Министерство природных ресурсов и охраны окружающей среды Республики Беларусь

United Nations Development Programme

Republic of Belarus

Review of GEF Project:

**Removing Barriers to Wind Power Development in Belarus**

(PIMS # 4462)

Mid-Term Review Report

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# Acronyms and Abbreviations

|  |  |  |
| --- | --- | --- |
| AWP | - | Annual work plan |
| BSU | - | Biomass Support Unit |
| CDM | - | Clean Development Mechanism |
| CEO | - | Chief Executive Officer |
| CO | - | Country Office |
| CoM | - | Covenant of Mayors |
| CPAP | - | Country Programme Action Plan |
| CTA | - | Chief Technical Adviser |
| DEG | - | German Climate and Development Society |
| DIM | - | Direct Implementation Modality |
| DPM | - | Deputy Project Manager |
| EBRD | - | European Bank for Reconstruction and Development |
| EC | - | European Commission |
| EE | - | Energy Efficiency |
| EFO | - | Externally Financed Output |
| EIB | - | European Investment Bank |
| EnC | - | Energy Community Treaty |
| ESCO | - | Energy Service Company |
| ETS | - | Emission Trading Scheme |
| EU | - | European Union |
| FSM | - | Financial Support Mechanism |
| Gcal | - | Gigacalorie |
| GEF | - | Global Environment Facility |
| GGF | - | Green for Growth Fund |
| GHG | - | Greenhouse gases |
| GIS | - | Green Investment Scheme |
| GWh | - | Gigawatt Hour |
| GWP | - | Global Warming Potential |
| GWP | - | Global Warming Potential |
| IBRD | - | International Bank for Reconstruction and Development |
| IBWG | - | Interagency Biomass Support Working Group |
| IEA | - | International Energy Association |
| IFC | - | International Finance Corporation |
| IFI | - | International Financial Institution |
| IFU | - | Investment Fund for Developing Countries |
| INDC | - | Intended Nationally Determined Contributions |
| IRENA | - | International Renewable Energy Agency |
| IRR | - | Internal Rate of Return |
| JI | - | Joint Implementation |
| JISC | - | Joint Implementation Supervisory Committee |
| KfW | - | German (government-owned) Development Bank |
| KIF | - | Danish Climate Investment Fund |
| kW | - | Kilowatt |
| LPAC | - | Local Project Appraisal Committee |
| LTA | - | Long-term Agreement |
| M & E | - | Monitoring & Evaluation |
| MAPF | - | Ministry of Agrarian Policy and Food |
| MENR | - | Ministry of Ecology and Natural Resources |
| MRDCHCS - | | Ministry for Regional Development, Construction, Housing and Communal Services |
| Mtoe | - | Million Tonnes of Oil Equivalent |
| MTR | - | Mid-Term Review |
| MW | - | Megawatt |
| MWh | - | Megawatt Hour |
| NAP RE | - | National Action Plan for Renewable Energy for the period until 2020 |
| NGO | - | Non-governmental Organization |
| NPV | - | Net Present Value |
| O & M | - | Operation & Maintenance |
| PA | - | Project Assistant |
| PIF | - | Project Identification Form |
| PIP | - | Project Implementation Plan |
| PIR | - | Project Implementation Review |
| PM | - | Project Manager |
| ProDoc | - | Project Document |
| R & D | - | Research & Development |
| RES | - | Renewable Energy Sources |
| RFP | - | Request for Proposal |
| RTA | - | Regional Technical adviser |
| SEAP | - | Sustainable Energy Action Plan |
| SGP | - | Small Grants Programme |
| SIDA | - | Swedish International Development Agency |
| TA | - | Technical assistance |
| ToR | - | Terms of Reference |
| TPES | - | Total Primary Energy Supply |
| TT | - | Tracking Tool |
| UNDAF | - | United Nations Development Assistance Framework |
| UNDP | - | United Nations Development Programme |
| UNECE | - | United Nations Economic Commission for Europe |
| UNFCCC | - | United Nations Framework Convention on Climate Change |
| WGRE | - | Working Group for Renewable Energy |

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# Executive Summary

## Project Information Table

|  |  |
| --- | --- |
| Project Title: | Removing Barriers to Wind Power Development in Belarus |
| GEF Project ID: | 4374 |
| UNDP Project ID: | 4462 |
| GEF Focal Area: | Climate Change |
| GEF-5 Focal Area Objective (s): | CCM-3 |
| GEF-5 Focal Area Outcomes: | * Favourable policy and regulatory environment created for renewable energy investments * Investment in renewable energy technologies increased * GHG emissions avoided |
| GEF-5 Focal Area Outputs: | * Renewable energy policy and regulation in place * Renewable energy capacity installed * Electricity produced from renewable sources |
| Implementing Agency | UNDP |
| Executing Agency/Implementing Partner | Ministry of Natural Resources and Environmental Protection of the Republic of Belarus |
| Project Start Date | 24 December 2014 |
| Project End Date | 31 December 2019 |
| GEF grant | USD 3,045,000 |
| Co-financing | USD 37,000,000 - private investors  USD 300,000 - UNDP  USD 3,300,000 - Government (in-kind) |

## Project Description

The project “Removing Barriers to Wind Power Development in Belarus” aims at assistance in the reduction of barriers to the widespread implementation of wind energy projects in Belarus that among others will lead to the construction of at least 25 MW of wind farms and the direct reduction of the greenhouse gases (GHG) emissions by more than 500,000 tonnes of CO2 equivalent. This objective is in line with the main strategic objective of the energy policy of the Republic of Belarus - to achieve sufficient level of energy security by increasing non-traditional energy sources including Renewable Energy Sources (RES). Development of RES and improvement of Energy Efficiency (EE) contributes also to the fulfilment of the international commitments of Belarus including under the United Nations Framework Convention on Climate Change (UNFCCC) to mitigate the impact of climate change.

Different strategic documents have established tangible targets for the wind power development: Action Plan for Implementation of the Directive No.3 of the President of the Republic of Belarus (2007): at least 150 MW annually from 2010 onward; Energy Potential Development Strategy of the Republic of Belarus (2010): up to 300 MW in 2011–2015; National Programme of Energy Conservation for 2011-2015 (2010): 8 wind farms with up to 420 MW; National Programme for Development of Local and Renewable Energy Sources in 2011–2015 (2011): 224 wind turbines of 440-460 MW total; State Power Industry Development Programme up to 2016 (2012): 150-280 MW. However, despite the established targets, before this Project, very little activity has taken place to promote wind power development due to various regulatory, institutional, financial and awareness barriers.

The development context for this project is also consistent with the UNDP and GEF priorities globally and in Belarus as well.

The Project consists of four components aimed at: (i) Finalization of the secondary Legislation to support wind energy development; (ii) Perception of the energy, financial and environmental benefits of wind power projects by stakeholders and general public; (iii) Assistance in implementation of pilot wind energy projects in Belarus accompanied by identification of the sound financing scheme; and (iv) Creation and operationalization of private-state partnership facility - Wind Private Finance Initiative (WPFI).

## Project Progress Summary

In spite of the inconsistencies between the Objective/Outcomes, indicators and targets, due to the efforts of the Project, either tangible results have already been achieved or a clear strategy for their achievement is being implemented. The main achievement are as follows:

* Different reports were prepared and approved by the Implementing Partner (Analysis of normative legal acts, regulating the tariff policy in RE; Different scenarios of financial incentives for wind power, including: (i) establishment of Feed-in-Tariff for the purchase of electricity produced by wind turbines; (ii) introduction of a green certificate system; (iii) introduction of a mechanism to stimulate the development of wind energy in "Belenergo" system; (iv) formation of a separate fund for wind power
* Capacities of the policy makers in legal and regulatory framework was enhanced by taking them to the study tours
* Methodology for tariff estimation has been developed; amendments to the Law on RES also were developed
* 5 windfarm sites were identified; wind measurements procured from a third party for one site (25 MW) and measurements are ongoing for the remaining four sites; feasibility studies carried out by the local engineering company; For one location (25 MW) Quota was obtained with high multiplying factor (coefficient). For four other locations the quotas are expected to be obtained
* Wind measurement equipment was installed on 5 selected sites. Feasibility study reports were prepared for those 5 sites; Environmental Impact Assessments also were prepared

At the same time a number of targets haven’t been achieved due to the different reasons. Among them:

* Proposed by the Project legal changes in most cases haven’t been approved
* The WPFI, Project Team have performed a preliminary “screening” of potential investors but no developed pre-investment documentation was sold to the investors yet. Therefore, the project is not on track to achieve all targets (at least 25 MW commissioned)

## MTR Ratings & Achievement Summary Table

Table 1: Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets)

| **Project Strategy** | **Midterm Level & Assess­ment** | **Achieve­ment Rating** |
| --- | --- | --- |
| Removing Barriers to Wind Power Develop­ment in Belarus and the installation of over 25 MW of nameplate gene­ra­ting capacity with a minimum of 5 MW per project and the genera­tion of >1 million MWh of renewable energy and achieving direct green­house gas emission redu­ctions totalling >500,000 tonnes of CO2 equivalent | Barriers have been identified  Legal provisions related to the FiT scheme were developed but not approved yet  Pre-investment documentation were developed for 5 potential windfarm sites  25 MW Quota with high multiplying factor has been obtained for 1 site; 4 applications for other locations are submitted | **MS** |
| **OUTCOME 1:** Secondary Legislation is in place to support wind energy with the support of the project | **Indicator 1.1:** A financeable feed-in-tariff including transmission charges:  Initiatives to improve the legal and regulatory framework has been developed but not approved. If the indicator is not revised, target cannot be achieved | **MU** |
| **Indicator 1.2:** Rules and procedures for grid connection:  The analysis of the legislation conducted and gaps identified  Recommendations for development/improvement of Secondary legislation worked out. | **MS** |
| **OUTCOME 2:** Increased confidence in the profitability of wind power projects in Belarus | **Indicator 2.1:** Clear guidelines and viable examples of Wind Farm investments in place:  Viability of investments in wind energy has been demonstrated through:   * Study tours * Feasibility studies of the selected pilot sites | **S** |
| **Indicator 2.2:** Developed and published manuals:   * Manuals developed on De-risking of RE investments as well as On procedures to obtain permits for wind farm construction * A Reference Guide for the EIA for Wind Power Projects was developed | **S** |
| **OUTCOME 3:** An Investment Grant is made by the GEF project which funds the WPFI | **Indicator 3.1:** Availability of adequate funding for the WPFI and the PMU:   * WPFI is established and its funding secured * WPFI is operating according to the work plan | **MS** |
| **Indicator 3.2:** Selection of an outside consultant capable of performing the development work:   * International Chief Technical Advisor (CTA) has been selected * Involvement of another International CTA is planned | **MS** |
| **Indicator 3.3:** Installation of at least five meteorological towers are installed and data is collected for at least one year:   * Development of 5 wind projects is ongoing. They are at different stage of development | **MS** |
| **Indicator 3.4:** The WPFI, a private entity, obtains permits and Investment Agreements for at least 5 projects:   * WPFI is working on obtaining permits | **MU** |
| **Indicator 3.5:** The WPFI, a private entity, successfully tenders at least 5 projects and finds acceptable level of investor interest:   * WPFI is preparing pre-investment materials for 5 projects; tenders are not conducted yet | **MU** |
| **OUTCOME 4:** At least (5) wind farm projects are successfully developed and the WPFI continues to operate past the lifetime of the project | **Indicator 4.1:** WPFI, a private entity, develops 5 wind farms which developers purchase and proceed to construction:   * WPFI is preparing pre-investment materials for 5 projects, investors of which are not identified yet | **MU** |
| **OVERAL RATING** |  | **MS** |

|  |  |  |  |
| --- | --- | --- | --- |
| Indicator Assessment Key | Green= Achieved | Yellow= On target to be achieved | Red= Not on target to be achieved |

S - Satisfactory; MS - Moderately Satisfactory; MU - Moderately Unsatisfactory

## Concise summary of conclusions

The Project has been designed without thorough analysis of the current (pre-project) situation and future trends at global and national levels (Decrease of costs of wind energy technologies, replacement of Feed-in-Tariff scheme by market-oriented schemes supporting the wind energy development, nuclear power plant, construction of which was approved before the Project start, will generate about 50% of the current power supply). As a result, the considered baseline scenario was not confirmed by the actual developments.

