

GREEN BOND REPORT ON THE USE OF PROCEEDS UPDATE

Poland's 10-year EUR green bond maturing on March 7, 2029
Poland's 30-year EUR green bond maturing on March 8, 2049



Graphic by upklyak from pl.freepik.com.

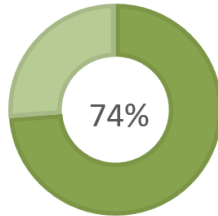
May 2021

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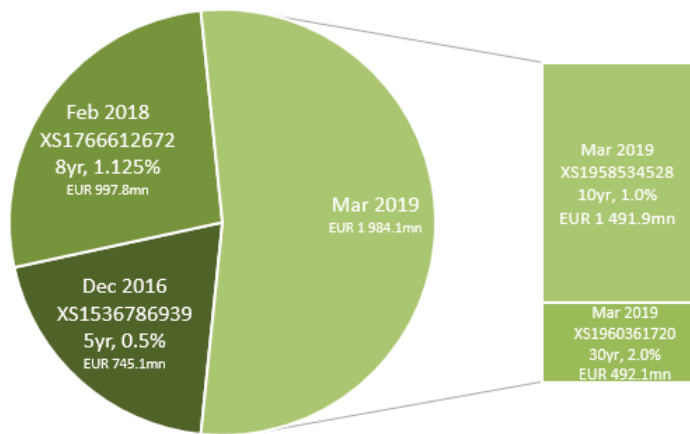
Introduction

The Republic of Poland has addressed climate change and in March 2019 came to the green bond market for the third time. Simultaneously it has made another step towards turning Polish economy greener and growing in a climate resilient and sustainable way.



The green issuance, our biggest ever, included two tranches: a 10-year bond with a nominal value of EUR 1.5bn and a 30-year bond of EUR 0.5bn. Both are listed on the Luxembourg Green Exchange.

As by the end of May 2021 about 74% of the total green bonds proceeds were utilized, thus the report will present further allocation of the proceeds to green projects and environmental impact they have created.



The proceeds are placed on a specifically designed green cash account until they are allocated to eligible projects. Payments reduce the total amount by corresponding values of the projects which are made in Polish zloty. Please mind that those figures were then reconverted into euro using the EUR/PLN exchange rate announced on the green bond issuance date for the purposes of this report.

Chart 1. Origin of proceeds from green bond issuances effected to-date.
Source: MoF's own calculation.

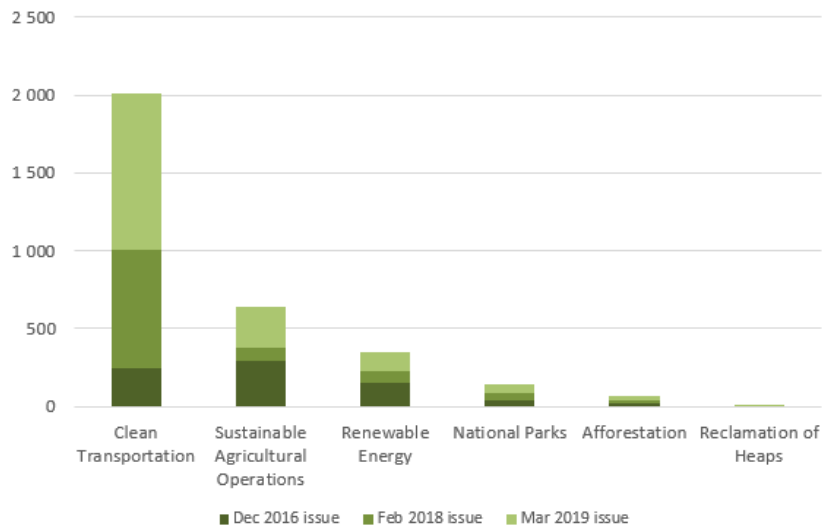


Chart 2. Cumulative sectorial distribution of proceeds from green bond issuances effected to-date in mn EUR.
Source: MoF's own calculation.

