



NATIONAL REPORT ON THE STATE AND THE PROTECTION OF THE ENVIRONMENT 2015



National Environment Conference
“The Environment – state and trends”
Sofia, 11.06.2015

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FOREWORD

National legislation	Article 22, Paragraph 1 of the Environmental Protection Law
Aim	informing the representatives of executive and legislative power, of scientific and educational organizations, business and public organizations regarding the environmental state and risks
Methodology	recommendations of United Nations Economic Commission (UNEC) for content of the national reports and the valuation model used in the European Agency of Environment
Structure	<u>Key questions</u> , leading to the development of the indicator; <u>key messages</u> , which synthesize the answer of the key question and assessment of the indicator

The key messages are highlighted by symbols, which reflect the trends in environmental processes: positiv (😊) negativ (😞) and unchanged (😐). The comparisons to the EU member states or to the European Environment Agency are used.

EMISSIONS OF HARMFUL SUBSTANCES IN THE AIR

AIR

Does Bulgaria implement the international commitments to reduce the emissions of harmful substances in the air ?

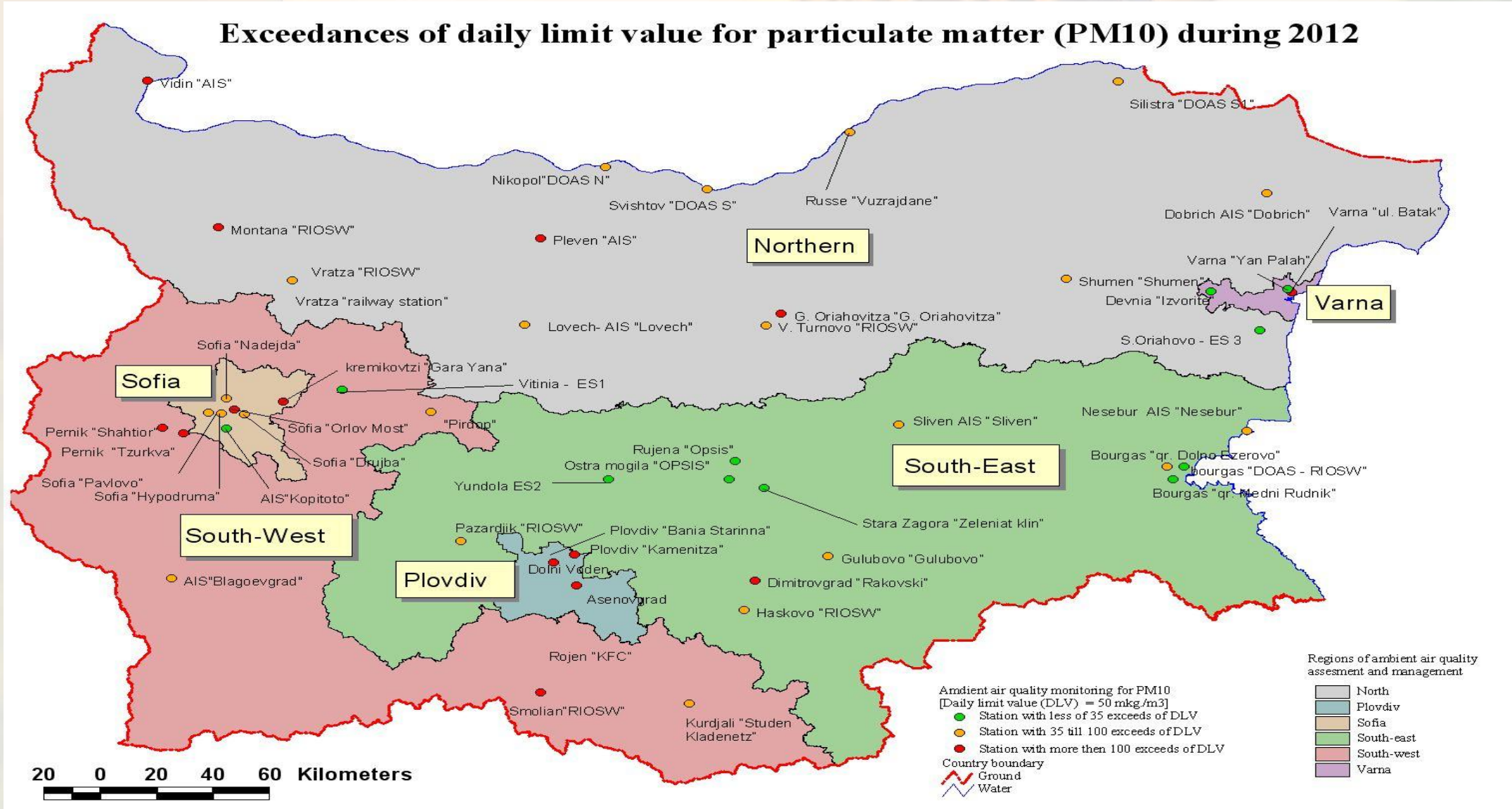
- 😊 The commitments on Directive 2001/81/EU and on Gothenburg Protocol to the Convention on long-range Transboundary Air Pollution of SO₂, NO₂, NH₃ and hydrocarbons levels are implemented.
- 😊 In all large combustion plants are installed FGD plants, so in 2013 the SO₂ emissions decreased with 130 thousand tons, compared to 2012.
- 😞 The domestic heating is still the main source of PM₁₀, emitting 59% of the total quantity discharged into the atmosphere.

Are achieved the eligible limits of atmospheric pollution to protect human health?