The assumptions used in the Project design were not always justifiable. For instance:

* It was assumed that only FiT scheme would ensure financial feasibility of investments. Actually many governments opt auctioning schemes instead of FiT.
* It was implicitly assumed that there will be no significant excess of electricity generation in the country and the energy generated by the RES would be easily supplied to the power grid. In the reality, after the commissioning NPP there would be huge excess of energy, to deal with, the Government is seriously considering switching to the electricity-based district heating (at least for new buildings), to make obligatory for RES to participate in the curtailment scheme (i.e. not 100% of the generated energy might be supplied to the grid), etc.

Due to the abovementioned some targets had to be modified and the adaptive management would be widely applied.

The implementation of the Project can be evaluated from two angles:

* The Project strictly followed the implementation strategy of ProDoc and implemented all planned activities (not all of them are completed by the MTR) but due to the problems in the design mentioned above, the project is not on track to achieve all targets
* The need in the revision of some targets (without revising Outcomes; they are still achievable), was not always identified. Therefore, application of the adaptive management was (and still is) limited

Selection of the Ministry of Natural Resources and Environment Protection as an Implementing Partner was not the best solution (MNREP has limited experience in developing energy policy as well as attracting investments) but if the MTR recommendations are followed, the Project Objective and Outcomes can be achieved under the MNREP execution. The main reason for that are as follows:

* Key stakeholders understood the importance of the development of wind energy in achieving the national strategic goals
* The MNREP has managed to obtain quota for 25 MW windfarm (1 location); there is a high probability that quotas for 4 other locations also would be obtained
* WPFI, WESU are established and if their capacity and effectiveness is increased, they would be able to improve the legal & regulatory framework for wind energy development and attract private investors
* There is a local capacity for the development of wind energy projects, which, if guided by the experienced international consultant, would ensure implementation of engineering-consulting and construction works
* The Project objective and outcomes are on target to be achieved. However, to achieve the end-of-project targets without significant shortcomings, the efforts, in addition to the planned activities, shall be made.

## Recommendation Summary Table

|  |  |  |
| --- | --- | --- |
| Rec # | Recommendation | Entity Responsible |
| **A** | **Outcome 1:** |  |
| A.1 | Recommendation 2[[1]](#footnote-1): Strengthening the capacity of WESU through nominating of additional WESU members and regular meetings and follow-up | IP, PSC |
| **B** | **Outcome 2:** |  |
| B.1 | Recommendation 4: Provide TA for development of future electricity demand-supply patterns | Project Team |
| **C** | **Outcome 3:** |  |
| C.1 | Recommendation 1: Hire and engage the international consultant for investment component on Wind Energy Financing | MNREP, PM |
| **D** | **Outcome 4:** |  |
| D.1 | Recommendation 5: Support Project Developers with establishing closer cooperation with IFIs, local Banks involved in financing of wind energy projects | CTA, Project Team |
| D.2 | Recommendation 6: Add an Output under the Outcome 4 on daily projection of the windfarm generation | MNREP, PM |
| **E** | **Project Implementation & Adaptive Management** |  |
| E.1 | Recommendation 3: To shift the focus for the improvement of the legal & Regulatory framework from the Feed-in-Tariff scheme to the Auction mechanism | PSC, Project Team |
| **F** | **Sustainability** |  |
| F.1 | Recommendation 7: Extend the Project duration until December 31, 2020 as a no cost extension | MNREP, PM |
| F.2 | Recommendation 8: Revision of the Project Results Framework by the international CTA and the Project Manager | CTA, PM |
|  |  |  |

# Introduction

This Mid-Term Review (MTR) report is prepared in accordance with the contract No. IC:2017-161-01, signed between the United Nations Development Programme and International Consultant for Midterm Review (the "Consultant"). The report summarizes the findings of the MTR for the UNDP-GEF full-sized project entitled “Removing Barriers to Wind Power Development in Belarus” with financing support provided by the Global Environment Facility (GEF). The MTR has been conducted by the MTR Team consisting of the International Consultant, MTR Team Leader and the National Consultant, MTR Team Member (herein referred to as the “MTR Team”).

## Purpose of the MTR and objectives

The purpose of the MTR of this Project is to assess the progress towards the achievement of the project objectives and outcomes as specified in the Project Document (ProDoc), whether it is on track to its stated objective to significantly increase the use of wind energy for power generation in the Republic of Belarus and thereby reduce greenhouse gas (GHG) emissions. The MTR serves as a tool for assessment of the success or failure of the Project and identification of the necessary changes to be made in order to enhance the likelihood of achievement of the Project objectives and intended results by the end of the Project.

As specified in the Terms of Reference for this MTR, the main output of the review shall be specific recommendations for adaptive management to improve the project over the second half of its lifetime.

## Scope & Methodology: principles of design and execution of the MTR, MTR approach and data collection methods, limitations to the MTR

The Consultant has developed a methodology for execution of MTR in accordance with the Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects[[2]](#footnote-2), according to which the MTR among others shall include a review of:

* Project strategy (Project design, Project planning matrix, use of SMART[[3]](#footnote-3) indicators and targets);
* Progress towards the Project objective and outcomes;
* Project implementation and adaptive management;
* Sustainability

In order to prepare draft inception report and elaborate detailed MTR mission programme, the Consultant, just after the signing the contract, has established close working relations with the National Consultant, MTR Team member, Project manager and Regional Technical Advisor on Climate Change Mitigation. From them the MTR Team has got initial information (out of that one included into the MTR ToR) on the Project as well as Project-related materials available in the electronic format. The Consultant also has developed approach for the MTR, which is based on the clear understanding of the task and ways of its addressing. The main elements of the applied approach were as follows:

* The scope of the MTR to cover the entire Project and its components for the period of the Project implementation December 2014 to January 2018
* The MTR to assess Project implementation taking into account the status of Project activities, outputs and the resource disbursements
* In order to prepare draft inception report, close cooperation to be established between the Consultants (MTR Team leader and MTR team member) from the very beginning, who in turn should establish permanent communication with the Project Team
* The Consultants to establish frequent communication with the UNDP Country Office in Belarus and Regional Technical Advisor, as well as the Implementing Partner (Ministry of Natural Resources and the Environmental Protection)
* The MTR to be based on the analysis of documents (PIF, ProDoc, Inception Report, PIRs, AWPs, CDRs, Minutes of Board Meetings, technical reports, etc.) and interviews of stakeholders during the MTR mission, as well as the evidenced information from other sources, which should be cross-checked against the consistency; hence the information presented in MTR will be credible and reliable
* Initial list of stakeholders to be interviewed should be prepared based on desk study and then adjusted based on the communication with the Project Team
* In order to use the mission period effectively, the interviews of the stakeholders should be thoroughly prepared. The interviews should help in better understanding the sustainable energy policy priorities, overall environment in which the project is being implemented, status of the stakeholders’ involvement, prospects scaling-up including future financing opportunities, etc.

This MTR has been executed in full accordance with the guidance provided in the ToR. The MTR Inception Report was submitted prior the MTR mission, which took place during February 1-12, 2018 (duration 8 working days). After the completion of the MTR mission, Post-mission report has been submitted.

The developed approach in general worked effectively. The MTR Team has met all key stakeholders except Belorusneft (a state-owned vertically integrated petroleum company that is developing a 140 MW wind farm). At the same time, the MTR Team met more stakeholders then initially planned, e.g. Institute of Housing NIPTIS, Energy and Environmental NGOs, Project Experts; during the MTR mission as well as after its completion, the MTR Team has interviewed Project CTA and International Consultants. The stakeholders could answer on all the questions of the MTR Team as well as provided valuable information from their fields of activities related either to the Project implementation or general policy, legal, regulatory, institutional frameworks, needs and actual opportunities for private investments in wind energy.

Based on the above mentioned it is the MTR Team’s opinion that the information obtained during the MTR and included in this report is credible and reliable.

## Structure of the MTR report

This MTR report is structured according to the MTR ToR, which in turn is compliant with the Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects. The report consists of three main parts and annexes:

Chapter 3 – description of the project, its background and development context, problems to be addressed and barriers to be overcome, Project strategy, implementation arrangements, milestones, overview of stakeholders

Chapter 4 – description of the findings of the MTR regarding:

* Project strategy and design (project results framework / LogFrame)
* Progress towards intended results of the Project and remaining barriers to overcome
* Project management (management arrangements, work planning, financing and co-financing, monitoring and evaluation systems, stakeholder engagement, reporting and communications) including by adaptive management
* Sustainability

Chapter 5 – Conclusions and proposed recommendations

Annexes – MTR ToR, MTR evaluative matrix, List of persons interviewed, List of documents reviewed, etc.

# Project Description and Background Context

## Development context: environmental, socio-economic, institutional, and policy factors relevant to the project objective and scope

The project “Removing Barriers to Wind Power Development in Belarus” aims at assistance in the reduction of barriers to the widespread implementation of wind energy projects in Belarus that among others will lead to the construction of at least 25 MW of wind farms and the direct reduction of the greenhouse gases (GHG) emissions.

The main strategic objective of the energy policy of the Republic of Belarus is achievement of the sufficient level of energy security among others by increasing non-traditional renewable energy sources (RES) of energy. The Concept of Energy Security of the Republic of Belarus, approved by the Presidential Decree No. 433 dated 17.09.2007, states that a key strategic goal for Belarus is to achieve a 25% share of RES in gross energy consumption by 2020. According to the Energy Potential Development Strategy of Belarus for Years 2011-2015 (later extended for a period up to 2020), approved by the Council of Ministers of Belarus in August 9, 2010, No. 1180, inter alia, introduction of wind power capacity up to 300 MW was envisaged.

The development of the Renewable Energy Sources (RES) in Belarus including wind energy is conditioned by: (i) abundance RES potential; (ii) high dependence on traditional energy imports, first of all, natural gas; and (iii) negligible environmental impact. Development of RES contributes also to the fulfilment of the Belarus’s international commitments including under the United Nations Framework Convention on Climate Change (UNFCCC). Belarus remains committed to mitigating the impact of climate change, including through the use of local RES.

In the ProDoc, the economically justified potential of wind energy in Belarus was estimated as 193 tonnes of coal equivalent or 1.57 TWh/a. However, very little activity has taken place to promote wind power development because of a number of regulatory, institutional, financial and awareness barriers. Nevertheless, the development of wind energy was in the focus of all strategic documents approved before the Project start. Among them:

* Action Plan for Implementation of the Directive No.3 of the President of the Republic of Belarus (2007): at least 150 MW annually from 2010 onward
* State Comprehensive Program of Modernization of Basic Production Assets of the Belarusian Energy System, Energy Saving and Raising the Proportion in Using Local Fuel-Energy Resources in the Republic for the Period until 2011 (2007): Belenergo to construct more than 10 MW
* Energy Potential Development Strategy of the Republic of Belarus (2010): up to 300 MW in 2011–2015
* National Programme of Energy Conservation for 2011-2015 (2010): 8 wind farms with up to 420 MW
* National Programme for Development of Local and Renewable Energy Sources in 2011–2015 (2011): 224 wind turbines of 440-460 MW total
* State Power Industry Development Programme up to 2016 (2012): 150-280 MW

Significant differences in numbers (targets for wind energy capacities) of the above programmes indicates that feasibility of the wind power development, was probably not adequately studied.

The development context for this project is also consistent with the UNDP and GEF priorities globally and in Belarus as well. In particular, it falls within the UNDAF (2011-2015), namely two areas of cooperation: Area 1: Assistance for ensuring sustainable social and economic development; and Area 3: Assistance for ensuring environmental sustainability (Output 3.1. Assistance for enhancing national capacity to mitigate and adapt to climate change). UNDAF (2016-2020) is even more focused on RES development, Outcome 3.1 considers that “By 2020, policies will have been improved and measures will have been effectively implemented to increase energy efficiency and the production of renewable energy, to protect landscape and biological diversity, and to reduce the anthropogenic burden on the environment”.

