

Cleared BY:

UNDP Deputy Resident Representative

Date 08.27.2021

Project title: Removing Barriers to Wind Power Development in Belarus

Project number: 00087557

Expected CP Outcome(s): 3.1 Country's capacity to mitigate and adapt to the climate change strengthened

Executing Entity: Ministry of Natural Resources and Environmental Protection of Belarus

Annual Project Report 2021

Cleared BY:

Alexander N. Korbut

Deputy Minister of Natural Resources

and Environmental Protection of the Republic of Belarus

Date

Description of Activity	Fund	Donor	Executing entity	Account	Planned financial resources, USD	Balance of 2020, USD	Annual outputs	Utilized, USD	Progress in achieving the annual target, %	Difference, USD	General assessment of the activities implementation (brief)
Outcome 1: Secondary Legislation is in place to support wind energy with the support of the project											All activities of the first outcome were completed in previous reporting periods. The details of the results of the this outcome are presented in the final project report.
1.1: Develop and agree provisions for institutional infrastructure based on the best European practice and policies, in particular for the State RES Cadastre, RES Inventory, and validation systems											
1.1.1											The activity is completed in 2018
1.1.2											Activity was completed in 2015.
1.1.3											Activity was completed in 2020.
1.1.3.1											The activity is completed in 2018
1.1.4											
1.1.4.1											The activity is completed in 2019
1.1.5											Activity was completed in 2020.
1.1.5.1											Activity is completed in 2019.
Gains/losses								0,00		0,00	
Total 1.1					0,00	0,00		0,00	0,00%	0,00	
Output 1.2: Formulated and enforced Secondary Legislation											
1.2.1.											Activity was completed in 2015
1.2.2.											Activity is planned for 2020
1.2.2.1											The activity was canceled due to the legislation being developed in the Republic of Belarus, which implies the introduction of elements of the electricity market. Thus, the development of an electronic tool (software) for calculating an economically feasible tariff for wind power projects has lost its relevance at the moment.
1.2.3											The activity is completed in 2017.
1.2.4											Activity was completed in 2020.
1.2.5											The activity is completed in 2019
1.2.6.											
1.2.6.1.											The activity is completed in 2019

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1.2.6.2.	Preparation of draft regulatory legal acts for submission to the law-making body, contributing to the formation of tariff schemes for wind energy, taking into account the system of "green certificates".											Activity was completed in 2020.
1.2.7	Prepare a report for the Ministry of Economy to suggest adapting the above tariff scheme in Secondary Legislation implementing Law on RES											
1.2.7.1.	Development of the draft legal act regulating the issues of the tariff for the energy produced by RES											The activity is completed in 2018
1.2.7.2.	Testing of RAB methodology and preparation of the report on adapting the suggested tariff scheme taking into account the results of its practical testing											The activity was canceled due to the legislation being developed in the Republic of Belarus, which implies the introduction of elements of the electricity market. Thus, the development of an electronic tool (software) for calculating an economically feasible tariff for wind power projects of wind power has lost its relevance at the moment.
1.2.8	The project will analyze and prepare reports on two concepts for the tariff scheme demonstrating that the tariffs are harmonized with the best European practice.											The activity is planned for 2020
1.2.8.1.	Comparative analysis of the RAB methodology for the tariff formation and the current tariff scheme for wind energy projects											The activity was canceled due to the legislation being developed in the Republic of Belarus, which implies the introduction of elements of the electricity market. Thus, the development of an electronic tool (software) for calculating an economically feasible tariff for wind power projects of wind power has lost its relevance at the moment.
	Gains/losses									0,00%	0,00	
	Total 1.2					0,00	0		0,00	0,00%	0,00	
1.3: New/Improved Technical Norms and Standards												
1.3.1. WPFI together with the project, will support the introduction of new and improved technical norms by providing the most up to date techniques for wind turbine positioning, wind farm to grid connection inter alia.												
1.3.1.1	Review and analysis of international experience for regulation and application of techniques for wind turbine positioning, connection of wind farms to grid							The activity is completed in 2016.				The activity is completed in 2016.
1.3.1.2	Development of proposals for introduction of new and improved technical norms in the sphere of wind power development, including drafts of the relevant terms of reference.							The activity is completed in 2016.				The activity is completed in 2016.
1.3.1.3	Development of the drafts of the technical regulatory documents according to the terms of reference developed under item 1.3.1.2.							Activity is completed in 2018.				Activity is completed in 2018.
1.3.1.4	Organization of the conference on technical standards in Wind power development							The activity is completed in 2017.				The activity is completed in 2017.
1.3.1.5.	Organization of the workshop on the issues of RES impact on climate change mitigation							Activity is completed in 2018.				Activity is completed in 2018.
1.3.1.6.	Informing the stakeholders on the investment tender by publishing and distributing teasers, informational leaflets					0		Activity is completed in 2019.				Activity is completed in 2019.
	Gains/losses									0,00%	0,00	
	Total 1.3.					0,00	0,00		0,00	0,00%	0,00	
1.4: Wind Private Finance Initiative (WPFI) created and operational												
1.4.1	Finalizing Terms of Reference for WPFI							The activity is completed in 2015.	0	0	0	The activity is completed in 2015.
1.4.2	Finalizing Terms of Reference for staff and hiring WPFI Staff							The activity is completed in 2016.	0	0	0	The activity is completed in 2016.
	Total 1.4.					0,00	0		0	0	0	
TOTAL outcome 1:						0,00	0,00		0,00	0,00%	0,00	
Outcome 2: Reduce regulatory risks for investments in wind power in Belarus to the point that at least 5 wind farms are developed, financed, and eventually constructed												All activities of the second outcome apart from some remaining translation services were completed in previous reporting periods. The details of the results of the this outcome are presented in the final project report.
2.1: Awareness-raising program for decision makers												
2.1.1	The Project Steering Committee meetings will include key decision makers and will emphasize that wind energy can be viable in Belarus.							Activity was completed in 2015.				Activity was completed in 2015.
2.1.1.1	Organization of SC meetings							Activity was completed in 2016-2019				Activity was completed in 2016-2019
2.1.2	Through the activities outlined in Outcome 3, WPFI will increase investment activity from both local and foreign developers and investors which will heighten awareness amongst key decision makers.							The activity was completed in 2020				The activity was completed in 2020
2.1.3.	Preparation and dissemination of promotional materials on wind energy.											