- 😊 During 1990-2013 is observed a significant reduction in the emission levels of all major air pollutants and an improving of the air quality.
- 😊 The NO₂ standards are met in three regions (Sofia, South-West and South) for assessment and management of air quality, which had exceedance in 2012.
- 😞 In the town of Galabovo and Dimitrovgrad there is registered a violation of air quality regarding the allowable number of exceedances of the average hourly norm and day-and-night average norm of SO₂

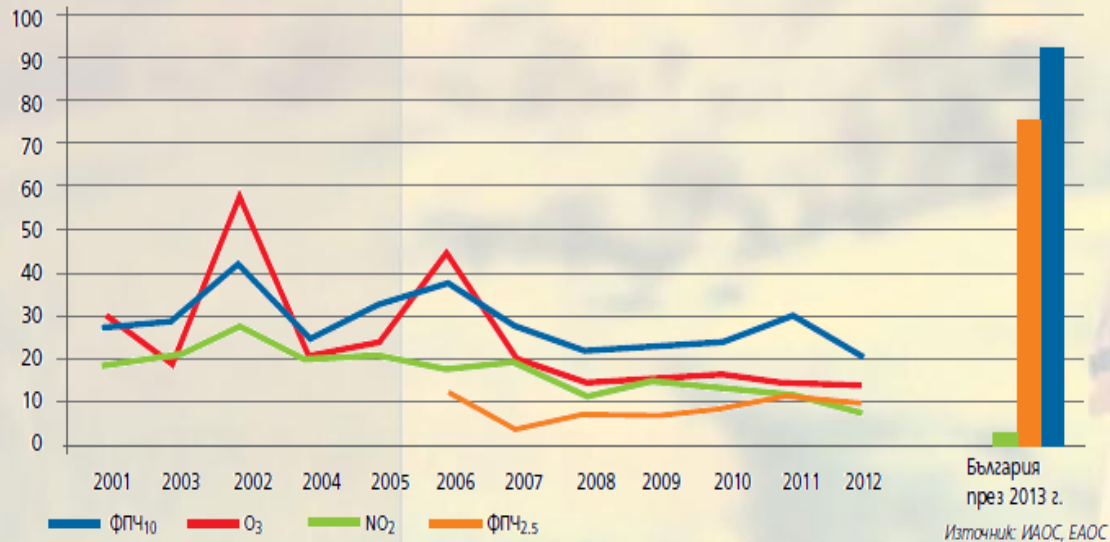
EMISSIONS OF HARMFUL SUBSTANCES IN THE AIR

AIR



EMISSIONS OF HARMFUL SUBSTANCES IN THE AIR

Percentage of urban population, exposed to exceeded levels of air pollutants



Indicator	Data for Bulgaria	Data for EU member states
PM 10	92 %	22 %
Ozone	0 %	15 %
Nitrogen dioxide	0,5 %	8 %
PM 2.5	77%	11%
Benzo(a)pyrene	15%	25%
Sulphur dioxide	1.4%	0.5%

What were the temperatures and rainfalls in Bulgaria in 2013?



At the global aspect the year has equalized with 2007 as the sixth warmest year since 1850.



The average annual temperature for the country is with 1.4 °C above the climate norm - the 16th consecutive year since 1997 with positive temperature anomalies relative to the average norms for the period 1961-1990.



The average annual rainfall amounts of respect to the norms (1961-1990 years), average for station, is close to normal only for a limited number of stations in Northwestern, Central Northern and part of the Northeastern Bulgaria, which is 561 mm (l / m²).

GHG (GREENHOUSE GASES) EMISSIONS

CLIMATE

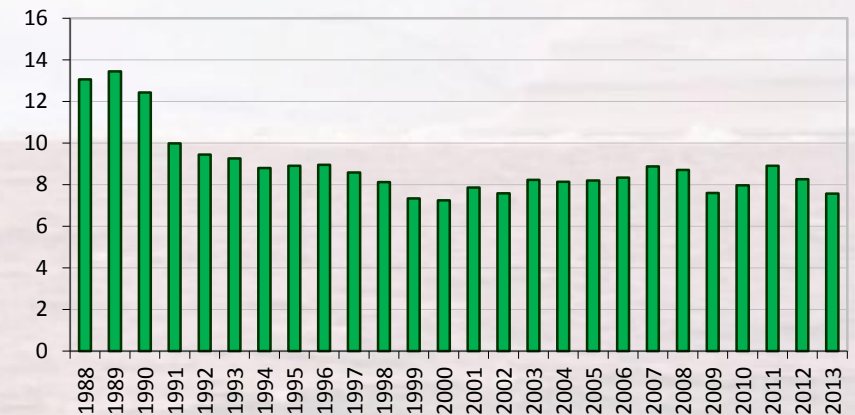
Did Bulgaria implement the national and international targets on GHG emissions?

😊 The main GHG emissions tend to decrease in the period 1988-2012. The total issued emissions constitute 46.8 % of the emissions of base year.

😊 GHG emissions per capita decrease from 13,1 tones CO₂- eq. in 1988 to 7,6 tones CO₂-eq. in 2013. This indicator brings Bulgaria close to the EU average.

😊 The greenhouse gas emissions are significantly lower compared to the base year of 1988 and now Bulgaria has at its disposal the reserve required that ensures the implementation of the commitments undertaken by signing the Kyoto Protocol.

Annual emissions of GHG per capita, tons CO₂ – eq.



WATER RESOURCES AND WATER QUALITY MANAGEMENT

How much are the fresh water resources of the country, how are they formed, is there a risk of water shortages?

😊 Bulgaria is characterized by relatively significant fresh water resources, both in absolute volume and per capita.