## Problems that the project sought to address: threats and barriers targeted

Even though the development of the renewable energy including wind energy has become an integral part of the Belarusian energy strategy, aimed at enabling the country to diversify and secure its energy supply as well as the interest shown by various actors to develop wind energy, not much was achieved before the Project start in terms of implementation of the existing supportive measures and realizing concrete investment projects in practice. Indeed, before the Project start there existed some incentives to catalyze the development of a wind energy in Belarus and first of all, Feed-in-Premium; and Guaranteed connection to the grid. However, in the baseline scenario, likelihood of attraction of the large scale private commercial investment in windfarms was very low due to a large number of barriers, which were making wind energy projects not commercially attractive to private developers. Indeed:

* Enertrag, a German developer who was considering construction of a 160 MW wind farm in Belarus, has suspended its development (after spending €300,000 on developing the project) before the preparation of the ProDoc (Enertrag still hasn’t re-started its activities)
* Triple, a Belarusian conglomerate was planning to develop a wind farm project, but they’ve linked their plans with the implementation of this Project
* Belenergo, the state energy concern, has planned installation of 6 MW during the timeframe of the project. This number is smaller than one would expect due to Belenergo’s capital constraints. In addition, Belenergo, as a public concern, would not receive the feed-in-premium. Instead, a premium of 85% of the market rate for the first ten years and 70% for the second ten years was considered, which makes unclear the rationale for investment decision. In fact, it is unclear how the proposed coefficient (multiplying factors 0.85 and 0.7), much lower, than offered to other investors (1.3 by the Project start), would guarantee investment payback

The main barriers were identified in the ProDoc. Among them:

* Institutional barriers – related to the absence of the effective institutional infrastructure for the development of RES including State RES Cadaster, RES inventory and validation systems, green power record keeping and certification systems, etc. There was no single entity focusing on the conditions for investment by local and foreign investors in energy sector, and on the development of a commercially viable wind energy industry in Belarus
* Legislative/regulatory barriers – the Secondary Legislation was not in place to operationalize the Renewable Energy Law. The enforcement mechanisms also were not developed. Technical norms and standards including those related to windfarm positioning and windfarm-to-grid connection were to be further elaborated, including regulations to establish the fixed lower limit for the tariff, and a methodology for its determination
* Financial barriers – Lack of finances for pre-construction activities (potential sites identification, wind measurements, environmental impact assessments, pre-feasibility and feasibility studies), as well as high interest rates in case of loan financing
* Informational – lack of confidence in the profitability of wind power projects among the decision-makers (in government agencies and local authorities, public institutions, companies, project developers, financial sector)

## Project Description and Strategy: objective, outcomes and expected results

The objective of the Project is to remove the barriers to the widespread implementation of wind energy projects in Belarus. This goal includes the installation of over 25 MW of nameplate generating capacity and the generation of more than 1 TWh of electric energy during 20-year lifetime and thereby reduce greenhouse gas (GHG) emission by more than 500,000 tonnes of CO2 equivalent. The Project aims to achieve this target by introducing a Secondary Legislation to support wind energy in parallel with the intensive Technical assistance (TA) to the private developers of wind energy projects.

The Project consists of four components aimed at:

* Finalization of the secondary Legislation to support wind energy development
* Perception of the energy, financial and environmental benefits of wind power projects by stakeholders and general public.
* Assistance in implementation of pilot wind energy projects in Belarus accompanied by identification of the sound financing scheme
* Creation and operationalization of private-state partnership facility - Wind Private Finance Initiative (WPFI)

In the absence of the Project (business as usual scenario) it is highly unlikely that there would be any large scale private commercial investment in windfarms in Belarus. Due to the implementation of the Project the following outcomes are expected to achieve:

**Outcome1:** Secondary Legislation is in place to support wind energy with the support of the project

**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

**Outcome 3:** Wind Energy Project Technical Assistance Facility is established to support the Wind Energy Support Unit (WPFI) investment in and the development of documentation for at least 25 MW of wind power

**Outcome 4:** At least 5 wind farm projects are successfully developed and the WPFI continues to operate past the lifetime of the project

## Project Implementation Arrangements: short description of the Project Board, key implementing partner arrangements, etc.

The Project is being implemented under the UNDP National Implementation Modality (NIM). Hence, the main responsibility on the Project management lies on the Implementing Partner – Ministry of Natural resources and Environmental Protection (MNERP); while the day-to-day management and decision-making for the Project is the responsibility of the Project Implementation Unit (PIU) consisting of the Project Manager (PM), Expert on Wind Energy, and Administrative and Financial Assistant (AFA). Duties of PM, leader of the PIU, among others include: (i) overall supervision of the project; (ii) work closely with project stakeholders; (iii) mobilize all project inputs; (iv) development of ToR for the consultants and subcontractors; (v) preparation of monthly reports, quarterly consolidated financial reports, quarterly consolidated progress reports, annual, mid-term and terminal reports, and other reports as may be required by UNDP; (vi) preparation of quarterly and annual work plans; (vii) to act as a non-voting member of the Project Steering Committee (PSC).

According to the ProDoc, the PSC should be chaired by the Project Director and include representatives from the main stakeholders, including the Ministry of Environment, the Ministry of economy, the Energy Efficiency Department under the State committee on Standardization, UNDP and other organisations. The PSC is responsible for making management recommendations for a Project when guidance is required by the PIU. The PSC has had seven meetings since the Project start.

## Project timing and milestones

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| October 2010 | |  | | Project Identification Form (PIF) endorsed by GEF Operational Focal Point on behalf of the Government | |
| 12.09.2011 | |  | | PIF submitted to the GEF Secretariat (re-submission; initially submitted on 13.09.2010) | |
| 01.02.2012 | |  | | Project concept note approved by GEF | |
| 15.02.2012 | |  | | Project preparation grant approved by GEF | |
| 01.11.2013 | |  | | Project approved for implementation by GEF Council/CEO Approval | |
| 16.04.2014 | |  | | Local Project Advisory Committee (LPAC) approved the Project Document | |
| 03.07.2014 | |  | | Project Document signed by the UNDP and the MNERP | |
| **24.12.2014** | |  | | Project registered by the Ministry of Economy - **Project start date** | |
| 29.04.2015 | |  | | Project Manager selected | |
| **18.05.2015** | |  | | **President of the Republic of Belarus adopted the Decree “On the Use of Renewable Energy Sources”, and in elaboration of it the Government enacted the Resolution “On Setting and Allocating Quotas for the Construction of Renewable Energy Facilities”** | |
| **15.09.2015** | |  | | **Project Manager took up her duties** | |
| **04.11.2015** | |  | | **Financing was received by the Implementing Partner** | |
| **18.12.2015** | |  | | **Inception workshop followed by the 1st meeting of PSC** | |
| 15.06.2016 | |  | | Workshop dedicated to Wind Day | |
| **14.07.2016** | |  | | **2nd meeting of PSC** | |
| 25.08.2016 | |  | | **Signing of the contract with a consultant for the integrated management of the investment project on construction of wind power turbines (WPT) with the development of pre-project (pre-investment) and project documentation (company ENECA)** | |
| 26-30.09.2016 | |  | | Study tour in Hamburg, Germany on the development of wind energy | |
| **11.10.2016** | |  | | **WPFI was legally formed as LLC"Wind Private Finance Initiative". WPFI was founded by the company ENECA and Belarusian Research Center "Ecology"** | |
| 16-20.10.2016 | |  | | Study tour to Denmark on the development of wind energy | |
| **25.10.2016** | |  | | **Development of a list of potential windfarm locations (43) by ENECA** | |
| 17.11.2016 | |  | | Conference "Development of wind energy in Belarus" | |
| 17.11.2016 | |  | | Publishing of brochure Approximate Order of Procedures of Obtaining the Necessary Permits for Wind Farm Construction Projects | |
| **22.12.2016** | |  | | **3rd meeting of PSC** | |
| 30.12.2016 | |  | | Purchase of wind measurement equipment | |
| **31.01.2017** | |  | | **Installation of the wind measurement equipment at 5 selected sites started** | |
| 15-18.05.2017 | |  | | Training in Wind PRO programme product | |
| 18.05.2017 | |  | | Presentation of the study “Belarus: De-risking Renewable Energy Investment. Selecting Public Instruments to Promote Wind Energy Investment in Belarus | |
| **20.05.2017** | |  | | **Director of WPFI took up his duties** | |
| **31.05.2017** | |  | | **Obtaining permits for construction of 5 windfarms** | |
| 15.06.2017 | |  | | Media tour for more than 20 journalists from the leading Internet and other media | |
| 07.07.2017 | |  | | MoU was signed between the WPFI and Windmatik (Poland) on cooperation in wind project development | |
| **07.07.2017** | |  | | **4th meeting of PSC** | |
| **18.07.2017** | |  | | **Obtaining of quota for 25 MW windfarm in Veleshkovichi** | |
| 31.07-14.08.2017 | |  | | Installation of 4 meteorological masts | |
| **15.09.2017** | |  | | **5th meeting of PSC** | |
| **26.10.2017** | |  | | **6th meeting of PSC** | |
| 13-16.11.2017 | |  | | Study tour to Ukraine in RES policy, EIA, wind energy development | |
| 22.11.2017 | |  | | Organisation of a Seminar “Future of the Renewable Energy: plans and prospects” | |
| 24.11.2017 | |  | | Approval (Public discussion) of EIA for Yanovichi | |
| 24.11.2017 | |  | | Approval (Public discussion) of EIA for Zagoryane | |
| 27.11-10.12.2017 | |  | | Training of specialists of Belhydromet in France in advanced software products that improves the quality of weather forecasts used to predict the generation of energy from the wind | |
| 28.11-2.12.2017 | |  | | Study tour to Austria on creation of carbon market and system of Green Certification | |
| 5-8.12.2017 | |  | | Training of specialists of Belhydromet in France | |
| 10.12.2017 | |  | | Republican Unitary Enterprise "Belarusian Research Center "Ecology" has completed the first stage of the RES Cadastre publication | |
| 11-15.12.2017 | |  | | Training of specialists of Belhydromet in Poland | |
| 12.12.2017 | |  | | Completion of Feasibility Study Report for Veleshkevichi | |
| 12.12.2017 | |  | | Completion of Feasibility Study Report for Yanovichi | |
| 12.12.2017 | |  | | Completion of Feasibility Study Report for Starye Boruny | |
| 12.12.2017 | |  | | Completion of Feasibility Study Report for Veino | |
| 12.12.2017 | |  | | Completion of Feasibility Study Report for Zagoryane | |
| 12.12.2017 | |  | | Approval (Public discussion) of EIA for Velechkevichi | |
| 12.12.2017 | |  | | Approval (Public discussion) of EIA for Starye Boruny | |
| 12.12.2017 | |  | | Approval (Public discussion) of EIA for Veino | |
| 13-26.12.2017 | |  | | Dismantling of meteo musts of Belhydromet | |
| 18.12.2017 | |  | | Draft Resolution of the Council of Ministers of the Republic of Belarus on the tariff methodology for the electricity produced using RES | |
| **22.12.2017** | |  | | **7th meeting of PSC** | |
| 29.01.2018 | |  | | Preparation of a Draft of "Procedure for Monitoring Wind Parameters and Estimating Wind Power Capacity for the Location of Wind Turbines on the Territory of the Republic of Belarus" | |
| 29.01.2018 | |  | | Preparation of a Draft of "Rules for the placement of wind turbines" | |
|  |  | |  | |

**Future milestones**

|  |  |  |
| --- | --- | --- |
| April 2018 |  | Obtaining quotas for the remaining 4 sites |
| April 2018 |  | Semi-annual wind monitoring report for four sites |
| June 2018 |  | First tender on Veleshkovichi site |
| August 2018 |  | Project design documentation for the Veleshkovichi site, start of construction |
| August 2018 |  | Draft of Strategy of development of RES in Belarus until 2035 |
| September 2018 |  | Annual wind monitoring report for 4 sites |
| October 2018 |  | Dismantling of wind measurement equipment at the four sites |
| December 2018 |  | Investment tender for the four sites |
| February 2019 |  | Project design documentation for the four sites, start of construction |

## Main stakeholders: summary list

Due to the complex nature of the Project a lot of different stakeholders were identified representing Governmental institutions, private sector, Non-governmental organisations, International and local financial institutions, etc. The main Project stakeholders include:

