sector was the largest contributor in 2017 (72.6%), with the energy production and processing and transport being the most important sub-sectors (29.5% and 24.3% of the total, respectively).

The “Transport” sector continues to be among those with the highest energy consumption, accounting for 37.2% of total primary energy consumption in 2017 (provisional data). This sector is also one major source of GHG emissions, accounting for 24.3% of total national emissions in 2017.

In 2017, the **passenger vehicle fleet** reached 5.1 million, 4.3% more than in the previous year, which corresponds to a motorisation rate of 491.6 passenger cars per 1 000 inhabitants, the highest rate in the last six years.

On the other hand, the use of **public passenger transport** increased for the third consecutive year. In 2017, maritime transport had an increase of 6.4% and light rail transport of 5.1%, while rail transport and inland waterway presented an increase of 6.0% and 5.5%, respectively.

In that year, 54.6% of national exports were carried out by maritime transport, as 61.6% of imports, showing that **freight transport** to and from Portugal is still predominantly maritime. Road transport follows with 39.1% of exports and 30.6% of imports.

In mainland Portugal, 2018 was classified as normal, both in relation to **air temperature** and to the amount of **rainfall**.

Considering the “Air and Noise” domain, in what concerns **air quality**, “Good” was the predominant rating of the air quality index (IQA) in recent years, a trend that continued in 2018. Another positive aspect was the significant reduction in the number of days rated “Moderate”, “Poor” and “Very poor” observed in recent years and maintained in 2018.

With respect to **inhalable particle pollution**, there is a clearly decreasing trend in the average annual concentration of PM₁₀ between 2001 (45.3 µg/m³) and 2017 (16 µg/m³), and all annual values observed in the last 16 years are below the threshold imposed by law (40 µg/m³).

In the case of **air pollution by nitrogen dioxide** (NO₂), the annual limit value of NO₂ concentration (40 µg/m³) was exceeded in 2017 in the agglomerations of Porto Litoral, Entre Douro e Minho and in the Northern Lisbon Metropolitan Area, with 54 µg/m³, 55 µg/m³ and 60 µg/m³, respectively.

Regarding the **precursors of tropospheric ozone** (nitrogen oxides and non-methane volatile organic compounds), the value of the formation potential of tropospheric ozone, which gives us the aggregate emissions of these compounds, decreased approximately 38% since 1990. Once again, both the industry and transport sectors contributed the most to the formation of ozone in the troposphere with, respectively, 43% and 31% in 2017.

Where **environmental noise** is concerned, there is a positive evolution, between 2013 and 2018, in the submissions of strategic noise maps of major road, rail and air transport infrastructures, as well as agglomerations. However, its analysis also highlights a worrying number of people exposed to harmful levels of noise during night time, with an estimated 477,000 people being exposed to nightly noise levels exceeding 55 dB(A) and about 2 million people exposed to nightly noise levels exceeding 45 dB(A).

In the “Water” domain, the quality of **drinking water** remains excellent (99% of safe water in the consumer’s tap in 2017).

In 2018, the excellent quality of monitored **bathing waters** was maintained. Of the 608 bathing waters identified, 554 (91.1%) presented “excellent” quality, 29 (4.8%)

presented “good” quality, nine (1.5%) “acceptable” quality, and only two (0.3%) showed “bad” quality. There were also 14 “unclassified” bathing waters (2.3%), because although they were monitored, they didn’t have the minimum 16 samples from the previous years, which is a classification requirement.

The evaluation of **surface and underground water availability** allows us to evaluate whether the year was wet, medium or dry. Due to the precipitation that occurred in March 2018, in June of the same year, most of the mainland reservoirs were above 70% and most of the groundwater masses were above average in April 2018. However, in October 2018, low values were already observed in groundwater, some of them below the 20th percentile in the southern region, a scenario that got worse in April 2019, and spread throughout the country. Below average precipitation during the wet semester of the hydrological year 2018/2019 meant a marked and widespread decline in surface and groundwater storage levels compared to what would otherwise be normal.

Sustainable water management involves the licensing of activities that have a significant impact on its condition. By analysing the **use of water resources** in terms of submitted applications and respective permits issued, one can see that, in 2018, about 82.4% of the total issued permits relate to water abstractions and 9.5% wastewater rejection.

The “Soil and Biodiversity” domain discloses the population’s interest in the conservation and sustainable use of biodiversity, which is reflected by the consistent increase in the total number of **visitors in protected areas**, which amounted to 420,905 in 2018 (-2% than in 2017). In Portugal, the **Natura 2000 Network** is composed of 107 designated areas under the Habitats Directive and 62 Special Protection Areas designated under the Birds Directive, distributed by the Mainland and Autonomous Regions. In total, this network covers about 22% of the land area and about 39 000 Km² of marine area.

The effort made to support more sustainable agricultural and forestry practices that contribute to the preservation of resources resulted, among other things, in the considerable increase in the **agricultural area under organic farming**, which rose 26% from 2010 to 2017. Another important issue associated with agricultural practices concerns the use of **genetically modified organisms** in cultivated areas. In Portugal, the genetically modified corn production area reached a peak in 2012, presenting a downward trend ever since (except in 2014 and 2017). In 2018, it decreased 21.5% when compared to the previous year, totalling 5,733 hectares (provisional data).