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2.1.3.2	Study trips to at least two European countries with highly developed wind power sector for a group of decision makers							The activity was completed in 2016.				The activity was completed in 2016.
2.1.3.3	Preparation of informational materials on wind energy (articles, review, factsheets etc.)							The activity was completed in 2016-2018.				The activity was completed in 2016-2018.
	Gains/losses									0,00%	0,00	
	Total 2.1.					0,00	0		0,00	0,00%	0,00	
2.2: Specialized local engineering												
2.2.1	The project tenders in Output 3.1 will stipulate that whenever possible, local contractors, subcontractors, and engineers must be used. However, there will be criteria stipulating a certain level of experience. This may mean that a local contractor is a sub-contractor on the first project and then becomes the general contractor after gaining the requisite experience.											The activity was completed in 2020.
	Gains/losses									0,00%	0,00	
	Total 2.2.					0	0		0,00	0,00%	0,00	
2.3: Introduce RE related curricula at Universities												
2.3.1	The project tenders, wherever possible, will contain provisions for continued local support of the projects from local technical universities such as the International State Sakharov Environmental University. 2.3.1.1: Organization of training for wind energy specialists with the programme WindPro 2.3.1.2. Carrying out training in France for meteorologists on modern software products that improves the quality of weather forecasts used to predict the generation of energy from the wind.											The activity is completed in 2017.
2.3.1.3	Development of a work programme for the emerging courses in technical secondary educational establishments relating to wind power development and maintenance											Activity was completed in 2019
2.3.2	Analysis of Global Wind Organization requirements to the establishment of a GWO training center											The activity is cancelled due to COVID-19 travel restrictions as the physical presence of the consultant to assess the material and technical capacity (equipment, premises etc) of the potential candidate to host a Global Wind Organization Center is required.
	Gains/losses									0,00%	0,00	
	Total 2.3.					0,00	0		0,00	0,00%	0,00	
2.4: Completed support for ancillary services												
2.4.1.	Organization of the workshop on various options for the development of power system balance in Belarus											The activity is completed in 2018.
2.4.2.	Organization of GWO training on wind energy security and maintenance.											Activity was completed in 2019
	Total 2.4					0,00	0		0,00	0,00%	0,00	
2.5: Developed and published manuals												
2.5.1.	Produce guidebook containing template guidelines for future wind energy development											
2.5.1.1.	Presentation of the DREI study											The activity is completed in 2017.
2.5.1.2.	Production of an educational/promotional video-clip on the wind power issues											The activity is completed in 2018.
2.5.1.3.	Finalization and publication of technical guidebooks on wind energy											Activity was completed in 2019
2.5.2	The Project Management Unit will create Procedural Guidelines based on Activity 3.2 that will provide future developer's with a template. This activity will also provide future Regulator's with guidelines for empirically setting FIT levels.								0			
2.5.2.1.	Revision and updating of the Manual to the procedures "The main stages of the implementation of the project on wind energy"											Activity was completed in 2019
2.5.2.2.	Publication of an updated project description (Project brief) and Models of the balance of the energy system of Belarus in connection with the development of renewable energy sources, distribution of printed materials among the stakeholders at conferences and at Belarusian Energy and Ecology Forum.											Activity was completed in 2019

