

GREEN BOND REPORT ON THE USE OF PROCEEDS

Poland's 8-year EUR Green Bond maturing on August 7, 2026



COP24 · KATOWICE 2018
UNITED NATIONS CLIMATE CHANGE CONFERENCE

Contents

	Introduction
	Green Bond details
	Use of Proceeds
	Use of Proceeds in detail
	COP24 in Katowice
	Erratum to the Green Bond Report on the Use of Proceeds published in December 2017

Introduction

In December 2016, the Republic of Poland issued its inaugural Green Bond, which, at the same time, was the first sovereign Green Bond in the history. That successful transaction was aimed at financing or refinancing environmental expenditures and hence, fighting the climate change.

Many times the Ministry of Finance's officials stated that Poland wanted to be a repeat issuer on this innovative market. It stressed that it wanted to be an inherent part of a broader pro-environmental community. In response to that, in February 2018, Poland decided to issue Green Bonds for the second time. This time bigger transaction translated into even higher value of green projects to be financed.

This report provides details for the Use of Proceeds of the second issuance. It also contains estimation of CO₂ avoided as a result of expenditures on Renewable Energy Sector from both Green Bond issues (issued in December 2016 and February 2018).

PIOTR NOWAK, UNDERSECRETARY OF STATE, MINISTRY OF FINANCE

"After launching the first issue we focused on allocation of proceeds, but, as time went by, we started to think about the second issue of that type. For sure, we didn't and still don't want to be only an occasional issuer on this important market. As 2018 came, we entered the green market again and became the first issuer to print its second sovereign green bond. The transaction size was higher, tenor longer and green investors' involvement still at a very high level.

We believe that the need for green financing will be growing stronger every year. Diverse multinational climate agreements and country-level programmes are pushing the governments to finance environmental projects. The green bond market is a perfect place to reach these targets. So we will certainly stay involved and keep encouraging others to use this opportunity."

Green Bond details

On February 7, 2018 Poland issued its second Green Bond

Terms of the issue:

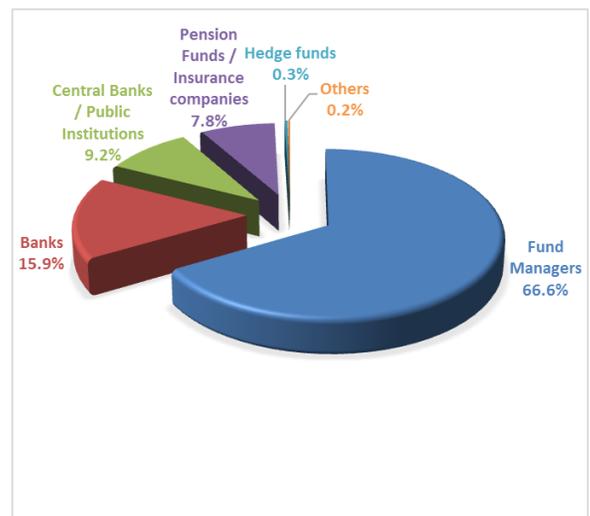
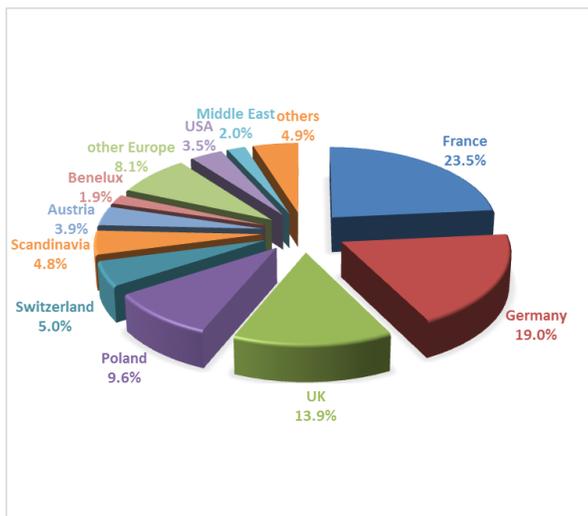
Pricing date	• January 31, 2018
Settlement date	• February 7, 2018
Maturity	• August 7, 2026
Size (nominal value)	• EUR 1bn
Bond proceeds	• EUR 997.76m
Tenor	• 8 years
Coupon	• 1.125%
Re-offer yield	• 1.153%

Demand from investors amounted to EUR 3.25bn, which translated into higher size of the transaction compared to the first issue. **41% of the final allocation went to SRI/Green investors.**

Profile of the orderbook was well-diversified both geographically and institutionally.

The bonds are listed on the Luxembourg Stock Exchange on the dedicated green platform - Luxembourg Green Exchange.