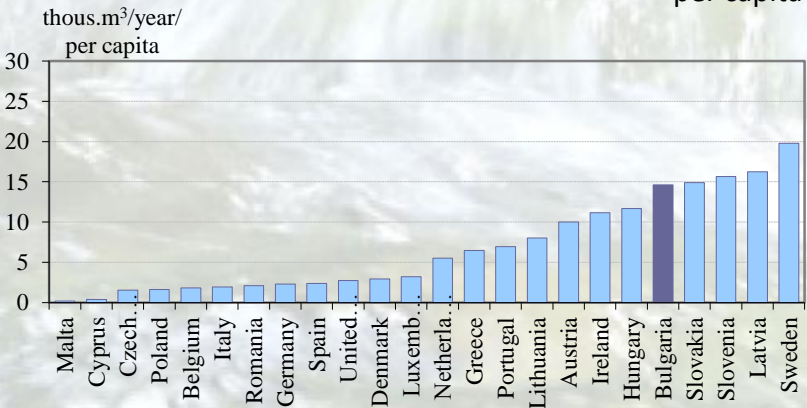
😞 Water resources are formed mainly by external inflow and are unevenly distributed across the country.

😐 Water shortages can occur in regions with low rainfalls, population density, water consuming industries, combined with specific natural and geographic features.

Renewable fresh water resources in some European countries



Renewable fresh water resources for some European countries, per capita



WATER RESOURCES AND WATER QUALITY MANAGEMENT

WATER

Did Bulgaria achieve the requirements for safe quality of fresh water by physico-chemical, biological and organoleptic indicators?

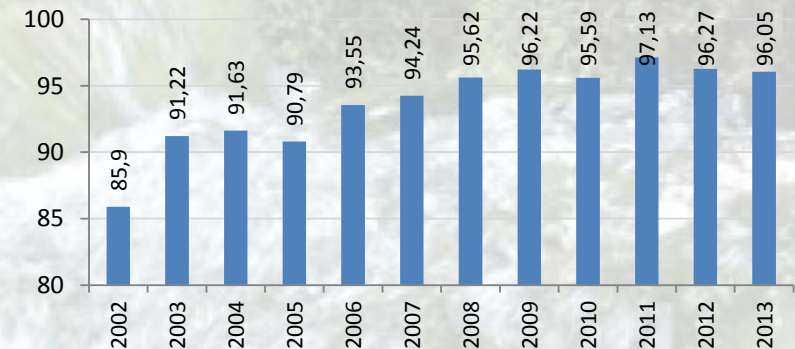


From the total number of fresh water analyzes, performed by the Regional health inspections, 98,54% are in compliance with the requirements.

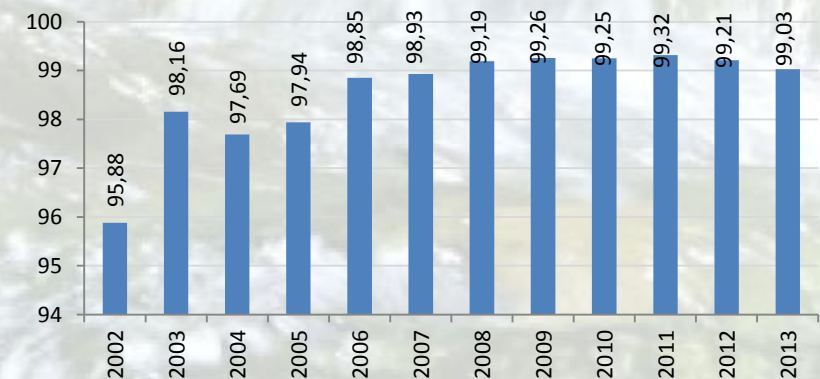
The following indicators are analyzed:

- Microbiological indicators;
- Physico-chemical indicators;
- Variations in organoleptic indicators (color, smell, taste, turbidity)
- Content of nitrate, manganese, fluoride, arsenic and chromium.

Percentage analysis of microbiological indicators compliant for the period 2002 - 2013



Rate analysis on organoleptic, chemical and radiological indicators compliant for the period 2002 - 2013



SURFACE WATER

WATER

Does improve the quality of surface water affecting their usage as drinking water supply on the one hand and on the other as habitat for many species of aquatic organisms?



1996-2013 – the recently observed tendency towards improvement in the water quality is continuing. But still there are water bodies at risk. Programs of measures to achieve good ecological status by 2015 are established for these bodies..



1996-2013r. – the O_2 concentrations (dissolved oxygen), NH_4 -N (ammonium nitrogen), $N-NO_3$ (nitrate nitrogen), BOD_5 (biochemical oxygen demand) и PO_4 -P (orthophosphates) show preserving the levels from previous years. A slight increase is observed by COD(chemical oxygen demand).



It continues the tendency towards improvement in the surface water quality regarding the basic physicochemical parameters.



In 2013 the assessment of the basic physicochemical parameters, supporting the biological quality elements, shows that the majority of the observed points are graded as very good to good status.

GROUNDWATER

WATER

Does improve the quality of the groundwater affecting their usage as drinking water supply on the one hand and on the other as feeding on aquatic and terrestrial ecosystems?



During 1993-2013 by most of the indicators is observed a gradually improving in the groundwater quality. The percentage of points, where the average annual values exceed the quality standards (QS) for groundwater, shows downward trends for all indicators except phosphates and nitrates.



It is observed a great spatial diversity and a notable trend of water resources decrease. This trend is registered in 65 observatories or in 63% of cases representing different groundwater basins.



The annual average changes of indicators for the period 1993-2013, compared to their average values for 1993 (base year) have levels below the base year what shows a decreasing tendency, except phosphates, where values over the years have been above the average for the base 1993, but after 2005, their values also show a decreasing tendency.

BATHING WATER

WATER

What is the quality of bathing water?



98.9% of bathing areas meet the mandatory requirements - i.e. "excellent" or "good" quality (94.7% for the EU).

66.0% of bathing areas meet the recommended requirements - with "excellent" quality (82.6% for the EU).

1.1% of bathing areas are with "bad" quality (1.9% for the EU).

LAND USE AND SOILS CONDITIONS

SOILS

What is the tendency to land loss?