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2.5.2.3.	Translation from / into English of the updated Manual to the procedures "The main stages of the implementation of the project on wind energy", Models of the balance of the energy system of Belarus in connection with the development of renewable energy sources, other materials and reports for publication on the project website and press											Activity was completed in 2019
2.5.2.4.	Production of video clips that reflect the construction and / or operation of the wind farms as well as other aspects of wind energy development											Activity was completed in 2020.
2.5.2.5.	Translation from / into English of the manuals, reports and instructions developed under the project	62000	10003	000995	72100 - Contractor services		1 200	Reports and materials developed under the project are translated from/into English.	1 340,06	111,67%	-140,06	The reports and materials developed under the project were translated from/into English.
		62000	10003	000995	71300 National consultants		240		249,60	104,00%	-9,60	
2.5.2.6.	Translation, editing and preparing the design of the updated Procedural Guidelines for Wind projects developers											Activity was completed in 2020.
2.5.2.7.	Preparation and publication of information materials for the webinar for women on procedural guidelines for the implementation of a project on wind energy (and other types of RES)											Activity was completed in 2020.
2.5.3	Guidelines on EIA of wind power development projects will be developed. Belarusian specialists will be trained on how to conduct EIA of wind power projects.											The activity is completed in 2017.
2.5.3.1.	Organization of training (webinar) on EIA and State ecological expertise of wind power projects and other renewables projects, such as solar panels and biogas.											Activity was completed in 2020.
2.5.3.2.	Preparation of the materials of the training (lectures, Power point presentations) on EIA and State ecological expertise of wind power projects and other renewables projects											Activity was completed in 2020.
2.5.3.3	Review of the manual for conducting EIA and state ecological expertise.											Activity was completed in 2020.
2.5.3.4.	Development of design and printing of a manual for conducting EIA and state ecological expertise of renewable energy projects											Activity was completed in 2020.
2.5.3.5.	Translation and editing of the manual for conducting EIA and state environmental expertise of renewable energy projects											Activity was completed in 2020.
	Gains/losses									0,00%	0,00	
	Total 2.5.					0,00	1 440		1 589,66	110,39%	-149,66	
TOTAL outcome 2:						0,00	1 440,00		1 589,66	110,39%	-149,66	
Outcome 3: Wind Energy Project Technical Assistance Facility is established to support the WPFI investment in and the development of documentation for at least 25 MW of wind power												<p>Within the framework of this component, formation of the national capacity for conducting measurements of wind parameters was completed. The modern equipment purchased within the framework of the project was transferred to the final beneficiary - Belhydromet - to ensure the sustainability of the project results in the future. The project ended with a final workshop, at which the main results were presented to the stakeholders, and further directions of activities for the development of the project's achievements were discussed. Despite the fact that due to the restrictions associated with COVID-19, the activities for the creation of a Global Wind Organization (GWO) center in Belarus were canceled, specialists trained at the GWO center within the framework of the project created their own course on the safety of operation of wind turbines and finalized its materials on anti-icing turbines. The results of these activities help to reduce the risks for investors associated, first of all, with the climatic aspects of the development of wind energy.</p>
3.1: Completed support provided for potential site developments												
3.1.1.	The PMU supports the Ministry of Natural Resources and Environmental Protection to											
3.1.1.1.	WESU will build on its policy making capacity by demonstration of the efficiency of the use of renewable energy sources on the basis of the premises of cultural-educational center "House of Poleshuk" of the National Park Pripyatski											The activity was canceled due to the impossibility of placing a wind power plant on the territory of the administration of the Pripyatsky National Park without conducting annual monitoring of the avifauna and bats inhabiting this area.
3.1.1.1.1.	Creation of a demonstration complex consisting of small wind turbines on the basis of the cultural-educational center "House of Poleshuk" of the National Park Pripyatski											The activity was canceled due to the impossibility of placing a wind power plant on the territory of the administration of the Pripyatsky National Park without conducting annual monitoring of the avifauna and bats inhabiting this area.
3.1.1.2.	Expansion of WESU by including members from the regional committees of natural resources and environment protection and improving their technical capacity to undertake initial screening of wind	62000	10003	000995	72800 IT Equipment		4 547,12	1. New members of WESU from territorial bodies of the MNREP are defined, an updated Terms of reference for WESU is developed.		0,00%	4 547,12	1. The draft order of the Ministry on new members of WESU is prepared. 2. The laptops were not procured as the tender was announced void. The technical capacity will be improved from the budget proceeds in accordance with the annual financing plans of the territorial branches of MNREP.