Charts 1, 2. Green Bond investor distribution by geography and institution



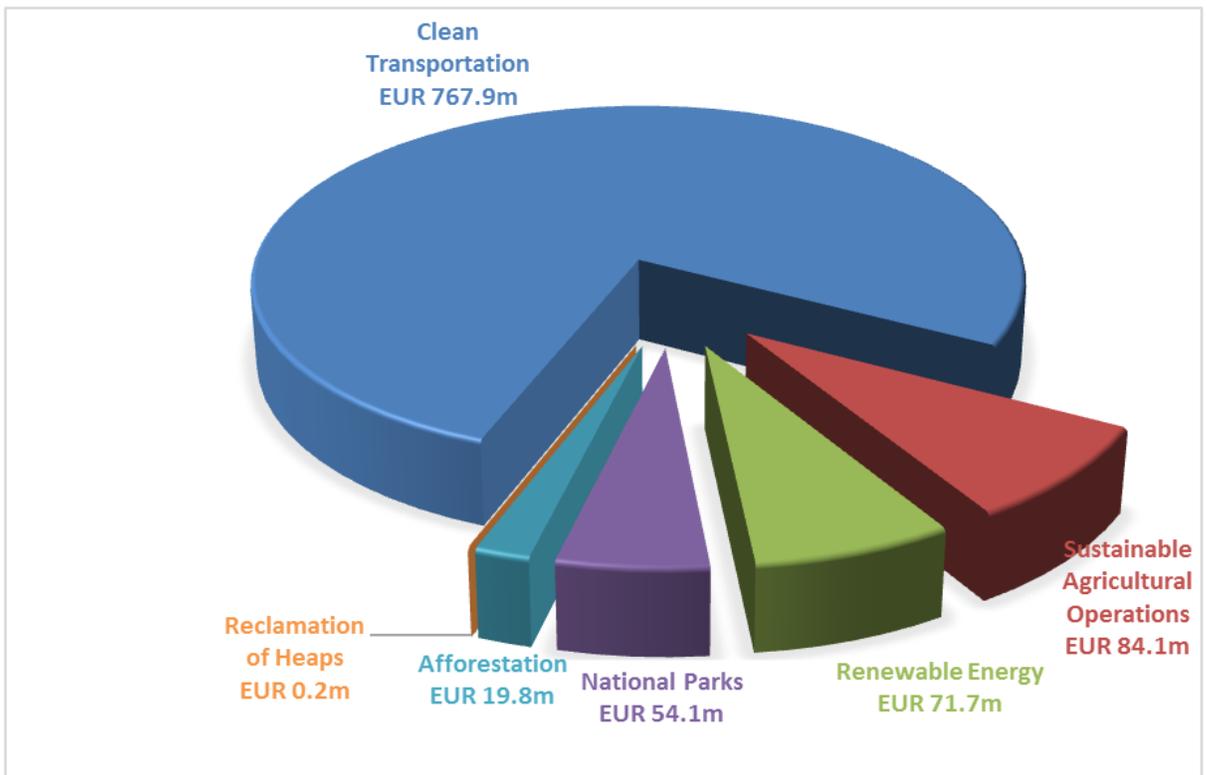
Use of Proceeds

Proceeds from the Green Bond were used to refinance existing projects or to finance the new ones. As of November 7, 2018 proceeds in the amount of EUR 997.76m were spent, which meant that all of the proceeds of the bond were allocated. 72% of the proceeds were spent on refinancing projects that had been initiated in 2016 and 2017. The remaining 28% were allocated to projects launched in 2018.

As the values of the projects were denominated in Polish zloty, all figures were converted into euro using the EUR/PLN exchange rate published on the Green Bond issuance date.

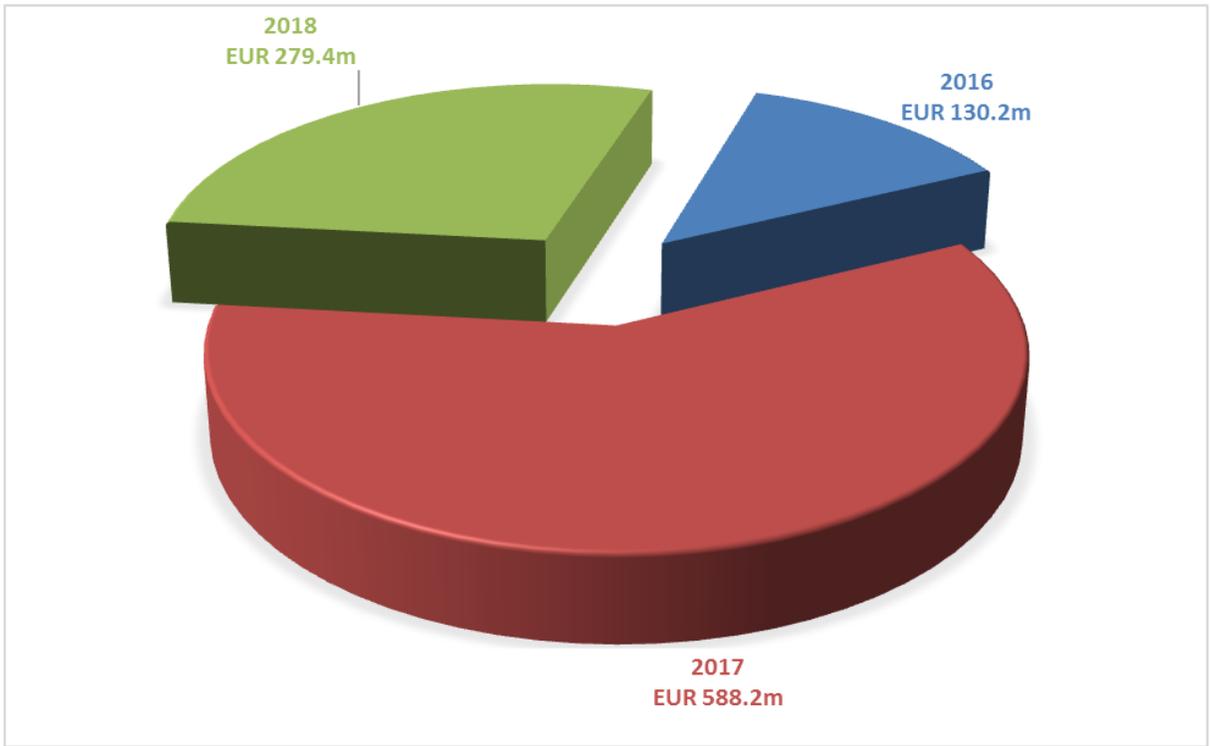
Proceeds from the bond were spent on all sectors identified in the Green Bond Framework. Most of the funds were allocated to Clean Transportation (77%), followed by Sustainable Agricultural Operations (8%). Detailed distribution is presented below:

Chart 3. Sectorial distribution of the proceeds



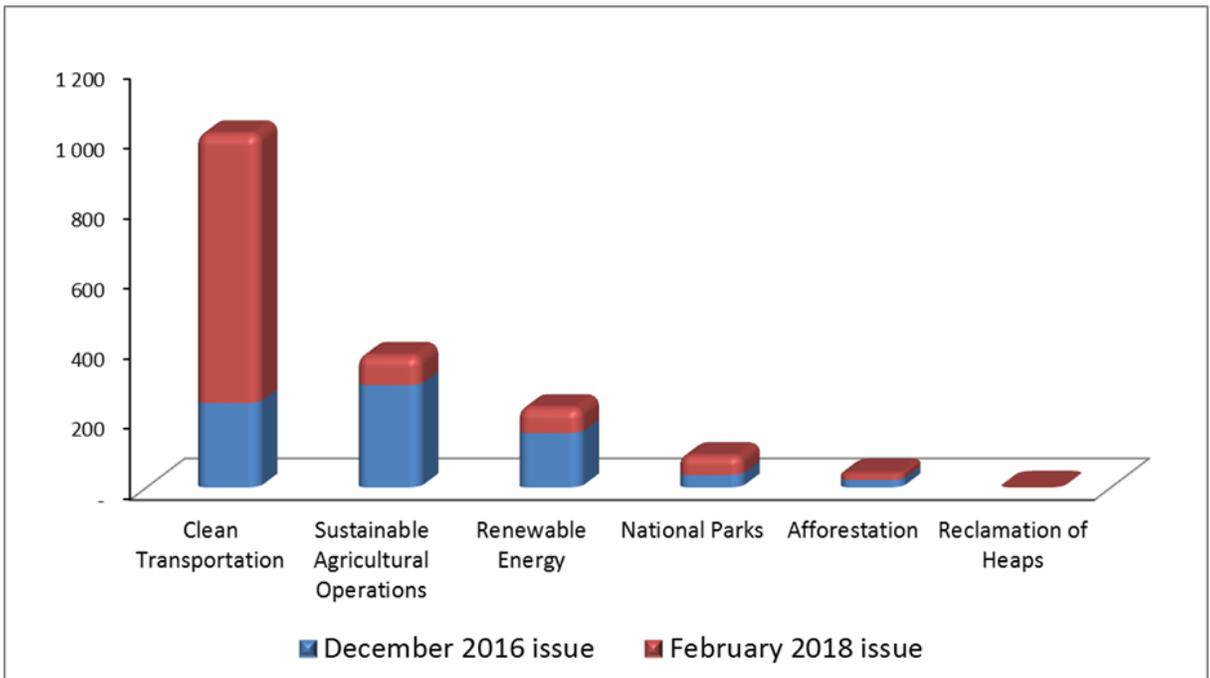
Taking into consideration yearly distribution, most of the funds were spent on projects from 2017 - EUR 588.2m. It posed almost 59% of the whole allocation. 28% of the funds were spent for 2018, and 13.1% for 2016.

Chart 4. Yearly distribution of the proceeds



Adding up expenditures from both Green Bond issuances (from 2016 and 2018), most of the funds were allocated to Clean Transportation (around EUR 1bn), followed by Sustainable Agricultural Operations and Renewable Energy.

Chart 5. Cumulative sectorial distribution of proceeds



Use of Proceeds in detail

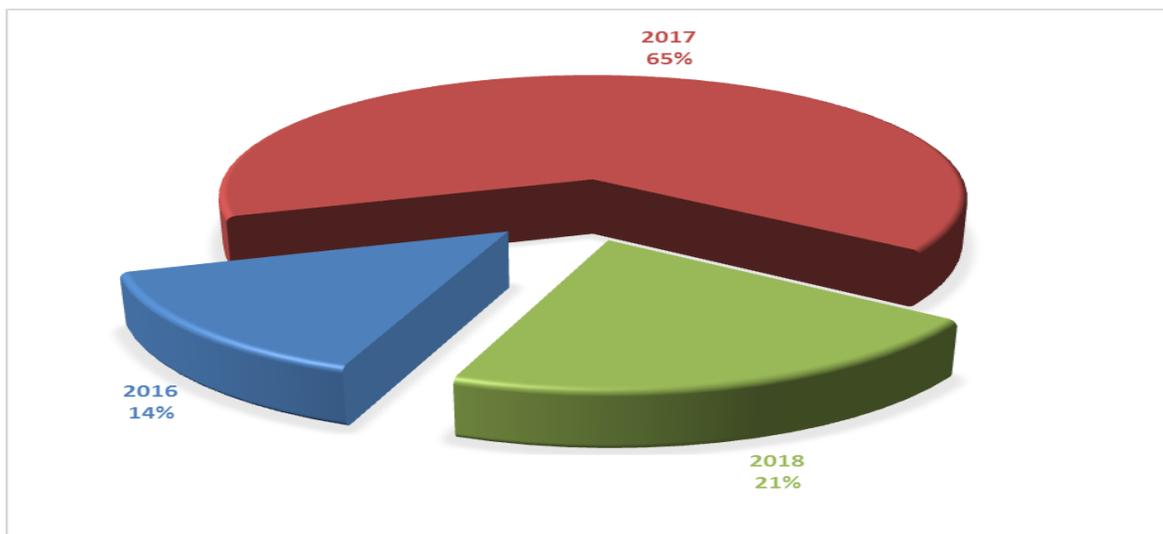
CLEAN TRANSPORTATION

Under the Eligible Sector Clean Transportation EUR 767,902,020.79 was spent on refinancing the projects carried out in the years 2016-2017 and on financing the projects from Q1-Q3 2018.

Detailed distribution of proceeds is as follows:

-  2016 – EUR 109,160,827.22 (14%)
-  2017 – EUR 496,024,160.06 (65%)
-  Q1-Q3 2018 – EUR 162,717,033.51 (21%)

Chart 6. Yearly distribution of proceeds on Clean Transportation



The funds targeted rail infrastructure expenditures in the years 2016—Q3 2018 according to the national railway programme. Execution of the programme resulted in improvement of the rail infrastructure. In 2017 alone executed:



The proceeds of the Green Bond were used to refinance the following projects from 2016 and 2017, among others:

-  Modernisation of railway line no E 59
(section Wrocław - border of Dolnośląskie woivodship)
-  Modernisation of railway line no E 20/C-E 20
(section Siedlce - Terespol)
-  Modernisation of railway line no E 30
(section Zabrze - Katowice - Kraków)
-  Modernisation of railway line no E 75
(section Warszawa Rembertów - Zielonka - Tłuszcz)
-  Electrification of railway line no 274, 278
(section Węglińiec - Zgorzelec)
-  Works on railwa line no 68, 565 with electrification
(section Lublin - Stalowa Wola Rozwadów)
-  Modernisation of railway line Warszawa - Łódź
-  Modernisation of railway line no E 30/C-E 30
(section Kraków- Rzeszów)
-  Modernisation of railway line E 59
(section Wrocław - Poznań)
-  Modernisation of railway line no 8
(section Warszawa Okęcie - Radom)
-  Works on railway line no E 59
(section Poznań Główny - Szczecin Dąbie)
-  Modernisation of railway line no 92
(section Rzeszów - border of Poland)

SUSTAINABLE AGRICULTURAL OPERATIONS

Under the Eligible Sector Sustainable Agricultural Operations EUR 84,093,950.31 was spent on financing the projects from Q1—Q3 2018.