* High level stakeholders:
  + Ministry of Natural Resources and Environmental Protection (MNREP) – According to the RE Law, MNREP performs identification and inventory of sites for the possible placement of installations for the use of RES; maintains the state cadastre of RES; determines the procedure for wind monitoring and data binding of meteorological stations to selected sites for the possible placement of wind farms; issues a certificate of confirmation of the origin of energy
  + Ministry of Economy – was responsible (until 2017) for establishing tariffs for energy produced from RES and purchased by state energy supplying organizations (as of mid-2017 this function has been transferred to MART)
  + Ministry of Energy - ensures a guaranteed connection to the state grids of installations for the use of RES; ensures the purchase by state energy supplying organizations of all the energy produced from RES and supplied by energy producers from RES
  + Ministry of Antimonopoly Regulation and Trade (MART) – responsible for setting tariffs for RES. MART wasn’t identified in the ProDoc because at that time the Ministry of Economy was authorised for tariffs as well as for tariff-setting methodology
  + National Agency on Investment and Privatisation - a division of the Ministry of Economy, authorized to represent interests of the Republic of Belarus on the issues of attracting investment and acts as a “one-stop shop” for a foreign investor. Renewable energy is one of the priority areas for the Agency
  + Department for Energy Efficiency - a division of the State Standardization Committee, develops national concepts and plans for energy efficiency and renewable energy and monitors their implementation
  + State Electricity Production Association (“Belenergo”) - provides wind farms with access to its electric transmission system; Belenergo will pay for all necessary transmission upgrades; will pay appropriately documented wind farms the feed-in-premium rate
* Representatives of private sector:
  + Enertrag - a German developer who has been attempting to build a 160 MW wind farm in Belarus, was identified as a stakeholder in the ProDoc. However, Enertrag has completely closed its activities prior to the start of the Project implementation. It was not included into the list of stakeholders in the Inception report
  + Triple – a local company, planning to develop wind farms in Belarus. Triple is not actually developing wind farm projects yet.
  + ENECA – local engineering company with experience in wind turbine installations. During the Project implementation ENECA has been awarded the contract for the integrated management of the investment project on construction of wind farm with the development of pre-investment and project documentation. It also became one of the founders of the WPFI
  + Conte Spa (Belarus) - confirmed the readiness to invest in windfarms pre-developed under the Project. Conte was identified after the start of the Project
* Non-governmental organizations: “Green Network” Civil Association; “Ecoproject Partnership”, Renewable Energy Association, APB-BirdLife Belarus, etc.
* Research & Development institutes: Belarusian Research Centre “Ecology” (an entity subordinate to the MNREP) – together with ENECA has founded WPFI
* IFIs:
  + EBRD - USD 50 million to foster sustainable energy investments; credit lines to local banks for on-lending to industrial companies and SMEs undertaking EE and RE projects
  + NEFCO - provides loans and makes capital investments to generate positive environmental effects of interest to the Nordic region
  + KfW - It has a possibility to support renewable energy projects in Belarus via European Fund for Southeast Europe
  + IFC – was not identified in the ProDoc but presented in the Inception report. During the Project implementation the PIU established communication (and potentially, cooperation) with IFC
* National financial institutions:
  + Belinvestbank - supports EE and RE projects under the USD 50 million credit line created by the EBRD in the framework of Belarus Sustainable Energy Finance Facility (BelSEFF)
* International/bilateral agencies: EU Delegation, World Bank programme ESMAP-REMTI “Belarus: Renewable Energy Legislation Harmonization with the EU”

# Findings

## Project Strategy

The strategy of this Project is focused on creation of enabling environment, which leads to increased confidence in the attractiveness of wind energy in Belarus through the development and enforcement of the Secondary Legislation; optimization and simplification of administrative procedures; creation of capacity for both, support the improvement of the legal, regulatory and institutional frameworks as well as for the implementation of wind energy projects within these improved frameworks. Respectively, the Project strategy is built around the creation and operationalization of two bodies: Wind Energy Support Unit (WESU) and Wind Private Financing Initiative (WPFI). Both entities were supposed to continue operation in a sustainable way beyond the Project timeframe.

The proposed strategy can be reviewed only in conjunction with the developments in the energy sector of Belarus that occurred over the last decade. As mentioned above, the main strategic goal of the energy sector of Belarus is to alleviate dependence on the imported natural gas, the prices of which decreased sharply before the Project start. In this regard, development of local RES and improvement of energy efficiency (EE) at supply and demand side, were identified as main priorities of the national energy policy. The first practical steps in this direction were adoption of the framework laws including Law on Renewable Energy Sources (adopted in 2010). However, the framework laws haven’t been implemented due to the absence/inadequate Secondary Legislation. In particular, proposed feed-in-premium scheme appeared Inefficient; approval procedures for wind projects were iterative, which involved obtaining clearance from the few ministers via uncoordinated process; availability of funds including public funds, for financing of initiatives was insufficient. For addressing these issues, the following has been planned: (i) improvement of the business environment for the investors in wind energy; and (ii) to demonstrate good practice of the wind energy development under the market conditions. Main roles in implementation of these tasks were given to the WESU, which was supposed to be established by the Implementing Partner, MNERP, and the WPFI, which had to be formed as a private-state partnership between a relevant state agency (e.g. MNREP) and an engineering company. In turn, the engineering company should be chosen through a tender process.

The duties and responsibilities of WESU and WPFI were determined in the ProDoc based on the analysis of the pre-project situation. In particular:

* WPFI and WESU should negotiate a financeable tariff with the Ministry of the Economy (authorized for tariff setting up until 2017). The goal of this negotiation was getting a feed-in-tariff (but not a feed-in premium) for the pilot windfarms. Then this tariff scheme could be applied to all future projects (of course, after adoption by the Government a comprehensive feed-in-tariff)
* WPFI should empirically demonstrate what is the “clearing” tariff level, to ensure the attraction of investments into wind energy not only for the pilot projects but for large-scale development of wind energy in the country
* WPFI with support of WESU should discuss with the authorities issuing permits for windfarms including land allocation for wind measuring and subsequent construction
* WPFI should conduct wind measurements and analyze the results in accordance with international methodologies, prepare feasibility studies with financial calculations, conduct market research to identify the most suitable types of turbines, prepare business plans, etc.
* One of the key strategic issues is that the WPFI should not implement pilot windfarms itself. Instead, the document packages for wind development, should be open to tender to potential investors and a developer surplus (if any), could be used for financing of future development activities of WPFI. Ensuring financial sustainability of WPFI beyond the lifetime of the Project was identified as a key measure of the success of the Project

During the inception phase the strategy was not revised with minor exemption. Since the Project is being implemented under the NIM modality, WPFI cannot get a grant (direct financing) from the Project, but instead its activities are financed by the GEF funds through the MNERP.

In terms of financial feasibility of the wind energy projects, the strategy focused on convincing the tariff authorities in shifting from Feed-in-Premium to Feed-in-Tariff. The reason was that the premium scheme does not take into account the floating-rate for the premium for energy over a 20-year period (windfarm lifetime), which in Belarus is highly correlated to the price of natural gas (over 90% of the electricity is generated in the gas-fired power plants).

In general, it was understood that investors require certainty of price, certainty of regulation, and certainty of access to viable debt. All three of these items were addressed in the implementation strategy.

### Project Design

**Problem addressed** – need in acceleration of investments in wind energy development is convincingly justified: energy security/energy independence (diversification of supply, less dependence on natural gas imports), available wind resources, certain already built capacity, etc., compliant with the energy policy priorities.

**Underlying assumptions**

Assumptions are outlined in the Project Results Framework and built around the continued commitment of all Project partners including Government agencies, investors and developers, etc. The key assumption is that the government desires a viable Feed-in-Tariff. It is the MTR Team opinion that the basis for such assumption is not evidenced. In particular:

* **Political will to accelerate energy production from RES – is overestimated**. Indeed, the importance of the RES in general and wind energy in particular, in power generation, is presented in almost every strategic document developed in the country over the last decade. The analysis of the status of their implementation clearly shows that some targets have been achieved. For instance, the key target set in the Energy Security Strategy/Concept “share of REs in final energy consumption” has already been “overachieved”: target for 2015 was set at 5%, while actual level was 5.6%; target for 2020 is set at 6%, while 2017 level was 6.4%. Some other targets, especially established for particular types of RES (MW installed, GWh generated) haven’t been achieved due to the several reasons and among them: unrealistic (optimistic) assessment of the economically feasible potential of RES, lack of capacity to develop bankable projects, limited access to financing, absence of adequate legal and regulatory framework, etc.

However, the main reason for under-developed wind energy sector in Belarus, is that the country considers the construction of the Nuclear Power Plant (NPP) as the most important measure to secure the energy independence. The construction of NPP was planned before the Project approval; its commissioning is expected in 2019, i.e. before the Project end. The annual generation of NPP is expected to be in a range of 19 TWh, i.e. about 50% of the current power supply. It is also expected that after the commissioning of NPP there will be an excess of electricity in the country, most profoundly expressed during the low-demand night time. To address this, the Government has adopted an Integrated Plan of Development of the Electric Power Industry Until 2025 Taking into Account the Commissioning of the Belarusian Nuclear Power Plant (Resolution of the Government No. 169 of 01.03.2016), according to which installation of close to 1 GW worth of electric boilers at power plants and boiler houses of the State Unitary Enterprise "Belenergo" is planned. As correctly stated in the report of the Project CTA, the NPP are generally designed to operate under base load and their load-following abilities are limited (by safety and economic considerations); since the Belarusian NPP will be used for meeting the base power demand, a substantial share of other generating facilities will need to be ramped down or completely switched-off, particularly during low-demand night time. The same Resolution considers also putting in operation up to 800 MW of peak-reserve capacity based on gas-turbine facilities, of which up to 400 MW in 2018. In short, after the NPP commissioning the prospects of future development of wind energy (and RES in general) beyond the targets set in current strategic documents, are unclear. This conclusion is in line with the opinion of local experts working in the field of RES[[4]](#footnote-4).

It must be noted that in the ProDoc the reference is made to the Energy Potential Development Strategy of the Republic of Belarus (Aug 9, 2010) and that it considers construction of NPP with installed capacity up to 2,340 MW by 2020. However, the related issues, first of all, excess of energy, were not addressed at all

* **Continuous interest of investors in wind power development** also belongs to key assumptions, which was neither evidenced in the Project design nor confirmed during the Project implementation.
* **Changes in the legal and regulatory framework.** Some experience has been gained in the country in the RES development under the Feed-in-Premium scheme, before the Project approval. Based on the analysis of the existing practices the necessity of the further changes of the framework, was already identified. It must be noted that this issue was flagged during the LPAC meeting. In particular, the representative of the Ministry of Economy emphasized that the risk related to the introduction of new legislation (Government’s plan to set quotas for construction of RES facilities) should be considered. Nevertheless, LPAC has approved the ProDoc
* **Insufficient tariff level (for ensuring the financial feasibility of wind projects).** At present, total installed capacity of 25 windfarms in Belarus equals 82 MW. 19 windfarms with total capacity of 73 MW were commissioned after the Project approval, i.e. the investments took place in the BaU[[5]](#footnote-5) scenario, when those investors didn’t get any assistance from the Project and the legal/regulatory framework wasn’t improved due to the Project.

**Country ownership** isaddressed not fully appropriately; on the one hand, the Project concept in line with the national sector development priorities and plans. On the other hand, impact of the NPP on general demand-supply patterns wasn’t carefully studied. The above-mentioned Resolution No. 169 was approved after the Project start. Therefore, in the Project design more attention should be paid to the analysis whether the wind energy development will remain a priority.

Another issue is whether or not the problems that the project sought to address, were adequately understood by the stakeholders including Government representatives. As stated in the ProDoc, in each case the relevant Ministries were asked: what (if anything) was missing in order to spur investment in wind energy in Belarus? The response was that nothing is missing. This statement is true for the desire to develop wind, but not for the implementation.

**Baseline level** of wind energy development is under-estimated. According to the ProDoc “in the absence of the GEF project it is highly unlikely that there would be any large scale private commercial investment in windfarms in Belarus over the next 5 years”. At present, total installed capacity of windfarms in Belarus equal to 82 MW (73 MW commissioned after the Project approval); they generated 62.3 GWh in 2016[[6]](#footnote-6). The reason for very low efficiency (about 11.6%) is that the majority of the wind turbines and generators (WTG) installed, are second-hand, except for the two windfarms (9 MW and 3.3 MW). Some of the WTGs were installed before the Project start and the design doesn’t include activities aimed at the elaboration of preventive measures to protect the penetration of the inefficient technologies to the market.