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	development sites.	62000	10003	000995	72800 IT Equipment	2 546,72		The new list of WESU member and the updated ToR are approved by the Order of the MNREP.		0,00%	2 546,72	
		62000	10003	000995	71300 National consultants		480	2. The technical capacity of the new members of WESU are enhanced by procurement of 6-8 laptops to use them for working with updated information resources (Wind Atlas, RES Cadaster) as well as to have regular online meetings of WESU.	499,21	104,00%	-19,21	
3.1.2	Finalize the legal form and administrative criteria of the WPFI.							The activity was completed in 2016.				The activity was completed in 2016.
3.1.3	Finalize the agreement between the WESU and the WPFI in the manner most conducive to operation in current conditions in Belarus.							The activity is completed in 2018.				The activity is completed in 2018.
3.1.4.	Conduct a tender to select an engineering firm to form the WPFI using generally accepted international standards for such tenders.							The activity was completed in 2016.				The activity was completed in 2016.
3.1.5.	Seek additional contributors to the funding of the WPFI in order to extend the range of WPFI capabilities.											
3.1.5.1.	Undertaking a market research on enhancing energy consumption and export of green energy in Belarus											
3.1.5.1.1.	Development of measures to enhance the consumption of "green" energy in Belarus and the range of WPFI services on pre-development solutions											Activity was completed in 2020.
3.1.5.1.2	Development of a strategy to popularize the use of "green" energy by households.											Activity was completed in 2020.
3.1.5.1.3	Preparing proposals for the Government of Belarus to increase the use of electrical energy produced by renewable energy sources primarily wind											Activity was completed in 2020.
3.1.5.2.	Preparation of terms of reference for the development of the WPFI activities to advise the owners of renewable energy facilities on participation in the emerging electricity market											Activity was completed in 2020.
3.1.6.	WPFI screens all of the Cadastre sites and selects 5 target sites based on the sites that can achieve the lowest possible energy rates.					0	0					
3.1.6.1	Selection of at least 20 sites on the territory of the Republic of Belarus for the creation of wind farms or smart parks (wind turbines and solar panels) based on data from the updated Wind Atlas of Belarus.	62000	10003	000995	71300 - National Consultants		600	1. Based on the data of the updated Wind Atlas of Belarus, at least 20 sites are selected for the construction of wind farms and smart parks (wind turbines and solar panels). 2. A preliminary assessment of the wind (and solar) potential for each site is prepared; as well as substantiation and recommendations for further research using lidars, temperature profilers, and meteorological masts with sensors are made. 3. Information about the sites to be used by potential investors and developers of wind energy projects is posted on the website windpower.by, the websites of the Ministry of Natural Resources and Belhydromet, and is also forwarded to the relevant local executive and regulatory authorities.	609,79	101,63%	-9,79	In the framework of the activity, the information (passports) of 28 sites for the placement of wind farms and smart parks based on the physical and geographical features of the country's territory was tested, entered into the Wind Atlas of the Republic of Belarus. Based on the test results, changes were made and errors in the information resource were corrected. Draft letters were prepared to the district executive committees with information on promising sites for the placement of wind energy and solar energy facilities on the territory of the respective regions. The prepared information about sites for potential investors and developers of wind energy projects was posted on the websites windpower.by and Belhydromet.
3.1.7.	As part of the pre-feasibility screening, WPFI will gain preliminary clearance from the Ministry of Defence, Ministry of Communication and Informatization and other relevant agencies for siting.											The activity was completed in 2016.
3.1.8.	WPFI together with WESU will also seek to work through the established procedures with the Ministry of Defense to seek appropriate mitigation for the risks related to obtaining clearance from the Ministry of Defense 3.1.8.1. Development of guidelines for wind power developers on prefeasibility procedures of sites screening and mitigatin of risks related to apporval of the sites by the relevant governmental bodies											The activity was completed in 2016.
3.1.9.	Final selection of the sites for development and obtaining of clearances and permits for the construction.											Activity was completed in 2020.
3.1.10.	Transmission review of selected sites.											