Proceeds from the Green Bond were spent on financing the share of the State Budget expenditures in the total Rural Development Programmes (RDP) expenditures (according to the EU rules the share is 36% in relation to RDP for 2014-2020).

The funds targeted:



Chart 7. Distribution of proceeds on Sustainable Agricultural Operations (Programmes)

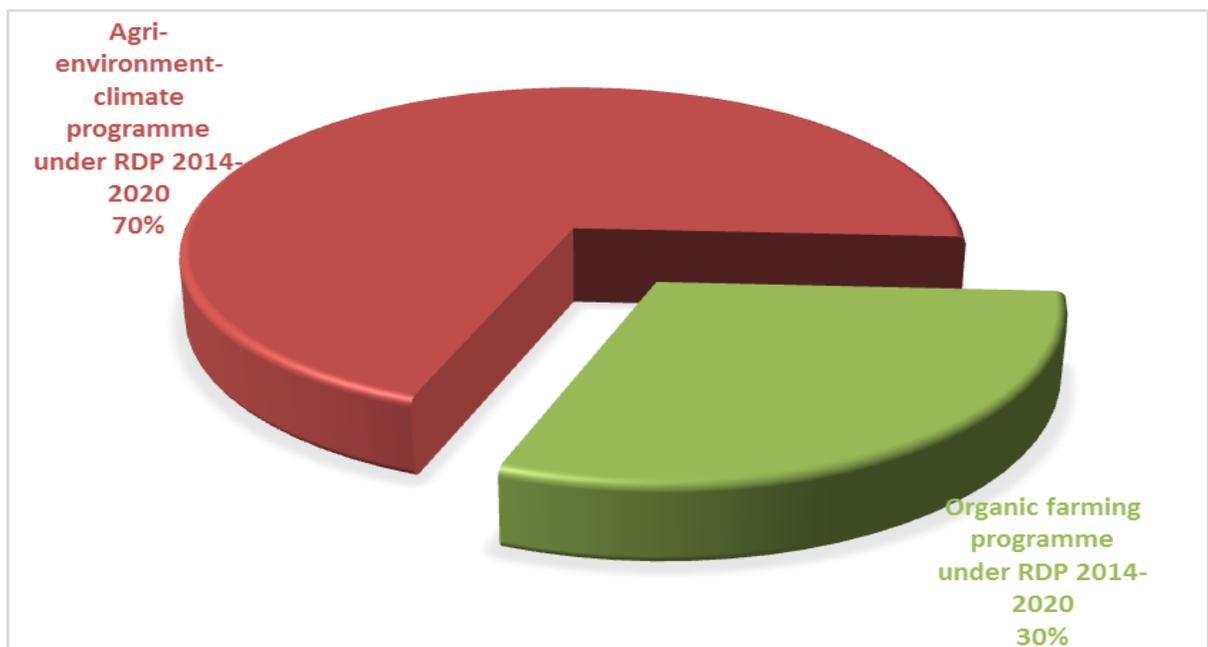


Table 1. Distribution of proceeds on Sustainable Agricultural Operations in the period Q1—Q3 2018

Type of programme	Amount (millions EUR)
Agri-environment-climate programme	58.9
Organic farming programme	25.2
Total	84.1

Source: Ministry of Agriculture and Rural Development

Agri-environment-climate programme under RDP 2014-2020

The aim of this programme, as with the continuation of Agri-environmental programme under RDP 2007-2013, is to contribute to sustainable development of rural areas and promote sustainable use of soil (in order to protect soil, water and climate, avoid pesticides and erosion), controlled use of fertilizer, protect endangered bird species and natural habitats, preserve endangered genetic plant and animal resources, as well as to protect ecosystem diversity. Apart from expenditures resulting from RDP 2014-2020 expenditures on commitments undertaken under RDP 2007-2013 are also included in this programme.

In Q1—Q3 2018 EUR 58.9m was spent mostly on:

- Sustainable farming
- Protection of endangered bird species and natural habitats in Natura 2000 areas and outside of Natura 2000 areas*
- Preservation of endangered genetic plant resources and animal genetic resources in agriculture
- Protection of soil and water

* <http://www.gdos.gov.pl/natura-2000-eng>



Table 2. Details of the Agri-environment-climate programme dispersions in Q1—Q3 2018 under RDP 2014-2020

Agri-environment-climate programme under RDP 2014-2020	Q1 - Q3 2018		
	Amount (millions EUR)	no. of farms	ha /no. of animals
Agri-environment-climate programme under RDP 2014-2020*	41.1	38 763	677 124
Sustainable farming	8.5	6 051	280 280
Protection of soil and water	2.7	4 319	51 207
Protection of endangered bird species and natural habitats in Natura 2000 areas	14.8	16 431	198 625
Protection of endangered natural habitats outside of Natura 2000 areas	12.0	13 284	139 104
Preservation of endangered genetic plant resources in agriculture	0.6	2 163	8 872
Preservation of endangered genetic animal resources in agriculture	2.5	1 744	48 285
Others	0.1	477	374
II. Agri-environmental programme under RDP 2007-2013*	17.8	15 803	963 902
Sustainable farming	5.0	6 054	552 890
Protection of endangered bird species and natural habitats outside of Natura 2000 areas	3.8	3 746	113 760
Protection of endangered bird species and natural habitats in Natura 2000 area	5.2	3 957	125 951
Protection of endangered genetic resources of animals in agriculture	1.0	660	47 441
Protection of soil and water	1.7	5 156	244 212
Others	1.1	2 936	85 712
Total *	58.9	54 449	1 444 584

Key Performance Indicators do not indicate impact resulting from specific expenditures from the Green Bond but demonstrate the environmental impact of the total expenditures at a programme level (resulted from EU and State Budget funds in a specific year or, in the case of ha / no. of animals, in the period from the beginning of RDP 2014-2020 until the end of August 2018).

* Total no. of farms and ha/no. of animals are not the sum of partial amounts because beneficiaries, who received funding in several areas mentioned above, are included in total numbers only once.