Allocation to eligible projects

The proceeds from the green bonds issuance were used to refinance existing green projects and to finance the new ones. At the end of May 2021 EUR 1,463.5mn was allocated to the eligible sectors described in the *Green Bond Framework*. The remaining balance of funds of EUR 520.5mn will be used to finance green projects in coming months.

ISIN	Total Green Bond	Total Proceeds	Net balance
XS1958534528	1 491 930 000.00	1 100 524 387.59	391 405 612.41
XS1960361720	492 125 000.00	363 016 739.56	129 108 260.44
Total	1 984 055 000.00	1 463 541 127.15	520 513 872.85

Table 1. Allocation report in EUR.
Source: MoF's own calculation.

Allocation of funds was proportionally linked to the proceeds from each bond: 75% of green expenditures of each eligible sector was financed (and refinanced) from the proceeds of the 10-year bond and the remaining 25% came from the 30-year bond.

Eligible Sector	ISIN		Total
	XS1958534528	XS1960361720	
Clean Transportation	750 696 253.81	247 623 141.78	998 319 395.59
Sustainable Agricultural Operations	198 093 231.98	65 342 631.21	263 435 863.19
Renewable Energy	92 792 125.81	30 608 222.18	123 400 347.99
National Parks	41 004 538.78	13 525 673.89	54 530 212.67
Afforestation	16 993 321.64	5 605 382.56	22 598 704.20
Reclamation of Heaps	944 915.58	311 687.93	1 256 603.51
Total	1 100 524 387.59	363 016 739.56	1 463 541 127.15

Table 2. Allocation report by sectors in EUR.
Source: MoF's own calculation.

The majority of funds were allocated to Clean Transportation (68%), followed by Sustainable Agricultural Operations (18%) and Renewable Energy (8%). About 82% of the proceeds financed projects launched in 2019 and 2020. The remaining 18% was spent on refinancing projects initiated in 2018.

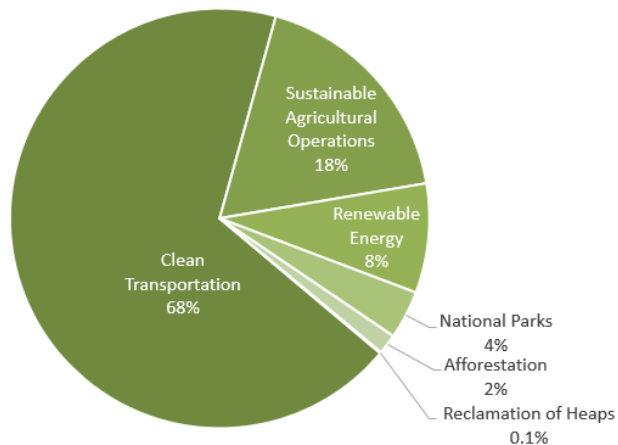


Chart 3. Distribution of proceeds by sectors.
Source: MoF's own calculation.

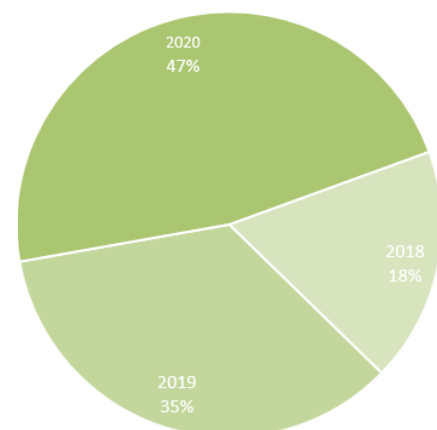


Chart 4. Distribution of proceeds by years.
Source: MoF's own calculation.