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3.1.10.1	Organization of the study tour to a country with the developed wind energy sector and smart grid technologies on the issues of transmission of energy produced by RES to the grid											Activity was completed in 2019
3.1.10.2	Modelling various options of development of the power system balance of Belarus											Activity was completed in 2019
3.1.10.3	Conducting an analytical study on the development of opportunities to introduce "smart grids" in Belarus											Activity was completed in 2020.
3.1.10.4	Organization of a training (webinar) on maintenance and repair of wind turbines in the context of the COVID-19 pandemic.											Activity was completed in 2020.
3.1.11.	Securing permission for the selected sites; installment of meteorological towers of 98 m in height (or other equipment); wind parameters measurement.											
3.1.11.1	Wind parameters measurement at the selected sites							Activity was completed in 2018				Activity was completed in 2018
3.1.11.2	Dismantling of wind measurement equipment							Activity was completed in 2018				Activity was completed in 2018
3.1.11.3	Preventive and corrective maintenance of the meteorological equipment							Activity was completed in 2018				Activity was completed in 2018
3.1.11.4	Calibration of wind measurement equipment							Activity was completed in 2019				Activity was completed in 2019
3.1.11.5.	Procurement of meteorological temperature profilers to complete formation of the national wind measurement capacity	62000	10003	000995	71300 - local consultants		240,00	1. The three meteorological temperature profilers procured in 2020 are transferred to Belhydromet and its territorial units in accordance with the national legislation and the project implementation procedures. 2. Strengthened national capacity for conducting wind measurements in order to update the data of Wind Atlas of Belarus as well as identify the sites appropriate for wind energy development.	246,05	102,52%	-6,05	1. The three meteorological temperature profilers procured in 2020 were transferred to Belhydromet territorial units in Gorki, Pruzhany and Oshmyany, in accordance with the national legislation and the project implementation procedures. 2. Wind measurement capacity was upgraded; the data from the equipment were used to update the data of Wind Atlas of Belarus.
3.1.11.6.	Procurement of instruments for measuring wind parameters (such as LIDAR)	62000	10003	000995	72200 - Equipment and Furniture		332 900,00	1. The lidars are registered in the National Registry of the measurement devices of the Republic of Belarus. 2. The lidars are transferred to Belhydromet and its territorial units in accordance with the national legislation and the project implementation procedures. 2. The national capacity for conducting wind measurements is formed.	336 984,94	101,23%	-4 084,94	1. The delivery of two lidars to the meteorological stations in Gorki and Pruzhany was successfully completed. The equipment was installed and put in operation, the staff of the territorial branches of Belhydromet were trained. The lidars are registered in the National Registry of the measurement devices of the Republic of Belarus. 2. The procedure of the transfer of the lidars to Belhydromet is started and will be completed within 45 days after project closure. 2. The national capacity for conducting wind measurements is fully formed.
		62000	10003	000995	72130 - Contract services - companies (transportation cost)		1 800		479,40	26,63%	1 320,60	
		62000	10003	000995	71300 - local consultants		3 600		3 829,75	106,38%	-229,75	
		62000	10003	000995	71810 - Contractor services - individuals long term		5 000		5 170,45	103,41%	-170,45	
		62000	10003	001981	71600 - Local travel	564,00			155,20	27,52%	408,80	
3.1.12.	WPFI would begin the permitting, Power Purchase Agreement, and grid connection processes with the relevant agencies.											Activity was completed in 2020.
3.1.12.1.	Developing WPFI capacity											The activity is completed in 2019
3.1.13.	Working with WPFI on a preliminary site layout that includes flexibility on turbine choice.											Activity was completed in 2020.
3.1.13.1.	Conducting a training seminar on the peculiarities of the operation of wind turbines in the cold season.	62000	10003	000995	72100 - Contractor services - companies		3 300	1. The data on the operation of the wind power plant in the cold season, when the blades icing occurs, are collected. 2. Analysis of the information received is made to determine the losses (in percent) from the lack of electricity due to icing of the blades of the wind turbine; 3. Analysis of possible ways of combating icing of blades for turbines already built in the Republic of Belarus is carried out. 4. Training materials prepared - lecture text, presentation slides. 5. An online seminar on the peculiarities of the operation of wind turbines in the cold season organized and conducted.	3 407,29	103,25%	-107,29	In order to organize and conduct a training workshop on the peculiarities of the operation of wind turbines in the cold season, the following was done: 1. The data on the operation of a wind turbine in the cold season, when the blades become iced, were collected; 2. analysis of the information received was carried out to determine the losses (in percent) from the lack of electricity due to icing of the blades of the wind turbine; 3. an analysis of possible ways to combat icing of turbine blades erected in the Republic of Belarus has been carried out; 4. training materials have been prepared - lecture text, presentation slides. 5. The workshop held online on June 18, 2021. The total number of participants who took an active part in the seminar was 35 people. All them increased their knowledge in wind turbines operation in cold season and received the training completion certificates.
		62000	10003	000995	71300 - local consultants		240		249,60	104,00%	-9,60	
3.1.14.	Environmental report for Investors.											
3.1.14.1.	Analysis of existing practices for monitoring and assessing the impact of wind farms on birds and bats.							The activity was completed in 2020.				The activity was completed in 2020.