Source: Ministry of Finance calculation based on the data from Ministry of Agriculture and Rural Development

Organic farming programme under RDP 2014-2020

Organic farming programme under RDP 2014-2020 (now a separate programme, previously one of the activities within Agri-environmental programme under RDP 2007-2013) aims at encouraging agricultural holdings to continue or start implementation of sustainable environmentally-friendly farming, which means, among others, prohibiting the use of chemically synthesized plant protection products and fertilizers. Apart from the expenditures resulting from RDP 2014-2020 expenditures on commitments undertaken under RDP 2007-2013 are also included in this programme.

In Q1—Q3 2018 EUR 25.2m was spent mostly on:

- Agricultural and herbal crops during the conversion period and after the conversion period
- Vegetable, orchard and fodder cultivation in the conversion period and after the conversion period



Table 3. Details of the Organic farming programme dispersions in Q1—Q3 2018 under RDP 2014-2020

	Q1 - Q3 2018		
	Amount (millions EUR)	no. of farms	ha
I. Organic farming programme under RDP 2014-2020	17.7	10 506	258 145
Agricultural crops during the conversion period and after the conversion period	7.8		
Vegetable cultivation in the conversion period and after the conversion period	2.3		
Herbal crops in the conversion period and after the conversion period	2.2		
Orchard cultivation during the conversion period and after the conversion period	1.6		
Fodder cultivation on arable land during the conversion period and after the conversion period	2.9		
Permanent grasslands in the conversion period and after the conversion period	0.8		
II. Organic farming under RDP 2007-2013	7.6	7 156	342 905
Agricultural crops during the conversion period and after the conversion period	6.4		
Vegetable cultivation in the conversion period and after the conversion period	0.7		
Herbal crops in the conversion period and after the conversion period	0.1		
Orchard cultivation during the conversion period and after the conversion period	0.2		
Permanent grasslands in the conversion period and after the conversion period	0.2		
Total *	25.2	17 607	524 836

Key Performance Indicators do not indicate impact resulting from specific expenditures from the Green Bond but demonstrate the environmental impact of the total expenditures at a programme level (resulted from EU and State Budget funds in a specific year or, in the case of ha, in the period from the beginning of RDP 2014-2020 until the end of August 2018).

* Total no. of farms and ha are not the sum of partial amounts because beneficiaries who have received funding in several areas mentioned above are included in total numbers only once.

Source: Ministry of Finance calculation based on the data from Ministry of Agriculture and Rural Development

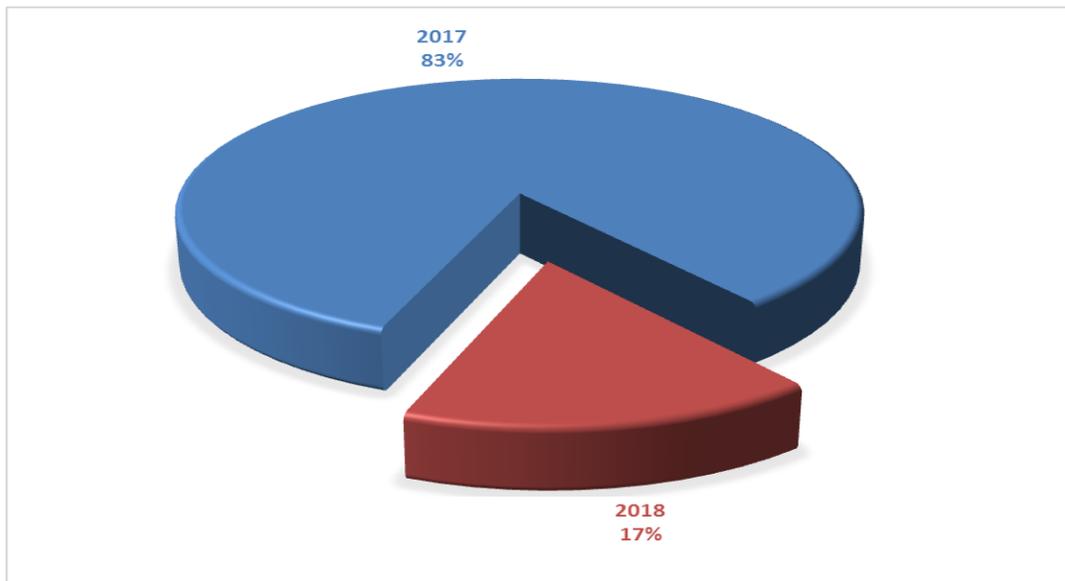
RENEWABLE ENERGY

Under the Eligible Sector Renewable Energy EUR 71,654,103.40 was spent on refinancing and financing the excise tax exemption from the years Q2 2017 – Q2 2018 for electricity generated from renewable energy sources (RES).

Detailed distribution of proceeds is as follows:

- ⌄ Q2-Q4 2017 – EUR 59,665,006.37 (83 %)
- ⌄ Q1-Q2 2018 – EUR 11,989,097.03 (17 %)

Chart 8. Yearly distribution of proceeds on Renewable Energy



According to Article 30. 1 and para 2 of the Act on Excise Duty, exemption from excise tax on electricity generated from renewable energy sources is done on the basis of a document confirming the remission of the energy certificate, within the meaning of the provisions of the Energy Law or the provisions of the Act on Renewable Energy Sources. The exemption shall apply not earlier than on receipt of the document certifying the remission of the certificate of origin, by reducing the excise tax payable on electricity for the nearest accounting periods.

Table 4. Excise duty refund

Year	Amount of excise duty refund (millions EUR)	Electricity with return (MWh)*
Q2-Q4 2017	59.7	12 405 846
Q1-Q2 2018	12.0	2 492 832
Total	71.7	14 898 678

* Estimated value of energy from renewable sources, for which excise duty was obtained in a calendar year; MoF estimates, excise tax on electricity take-off is 20.00 PLN/MWh

Source: Ministry of Finance

Table 5. Estimated amount of electricity produced in RES installations in Poland

Production of electricity from renewable energy sources (data in GWh)*		
	Q2-Q4 2017	Q1-Q2 2018
Water	2 075	2 137
Wind	10 349	8 998
Other RES	110	215
Total	12 534	11 350

* Presented data are calculated on the basis of measurements collected by the TSO 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>

Source: Polish Power System

Table 6. Power capacity in RES installations in Poland

	Power capacity (data in MW, end of period)*	
	2017	Q2 2018
Water	988	979
Wind	5 849	5 875
Biofuel	1 362	1 364
Biogas	235	241
Solar energy	104	126
Total	8 538	8 585

* <https://www.ure.gov.pl/download/1/8595/daneOZEmoc.pdf>

Source: Energy Regulatory Office

QUANTITATIVE ENVIRONMENTAL IMPACT OF THE GREEN BONDS

The basis for assessment of CO₂ emissions avoided is the assumption that production of energy from renewable sources does not create any additional emissions of CO₂. The calculation is based on a hypothetical amount of CO₂ emissions that would have been produced if a given amount of energy generated from renewable sources was to be produced using energy mix set for a given year.