What are the trends in changes of land use - by area and by type?

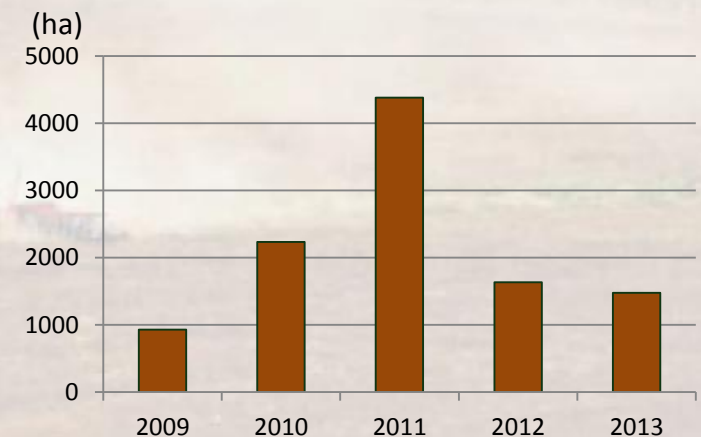


During 2008-2013 is observed a steady tendency towards increasing the areas of arable farmlands and towards reducing the abandoned lands.



There is a clear trend to reduce the land cover changes and land use for each subsequent period (1990 2000 2006 2013).

Change of use of agricultural land for non-agricultural purposes



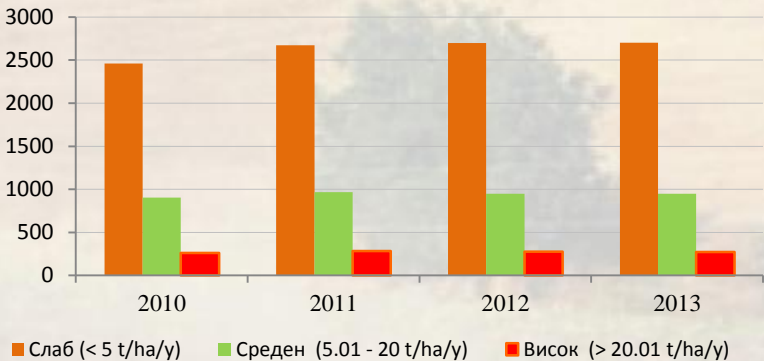
DAMAGES TO THE SOILS

What are the irreversible losses of soil due to the degradation processes?

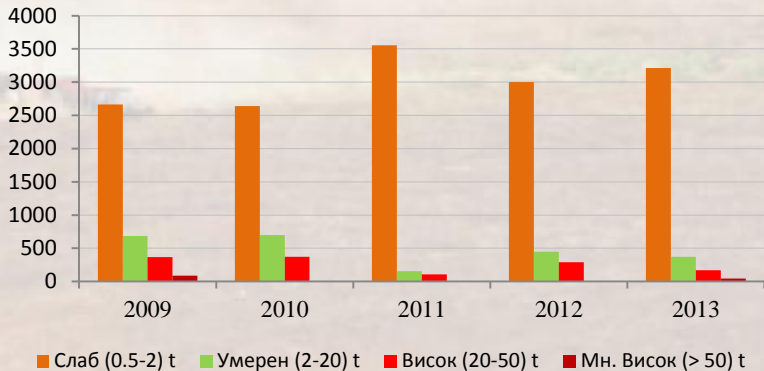
😊 During 2010-2013 the trend shows a retention in the area distribution, and in the average annual soil loss from water erosion. Compared to the previous year, the areas with erosion risk and soil losses slightly decreased.

😐 In 2007-2013, the soil loss affected by wind erosion remained relatively constant. In comparison with 2012 there was a slight increase regarding the areas with the risk of wind erosion and also the soil losses.

Distribution of areas (ha) affected by water erosion in degree of erosion risk (10⁻³ ha) in arable lands



Distribution of areas (ha) affected by wind erosion in degree of erosion risk (10⁻³ ha)



BIODIVERSITY

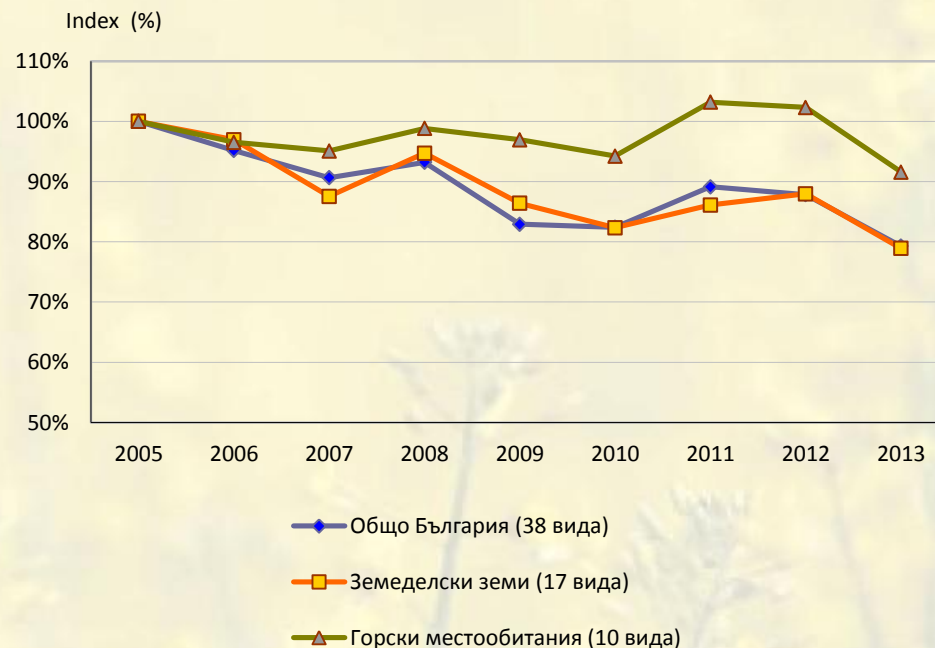
BIODIVERSITY

Which bird species decreased their abundance and distribution in Bulgaria?