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3.1.14.2.	Elaboration to the methodology for fauna species monitoring at wind power development in Belarus							The activity was completed in 2020.				The activity was completed in 2020.
3.1.14.3.	Undertaking assessment of the impact of wind farms on monitoring sites at different stages of the life cycle of birds and bats							The activity was completed in 2020.				The activity was completed in 2020.
3.1.15.	The Project jointly with Wind Energy Support Unit performs Pro Forma analysis on the selected projects and calculates the minimum tariff required to support the financing and construction of all of the selected projects including those from private developers.							The activity was complete in 2017				The activity was complete in 2017
3.1.16.	The Project jointly with Wind Energy Support Unit negotiates draft Investment Agreement with the Ministry of Economy using the tariff calculated in 3.1.15 above and co-ordinates with other relevant ministries.							The activity was completed in 2018.				The activity was completed in 2018.
3.1.17	After collecting one year of wind data, WPFi will provide a financeable report that combines the on-site data with the existing long-term data (suitable for bank debt financing).							The activity was completed in 2018.				The activity was completed in 2018.
3.1.18	Preparation of Information Memorandum							The activity was completed in 2020.				The activity was completed in 2020.
3.1.19	Consultant for tender of "Construction Ready" projects							Activity was completed in 2019.				Activity was completed in 2019.
3.1.20	The Project, WPFi and the Wind Energy Support Unit will tender the Pre-Investment Assets to							Activity was completed in 2019.				Activity was completed in 2019.
	Gains/losses									0,00%	0,00	
	Total 3.1.					3 110,72	352 707,12		351 631,68	98,82%	4 186,16	
3.2 Identify and evaluate available public and private debt and equity financing for above site developments												
3.2.1	Regular discussions and outreach with potential foreign and domestic developers and investors.							The activity is completed in 2016-2018				The activity is completed in 2016-2019
3.2.2	The Project together with WPFi and WESU will work with International Financial Institutions to identify and evaluate debt solutions.							The activity is completed in 2017.				The activity is completed in 2017.
3.2.3	The Project together with WPFi and WESU will provide term sheets for debt, as part of the Tenders, for the above projects based on international market terms and conditions.							The activity is completed in 2017.				The activity is completed in 2017.
3.2.4	The Project together with WPFi and WESU will prepare term sheets for debt for projects that are currently being developed by developers such as Triple and Ecotech based on international market terms and conditions							The activity is completed in 2017.				The activity is completed in 2017.
	Gains/losses											
	Total 3.2:					0	0		0,00	0,00%	0,00	
3.3: Completed support for the preparation of development work on the targeted sites												
3.3.1	Completing the investment justification stage and preparation of pre-feasibility studies for construction and commissioning of wind energy plants in excess of 25 MW											
3.3.1.1.	Organization of participation of Belarusian distinguished specialists in the sphere of RES in thematic conferences, forums, to promote wind power investment to Belarus.							The activity is cancelled for 2020 due to COVID-19 travel restrictions. The project will provide for the participation of Belarusian distinguished specialists in the sphere of RES in thematic webinars where possible.				The activity is cancelled for 2020 due to COVID-19 travel restrictions. The project will provide for the participation of Belarusian distinguished specialists in the sphere of RES in thematic webinars where possible.
3.3.1.2.	Preparing a report on lessons learned from de-risking activities for wind energy investments in the Republic of Belarus	62000	10003	000995	71300 - local consultants		3 000	1. Sufficiency of the pre-investment documentation developed within the framework of the project and provided to the investor is assessed. 2. Effectiveness of the project de-risking measures for investing in wind energy in the Republic of Belarus is analyzed.	3 744,06	124,80%	-744,06	1. As part of the preparation of a lessons learned report from the implementation of measures to reduce the risks of investing in wind energy in the Republic of Belarus, an analysis of the sufficiency of pre-investment documentation developed within the framework of the project and provided to the investor was carried out; 2. An analysis of the effectiveness of project measures to reduce the risks of investing in wind energy in the Republic of Belarus was made; 3. Monitoring of the investor's activities on the construction of a wind farm near the village of Veleshkovichi was carried out; 4. A report on lessons learned from the implementation of measures to reduce the risks of investing in wind energy in the Republic of Belarus was prepared.
		62000	10003	000995	71800 - Contractual services - individual		6 000	3. The investor's activities on the construction of a wind farm near the village of Veleshkovichi are analyzed. 4. A report on the lessons learned from the implementation of measures to reduce the risks of investing in wind energy in the Republic of Belarus is prepared.	6 205	103,41%	-204,55	
3.3.1.3	Organization of the workshop for the socially active women from rural communities on the practical use of wind power installations as well as other renewable sources of energy to improve the livelihood of rural population											The activity was completed in 2020.
3.3.1.4	Organizing a round table discussion on the selection of an investor for the construction of a wind farm near the village of Veleshkovichi							The activity was completed in 2019				The activity was completed in 2019