Table 7. Emission factors [kg CO₂/MWh]

Year	Emission factors [kg CO ₂ /MWh]
2014	823
2015	810
2016	806
2017	814
2018	814

Source: The National Centre for Emissions Management, Institute of Environmental Protection—National Research Institute

Emission factors are determined based on data from entities, using the environment, which activities cause emissions. Database is maintained by the National Centre for Emissions Management, Institute of Environmental Protection—National Research Institute. Due to the lack of indicator for 2018, data from 2017 were used for calculations of CO₂ emissions avoided in 2018.

Table 8. Emission savings achieved by projects funded using Green Bonds (issued in December 2016 and February 2018)

Year (issuance)	Estimated amount of CO ₂ avoided [kt]
2014 (December 2016)	9 446
2015 (December 2016)	3 866
2016 (December 2016)	8 560
Q1 2017 (December 2016)	6 082
Q2-Q4 2017 (February 2018)	10 098
Q1-Q2 2018 (February 2018)	2 029

Source: The National Centre for Emissions Management, Institute of Environmental Protection—National Research Institute

NATIONAL PARKS

Under the Eligible Sector National Parks EUR 54,054,019.13 was spent on refinancing the projects carried out in the years 2016 – Q3 2018.

Detailed distribution of proceeds is as follows:

-  2016 – EUR 20,787,947.42 (38 %)
-  2017 – EUR 22,123,995.33 (41 %)
-  Q1 – Q3 2018 – EUR 11,142,076.38 (21 %)

Proceeds from the Green Bond were spent on refinancing subsidies from the State Budget for tasks commissioned to national parks pursuant to the Environmental Protection Act.

According to the Environmental Protection Act budget subsidies can be spent among others on the following tasks:



Table 9. Data on the grant amounts and area of national parks in the years 2016 — Q3 2018

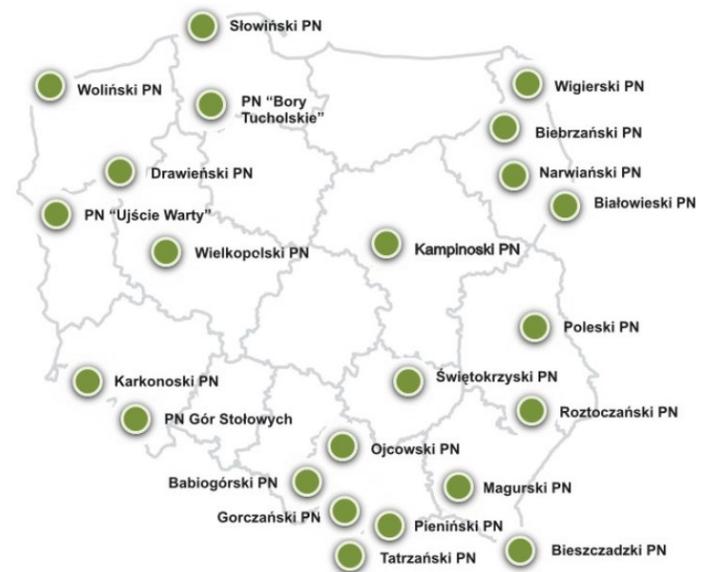
Year	Amount of subsidy (millions EUR)	Total area of national parks in Poland (thous. ha)*
2016	20.8	329
2017	22.1	329
Q1—Q3 2018	11.1	329
Total	54,1	-

* End of period

Source: Ministry of the Environment

There are the following national parks in the territory of Poland :

- Babia Góra National Park
- Białowieża National Park
- Biebrza National Park
- Bieszczady National Park
- Bory Tucholskie National Park
- Drawa National Park
- Gorce National Park
- Kampinos National Park
- Karkonosze National Park
- Magura National Park
- Narew National Park
- Ojców National Park
- Pieniny National Park
- Polesie National Park
- Roztocze National Park
- Słowiński National Park
- Stołowe Mountains National Park
- Świętokrzyski National Park
- Tatra National Park
- Ujście Warty National Park
- Wielkopolski National Park
- Wigry National Park
- Wolin National Park



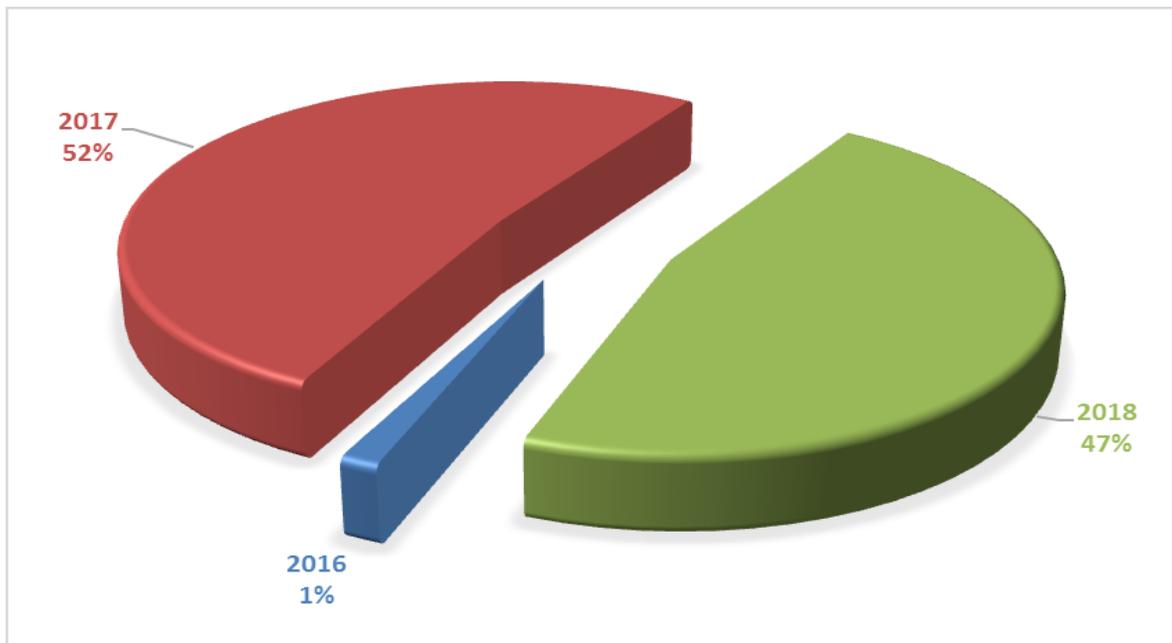
AFFORESTATION

Under the Eligible Sector Afforestation EUR 19,819,566.56 was spent on refinancing and financing the projects carried out in the years 2016 – Q3 2018.

