EXECUTIVE SUMMARY

STATE OF ENVIRONMENT REPORT PORTUGAL 2018

AGÊNCIA PORTUGUESA DO AMBIENTE

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The importance given in Portugal to the availability of up-to-date environmental information has been taken into account since the first Environment Framework Law, in 1987, with a mandate for the annual publication of a report on the state of the environment (REA). This report has been, like most of its international counterparts, an important instrument for communicating the factual state of the environment at the national level.

In recent years, and in order to make available as much updated data as possible, the REA has been published at the end of each calendar year, resulting in a time lag of about one year between the date of publication of the data and the period to which it relates. To mitigate this disparity, the decision was made, starting with this year's edition, to anticipate the publication of the report, bringing it closer to the date of World Environment Day - June 5.

Being published only five months after the last report, the 2018 edition will be exceptionally shorter, containing only the indicators which data was possible to update since the last edition. Thus, 28 of the 51 indicators that are permanently available in the State of the Environment Portal have been updated.

The 2018 edition starts with the usual **national socio-economic framework** and the main figures for economic and social indicators.

The following chapters present **28 fact sheets**, organised in eight environmental domains: Economy and Environment, Energy and Climate, Transport, Air, Water, Soil and Biodiversity, Waste and Environmental Risks. In this edition and as last year, to make the report less lengthy and simpler to read, 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** (DMC) reached a peak in 2008, and then showing a downward trend until 2014, when it was interrupted. However, in 2016, the DMC decreased again by 1.7% compared to 2015, standing at 152.9 million tonnes. The productivity associated with the use of materials - resource productivity, increased by 3.3% in 2016, maintaining the upward trend observed since 2008, except for 2014.

In the context of **environmental management tools**, throughout the present decade, the number of organizations certified by ISO 14001 has grown steadily: from 649 in 2010 to 1174 in 2017. On the other hand, although the number of organizations registered in EMAS has been decreasing in Portugal (77 in 2010 and 54 in 2017), there has been some stabilization in recent years.

As an indirect indicator of economic activity, the number **environmental impact assessment** processes, which went from 202 in 2008 to 58 in 2017, reflected a downward trend in the number of evaluation processes over the past few years. On the other hand, between June of 2007 and December of 2017 approximately 690 procedures of **strategic environmental assessment** were entered at APA.

In the "Energy and Climate" sector, and regarding **renewable energy**, Portugal showed, in 2016, 28.5% of renewables in gross final energy consumption. This value surpasses the forecasted indicative trajectory and puts Portugal reaching in 2016, 91.9% of its target for 2020. With regard to electricity produced from renewable energy sources (RES), there was a decrease in 2017, due to the drought that occurred in that year, which led to a strong reduction in hydro power generation, resulting in 45.5% of electricity production from renewable sources (for the purposes of the RES Directive it was 55.6%).
The high **energy intensity of the economy** (133 toe/M€ of GDP 2010 prices, in 2016) is therefore maintained, although it has been declining since 2005 (except in 2009, 2013 and 2015). The EU-28 average was 118.6 toe/M€ of GDP at 2010 prices, in 2016.

In 2016, the total amount of **Greenhouse Gas (GHG) emissions**, excluding land use, land-use change and forestry (LULUCF), was estimated at about 67.8 million tonnes of CO_2 equivalent, representing an increase of 13.1% compared to 1990 and a decrease of 2.6% over 2015. In terms of emissions by activity sector, and similarly to previous years, the energy sector was the largest contributor in 2016 (70%), with the energy production and processing and transport being the most important subsectors (26% and 25% of the total, respectively). Considering GHG emissions in non-ETS sectors, all sectors, except agriculture, are in line with the sectoral reduction targets set out in the PNAC 2020/2030.

In mainland Portugal, 2017 was a "hot" year in terms of **air temperature** and "dry" in terms of the amount of **rainfall**, being considered the 2nd warmest and the 3rd driest since 1931.

The "**Transport**" sector is the third most energy intensive, with an **energy intensity** of 33 toe/M€ '2011, in 2016. The incorporation of renewable energy in this sector reached 7.5% in 2016, a slightly higher percentage than the EU-28 average (7.1%).

Until 2017, and in relation to the **passenger vehicle fleet**, 8,004 electric vehicles were registered, an increase of 65% over the previous year, 64% of which correspond to light passenger and freight and 17% to tricycles and quadricycles.

Considering the "Air" area, in what concerns air quality, "Good" was the predominant rating of the **air quality index** (IQAr) in recent years, a trend that continued in 2017. Another positive aspect is the significant reduction in the number of days rated "Medium", "Weak" and "Bad" in the last few years.

Regarding **precursors of tropospheric ozone** (nitrogen oxides and non-methane volatile organic compounds), the value of the potential formation of tropospheric ozone, which gives us the aggregate emissions of these compounds, decreased approximately 37% since 1990. Once again, both the industry and the transport sectors contributed the most to the formation of ozone in the troposphere, with respectively 44% and 30% in 2016. The **emissions of acidifying and eutrophying substances** (such as SO_2, NOx and NH_3) have decreased globally about 64% between 1990 and 2016. The decline in SO_2 emissions (-89% in this period), contributed especially for this reduction.