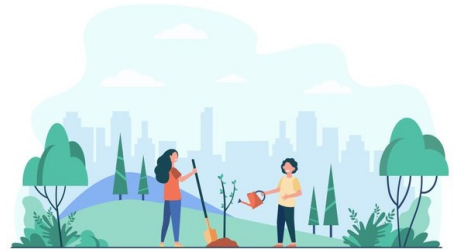
Use of proceeds in general



Poland in more than 93% consists of rural areas inhabited by ca. 39% of total Polish citizens. On nearly half of the country's territory the agriculture fulfils its primary role, i.e. supplies food. Agricultural production relies on natural resources dependent on the quality of the environment and climate, and simultaneously it also influences the nature itself. Poland is among the European countries with the best preserved biodiversity. It is therefore crucial to undertake appropriate agri-climate-environmental activities. The tasks are presented under the *Rural Development Programme for 2014-2020*

(RDP), among others: *Agri-environment-climate programme*, *Organic farming programme* and *Afforestation*. In case of projects carried out under those programmes the State budget green expenditures accounted for 36% of total programme expenditures, in line with the EU rules. In terms of amounts, within the Sustainable Agricultural Operations sector the 'green' proceeds covered EUR 263.4mn of the State budget expenditures, of which: EUR 192.1mn for agri-environmental measures and EUR 71.3mn for organic farming. The amounts also included expenditures on commitments undertaken under RDP for 2007-2013.

Forest areas provide protection against erosion and favourably impact on water balances. Forest planting on soils of the poorest quality increases the forest area and eco-corridors, restores natural habitats for wild fauna and flora and improves moisture conditions. It also plays an important role in reducing GHG emissions. In 2019 forest



lands covered ca. 9.5mn ha, of which forests occupied 9.3mn ha that accounted for nearly 30% of Polish territory. The green proceeds financed projects worth EUR 21.8mn and re-financed those of EUR 0.8mn within the Afforestation sector. The funds were spent as subsidies from the State budget for tasks commissioned to the State Forests Investments and for afforestation measures under RDP 2014-2020 (and prior ones).

>> For more details see *Appendix 1: Details of allocation under Rural Development Programme (RDP)*.

National parks are the country's strategic natural resources and comprise 1% of the area of Poland. Among 23 Polish parks, 10 of them belong to the World Network of Biosphere Reserves and Bialowieza National Park, home to the largest population of the European bison, was inscribed on the UNESCO's World Heritage List. Those areas of natural, ecological and cultural values fulfil also environmental education tasks — promoting of pro-environmental attitude and raising awareness on environmental issues using a wide range of forms: educational paths, workshops, materials and sessions, didactic trips, field studies, special training for certified tourist guides etc.



Reclamation of Heaps sector include expenditures spent on restoration of degraded lands affected by mining. The amount of EUR 1.3mn green proceeds were disbursed to minimize adverse environmental effects of surface mining and to return the mined lands to a beneficial end-use.



Clean Transportation represented the biggest eligible sector fraction – about EUR 998.3mn was spent on investments in rail infrastructure and other related actions (including EUR 180.5mn on refinancing) specified in the *National Railway Programme until 2023 (NRP)* and its further updates. The share of the State budget green expenditures in the total NRP's expenditures amounted to 15% in 2019 (20% in 2018). The main goal set in the document

is to increase the role of railway. This shall pursue to limit the energy consumption and, therefore, mitigate the negative environmental impact.

Renewable energy, also called the 'green' energy, is collected from renewable resources, quickly and naturally replenished from: sunlight, wind, rain, tides, waves, geothermal heat, as well as biomass (however the latter is sometimes disregarded due to questionable status of carbon neutrality) and contrasted to the world's main energy source — fossil fuels, which are finite and have no neutral impact on environment. Under the Renewable Energy eligible sector there was EUR 123.4mn expended to cover the excise tax exemption for electricity generated from renewable energy sources (RES), of which EUR 54.4mn was due to refinancing. In 2020 total electricity consumption in Poland fell again. Contribution of coal to the overall energy mix decreased to the record-low level of 70%. Instead production of RES increased.