Gender issues **-** No significant gender concerns were considered; the Project is aimed at achieving gender equality through the empowerment of women to fully participate in all project activities.

**Areas of concern**

**Selection of the Implementing Partner**

Selection of the appropriate Implementing Partner has a crucial importance in the Project implementation under the NIM modality. The Implementing Partner for this project should: (i) Understand all matters related to the wind energy development, including what are the barriers hampering its development and be capable to find effective ways for their removal based on the implementation of the strategy presented in the ProDoc; (ii) Be capable to ensure the resolving of legal, regulatory, institutional, technical, administrative issues related to the development of wind energy at the system level; and (iii) Be capable to support the investors in wind energy at the system and project levels. Considering the planned outcomes and outputs to be achieved, naturally, the best candidate for the Implementing Partner would be an institution officially authorized for the development and implementation of renewable energy policy (Outcome 1, Outcome 2), and the development and implementation of the investment programmes/projects (Outcome 3, Outcome 4).

According to the renewable Energy Law, the development of the unified state policy in the sphere of the use of RES is the responsibility of the President of the Republic of Belarus, while the Cabinet of Ministers is responsible for the implementation of the RES policy. The responsibilities of different ministries and state agencies are as follows:

* + The State Committee for Standardization of the Republic of Belarus (through the Department for Energy Efficiency) - implements the state policy, takes measures and coordinates the work on its implementation; organizes work on the development of RES
  + Ministry of Energy takes measures to ensure a guaranteed connection to the public energy networks of installations for the use of RES; takes measures to ensure the acquisition by state energy supplying organizations of all the proposed energy produced from RES and supplied by energy producers from RES to public energy networks, as well as its payment at approved tariffs
  + Ministry of Natural Resources and Environmental Protection performs identification and inventory of sites for the possible placement of facilities for the use of RES; maintains the state cadastre of RES; determines the procedure for wind monitoring and data binding of meteorological stations to selected sites for the possible placement of wind power plants; informs local executive and administrative bodies on identified sites for the possible deployment of installations for the use of RES; issues a certificate of origin of energy
  + (Before the Project start) Ministry of Economy establishes tariffs for energy produced from RES and purchased by state energy supplying organizations

Formally, based on the provisions of the RE Law, the best candidates could be either the Department for Energy Efficiency or MNERP. Considering pros and cons, MNERP was determined as the Implementing Partner in the ProDoc. However, both candidates, especially MNERP, have limited experience neither in developing of investment programmes nor in attracting private sector investments. It must be noted that the appropriateness of the selection of MNERP as an Implementing Partner was a subject of discussion at the LPAC meeting. The implementation of the Project showed that MNERP has also limitations in improving of legal and regulatory framework related to the wind energy development in a situation when the focus is on the construction of the NPP. This task would be difficult to deal with also for the Ministry of Economy and its subsidiary, the National Agency on Investment and Privatization. The only institution, having adequate capacity to address the challenges of this Project, is the Ministry of Energy. However, considering that the decision on the construction of the NPP was already taken before the Project start, the consultations should have been held with the ministry before offering to it the role of the Implementing Partner.

In Chapter 4.2.1 below, progress towards outcomes is analyzed and it is shown that the Project execution is not always satisfactory, especially with regard of the investment components.

**Effectiveness of WESU**

Many GEF projects consider establishment of the special supportive bodies/entities to be financed by the Governmental counterparts. For this Project the Ministry of Environment had “to provide office space and personnel for the WESU as required as part of their co-financing”. It must be noted that according to Annex 7.7, “partly WESU will be funded via the UNDP/GEF Project” but no funds are foreseen in the project budget for operation of WESU except procurement of equipment. It must be also noted that the WESU is established not for the support of the wind energy development in general but for promoting the implementation of this UNDP/GEF Project, i.e. it has a 5-year timeframe.

According to the ToR for WESU, the scope of work among others includes Task 3. Management of WPFI. This is inconsistent with the role of WESU presented in the core text of the ProDoc (The WESU will be responsible for providing information support to WPFI and for coordinating the interaction of the latter with the government).

According to the ToR WESU personnel should consist of a full-time Director and a full-time Project Assistant, to be selected and appointed among the permanent members of the Ministry of Environment for a total period of 60 person-months. The Director should be a senior business development professional with working knowledge of business practices, policy and regulation in the field of RES. It was assumed that personnel costs would be covered as co-financing by the MNERP. This has not happened.

Expectation that the MNERP would identify among its permanent staff-members a senior business development professional and use him/her full-time exclusively for the Project, seems not realistic. And the implementation of the Project proved this. Actually, WESU Director continues his regular work as a Deputy Head of Department of Regulation of Impact on Air, Climate Change and Expertise. It is then obvious, that the effectiveness of WESU will be not as high as planned in the ProDoc. One of the evidence for this statement is that the Director of WSESU, who is a member of PSC, hasn’t make any presentation at the PSC meetings; the Project Manager was a key presenter at the meetings.

**Investments in wind energy**

The design of the Project considers the following scheme for the attracting of investments:

* + WPFI makes screening of the potential sites and identifies up to 5 most promising ones
  + WPFI organizes wind measurements and carries out pre-feasibility, feasibility studies. In parallel, as there is no one-stop shop for the wind investors, obtains all necessary permits
  + WPFI sells the pre-investment documentation to the investor, selected through competition

Here two questions needed to have been critically reviewed during project design: (i) who and when should conduct feasibility study (WPFI or the investor); and (ii) will there be interest expressed by potential investors? Regarding the first question, from the business (maximum revenue generation) point of view, the WPFI should be interested in selling the documentation at late stages of the development of the pre-investment documentation (the more documents are developed, the higher the price they could theoretically fetch, provided the investor is satisfied with quality of the pre-investment package). On the other hand, the windfarms need to be commissioned within the timeframe of the Project and therefore, early involvement of the investors is one of the success factors. WPFI shall develop feasibility studies only if there is an evidence that there will be an investor interested in it. It might be that the investor would prefer to develop feasibility study by on own. The discussion of these options and corresponding guidance is missing in the design. Regarding the second question, the cost of equity and cost of debt for wind energy project are high in Belarus[[7]](#footnote-7) and therefore, it is not clear whether the potential investors will be interested in investing under the existing legal and regulatory framework and existing investment climate. The main target of the legal/regulatory component, to have a Feed-in-Tariff in place followed by the Power Purchase agreement (PPA) with a fixed tariff and guaranteed purchase of 100% of the generated electricity, is not achieved yet. TDF-Ecotech and Triple, the two Belarusian companies that were expected to invest in windfarms and provide major part of the total co-financing for the Project, first suspended, and the stopped their activities in this direction. During 3 years of the implementation, the Project was actively working on drawing attention of potential investors and financial organizations, including through the workshops and roundtable discussions with potential investors; Memoranda on Cooperation have been signed with some of them. At the 5th PSC meeting, held in September 2017, it was proposed to begin the investor selection procedures for the first site. As stated in the PSC meeting report, “This will allow … to attract the investor to the design process in order to take into account specific wind power equipment that the investor will be ready to purchase in the elaborated project documentation. In the future, this will improve the quality and value of the acquired pre-investment asset for an investor”. Nevertheless, selling the pre-investment documentation to the potential investors remains to be the main challenge of the Project.

**Financing of wind projects**

The availability of financing of the investment projects in the under-developed fields remains the most critical issue. Many UNDP/GEF projects consider the creation of a Financial Support Mechanism (FSM) in cooperation with IFIs, in the form of specialized credit lines, revolving funds, guarantee funds, etc. In this Project no FSM was foreseen but there is technical assistance funding available to support the development of the planned 25 MW of wind energy. The financing of the pilot projects is supposed to come through a combination of debt and equity. For this purpose, working with the private sector / project developers and attracting development banks and private banks is a big part of the project strategy (Activity 3.2.2: The Project together with WPFI and WESU will work with International Financial Institutions to identify and evaluate debt solutions). But the ProDoc doesn’t analyze the likelihood to succeed with “debt solutions”. As stated in the ProDoc, Triple, a company having a plan of development of 20 MW windfarm, “is also not clear that they will have access to debt financing on viable terms”.

The ProDoc didn’t suggest and the PMU didn’t investigate the financing opportunities through the existing/planned programs, e.g. EBRD funded BelSEFF[[8]](#footnote-8) (launched in 2012). The resources of BelSEFF (USD 50 million) are used to foster sustainable energy investments in Belarus. The framework comprises credit lines to local banks for on-lending to industrial companies and SMEs undertaking energy efficiency and renewable energy projects. The PMU should take the initiative to speak to EBRD, World Bank and other IFIs.

Based on the above-mentioned it is the MTR Team’s opinion that the project design, in a number of key elements, was not based on realistic approach. Nevertheless, no revision of the design was requested by the Implementing Partner / PMU, either during the inception phase or afterwards. This means that it is now a matter of extreme urgency to revise and redefine the project LogFrame matrix as soon as possible.

### Results Framework

**General remarks**

* In general, the Results Framework (LogFrame), does not strictly correspond to the planned Outcomes and Outputs because indicators and targets are established not for all Outputs. For instance, for Outcome 2, which consists of 5 outputs, only 2 indicators and targets are established; for Outcome 4 (4 outputs) – only one indicator.
* Logframe doesn’t include timeline targets, i.e. when the particular target shall be achieved (e.g. after xx months from the start)

**Review of the LogFrame**

Some indicators in the LogFrame are not SMART (Specific, Measurable, Achievable, Relevant and Time-Bound), some others are not strictly related to the Objective and Outcomes. In addition, baseline levels of some indicators are under-estimated. In particular:

* For the Objective, Indicator (Installation of at least 25 MW of wind power utilizing market-based investments with average net capacity factors over 30% which will produce the objective of generating >1 million MWh of renewable energy and reducing greenhouse gas emissions by > 500,000 tonnes of CO2 equivalent) and Target (10 active debt and equity investors; 25 MW with a minimum of 5 MW per project) are not appropriately established. Indeed, the indicator contains quantitative targets for the capacity, life-time generation and life-time direct GHG reductions. Then, the investors should use debt and equity investment, which in principle, is correct but in the Belarusian reality some investors may use equity only financing, especially considering the small scale of individual projects whereas others will use a combination of equity + debt. It must be noted that the ProDoc (footnote 21) states that the 25 MW of installed capacity could come from 5 wind farms of 5 MW but it could also be from one site of 10 MW and 15 MW, which is also consistent with the target. In addition, the baseline level (less than 5 MW installed) is far less than actually observed one (82 MW total capacity in operation, out of which 73 MW built after the ProDoc approval). Finally, in Annex 7.6 the direct and indirect emission reductions are estimated; Direct GHG reduction - as 0.643860 Mt CO2-eq, which is in line with the target (> 500,000 tonnes of CO2 equivalent); Indirect Emissions Reduction (top down) - 1,931 Mt CO2-eq[[9]](#footnote-9); Indirect Emission Reductions (bottom-up) - 41,207 Mt CO2-eq[[10]](#footnote-10). But in the LogFrame no target is established for the consequential (formerly indirect) emission reductions. Without this target the assessment of achievement of the Objective cannot be comprehensive. Indeed, if one assumes that the Project manages to get PPAs signed with fixed tariffs, but for pilot projects only, without corresponding changes in regulation, which would make possible for investors to fix the tariff (in BYN/KWh) in PPA, then the target will be achieved (Quota for 25 MW windfarm is obtained, and for the fixed tariff, it would be not difficult to find an investor who will commission the windfarm; unlikely the power grid emission factor would be significantly changed compared with that one in the ProDoc and therefore, the GHG target will be achieved) while the impact of the Project will be negligible (because investors still would face an uncertainty in the cash flow projection) due to the very low replicability factor.
* For Outcome 1 two indicators are identified: (i) A financeable feed-in-tariff including transmission charges; and (ii) Rules and procedures for grid connection. This is inconsistent with the Chapter “Project Objective, Outcomes, Outputs and Activities” of the ProDoc, according to which “Key Indicator for Outcome 1 is: Increased foreign and domestic developer activity in Belarus. Availability of market priced debt and equity for wind energy projects in Belarus” – this indicator is missing in the LogFrame. It must be also noted that Outcome 1 (Secondary Legislation is in place to support wind energy with the support of the project) can be achieved not only by the introducing feed-in-tariff. The supportive legislation could be developed even under the auctioning[[11]](#footnote-11) scheme as well.
* For Outcome 2 – only one output (2.5) has a direct link to the target (Developed and published manuals); the rest of the outputs have no association to the LogFrame, hence their monitoring is effectively zero. On additional indicator should be added on preparation of De-risking Investment in Wind Energy Study for Belarus, which has already been successfully undertaken
* For Outcome 3 – the majority of the indicators and targets (5 in total) are the same, i.e. indicators contain quantitative targets as well
* Even though the establishment of WESU is not an output of the Project (this is appropriate because the WESU is established only for promoting the implementation of this Project), some indicators, nevertheless, might include the efficiency of WESU performance

No revision of the logFrame was requested by the Implementing Partner / PMU neither during the inception phase nor afterwards

## Progress towards Results

The overall objective of the Project is to significantly increase the power generation by using wind energy in Belarus. By achieving this objective, a number of outcomes and outputs also will be achieved.