Description of Activity		Fund	Donor	Executing entity	Account	Planned financial resources, USD	Balance of 2020, USD	Annual outputs	Utilized, USD	Progress in achieving the annual target, %	Difference, USD	General assessment of the activities implementation (brief)
3.3.1.5.	Conducting a final international workshop on presentation of the project results and discussion of investment opportunities in renewable energy in Belarus	62000	10003	000995	72100 - Contract services - companies (service for organization of workshops)		4 000	30 representatives of the potential investors and financing organizations, international experts, UNDP, government bodies (Ministry of Natural Resources, Ministry of Energy, Department of Energy Efficiency, MART, Ministry of Economy, local authorities), are presented with the results of the project, raised awareness of the current state of affairs in the field of renewable energy, and discussed further practical steps to increase investment opportunities in the field of renewable energy and wind energy, in particular.	4 140,25	103,51%	-140,25	On May 26, 2021, a final project workshop was held, at which the main results of the project were presented. The workshop was attended by 30 people - representatives of the Ministry of Natural Resources, the project, UNDP, government agencies (Ministry of Energy, Department of Energy Efficiency, National Academy of Sciences of Belarus). In the course of the discussions, the recent developments and changes in the regulation of the wind energy were considered; the possible follow-up activities based on the project achievement were outlined.
		62000	10003	000995	71300 - local consultants		1 320		748,81	56,73%	571,19	
3.3.1.6.	Participation of the project in Belarusian Energy and Ecology Forum							Activity was completed in 2020				Activity was completed in 2020.
	Gains/losses									0,00%	0,00	
	Total 3.3.					0,00	14 320,00		14 837,67	103,62%	-517,67	
TOTAL outcome 3:						3 110,72	367 027,12		366 469,35	99,01%	3 668,49	
Outcome 4: At least 5 wind farm projects are successfully developed and the Wind Energy Support Unit continues to operate past the lifetime of the project												The project web site has been a useful and efficient tool for information dissemination and exchange, some potential investors in wind energy got interested in the project just due to the website. The information of the web-site was also useful for other target groups – such as wind turbines owners, environmentalists, journalists, students etc. The project has developed a project exit strategy as well as has assessed the impact of its activities on general wind energy development in the country.
4.1: Validation of data in existing Wind Atlas of Belarus												
4.1.1	Site specific wind studies for at least (5) project sites will be used to validate the existing Wind Atlas of Belarus.											
4.1.1.1.	Validation of data of Wind Atlas of Belarus, upgrade of the Wind Atlas as an important informational resource for wind energy developers and investors							The activity was completed in 2020.				The activity was completed in 2020.
4.1.1.2.	Conducting an analysis of the reliability of daily prediction of the generation of electricity from wind based on the weather forecasts during at least 12 calendar months using modern numerical models and forecasting methods for meteorological phenomena.							The activity was completed in 2020.				The activity was completed in 2020.
	Total 4.1.					0			0		0,00	
4.2: Completed Web portal for the project												
4.2.1	Develop a project site/portal											
4.2.1.1.	Maintaining the web-site updated, preparation of informational materials for the web-site, liaising with the public and stakeholders on the issues of project implementation.	62000	10003	000995	72100 Contractor services - companies		120,00	The website of the project is maintained in an up-to-date state, the number of users increases monthly.	102,79	85,66%	17,21	The website of the project was maintained up-to-date in Russian and English. 8 authentic articles about project activities and wind energy in general were prepared and posted on the site.
		62000	10003	000995	71300 - local consultants		360,00		374,41	104,00%	-14,41	
4.2.2.	The Project will support the MNRE in validation and actualization of the Wind Atlas of Belarus and will place the validated version on the Project's web portal.							The activity was completed in 2020.				The activity was completed in 2020.
4.2.3.	Publish all relevant documentation on the web portal including project tender documents and information memorandums.							For the duration of the project, the documentation is posted on the project's website.				For the duration of the project, the documentation is posted on the project's website - www.windpower.by.
4.2.4	Development of the brochures explaining the value proposition of wind energy. These brochures will also be available on the web portal.							The activity is completed in 2018				The activity is completed in 2018
4.2.4.1.	Production of bill-boards on popularization of wind energy							The activity is completed in 2018				The activity is completed in 2018
	Gains/losses										0,00	
	Total 4.2.					0,00	480,00		477,20	99,42%	2,80	
Outcome 4.3: Completed site study visits as part of project due diligence process.												
4.3.1.	Completed site study visits as part of project due diligence process.							The activity was completed in 2020				The activity was completed in 2020
4.3.1.1	Analysis of the impact that the project activities including those relating to the tariff schemes made on the development of wind energy in Belarus, preparation of proposals for the development of the Project subject in further projects and activities	62000	10003	000995	71300 - local consultants		3240,00	1. The analysis of the impact that the project activities made on the development of wind energy in Belarus is prepared and the relevant report is approved by MNREP. 2. Two concept projects have been prepared, which could be a continuation of the activities implemented within the framework of this project and aimed at preventing climate change, developing renewable energy. 3. Project exist strategy is prepared and approved by MNREP.	3 369,65	104,00%	-129,65	1. A report was prepared with an analysis of the impact of the measures implemented by the Project, including those related to the formation of tariff schemes, on the development of wind energy in Belarus. 2. Two concepts of projects were prepared, which could be a continuation of the activities implemented within the framework of this project and aimed at preventing climate change, developing renewable energy/ 3. A strategy to ensure the sustainability of project results (exit strategy) has been prepared.