Detailed distribution of proceeds is as follows:

- 🌳 2016 – EUR 287,391.83 (1%)
- 🌳 2017 – EUR 10,251,422.86 (52%)
- 🌳 Q1–Q3 2018 – EUR 9,280,751.87 (47%)

Chart 9. Yearly distribution of proceeds on Afforestation



Under this Eligible Sector bond proceeds were spent on:



Subsidies from the State Budget for tasks commissioned to State Forests pursuant to the Forest Act spent in the years 2016-2017



Investments in forestry development and improving the lifespan of trees under RDP 2014-2020 in the years 2017-Q3 2018

Chart 10. Distribution of proceeds on Afforestation

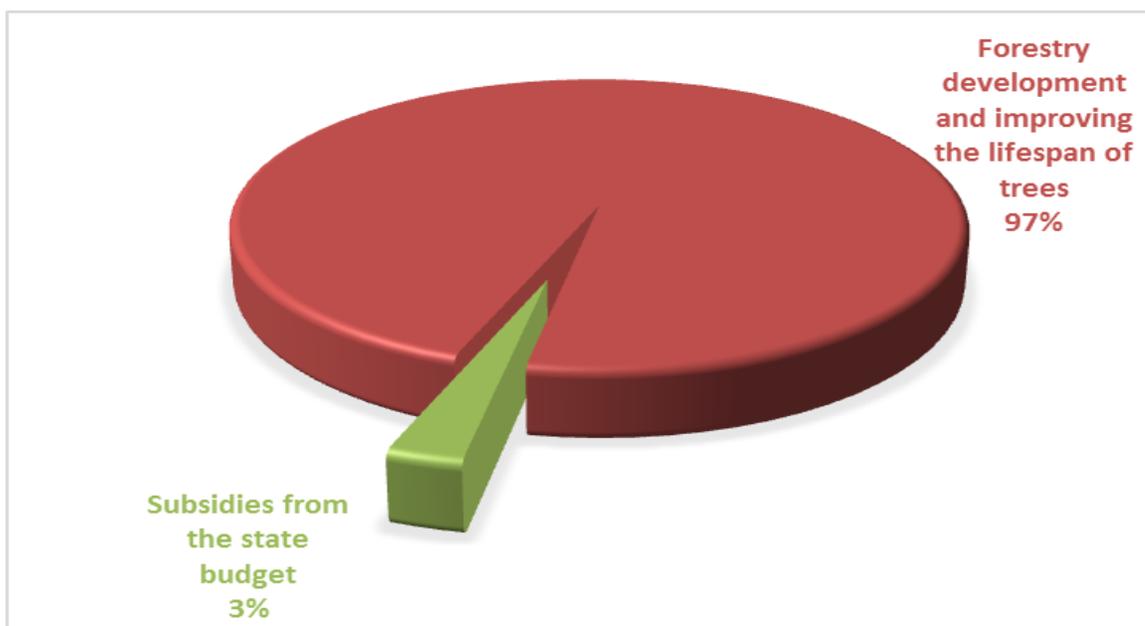


Table 10. Distribution of proceeds on Afforestation in the years 2016 - Q3 2018

Type of programme	Amount (millions EUR)
Forestry development and improving the lifespan of trees	19.2
Subsidies from the State Budget	0.6
Total	19.8

Source: Ministry of Agriculture and Rural Development, Ministry of the Environment

Subsidies from the State Budget for State Forests

According to the Forest Act budget subsidies can be spent among others on the following tasks:

- ◆ afforestation
- ◆ management of nature reserves
- ◆ protection of forests, wildlife, plants

Table 11. Subsidies from the State Budget for tasks commissioned to State Forests

Year	Amount of subsidies (millions EUR)
2016	0.3
2017	0.3
Total	0.6

Source: Ministry of the Environment

Investments in forestry development and improving the lifespan of trees under RDP 2014 - 2020 in the period 2017—Q3 2018

Table 12. Afforestation under RDP 2014-2020

	2017			Q1 - Q3 2018		
	Amount (millions EUR)	ha	no. of farms	Amount (millions EUR)	ha	no. of farms
Afforestation under RDP 2004 - 2006	4.4	38 789	7 266	4.1	38 963	6 857
Afforestation under RDP 2007 - 2013	4.6	34 298	8 484	4.1	34 534	8 090
Afforestation under RDP 2014 - 2020	0.9	1 975	1 072	1.1	2 862	1 517
Total *	10.0	75 062	15 569	9.3	76 360	15 211

Key Performance Indicators do not indicate impact resulting from specific expenditures from the Green Bond but demonstrate the environmental impact of the total expenditures at a programme level (resulted from EU and State Budget funds in a specific year or, in the case of ha, in the period from the beginning of RDP 2014-2020 until the end of August 2018).

* Total no. of farms and ha are not the sum of partial amounts because beneficiaries who have received funding in several areas mentioned above are included in total numbers only once.