>> For more details see *Appendix 2: Details of renewable energy*. It presents assessment of CO₂ emissions avoided as a result of expenditures made on Renewable Energy sector which is based on the assumption that the production of energy from renewable sources does not create any additional emissions of CO₂. The calculation uses a hypothetical amount of CO₂ emissions that would have been produced if a given amount of energy generated from renewable sources had been produced using the energy mix set for a given year. To calculate the CO₂ emissions avoided in 2020 the emission factor for 2019 (758 kg CO₂/MWh) was used due to the lack of appropriate indicator for 2020 (the latter will be announced in December 2021). Emission factors are set based on data provided by entities of which environment activities cause emissions. The database is maintained by the National Centre for Emissions Management and the Institute of Environmental Protection - National Research Institute.

More information, as well as key impact metrics and key performance indicators for particular eligible projects are presented in *Table 3. Use of proceeds report*.

Use of proceeds in detail

Portfolio name	Portfolio description	Eligible Sector	Amount of green bond proceeds allocated, EUR		Project years*	Share of new financing	Type of asset	Impact metric / key performance indicator (if available)
			XS1958534528	XS1960361720				
Electricity generated from renewable energy sources**	Financing the excise tax exemptions according to Article 30.1 and para 2 of the Act on Excise Duty	Renewable Energy	92 792 126	30 608 222	Q3 2018 - Q4 2020	56.0%	excise tax exemptions	Detailed information in Appendix 2
Implementation of the Environmental Protection Act	Subsidies for National Parks on i.a. conservation, restorative and educational activities	National Parks	41 004 539	13 525 674	Q4 2018 - Q4 2020	81.0%	subsidies	23 national parks on around 315 thousand ha at the end of 2019 (data for 2020 not available)
Land restoration	Reclamation of land in coal mining areas e.g. - maintenance of Piaseczno mine workings, - cleaning and waste disposal located in "degraded forest area field F-1" in Bytom-Miechowice; - maintenance of drainage trenches surrounding landscape structure and sand separators located at their line-ends in Pszów;	Reclamation of Heaps	944 916	311 688	Q4 2018 - Q4 2020	82.8%	subsidies	Approximately eight projects undertaken, including e.g.: - maintenance and cleaning of drainage trenches over 1 km long and the riverbed of the Branicki watercourse of ca. 2 km; - maintenance of the "Piaseczno" excavation sites covering an area of ca. 43 ha; design and execution of insulation layer on part of the ground surface of the Wrzosey I tip of ca. 0.66 ha and survey of its thermal condition covering an area of ca. 1.45 ha.
	design and execution of insulation layer on the ground surface against the risk of the occurrence of fires in extractive waste dumps in Pszów and survey of their thermal condition; - cleaning of drainage trench and drainage system for Carboniferous waters from the drift in Czarny Bór							
National Railway Programme to 2023	Modernisation of railway grid including electrification of railway lines e.g.: - modernisation of railway line no E 30 (section Zabrze – Katowice – Kraków), - works on railway line no E 59 (sections: Wrocław – Poznań and Poznań Główny – Szczecin Dąbie), - works on railway line no 7 (section Warszawa – Otwock – Dęblin – Lublin), - works on railway line no 1 (section Częstochowa – Zawiercie), - works on railway line no 289 (section Legnica – Rudna Gwizdanów), - works on railway lines no: 153, 199, 681, 682, and 872 on the section Toszek Północ – Rudziniec Gliwicki – Stare Koźle	Clean Transportation	750 696 254	247 623 142	Q3 2018 - Q4 2020	81.9%	cofinancing	1,729 km of railway lines, 1,213 of civil engineering facilities, 322 of railroad platforms in 2019 (data for 2020 not available)

Table 3. Use of proceeds report.