In the "Water" domain, the evaluation of **the surface water availability** (reservoirs) during the 2017/2018 hydrological year in the North and center of mainland Portugal was, until February, below average, while in the South, the observed reservoir storage, also below average, diverged much from it as of November, which greatly aggravated the drought status observed. However by the end of March 2018 all mainland reservoirs, except West and Sado, had storage volumes above 60%. With regard to **the underground water resources**, and after groundwater levels below the 20th percentile in several groundwater bodies occurred in September 2017, there have been significant increases in groundwater levels, with even higher levels in April 2018 than the monthly averages.

Since water is a scarce resource, its sustainable management involves the licensing of activities that have a significant impact on the state of water. The **use of water resources** is analysed in terms of submitted applications and respective titles issued. In 2017, 81% of the total titles issued were related to water abstractions and 11% to wastewater rejection.

In 2017, 603 **bathing waters** (480 coastal and transitional waters and 123 inland waters) were monitored. Of the coastal and transitional waters, 97.7% had an "acceptable" classification or higher, with 90.6% having obtained an "excellent" classification. Regarding inland waters, 92.7% had an "acceptable" rating or higher, with 76.4% achieving an "excellent" rating.

The "Soil and Biodiversity" area discloses the population's interest in the conservation and sustainable use of biodiversity, reflected in the consistent increase in the total number of **visitors in protected areas**, which amounted to 420,915 in 2017 (+23% than the last year). 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 throughout the Mainland and the Autonomous Regions. In total, this network covers about 22% of land area and about 39 000 Km^2 of marine area.

A great effort has been made to support agricultural and forestry practices that contribute to improving the environment and the preservation of resources. This has resulted, among other things, in the considerable increase in agricultural area under **organic farming**, which rose 21% from 2010 to 2016, reaching 243,895 hectares and corresponding to about 6.7% of the 2013 Utilized Agricultural Area (UAA) (6.5% in 2015).

An important issue associated with agricultural practices concerns the use of **genetically modified organisms** (GMO) in cultivation areas. In Portugal, the genetically modified corn production area reached a peak in 2012, presenting a downward trend since then (except in 2014). In 2017, this trend reversed, with an increase of 3.6% over the previous year, corresponding to 7,308 hectares.

Aquaculture hasn't, up to the present date, been able to establish itself as an alternative to the fishing activity. In 2016, the national aquaculture production reached 11,259 tonnes (+17.8% than the previous year). The main species produced are clams (33.0%) and turbot (21.2%).

In the "Waste" sector we witnessed, at the beginning of this decade, a period of decline in municipal **waste production**. However, since 2014, municipal waste production has been increasing, reaching 4.75 million tonnes in 2017 in mainland Portugal (+2.3% compared to 2016), which corresponds to a daily production of 1.32 kg per capita. This year, the rate of preparation for reuse and recycling of municipal waste was 38%, maintaining the upward trend observed in the last decade. Disposal of biodegradable municipal waste in landfills was 43% (41% in 2016). This increase, which is in line with the growth in consumption, was not accompanied by an increase in separate collection.

In 2017, the total income of the waste management companies, resulting from the visible fees - **ecovalor** - incurred by the producer for the environmental impacts associated with the respective products, was around 101 million euros, representing an increase of 21% from the previous year.

Where "environmental risks" are concerned, the **drought** fact sheet evaluates the occurrence of periods of reduction of water availability, considering different definitions of drought: meteorological, agricultural, agrometeorological and hydrological. At the end of March 2018 the situation of meteorological drought in mainland Portugal ended, although in October 2017 100% of the territory was in severe or extreme drought. In terms of hydrological drought monitoring, at the end of March 2018, of 60 reservoirs monitored, 32 had water availability greater than 80% of the total volume and three had availability of less than 40% of the total volume. In April, given the precipitation that allowed an effective recharge of the water bodies, there was a significant and generalized rise in groundwater levels to values above the monthly averages.

Regarding the use and **manufacture of chemicals**, there has been increasing awareness of the chemical substances placed on the EU market in recent years. The number of chemicals exported by Portugal under the Rotterdam Convention has increased in recent years, reaching eight substances in 2017, while imports into Portugal declined, recording two products in 2017.

Where the **radiological monitoring of the environment** is concerned, the situation has remained normal from the radiological point of view, with no significant alteration of the levels of gamma radiation in the environment.

With regard to human exposure to magnetic, electric and electromagnetic fields, in February 2017, a Working Group was set up with the purpose of drafting measures for the implementation of Law no. 30/2010.

Consequently, in February 2018, the criteria for minimising and monitoring the exposure of the population to magnetic, electric and electromagnetic fields were established to guide the planning, construction and exploration phases of new high voltage and very high voltage lines. The creation of a digital platform to make the monitoring results of these infrastructures available to the public is also planned.

In addition to fact sheets, the REA 2018 also includes seven **infographics** covering such diverse environmental themes as Circular Economy, Climate Change, Cycling Mobility, Health and the Environment, the National Strategy to Combat Food Waste, the National Strategy for Nature Conservation and Biodiversity and the National Strategy for Environmental Education.

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