Aquaculture hasn’t, up to date, been able to establish itself as an alternative to fishing. In 2017, the national aquaculture production amounted to no more than 7.6% of fish unloaded in port, reaching 12,549 tonnes (+11.5% than 2016). The main species produced are clams (32.8%) and turbot (23.2%).

In the “Waste” domain we witnessed, at the beginning of this decade, a period of reduction of **municipal waste** production. However, since 2014, municipal waste production has been increasing, reaching 4.94 million tonnes in 2018 in mainland Portugal (+4.2% compared to 2017), which corresponds to a daily production of 1.38 kg *per capita*. In this year, the rate of preparation for reuse and recycling of municipal waste was 40%, maintaining the upward trend observed in the last decade. Disposal of **bio-degradable municipal waste** in landfills increased for the second consecutive year and amounted to 46% in 2018.

Regarding the **recycling of specific waste streams** (packaging and packaging waste, used lubricating oils, used tires, waste electrical and electronic equipment, waste batteries and accumulators, end-of-life vehicles and construction and demolition waste), the recycling rates achieved in 2017 met the overall targets defined in the legislation, except for end-of-life vehicles, which are estimated to have been 1% below the target set for 2015 (85%).

Specifically analysing the **packaging waste** stream, approximately 1.71 million tonnes were produced in 2017, resulting in a recycling rate of 55% and a recovery rate of 65%. By type of packaging material, the provisional data indicates decreases in the recycling rates for paper and cardboard and plastic and glass, when compared to 2016. For metal packaging, the recycling rate has increased slightly. Below the recommended targets are the recycling of glass and metal packaging.

The production of **hazardous waste** in Portugal peaked in 2017, registering around 918 thousand tonnes, +10% in relation to 2016. Most of the hazardous waste produced in Portugal originated from waste collection, treatment and disposal activities (36.9%). Of the hazardous waste treated in 2017, 61% was disposed of and 39% was sent for recovery.

The total revenue of the waste management entities, resulting from the compliance fee - **ecovalor** - assumed by the producers for the environmental impacts associated with their products, was around 101 million euros in 2017 (provisional data), which represented an increase of 21% compared to the previous year, due to the entry into force of a new generation of permits for systems of specific waste streams, which assign increased obligations to the Managing Entities in order to increase management transparency, as well as reduce the recovery cost of various materials.

With regard to environmental risks, the **drought** fact sheet evaluates the occurrence of periods of water availability reduction, considering different definitions of drought: meteorological, agricultural, agrometeorological and hydrological. In the 2017/18 hydrological year, in January 2018, there were six river basin districts in an “Alert” hydrological drought situation (level H.2) and three in an “Emergency” hydrological drought situation (level H.3).

The precipitation that occurred in March and in the summer months, allowed that in May and September of 2018, no river basin district was in an alert hydrological drought situation.

In 2018 (provisional data), there were 12 262 rural fires in Portugal (21 006 in 2017), resulting in about 44 520 hectares of burnt area (539 921 hectares in 2017).

In relation to the coastline **under erosion**, during the period 1958-2010, there was a loss of national territory of about 12 km². The comparison of the 2010 and 2018 coastlines (under the [COSMO program](#)) shows that the length of coastline under erosion remains relatively unchanged. Nonetheless, the erosion process continues inland in some of the areas previously identified in 2010, with a loss of 1 km² in the period 2010-2018.

As in previous editions, the REA 2019 includes an infographic that summarises key data regarding the evolution of some of the analysed indicators.

State of Environment Report - REA 2019

ECONOMY AND ENVIRONMENT

163,7

estimated million tonnes of DMC in 2017
6.2% more than in 2016

€5,041

billion in environmental tax revenues in 2017
4.8% more than in 2016

ENERGY AND CLIMATE

28,1%

of RES incorporation in gross final energy consumption in 2017
0.8 pp above the PNAER target

In 2017
were emitted

70,7 Mt CO₂ eq

of GHG excluding LULUCF
7% more than in 2016

TRANSPORT

In **2017** the use of public passenger transport

increased for the **third consecutive year**

Motorization rate of

491,6 light passenger vehicles /1000 inhab. in 2017

the highest of the last 6 years

AIR AND NOISE

Good

was the dominant Air Quality Index class in 2018

477

thousand people exposed to night-time noise levels exceeding **55** dB(A)

2 **45**

million people exposed to night-time noise levels above dB(A)

(estimated values)

WATER

91,1%

of bathing waters with an **“Excellent”** classification in 2018

99%

of safe water on the consumer's tap in 2017

SOIL AND BIODIVERSITY

12 549

tonnes of national aquaculture production in 2017
+ 11.5% compared to 2016

253

thousand hectares of agricultural area in organic farming in 2017
+ 26% compared to 2010

WASTE

1,38kg

/day of municipal waste per capita in 2018

33,4% deposited in a landfill

55% of recycled packaging

67% of paper and cardboard

ENVIRONMENTAL RISKS

In **2018**

12 262

rural fires

44 520

hectares of burnt area

from 2010 to 2018

1km²

estimated loss of territory due to coastal erosion



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