### Progress towards outcomes analysis

This analysis is conducted based on the review of indicators in the Results Framework against progress made towards the end-of-project targets, i.e. Project’s achievement against objective and outcomes; for each outcome all outputs are analysed.

For critical outputs indicator-level progress reported in the PIRs (2016, 2017) also were reviewed.

According to Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects, the assessment of progress should be based on data provided in the PIRs, supplemented by data provided in the GEF TTs, the findings of the MTR mission, and interviews with the project stakeholders. In addition to this the MTR Team used also Annual Project Reports (2015, 2016, 2017), materials of Inception Workshop, minutes of PSC meetings and Project technical reports and publications.

For the analysis, the original Results Framework was used. As mentioned above some indicators are lacking internal logic and consistency and therefore, couldn’t be achieved as formulated.

Details of Project progress towards results are presented in Table 1. As mentioned above, the LogFrame doesn’t provide when exactly the targets shall be achieved. Therefore, it is difficult to judge, what the midterm targets should be.

Table 1: Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets)

|  |  |  |  |
| --- | --- | --- | --- |
| Indicator Assessment Key | Green= Achieved | Yellow= On target to be achieved | Red= Not on target to be achieved |

| **Project Strategy** | **Indicator** | **Base-line Level** | **Level in 1st PIR (self- reported)** | **Midterm Target** | **End-of-project Target** | **Midterm Level & Assess­ment** | **Achieve­ment Rating** | **Justification for Rating** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **OBJECTIVE:**  Removing Barriers to Wind Power Develop­ment in Belarus and the installation of over 25 MW of nameplate gene­ra­ting capacity with a minimum of 5 MW per project and the genera­tion of >1 million MWh of renewable energy and achieving direct green­house gas emission redu­ctions totalling >500,000 tonnes of CO2 equivalent | Installation of at least 25 MW of wind power utilizing market based invest­ments with ave­rage net ca­pacity fac­tors over 30% which will pro­duce the obje­ctive of gene­rating >1 milli­on MWh of re­newable ener­gy and reduc­ing greenhouse gas emissions by > 500,000 tonnes of CO2 equivalent | Zero;  <5 MW | At least 2 companies (Guris, Turkey and Conte, Belarus) confirm their readiness to invest in the projects developed under the Project | 0 (in the bud­get, most of the expenditu­res for the de­velopment of the pre-invest­ment docume­n­tation are pla­nned for the 2nd and 3rd years of imple­mentation. Then the inve­stor will finalize feasibility stu­dy, prepare de­tailed design, procure WTG equipment and install them. Unlikely this could be pos­sible to com­plete before the MTR) | 10 active debt and equity investors;  25 MW with a minimum of 5 MW per project | Barriers have been identified; most of them are expected to be removed before the Project end  Legal provisions related to the FiT scheme are developed by the Project but not approved yet.  Pre-investment documentation are developed for 5 potential windfarm sites  25 MW Quota with high multiplying factor has been obtained for Veleskovichi; 4 applications for quotas for other locations are submitted | **MS** | The PMU is targeted to partially comply with the requirement, to have 5 windfarms developed with the total capacity exceeding 25 MW. However, whether or not all of this 25 MW+ of new wind farm development will be fully financed, remains to be seen.  The following has been achieved (or not achieved yet) to date:   * Identified barriers are not removed but most of them are expected to be removed before the Project end * Absence of the FiT scheme was identified as a main financial barrier for attracting of investments and FiT still is not in place. Moreover, there is no indication that it will be introduced and the pilot projects (to be implemented under the assistance of the Project) will benefit from the feed-in-tariff. * 5 windfarm sites are identified; wind measurements procured from a third party for one site (25 MW) and measurements are ongoing for the remaining four sites; feasibility studies carried out by the local engineering company; * The project has started to seek and attract potential investors for those sites. Companies Guris (Turkey) and Conte (Belarus) confirmed their interest. During the study on de-risking investments in wind energy projects in Belarus, about 10 companies showed their interest in wind energy projects. In 2017 the WPFI signed MoUs with the companies Nemera Capital (UK) and Windmatik (Poland) on the cooperation in wind project development * For one location (25 MW) Quota was obtained with high multiplying factor (coefficient) of 1.2, which is exceptionally high nowadays in Belarus and thus, an investor can hopefully be identified for this site, even though the high coefficient doesn’t guarantee that actually paid tariff will be high enough (see details below) * For four other locations the quotas are not obtained yet (MNERP applied once for it but didn’t receive; MNERP will apply again)   **Based on the abovementioned the progress towards achievement of the Objective is rated as Moderately Satisfactory (MS)** |
| **OUTCOME 1:**  Secondary Legislation is in place to support wind energy with the support of the project | A financeable feed-in-tariff including transmission charges | RE Law | At the time when the pro­ject entered its active phase, Decree of the President of the Republic of Belarus On the Use of RES, establi­shed quotas on all RES, whereas the feed-in-tariff remains variable, unfixed | Completed by 70% | Enabling legislation in place with the assistance of GEF project | As stated in the PIR 2017, there is a general tendency to reduction of the renewable energy projects (relevant policy of the Ministry of Energy) observed  Initiatives to improve the legal and regulatory framework has been developed but not approved | **MU** | In 2015 the Government of Belarus made a decision to put a cap on future REs developments, introduce a system of quota distribution on a competitive basis to potential developers and investors in RES projects. At present, the latest suggested amendments to the Decree of the President of the Republic of Belarus No. 209 abolishes the elevating coefficients (multiplying factors) and introduces only reducing coefficients for the RES projects. This clearly shows that National RE policy doesn’t consider FiT scheme.  In 2016 the Project has prepared a number of reports, which contain detailed and argumentative information and suggestions on the FiT tariff to introduce in the regulatory practice in Belarus.  However, the key ministries responsible for energy development, do not support the introduction of the FiT, and there is no sign that the situation would be changed.  The Project has been trying hard with the following:   * Enhancing the capacity of the policy makers in legal and regulatory framework by taking them to the study tours with the adequate programmes including meetings with the relevant policy makers * Developing methodology for REs tariff estimation * Preparing the amendments to the Law on RES * Developing a scheme of introduction of CO2 payments as environmental taxes, which shall be accumulated and distributed as a premium to the RES producers   The reality of Belarusian RE sector is that after introducing of quotas, the potential developers are offering competitive (lower) multiplying factors, i.e. the feed-in-premium scheme is replaced by the “auctioning” with a difference that the bidders (potential investors) are offering multiplying factors instead of attractive tariff values.  The Project has started facilitating the abovementioned process. Just after the MTR mission, a meeting was held at the Ministry of Energy and it was decided to start working on the Strategy for RES development in Belarus as well as on proposals for the amendment of the Law on RES. The Project will provide expert support and initiate coordination of Inter-institutional working group, which will oversee the development of the mentioned documents.  The above activities are in line with Outcome 1, which considers supportive secondary legislations in place. However, the indicator refers to the FiT only, which is not only the scheme to promote investment in wind energy.  ***Formally, the progress towards achievement of this target is rated as Moderately Unsatisfactory (MU).***  ***At the same time, if the indicator is revised (e.g. possibility of signing Power Purchase Agreement with the fixed tariff) then the target can be achieved (and the assessment cell colored in yellow) and the progress towards achievement of this target would be Moderately Satisfactory (MS)*** |
| Rules and procedures for grid connection | RE Law | ToR for the develop­ment of seco­n­dary legislation and regu­lati­ons and procedu­res for grid connec­tion are develop­ed. To identify the tech­ni­­cal re­gulatory gaps in wind ene­rgy sphe­re, the Pro­ject has studied the practical ex­perience of the wind farm deve­lo­pers in Belarus, mai­n­ly Republi­can Unitary Ente­rprise "Grodno­energo", and Belo­rusneft. It was revea­led that require­ments to operating outdoor temperatu­res in the national technical documents need to be adjusted; the shadow flickering ef­fect is not taken into account at any stage of design or develop­ment of a wind po­wer installa­tion; the national legislation does not stipulate EIA at the development of the wind power installa­tions. Gaps in technical standards relating to wind pa­rameters measure­ment and monitoring have been identified - requirements to the selection of the site for wind monitoring, to validation of wind measurement equip­ment; validation of the results of monitoring. | Completed by 70% | Secondary legislation and regulations and procedures for grid connection and financing grid connection with the assistance of the GEF project.[[12]](#footnote-12) | The analysis of the legislation conducted and gaps identified  Recommendations for development/improvement of Secondary legislation worked out. | **MS** | The Project has identified the areas for improvement: requirements to operating outdoor temperatures in the national technical documents need to be adjusted; the shadow flickering effect is not considered at any stage of design or development of a wind power installation; the national legislation does not stipulate EIA at the development of the wind power installations.  Gaps in technical standards relating to wind parameters measurement and monitoring have been identified - requirements to the selection of the site for wind monitoring, to validation of wind measurement equipment; validation of the results of monitoring.  The following legal amendments recommendations were prepared:  - Identification of the requirements for the transfer of electricity from RES facility to the consumer  - Improving and simplifying procedure for electricity transmission from RES facility to the consumer  ***Based on the abovementioned the progress towards achievement of this target is rated as Moderately Satisfactory (MS)***  **Overall rating for the progress towards achievement of Outcome 1 is Moderately Unsatisfactory (MU)** |
| **Outcome 2: Increased confidence in the profitability of wind power projects in Belarus** | Clear guidelines and viable examples of Wind Farm investments in place | Zero | Information and communication strategy for the project is developed. The Terms of reference for the training and awareness raising programme for decision makers is prepared. | Completed | Completion of 5 wind farms providing a clear FIT, guidelines and confidence for future development | Viability of investments in wind energy has been demonstrated through:   * Study tours * Feasibility studies of the selected pilot sites | **S** | During 26-30.09.2016 a study tour for decision makers (representatives of the MNREP, Ministry of Energy, Department of EE) was held in Germany, which included: meetings and discussions, visit of international exhibition for wind energy in Hamburg. The delegation visited a wind farm near Düsseldorf. The study tour allowed to: (i) get acquainted with the latest achievements in the field of wind power; (ii) receive more information about the stages of construction of wind power plants; (iii) establish partnerships with international Wind Energy Association, Ukrainian Wind Energy Association and other companies and organizations.  Study tour to Denmark for wind power development (16-20.10.2016) for representatives of the Senior managements of MNREP, Ministry of Energy, the Department of EE, Ministry of Economy. The Belarusian delegation took part in negotiations with the management of the export-credit agency Denmark EKF; representatives of the company's management "Vestas", as well as a senior manager of the government agency of the Ministry of energy and climate of Denmark. The delegation visited a wind farm Middelgrunden in Copenhagen. As a result of the trip, a report containing draft orders to governmental bodies for the development of bilateral cooperation with Denmark on wind energy was prepared.  The international CTA and PM had several meetings with the key educational establishments of Belarus who are preparing/training specialists in RE. It was observed that there is no need to amend the university curricula by including wind power related issues. Thus, instead amending the university curricula, a concept of training programme for specialists (designer, engineers, electricians, technicians) was developed to be implemented in the framework of the project. As a result:   * In May 2017 a training in Wind PRO software was organized (with direct involvement of the Danish company EMD). 13 specialists, representatives of 9 companies and organizations, were trained. Trainees have got certificates of accomplishment as well as the right of use the windPRO for a month. * Study on De-risking investment in wind energy in Belarus has been conducted by three international consultants with the support of the PIU. The study was reviewed by two independent experts; it was presented at the seminar held on May 18, 2017; it was discussed at the 4th PSC meeting (July 2017). Many companies, IFIs (e.g. IFC) expressed their interest in pursuing the results of the study   ***Based on the abovementioned the target is achieved and thus, the progress towards achievement is rated as Satisfactory (S)*** |