During 2005-2012 for all common 38 assessed species is observed the overall trend to reduce their number with 21%, which is a 9% decrease, compared to the previous evaluation period 2005-2012

Trends in the population index of common birds in Bulgaria
(base year 2005=100%)



PROTECTED AREAS

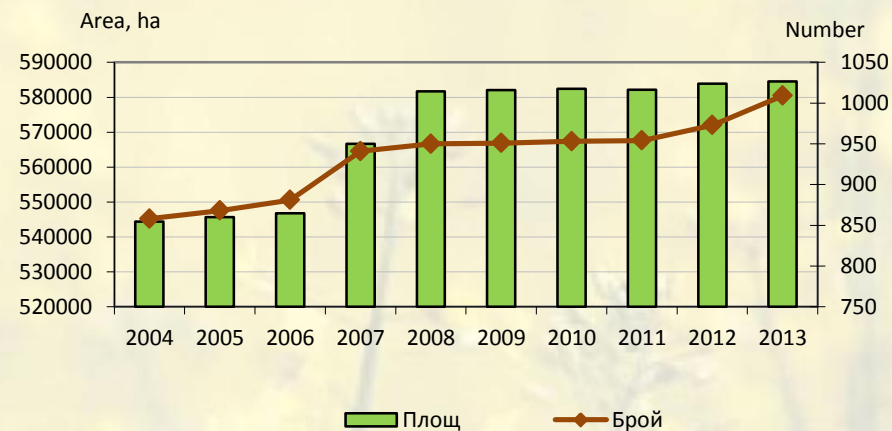
BIODIVERSITY

What is the efficiency of the designation of protected areas as a tool for biodiversity conservation and as a response to the biodiversity loss?



For the period 2004-2013 the number and the size of the protected areas have been increased. At the end of 2013 the number of protected areas in Bulgaria is 1009 with a total area of 584,587.1 ha or 5.27% of the country territory.

Change in the number and in the area of protected areas in Bulgaria during 2004 -2013 r.



FOREST HEALTH AND VITALITY IN BULGARIA

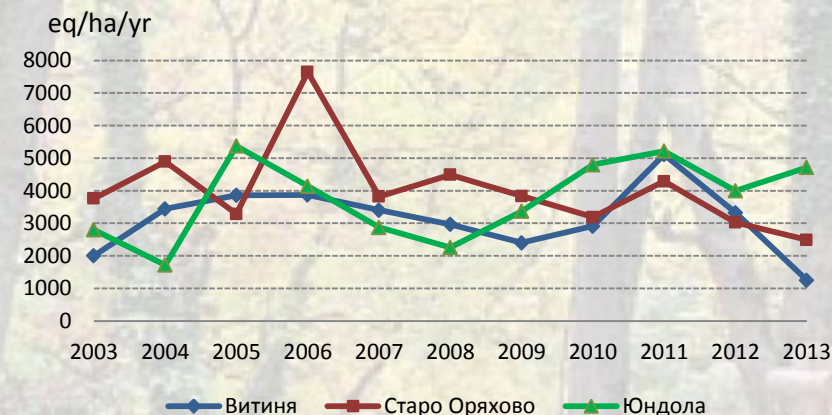
FORESTS

What is the dynamics of forest health?



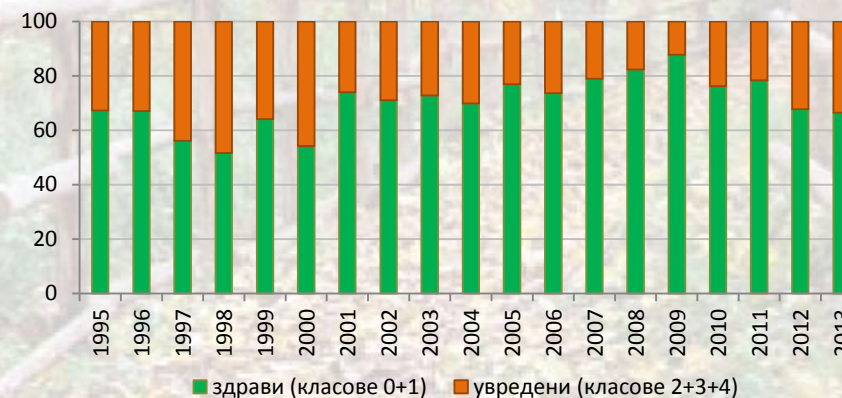
Deposition of air pollutants. Higher reported values of critical loads for acidity, sulfur and nitrogen, are a sign of improving air quality and reducing deferred with rainfall amounts of sulfur and nitrogen. The ecosystems are able to absorb higher loads and maintain stable condition.

Critical loading for total acidity



Defoliation. In 2013, as a result of the monitoring, it is shown that the majority (66.5%) are assessed as healthy and slightly damaged trees respectively in classes "0" and "1" of defoliation.

Defoliation for all tree types



Forest fires. In 2013 were registered 408 fires with 3 313.9 ha affected areas - almost twice lower total number and 4 times less affected areas compared to 2012.

FOREST RESOURCES

FORESTS

Как се оценява горският ресурс в България?

Горите в България са част от европейското и световно горско богатство. Общата площ на горските територии непрекъснато се увеличава, като към края на 2013г. тя възлиза на 4 180 121 ha, или 37,7% от територията на страната. От 1990г. До 2013 г. общата площ на горските територии се е увеличила с 407 628 ha или с 10,8%.