Source: Ministry of Finance calculation based on the data from Ministry of Agriculture and Rural Development

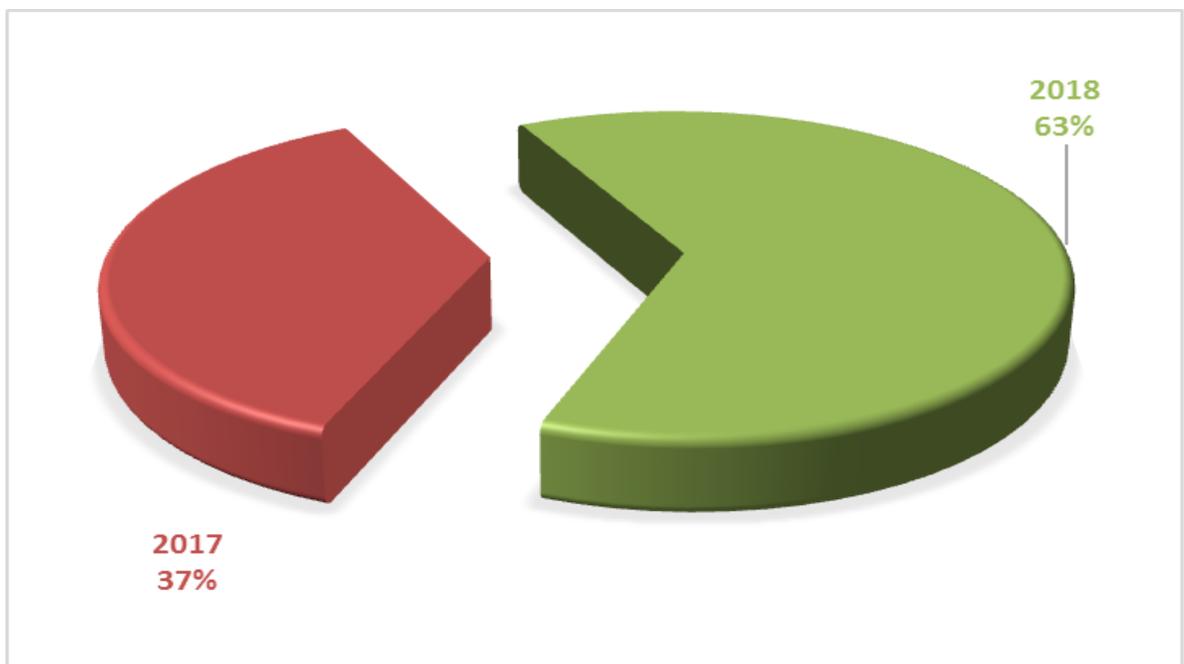
RECLAMATION OF HEAPS

Under the Eligible Sector Reclamation of Heaps EUR 236,339.81 has been spent on refinancing and financing the projects carried out in the years 2017 – Q3 2018.

Detailed distribution of proceeds is as follows:

- 🌱 2017 – EUR 86,896.36 (37%)
- 🌱 Q1 – Q3 2018 – EUR 149,443.45 (63%)

Chart 11. Yearly distribution of proceeds on Reclamation of Heaps



Under this Eligible Sector bond proceeds were spent, among others, on:

-  Cleaning drainage ditch and drain discharging Carboniferous waters from the adit in Czarny Bór
Length - 127.7 metres
-  Cleaning and desolation of the bottom of Branicki watercourse on the section from Na Grabówki St towards Szkolna St in Suszec
Length - around 2 kilometers

COP24 in Katowice

Within the framework of COP24, many heads of state, government and almost 100 ministers of the environment and of foreign affairs from all over the world were present in Katowice. Thanks to the consensus, which has been agreed on by the Parties and because of their commitment, Katowice has become, after Kyoto and Paris, another milestone on the way towards a sustainable global climate policy. In the Katowice Rulebook, all parties adopted a path that will be followed by each of them when it comes to stepping up actions for climate protection.

The Polish Presidency at COP24 also initiated three declarations, which were broadly supported by the Parties. On the first day at COP24 President Andrzej Duda made a statement about fair transformation based on solidarity. Its adoption was the most important point of the Summit of heads of states and governments. The next day, a common initiative of Poland and the UK called “Katowice Partnership for Electromobility” was presented by Prime Minister Mateusz Morawiecki and the COP24 President Michał Kurtyka in the presence of the UN Secretary General António Guterres. In the second half of the conference “Forests for Climate” declaration was announced. The Minister of the Environment Henryk Kowalczyk, COP24 President Michał Kurtyka and Paola Deda representing the UNECE took part in the event.

MICHAŁ KURTYKA, COP24 PRESIDENT

“Interests of all the parties have been taken into account in the Katowice Package in a sustainable and honest way. But, more importantly, its impact on the world will be positive. Thanks to it, we have taken a big step towards achieving the ambitions set in the Paris Agreement. Ambitions thanks to which our children will look back at some point and consider that their parents made the right decisions in an important historical moment.”

“Our common efforts didn’t consist solely of producing texts or defending national interests. We were conscious of our responsibility to people and commitment for the fate of Earth, which is our home and the home of future generations who will come after us.”

Erratum to the Green Bond Report on the Use of Proceeds published in December 2017

Erratum to the Green Bond Report on the Use of Proceeds published in December 2017 comprises the updated amount of expenditures connected with the Sustainable Agricultural Operations in 2017.

The amount of expenditures connected with Sustainable Agricultural Operations for the whole 2017 should be EUR 95,174,962.81 (previously reported EUR 111,046,276.55 for Q1 2017). As a result, total amount of expenditures under Eligible Sector Sustainable Agricultural Operations should be EUR 276,241,692.22 (previously reported EUR 292,113,005.96). The difference in the amount of EUR 15,871,313.74 was allocated for the refinancing part of 2017 expenditures in line with the national railway programme under the Eligible Sector Clean Transportation.

The updated table with the detailed distribution of proceeds on Sustainable Agriculture Operations is as below:

Table 13. Distribution of proceeds on Sustainable Agricultural Operations in the years 2014—2017

Type of programme	Amount (millions EUR)
Agri-environmental programme	106.1
Agri-environment-climate programme	143.9
Organic farming programme	26.2
Total	276.2

Source: Ministry of Agriculture and Rural Development

Prepared by:

MINISTRY OF FINANCE

in cooperation with:

**INSTITUTE OF ENVIRONMENTAL PROTECTION -
NATIONAL RESEARCH INSTITUTE**

THE NATIONAL CENTRE FOR EMISSIONS MANAGEMENT

Contact details:

MINISTRY OF FINANCE
PUBLIC DEBT DEPARTMENT
12 Świętokrzyska Street
00-916 Warsaw, Poland
tel. +48 22 694 5000
E-mail: sekretariat.dp@mf.gov.pl
<http://www.mf.gov.pl>
<http://www.gov.pl/finanse/dlug-publiczny>
Reuters: PLMINFIN
Bloomberg: PLMF