| Developed and published manuals | Zero | Instruction on the Or­der of Procedures of Obtaining the Nece­ssa­ry Permits for Wind Farm Constru­ction Objects is de­veloped and posted on the Project's website. <http://www.windpower.by/en/info/manuals.html>  The study on de-ris­king of the invest­ment in wind energy sector in Belarus was launched. Two inter­national consultants were selected to co­ntribute to this study. The consultants visi­ted Minsk in May 2016. During that mission introductory interviews with inve­stors in wind energy were taken. The study is ongoing. | Completed | Comprehensive manual | Manuals developed on De-risking of RE investments as well as On procedures to obtain permits for wind farm construction  A Reference Guide for the EIA for Wind Power Projects was developed | **S** | The following manuals have been developed and published:   * BELARUS: Derisking Renewable Energy Investment. Selecting Public Instruments to Promote Wind Energy Investment in Belarus   (<http://www.windpower.by/files/files/DREI-Belarus%20Report.pdf>)   * The Approximate Order of Procedures of Obtaining the Necessary Permits for Wind Farm Construction Projects (<http://www.windpower.by/files/files/PB_002%20eng%20The%20approximate%20order%20of%20procedures.pdf>)   ***The target is achieved and thus, the progress towards achievement is rated as Satisfactory (S)***  **Overall rating for the progress towards achievement of Outcome 2 is Satisfactory (S)** |
| **Outcome 3: An Investment Grant is made by the GEF project which funds the WPFI** | Availability of adequate funding for the WPFI and the PMU | Zero | Current state of investments in wind energy in Belarus was analysed. Prelimina­ry assessment of funda­bility of wind energy in Belarus was made. A brief guide on stra­tegies to attract in­vestors to wind ene­rgy was developed. All mentioned docu­ments were develo­ped by the interna­tional consultant. In particular, over 300 RE investors were identified, who are focused on nothing but RE | Completed | $XX mm | WPFI is established and its funding secured  WPFI is operating according to the work plan | **MS** | The following practical steps were undertaken:   * Under the PMU support the MNREP established WESU. However, the WESU was not established in accordance with the ProDoc. The WESU director is continuing serving as a full-time employee of the MNREP and thus, WESU’s effectiveness is limited * WPFI was legally formed as LLC "Wind Private Finance Initiative". WPFI was founded by the engineering company ENECA and Belarusian Research Center "Ecology" (an organization subordinate to MNREP). However, the two founders have different visions on wind energy development from the business point of view; they don’t cooperate effectively. Mostly because of this the Director of WPFI was only selected after 6 months of its establishing * Necessary funds for the operation of WPFI were allocated in the Project budget * WPFI started its operation as per provisions presented in the ProDoc and AWPs   ***The target is partially achieved and thus, the progress towards achievement is rated as Moderately Satisfactory (MS)*** |
| Selection of an outside consultant capable of performing the development work | Zero | The tender for the selection of a consul­tant for the integ­rated management of the investment pro­ject on construc­tion of wind power tur­bines (WPT) with the development of pre-project (pre-invest­ment) and project documentation was launched. The pro­posals from the bid­ders were received and assessed. All bid­ders were national companies with in­ternational (German) partners duly accre­dited for wind measu­rements and monito­ring. The CTA under­took an independent expert assessment of proposals. The Evalu­ation Committee of the MNREP made their own assessment considering the advi­ce of the CTA. The contract with the selected company Eneca is to be signed by the middle of August 2016. | Completed | At least 1 | International Chief Technical Advisor (CTA) has been selected  Involvement of another International CTA is planned | **MS** | The consultant for the integrated management of the investment project on construction of wind farms with the development of pre-project (pre-investment) and project documentation, has been selected through the international tender. The tender was evaluated by the Evaluation Committee; CTA undertook an independent assessment of proposals. The selected company ENECA (Belarus) signed the contract on August 25, 2016, i.e. almost a year after the PM started her work.  ENECA has started implementing planned activities. Some of them very successful (screening of potential sites, planning and conducting of tenders for feasibility studies), some others not very much (wind measurements, one of the meteo masts has collapsed during installation).  Changing of ENECA due to the unsatisfactory performance is not expected  ***Based on the abovementioned the target is partially achieved and thus, the progress towards achievement is rated as Moderately Satisfactory (MS)*** |
| Installation of at least five meteorological towers are installed and data is collected for at least one year. | 1 | The technical specification for the procurement of the wind measurement equipment is developed. | Completed by 40% | 6 | The development of 5 wind projects is ongoing. They are at different stage of development | **MS** | * Technical specification for the procurement of the wind measurement equipment is developed; equipment with meteorological masts was delivered on 31 December 2016 by the contractor "Avanta", Ltd. * ENECA has designed the installation of the wind measurement equipment on the selected sites (5 sites). * The installation of the wind measurement equipment started on 31 January 2017 but at the time of erection of the first meteorological mast at the site in Staryie Boruny (Smorgon district), the latter fell down. The damaged mast was restored by the contractor for erection (ENECA) and the connecting elements of the mast were replaced by the supplier (Avanta). The instalment of 5 masts finalized in August 2017 * Wind measurement report for a site located near the village of Veleskovichi (for which 25 MW quota has been obtained) has been purchased from a DIN EN ISO / IEC 17025 certified company and reviewed/validated by another DIN EN ISO / IEC 17025 certified company (Wind Prospect, UK). * Wind measurements on other four sites are ongoing (started in September 2017) * The 5th mast has been installed by WPFI on a non-Project site under a contract with a third-party entity.   ***Based on the abovementioned the target is partially achieved and thus, the progress towards achievement is rated as Moderately Satisfactory (MS***) |
| The WPFI, a private entity, obtains permits and Investment Agreements for at least 5 projects | 0 | The Terms of reference for the Wind Private Finance Initiative is developed. Two co-founders of the WPFI are identified - the consultancy company selected in the course of the tender - Eneca (Belarus) and the organization subordinate to the MNREP - Republican Unitary Enterprise "Belarusian Research Center "Ecology". The draft statute of the WPFI is developed. The Terms of reference for Director and Assistant are finalized. | Completed by 80% | 5 or > | The WPFI is working on obtaining permits | **MU** | The first permits for 5 selected sites have been obtained from the Ministry of Defence, Ministry of communications and information, Department of Aviation of the Ministry of Transport and communications, RUE “BelGIE”.  The procedure on allocating the land plots for one site, for which 25 MW quota was secured, has been completed . This is the first step for the signing of the investment agreement.  Other selected sites haven’t obtained quotas yet, and thus investment agreements cannot be concluded (as per the common practice of the Ministry of Energy, which is obeyed by the local authorities). The MNREP and the Project have initiated the procedure of obtaining additional quotas for the 4 remaining sites. However, it is unclear whether the quotas will be obtained or not.  It must be noted that the 25 MW quota was obtained not by the WPFI (it wasn’t established by that date) but the MNREP. At that moment the multiplying factor was not identified as there was no legal person (WPFI) in place. Nevertheless, the Ministry of Economy approved for 25 MW quota, a factor of 1.2 (while at that time the highest factor was 1.1). Thus, the project managed to ensure the maximum multiplying factor.  The above case shows that the MNREP was successful in obtaining “special” conditions for its project but not in creating of the clear rules for all investors. Therefore, it is doubtful whether it will have a strong impact on the general rule/procedure for quota issuance.  ***Based on the abovementioned the target is likely to be achieved but with limitations. Thus, the progress towards achievement is rated as Moderately Satisfactory (MS)*** |
| The WPFI, a private entity, successfully tenders at least 5 projects and finds acceptable level of investor interest | 0 | None reported | Completed by 50% | 5 or > | WPFI is preparing pre-investment materials for 5 projects; tenders are not conducted yet | **MU** | The process is not launched yet. However, the WPFI and WESU, as well as the Project team and MNERP are convinced that the target will be achieved. They already have had informal (meaning that these communications weren’t followed by the formal agreements) communications with the potential investors. The MTR team can confirm that there are private companies in Belarus, which would invest if the quotas are obtained (the MTR team has met some of them). Nevertheless, the requirements set in the ProDoc (minimum 25 MW for 5 projects) makes the size of individual projects very small that might be a problem for the investors, especially for foreign investors. In addition, under the terms of the 25 MW quotas granted for one project site, the period of validity of the high multiplying factor (1.2) lasts for 10 years starting from 2018 and is reduced thereafter (to 0.75 after 11 years). While it is unlikely for the project’s 25 MW windfarm to be commissioned before 2020 (due to investor selection, WTG procurement and construction time constraints), the project needs to try to get the quota timing adjusted accordingly in order to avoid losing valuable income stream to the windfarm due to commissioning after 2018.  Another problem is that the quotas for other sites are not obtained yet.  In summary, the Project, WPFI and WESU have to make very strong efforts to achieve this target.  ***Based on the abovementioned the target can be achieved but with limitations. Thus, the progress towards achievement is rated as Moderately Unsatisfactory (MU)***  **Overall rating for the progress towards achievement of Outcome 3 is Moderately Satisfactory (MS)** |
| **Outcome 4: At least (5) wind farm projects are successfully developed and the WPFI continues to operate past the lifetime of the project** | WPFI, a private entity, develops 5 wind farms which developers purchase and proceed to construction | <5 MW | The tender for the Consultancy company, which will form with WPFI in cooperation with the organization subordinate to the Ministry of Environment, is completed; the consultancy company is selected - Belarusian company "Eneca" with the German partner "Euro Wind". The contract will be signed by the mid of August. The Terms of reference for the WPFI is finalized | Completed by 40% | 25 MW with a minimum of 5 MW per project | WPFI is preparing pre-investment materials for 5 projects, investors of which are not identified yet | **MU** | Feasibility study reports are prepared for 5 sites by the local company Malaya Energetika  Environmental Impact Assessments are prepared for 5 sites by the local company Malaya Energetika  First FS was reviewed and approved by the State Construction Expertise; EIA report was reviewed and approved by the State Environmental Expertise.  The report on wind measurements is reviewed and confirmed by Wind prospect - DIN accredited company  Pre-investment documentation of those sites are not sold yet (by the WPFI to the investors)  Nevertheless, all these activities are planned. However, within the project timeframe it will be very difficult to achieve the target. Most likely, target can be achieved but partially (e.g. only 25 MW project, with quota, can be implemented).  **Based on the abovementioned the progress towards achievement of Outcome 4 is Moderately Unsatisfactory (MU)** |
| **Overall progress towards achievements is Moderately Satisfactory (MS)** | | | | | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Indicator Assessment Key | Green= Achieved | Yellow= On target to be achieved | Red= Not on target to be achieved |

**Notes**:

1. LogFrame doesn’t include indicators, baseline levels and end-of-project targets for outputs. Therefore, outputs are not presented this table
2. Achievement of Outcomes is rated based on: (i) precise evaluation of mid-term level of indicators; and (ii) their comparison with the mid-term targets
3. Mid-term targets for Outcomes were determined based on the review of annual budgets presented in the ProDoc