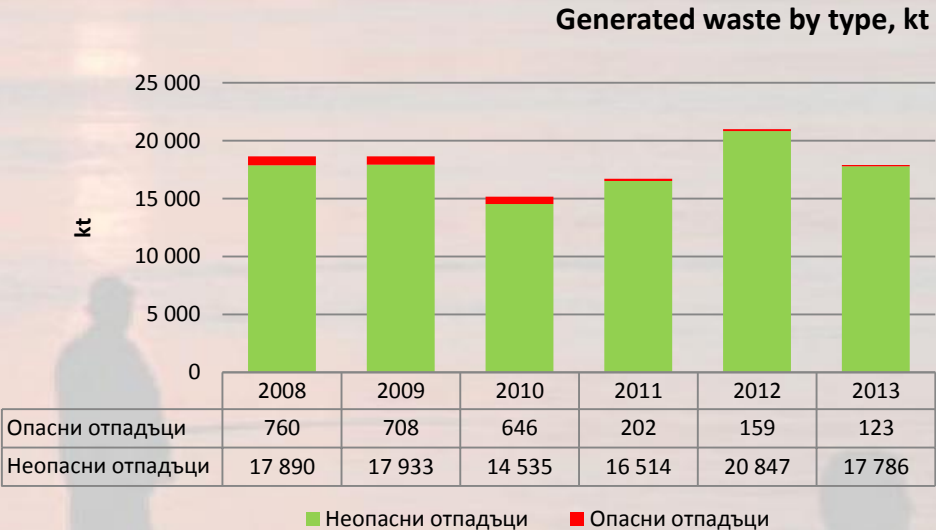
- Нарастването площта на горите се дължи основно на естествена сукцесия на растителните съобщества;
- Намалява площта на горите, създадени в резултат на залесяване – от 5097.5 ha през 2009 г. до 1289.4 ha през 2012г;
- Горските територии, включени в Европейската екологична мрежа Натура 2000, са около 58 % от общата горска площ.

WASTE AMOUNT

WASTE

Does the rate of generated waste reduce?

- ☺ The generated waste are decreased with 15 % compared to 2012.
- ☺ The generated hazardous waste are decreased with 22 % compared to 2012.



GENERATED AND TREATED MUNICIPAL WASTE

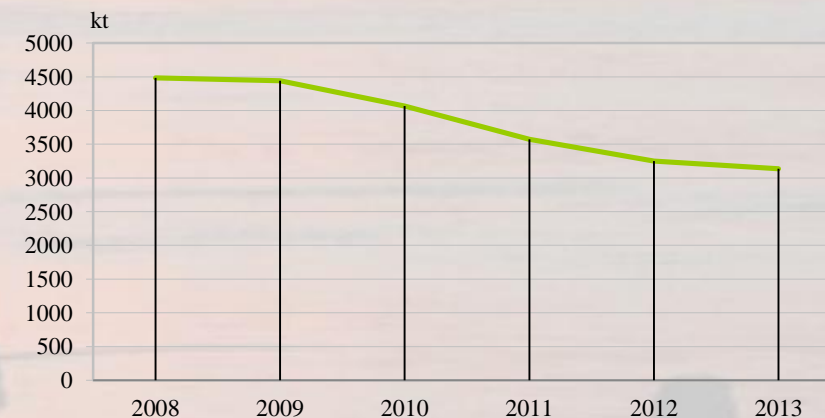
WASTE

Does the generation of municipal waste reduce?

Does the rate of recovered waste increase?

- 😊 The average rate of accumulation of municipal waste is about 3 % less than the generated in the previous year.
- 😊 The rate of recovered municipal waste has increased with 3 % in 2013.
- 😊 29 % of the generated municipal waste are delivered for recovery, incl. recycling.
- 😞 2212 kt municipal waste are landfilled – still remains the most used method in the country for treatment of municipal waste.





Generated municipal waste, kt



ENTITIES AND RECYCLED PACKAGING WASTE

WASTE

Does the rate of recycled packaging waste?

-  Achieved targets - 64% recovery, including recycling of packaging waste.
-  The national targets for all types of packaging waste have been achieved: glass, plastic, paper/cardboard, metal and wood.
-  The rate of reusable packaging has increased with 12 %.
-  The consumption of plastic packaging remains relatively constant.

Attainment of utilization, incl. recycling, 2013 r.

Material	Recycling rate, %	Utilization rate, %
Plastics	41,33%	41,36%
Paper/cardboard (incl. composite)	88,83%	88,84%
Metal	69,82%	69,82%
Wood	58,54%	61,68%
Glass	61,24%	61,24%
Others	0,00%	0,00%
Total % of quantities	63,55%	63,77%

NOISE POLLUTION

NOISE

Is the population in the country exposed to excessive noise, negatively affecting on human health?

The data of noise levels measurements show that regulated permissions have been exceeded in 72.73% of checkpoints in the country.



98% of the checked during the year industrial noise sources met the legal requirements. The Regional Inspectorate of Environment and Water (RIEW) reported that only 7 of 440 inspections of industrial sources of noise emissions into the environment, show deviations from the regulations.



In 2013 the responsible municipal councils have adopted Action Plans for management, prevention and reduction of noise emissions to the developed strategic noise maps (SNM) in the agglomerations of Bourgas, Pleven and Rousse.

RADIATION CHARACTERISTICS OF THE ENVIRONMENT

RADIATION

Does the radiation status of the environment in Bulgaria threaten the public health and ecosystem state?

Is there a further exposure of the population in areas of nuclear facilities - Nuclear Power Plant Kozloduy?