Portfolio name	Portfolio description	Eligible Sector	Amount of green bond proceeds allocated, EUR		Project years*	Share of new financing	Type of asset	Impact metric / key performance indicator (if available)
			XS1958534528	XS1960361720				
Subsidies for State Forests	Subsidies spent on afforestation, management of nature reserves, protection of forests, wildlife, plants	Afforestation	564 102	186 074	Q1 2018 - Q4 2020	65.9%	subsidies	In 2019: 15,331 farms and 76,032 ha; in 2020: 15,567 farms and 76,637 ha (afforestation only)****
Afforestation under Rural Development Programmes****	Investment in forestry development and improving the lifespan of trees	Afforestation	16 429 219	5 419 309	Q4 2018 - Q4 2020	97.4%	cofinancing	In 2019: 63,703 farms, area under support of 1,386,762 ha and 128,741 ha inhabited by animals; in 2020: 70,985 farms, area under support of 1,415,256 ha and 199,608 ha inhabited by animals*****
Agri-environment-climate programme carried out under Rural Development Programmes****	Contribution to sustainable development of rural areas, promotion of sustainable use of soil, controlled use of fertilizers, protection of endangered bird species and natural habitats, preservation of endangered genetic plants and animal resources, protection of ecosystem diversity	Sustainable Agricultural Operations	144 475 922	47 656 534	Q4 2018 - Q4 2020	92.3%	cofinancing	In 2019: 16,579 farms and 576,211 ha; in 2020: 17,169 farms and 636,047 ha*****
Organic farming programme carried out under Rural Development Programmes****	Environmentally-friendly farming including prohibiting the use of chemically synthesized plant protection products and fertilizers	Sustainable Agricultural Operations	53 617 310	17 686 097	Q4 2018 - Q4 2020	99.7%	cofinancing	

* Period of programme financed with green bonds.

** Detailed information on the programme presented in Table 5 (Appendix 2).

*** Detailed information on the programme presented in Table 4 (Appendix 1).

***** Numbers of ha (ha inhabited by animals) refer to the period from the RDP 2014-2020 inception until the end of 2019 and 2020, respectively.

Key performance indicators for: Clean Transportation sector (km of railway lines, civil engineering facilities, railroad platforms), Sustainable Agriculture Operations sector (number of farms, area in ha, ha inhabited by animals), Afforestation sector: number of farms, area in ha) do not show the impact resulting from specific expenditures financed by the green proceeds but demonstrate the environmental impact of the total expenditures at the programme level, i.e. they result from green and other sources of financing.

Table 3 (continued). Use of proceeds report.

Source: MoF's own calculation based on data provided by other governmental institutions.

Appendix 1: Details of allocation under Rural Development Programme (RDP)

	2019			2020		
	Amount, EUR mn	no of farms	ha**	Amount, EUR mn	no of farms	ha**
I. Agri-environment-climate programme*	91.77	63 703	1 515 503	85.59	70 985	1 614 864
1. Agri-environment-climate programme under RDP 2014-2020	89.27	60 747	960 148	85.54	70 957	1 122 501
Sustainable farming	15.29	7 235	337 108	13.75	7 891	368 697
Protection of soil and water	9.95	11 182	122 246	10.01	13 655	160 122
Protection of endangered bird species and natural habitats in Natura 2000 areas	30.06	24 067	274 311	28.16	27 971	326 502
Protection of endangered natural bird species and habitats outside Natura 2000 areas	27.09	21 744	218 021	26.92	26 532	271 328
Preservation of endangered genetic plant resources in agriculture	0.95	3 090	11 267	1.09	3 866	13 889
Preservation of endangered genetic animal resources in agriculture	5.83	2 829	81 069	5.49	3 243	94 826
Others	0.11	731	524	0.11	835	662

Table 4. Details of the Agri-environment-climate programme dispersions.