Description of Activity		Fund	Donor	Executing entity	Account	Planned financial resources, USD	Balance of 2020, USD	Annual outputs	Utilized, USD	Progress in achieving the annual target, %	Difference, USD	General assessment of the activities implementation (brief)
	Gains/losses										0,00	
	Total 4.3.					0,00	3 240,00		3 369,65	104,00%	-129,65	
Outcome 4.4: Developed, reviewed, revised, finalized and published Lessons Learned study												
4.4.1.	After 24-months, the Project will hire an international consultant to perform an intermediate review							The activity is completed in 2018				The activity is completed in 2018
4.4.2.	Implementation of the informational campaigns to promote the results of the project	62000	10003	000995	71300 - local consultants		3600	1. At least 8 articles, reviews, press releases are prepared and posted on the site as well as provided for the publication on UNDP and MNREP websites as well as in other mass media. 2. At least 1 PR event related to the project completion and promotion of the project results is held. 3. Day-to-day communication of the project with the stakeholders is provided. Social media networking is duly maintained.	3 708,51	103,01%	-108,51	1. 8 articles, reviews, press releases were prepared and posted on the project website, as well as provided for publication on the website of the Ministry of Natural Resources, as well as in other state media. 2. 1 PR-event (final seminar) was held, related to the project and promotion of the project results. 3. Day-to-day communication of the project with the stakeholders was provided and social media networking was duly maintained.
4.4.3	Terminal Evaluation	62000	10003	001981 000995	71300 - local consultants	3600	720	1. The project implementation is assessed by independent consultants. 2. Terminal evaluation report is prepared and approved by UNDP.	5 099,01	118,03%	-779,01	During the reporting period, the terminal evaluation of the project implementation was carried out by two independent consultants hired by UNDP. Final evaluation report was prepared in accordance with the UNDP procedures. The report was also translated into Russian. The overall project assessment was rated as MS – "moderately satisfactory".
		62000	10003	001981	74510-bank fee				8,98	0,00%	-8,98	
		62000	10003	001981	71200 - International consultants	18300			17 500,00	95,63%	800,00	
	Gains/losses										0,00	
	Total 4.4.					21 900,00	4 320,00		26 316,50	100,37%	-96,50	
TOTAL outcome 4:						21 900,00	8 040,00		30 163,35	100,75%	-223,35	
Project management												
	Project management	62000	10003	000995	71810 - Contractor services - individuals long term		2200	1. The Project Steering Committee monitors the implementation and completion of the project, as well as compliance with the established quality standards, timelines and budget constraints. 2. Target indicators defined in the project documentation are achieved. 3. Reports required on Project implementation and completion are prepared and sent in due course to MNREP, UNDP and the Ministry of Economy. 4. The data necessary to reflect the progress and completion of the project in the ATLAS system are prepared and handed over to UNDP. 5. The spot check of the project for the financial year of 2020-2021 is undertaken, a relevant report is prepared and submitted to UNDP and MNREP. 6. UNDP supporting services are provided to the project. 7. The equipment procured under the Project is transferred to the ultimate beneficiary in accordance with the UNDP procedures and the national legislation on international technical assistance.	2222,86	101,04%	-22,86	1. Three meetings of the Project Steering Committee were held to monitor the implementation and completion of the project, as well as compliance with the established quality standards, timelines and budget constraints. All meeting were held by interview. 2. Target indicators defined in the project documentation are almost achieved. The final report on the indicators achievement is attached to this APR. 3. Reports required on Project implementation and completion were prepared and sent in due course to MNREP, UNDP and the Ministry of Economy. 4. The data necessary to reflect the progress and completion of the project in the ATLAS system were prepared and handed over to UNDP. 5. The spot check of the project for the financial year of 2020-2021 was not undertaken, while on January 11, 2021 a report on the audit of the financing activity of the project was submitted to UNDP and MNREP. 6. UNDP provided necessary supporting services to the project. 7. The equipment procured under the Project (temperature profilers, lidars and PMU computer equipment) was transferred to the ultimate beneficiary in accordance with the UNDP procedures and the national legislation on international technical assistance.
		62000	10003	000995	72400-communication services		120		85,5	71,25%	34,50	
		62000	10003	000995	73310 - Project accounting software		600		606,12	101,02%	-6,12	
		62000	10003	001981	74110 - Professional Services	2600,000				0,00%	2 600,00	
		62000	10003	001981	74559- Repayment of UNDP expenses	514,3			150,98	29,36%	363,32	
		04000	00012	001981	74110 - Professional Services	661,78				0,00%	661,78	
Total Project Management						3 776,08	2 920,00		3 065,46	45,78%	3 630,62	
					Gains/Losses				-5 648,74	0,00%	5 648,74	
TOTAL						28 786,80	379 427,12		395 639,08	96,92%	12 574,84	

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