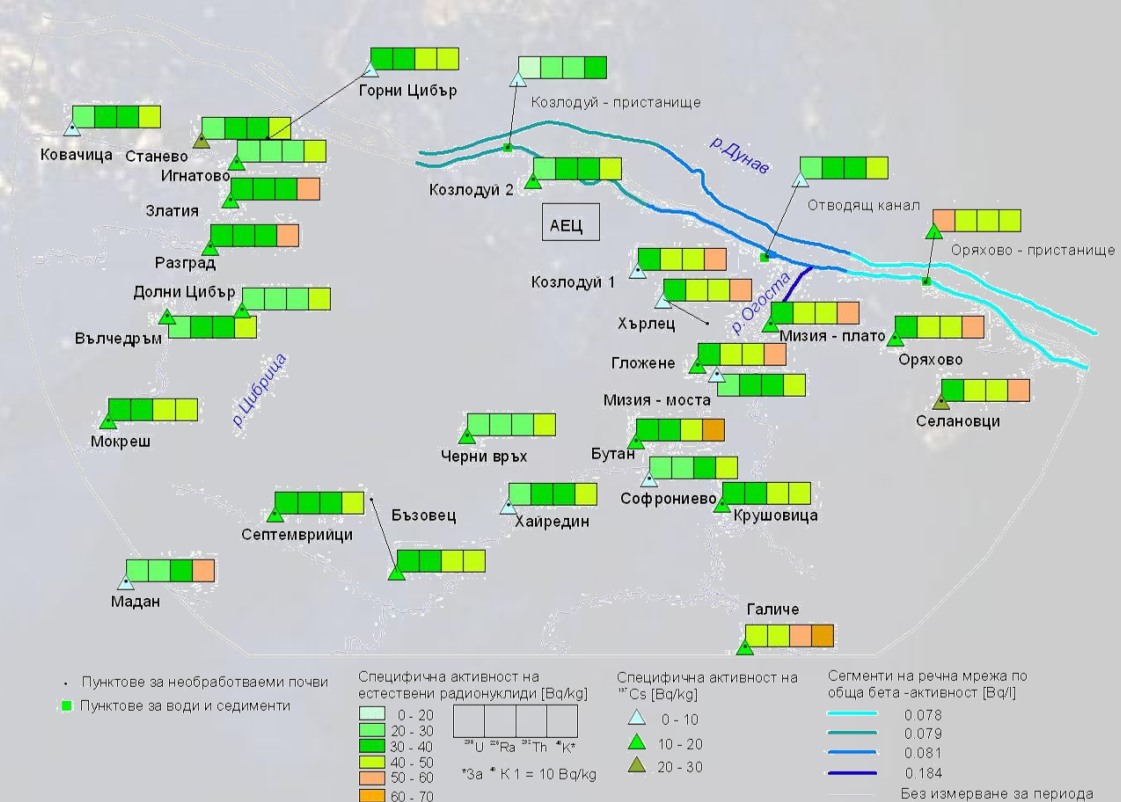


The National Automated System (NAS) for continuous monitoring of gamma radiation has not recorded values of gamma background different than natural.



The results of the radiological monitoring, compared to the results from previous years, do not show any negative trend in the radiation situation and ecological status in the "observed" zone "NPP Kozloduy", arising from the operation of nuclear power.

Radiation status of environment in the 30th km zone of NPP Kozloduy



FINANCING THE ACTIVITIES ON ENVIRONMENTAL PROTECTION

FINANCES

What is the financial resource for activities on environmental protection in the country?

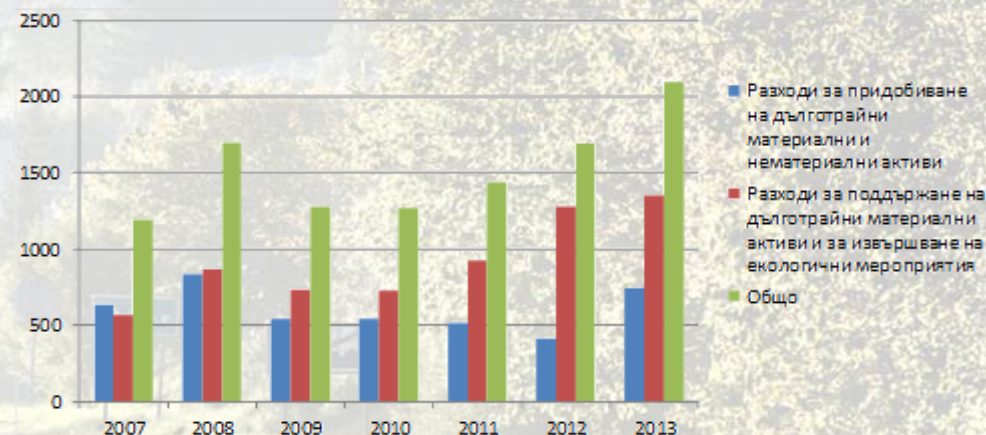


In 2013 the expenditure for conservation and restoration of the environment at national level is estimated at 2 098.9 million leva, representing 2.6% share of the gross domestic product (GDP). It is observed a 23.9% increase in expenditures compared to 2012 and a 45.9% increase, compared to 2011.



The funds, spent only in 2013 for each of the following areas: waste management, forests, biodiversity conservation and protection from the harmful effects of noise, rates the highest amount during the period 2007-2013. Compared to the previous years, is observed a significant increase in the expenditure for collecting the wastewater, as well as a constant tendency towards the increase of spending for improvement of air quality and waste management.

Dynamics of funds spent for environmental protection and restoration by mainly directions at national level (million BGN)



How much are the financial income of EMEPA during 2013 and what activities are funded?

- 😊 The account income of EMEPA by type of laws for the period 01.01.2013 - 31.12.2013 are amounted to 58,377,799 leva.
- 😊 In 2013 were spent total of 43,824,055 leva. 30,321,478 leva of them are provided as grants for investment projects; 4,059,372 leva - for the implementation of non-investment projects, 3,190,485 leva are provided for administration of environment; 6,252,720 leva are transfered to MOEW.