	2019			2020		
	Amount, EUR mn	no of farms	ha**	Amount, EUR mn	no of farms	ha**
II. Organic farming*	25.27	16 579	576 211	45.83	17 169	636 047
1. Organic farming programme under RDP 2014-2020	23.22	13 936	351 052	45.77	17 158	428 816
Agricultural crops during the conversion period and after the conversion period	10.65	13 936	351 052	26.82	17 158	428 816
Vegetable cultivation in the conversion period and after the conversion period	2.18			3.14		
Herbal crops in the conversion period and after the conversion period	3.09			2.70		
Orchard cultivation during the conversion period and after the conversion period	1.93			3.66		
Fodder cultivation on arable land during the conversion period and after the conversion period	4.22			7.28		
Permanent grasslands in the conversion period and after the conversion period	1.15			2.18		
2. Organic farming programme under RDP 2007-2013	2.06			2 712		
Agricultural crops during the conversion period and after the conversion period	1.80	2 712	344 287	0.05	17	344 609
Vegetable cultivation in the conversion period and after the conversion period	0.09			0.00		
Herbal crops in the conversion period and after the conversion period	0.01			0.00		
Orchard cultivation during the conversion period and after the conversion period	0.14			0.01		
Permanent grasslands in the conversion period and after the conversion period	0.02			0.00		
III. Afforestation under RDP	11.72			15 331		

* Total number of farms and ha are not the sum of partial amounts because beneficiaries who received funding in several areas mentioned above are included in total numbers only once.

** Numbers of ha (ha inhabited by animals) refer to the period from the RDP 2014-2020 inception until the end of 2019 and 2020, respectively.

*** Afforestation only.

Table 4 (continued). Details of the Organic farming programme and Afforestation dispersions.

Source: MoF's own calculation.

Appendix 2: Details of renewable energy

Period	Amount of excise duty refund, EUR mn	Electricity with return, MWh*	Estimated amount of CO ₂ avoided, kt
Q3 2018	30.6	6 586 349	5 216
Q4 2018	23.7	5 104 713	4 043
Q1 2019	26.4	22 674 149	17 187
Q2 2019	4.7	4 003 882	3 035
Q3 2019	3.4	2 890 187	2 191
Q4 2019	8.0	6 842 083	5 186
Q1 2020	5.7	4 868 536	3 690
Q2 2020	7.6	6 569 555	4 980
Q3 2020	5.4	4 657 340	3 530
Q4 2020	8.0	6 898 747	5 229
Total	123.4	71 095 541	54 288

* Estimated value of energy from renewable sources, for which excise duty was obtained in a calendar year; MoF's estimates, excise tax on electricity take-off in 2018 amounted to 20.00 PLN/MWh and since January 1, 2019 reduced to 5.00 PLN/MWh.

Table 5. Excise duty refund by quarters.

Source: MoF.

Production of electricity from renewable energy sources in GWh*				
	Q3-Q4 2018	2019	2020	Total
Water	841	2 454	2 698	5 993
Wind	5 848	13 904	14 174	33 926
Other RES	139	442	2 198	2 779
Total	6 828	16 800	19 070	42 698

* Data are calculated on the basis of measurements collected by the transmission system operator during the current traffic of the National Electricity System. Therefore the data sometimes can differ from the final data provided by energy companies for statistical purposes.

<https://www.pse.pl/dane-systemowe/funkcjonowanie-kse/raporty-miesieczne-z-funkcjonowania-rb/raporty-miesieczne>

Table 6. Estimated amount of electricity produced in RES installations in Poland.

Source: Polish Power System

Power installed in MW, end of period*			
	2018	2019	2020
Water	982	973	976
Wind	5 864	5 917	6 347
Biofuel	1 363	1 493	1 513
Biogas	238	245	256
Solar energy	147	478	887
Total	8 593	9 106	9 979

* <https://www.ure.gov.pl/pl/oze/potencjal-krajowy-oze>

Table 7. Power capacity in RES installations in Poland.

Source: Energy Regulatory Office.

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