OPERATIONAL PROGRAMME "ENVIRONMENT 2007-2013"

OP ENVIRONMENT

What is the progress by 31.12.2013 in implementation of the priority objectives of the Operational Programme "Environment 2007 - 2013" ?

At the end of 2013, the real absorbed funds by the beneficiaries of OP "Environment 2007-2013" are about 1,496 million leva, representing 42.5% of the total financial resources of the program (2007-2013).



The contracted funds of the total financial resources of the program at the end of 2013 are 161% of the total program resources, which significantly exceed the resources available under the program



From the program period 124 projects were successfully completed with absorption of 199.2 million leva. Under implementation are still 225 projects for 5.210 billion leva.



By 31.12.2013 in Sector "Water" were put into operation seven waste water treatment plants (Sopot, Troyan, Hisar, Varshets, Loznica, Rouen, Provadia) and other three are in the process of technological tests (Pirdop, Tundzha, Jablanica); built or reconstructed are 151 km sewerage network and 124 km water supply network. For the same period in the Sector "Waste" were built two landfills for municipal solid waste - (Botevgrad and Sofia) and in the Sector "Biodiversity" are under implementation 70 projects for 333.8 million leva.

ACCESS TO THE ENVIRONMENT PUBLIC INFORMATION AND INVOLVEMENT OF THE PUBLIC IN THE PROCESS OF DECISION MAKING FOR ENVIRONMENT

INFORMATION

Is provided access to environment public information and opportunity for citizens, organizations and institutions to participate in decision making process in this area?



In 2013 were registered over 500 000 visits on the websites of the MOEW and its divisions, indicating high interest on environmental issues.



There is a large number of Internet databases and public registers maintained by MOEW and its branches - in 2013 they are more than 250.



Almost insignificant is the number of 25 decisions to refuse access to environmental information for 2013, as well as 7 appeals in relation to the provision of information, related to the total number of 969 applications for access to public information in the field of environment .



The attendance at the information centers of the MOEW and its divisions has increased in 2013 - from 25 360 visitors in 2012 to 49,403 visitors in 2013.



More public discussions are held. In 2012 they were 140 and in 2013 - 187.

INCREASE OF THE ENVIRONMENTAL AWARENESS AND CULTURE

INFORMATION

Is made enough effort to form a conscious and responsible attitude of different social groups to the environment by conducting awareness events and educational activities and initiatives?



In 2013 were organized over 140 forums, seminars, round tables, conferences for students, teachers, businesses, NGOs, officials of the municipal and state administration of the MOEW and its divisions.

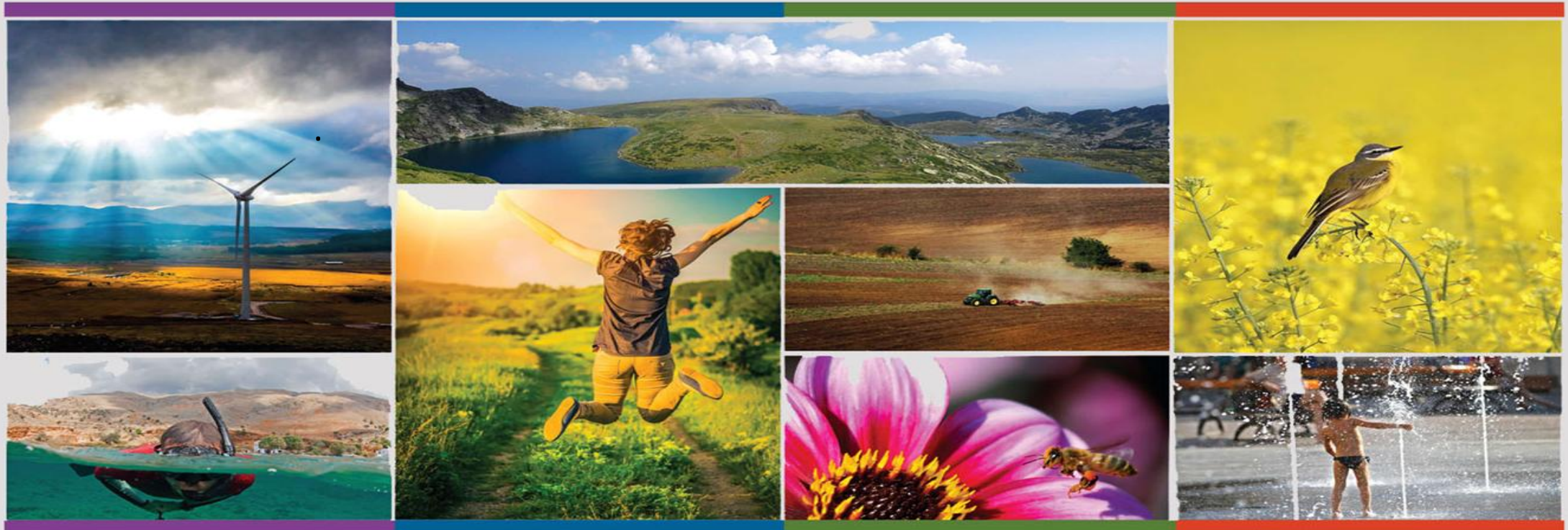


In 2013 were conducted national campaigns "I love nature - and I participate!" that include traditional competition "For clean environment ", " Green Bulgaria ", " Green idea "and" Green song of Bulgaria "and are marked by MOEW and its divisions with various and attractive information events throughout the country all the dates of the international environmental calendar.



There is a generally tendency to decrease the total number of organized information events and workshops (exhibitions, competitions and contests) targeting at students. The reason for this is the shortage of funds in a restrictive financial policy and reduced departmental budgets of the MOEW.

THANK YOU FOR YOUR ATTENTION!



The whole report: <http://eea.government.bg/bg/dokladi>