Table 2: Information on windfarm sites

| **#** | **Location** | **Status of the development** |
| --- | --- | --- |
| 1 | Site near the village of Veleskovichi, Lioznensky district, Vitebsk region | Planned capacity: 25 MW  Number of wind turbine generators (WTG): 7  Legal entity established: “Wind Farm Veleshkovich” Ltd  Renewable energy quota: *available*  Independent transmission study *completed* confirming that the grid interconnection point is the closest point to the project site, and that the project’s internal transmission requirement does not render the project uneconomical.  Indicative quotations from a few WTG manufacturers obtained.  Wind measurement report for a site located near the village of Veleskovichi has been purchased from a DIN EN ISO / IEC 17025 certified company and reviewed/validated by another DIN EN ISO / IEC 17025 certified company (Wind Prospect, UK).  The following clearances/approvals have been secured:   * Ministry of Defense (Chief Operational Department of the General Staff) * Ministry of Communications and Information (State Telecommunications Inspectorate) * Ministry of Transport (Aviation Department) * Vitebsk Regional Committee of Natural Resources and Environmental Protection * Technical specification for grid interconnection; * Land plot allocation certificate; * Biodiversity impact study by Academy of Sciences Research Center on Bioresources; * Technical specification from Road Police; * Technical specification from Road Construction Department; * Input data for engineering and technical measures for emergency prevention; * Certificate from the Ministry of Emergencies; * Authorization Liozno District Executive Committee for civil works; * Overall site layout.   A set of pre-investment documentation has been elaborated and relevant clearances obtained from the Energy Efficiency Department of the State Standardization Committee, State Construction Inspectorate, and State Environmental Inspectorate. The documentation includes:   * Feasibility study report; * Environmental impact assessment report; * Business plan; * Project management plan; * Best Available Technology assessment report; * Terms of reference for detailed construction project design;   A draft investment agreement has been elaborated.  Tender documentation has been elaborated for competitive selection of an engineering company for design works. |
| 2 | Site near the village of Veyno, Senno district, Vitebsk region | Planned capacity: 9.9 MW  Number of wind turbine generators (WTG): 3  Legal entity established: “Wind Farm Zagoriane” Ltd  Renewable energy quota: *pending; project expects it to be allocated by April 2018.*  Independent transmission study *completed* confirming that the grid interconnection point is the closest point to the project site, and that the project’s internal transmission requirement does not render the project uneconomical.  Project-procured wind measurement mast installed; wind measurement ongoing since September 2017.  The following clearances/approvals have been secured:   * Ministry of Defense (Chief Operational Department of the General Staff) * Ministry of Communications and Information (State Telecommunications Inspectorate) * Ministry of Transport (Aviation Department) * Vitebsk Regional Committee of Natural Resources and Environmental Protection * Preliminary technical *considerations* for grid interconnection (proper technical specifications pending REs quota allocation); * Biodiversity impact study by Academy of Sciences Research Center on Bioresources;   A set of pre-investment documentation has been elaborated and relevant clearances obtained from the Energy Efficiency Department of the State Standardization Committee, State Construction Inspectorate, and State Environmental Inspectorate. The documentation includes:   * Feasibility study report; * Environmental impact assessment report; * Business plan; * Project management plan; * Best Available Technology assessment report; * Terms of reference for detailed construction project design;   A draft investment agreement has been elaborated.  Land plot allocation certificate and grid interconnection specification are expected to be obtained by May 2018 (pending REs quota allocation). |
| 3 | Site near the village of Zagoriane, Gorodok district, Vitebsk region | Planned capacity: 9.9 MW  Number of wind turbine generators (WTG): 3  Legal entity established: “Wind Farm Veyno” Ltd  Renewable energy quota: *pending; project expects it to be allocated by April 2018*  Independent transmission study *completed* confirming that the grid interconnection point is the closest point to the project site, and that the project’s internal transmission requirement does not render the project uneconomical.  Project-procured wind measurement mast installed; wind measurement ongoing since September 2017.  The following clearances/approvals have been secured:   * Ministry of Defense (Chief Operational Department of the General Staff) * Ministry of Communications and Information (State Telecommunications Inspectorate) * Ministry of Transport (Aviation Department) * Vitebsk Regional Committee of Natural Resources and Environmental Protection * Preliminary technical *considerations* for grid interconnection (proper technical specifications pending REs quota allocation) * Biodiversity impact study by Academy of Sciences Research Center on Bioresources;   A set of pre-investment documentation has been elaborated and relevant clearances obtained from the Energy Efficiency Department of the State Standardization Committee, State Construction Inspectorate, and State Environmental Inspectorate. The documentation includes:   * Feasibility study report; * Environmental impact assessment report; * Business plan; * Project management plan; * Best Available Technology assessment report; * Terms of reference for detailed construction project design;   A draft investment agreement has been elaborated.  Land plot allocation certificate and grid interconnection specification are expected to be obtained by May 2018 (pending REs quota allocation). |
| 4 | Site near the village of Yanovichi, Novogrudok district, Grodno region | Planned capacity: 9.9 MW  Number of wind turbine generators (WTG): 3  Legal entity established: “Wind Farm Yanovichi” Ltd  Renewable energy quota: *pending; project expects it to be allocated by April 2018*  Independent transmission study *completed* confirming that the grid interconnection point is the closest point to the project site, and that the project’s internal transmission requirement does not render the project uneconomical.  Project-procured wind measurement mast installed; wind measurement ongoing since September 2017.  The following clearances/approvals have been secured:   * Ministry of Defense (Chief Operational Department of the General Staff) * Ministry of Communications and Information (State Telecommunications Inspectorate) * Ministry of Transport (Aviation Department) * Vitebsk Regional Committee of Natural Resources and Environmental Protection * Preliminary technical *considerations* for grid interconnection (proper technical specifications pending REs quota allocation); * Biodiversity impact study by Academy of Sciences Research Center on Bioresources;   A set of pre-investment documentation has been elaborated and relevant clearances obtained from the Energy Efficiency Department of the State Standardization Committee, State Construction Inspectorate, and State Environmental Inspectorate. The documentation includes:   * Feasibility study report; * Environmental impact assessment report; * Business plan; * Project management plan; * Best Available Technology assessment report; * Terms of reference for detailed construction project design;   A draft investment agreement has been elaborated.  Land plot allocation certificate and grid interconnection specification are expected to be obtained by May 2018 (pending REs quota allocation). |
| 5 | Site near the village of Starye Boruny, Smorgon district, Grodno region | Planned capacity: 6 MW  Number of wind turbine generators (WTG): 3  Legal entity established: “Wind Farm Starye Boruny” Ltd  Renewable energy quota: *pending; project expects it to be allocated by April 2018*  Independent transmission study *completed* confirming that the grid interconnection point is the closest point to the project site, and that the project’s internal transmission requirement does not render the project uneconomical.  Project-procured wind measurement mast installed; wind measurement ongoing since September 2017.  The following clearances/approvals have been secured:   * Ministry of Defense (Chief Operational Department of the General Staff) * Ministry of Communications and Information (State Telecommunications Inspectorate) * Ministry of Transport (Aviation Department) * Vitebsk Regional Committee of Natural Resources and Environmental Protection * Preliminary technical *considerations* for grid interconnection (proper technical specifications pending REs quota allocation); * Biodiversity impact study by Academy of Sciences Research Center on Bioresources;   A set of pre-investment documentation has been elaborated and relevant clearances obtained from the Energy Efficiency Department of the State Standardization Committee, State Construction Inspectorate, and State Environmental Inspectorate. The documentation includes:   * Feasibility study report; * Environmental impact assessment report; * Business plan; * Project management plan; * Best Available Technology assessment report; * Terms of reference for detailed construction project design;   A draft investment agreement has been elaborated.  Land plot allocation certificate and grid interconnection specification are expected to be obtained by May 2018 (pending REs quota allocation). |

In the below text justifications of the ratings, presented in Table 1, are presented.

**Objective: Removing Barriers to Wind Power Development in Belarus and the installation of over 25 MW of nameplate generating capacity with a minimum of 5 MW per project and the generation of >1 million MWh of renewable energy and achieving direct green-house gas emission reductions totalling >500,000 tonnes of CO2 equivalent**

***Indicator: Installation of at least 25 MW of wind power utilizing market-based investments with average net capacity factors over 30% which will produce the objective of generating >1 million MWh of renewable energy and reducing greenhouse gas emissions by > 500,000 tonnes of CO2 equivalent***

***Target: 10 active debt and equity investors; 25 MW with a minimum of 5 MW per project***

First of all, inconsistencies between the Objective, indicator and target, must be noted. Indeed, the Objective considers four sub-objectives: (i) barrier removal; (ii) development of at least 25 MW wind farms; (iii) generation of over 1 TWh energy (over the 20-year lifetime); and (iv) at least 500,000 t direct GHG reduction (over the 20-year lifetime), while the indicator additionally refers to at least 30% capacity factor. In contrary, the target only refers to 25 MW total capacity, but additionally calls for 10 active debt and equity investors.

**Barrier removal** – the process is not finalized yet. Moreover, if adaptive management is not widely applied, it cannot be finalized at all (within the Project timeframe). Details for that are provided in the below sections of this Chapter.

**25 MW total installed wind capacity** – this target is achievable because the 25 MW quota is already approved. And if the WPFI can sell it to the investor, this part of the target would be achieved

**Generation of 1 TWh energy.** The capacity factor must be at least 30%, i.e. annual generation would be at least 25 MW x 8,760 hours x 30% = 65.7 GWh (annual net generation by the windfarm has been estimated in the respective FS report prepared by “Malaya Energetika” Ltd at 65.17 GWh); generation over the 20-year period: 65.7 GWh/y x 20 years = 1.314 TWh, i.e. achievement of the “sub-target” of 25 MW installed capacity with the 30% of capacity factor automatically will lead to the achievement of this sub-target.

**500,000 t CO2 direct reduction.** First of all, it must be noted that on p. 43 of the ProDoc, different numbers are presented: “The project will directly save 1,515 ktCO2-eq” and “The direct GHG reduction benefits of the Project have been estimated at 9,697 ktCO2-eq over the 25-year lifespan of the 25 MW of commissioned projects” and on p.81: “The direct CO2 emission reductions were estimated in step A at 1,894,525 tCO2-eq”. Thus, it is unclear what is the correct figure and also why much lower (500 kt CO2) target was established. It is stated in the ProDoc that emission reductions are calculated by using the electricity grid emission factor 0.49 tCO2-eq/MWh. By the end of the Project, the grid emission factor, will need to be re-estimated, as it is going to be reduced due to commissioning of the Belarusian nuclear power plant. But before that, if assume the same emission factor, the annual GHG reduction would be 65.7 GWh x 0.49 tCO2-eq/MWh = 32,193 tCO2-eq/y and the reductions over 20 years: 643,860 tCO2-eq, i.e. the target is achievable.

Even though there are consideration in the ProDoc regarding the consequential (indirect) emission reductions, no target is established for them.

**10 active debt and equity investors in place** – This target is lacking the logic. Indeed, the Project refers to 25 MW total capacity and at least 5 MW capacity of individual windfarms, i.e. the maximum number of investors of the wind projects to be finalized within the Project timeframe and assisted by the Project, equals to 5. Therefore, by the end of the Project there might be either (i) at least 5 investors, who haven’t received any assistance from the Project; or (ii) at least 5 investment projects should be ongoing (but not completed) under the assistance from the Project. In the first case, the results of the Project would already be under replication (investments take place even without the Project support), that means that the Objective would be achieved earlier than the Project end data, which is illogical (if so, then the shorter duration of the Project should be planned). The second case is even worse in terms of planning of the GEF-funded projects. Indeed, in this case some investment projects should be initiated under the assistance of the GEF funds, but not finished and evaluated by the end of the Project. Therefore, the target of having 10 active debt and equity investors in place by the end of the Project is illogical. The MTR Team recommends the revision of this target by making it logical and consistent (details are provided in the Chapter 5.2 Recommendations).

As it is clear, the target of the Objective can be achieved if the WPFI is able to find an investor for the 25 MW project located near the village of Veleskovichi, Lioznensky district, Vitebsk region, and for which the quota is already obtained.

In the last PIR (2017) the Project Manager, UNDP CO and RTA rated the Project Progress toward Development Objective as “Moderately Satisfactory”. The reason for that was that there are some promising signs with regards to the specific investments promoted by the project but in overall, the regulatory environment to support RES has got worse since the project started. The MTR Team agrees on that the GHG targets (due to implementation of the pilot projects) can be achieved, but there’s no clear indication that other/future potential investors would invest unless the barriers are removed including the ones related to the PPAs with the fixed tariff.

**MTR Team is also rating achievement of the Objective as Moderately Satisfactory (MS) due to the reasons described above**

**Outcome 1: Secondary Legislation is in place to support wind energy with the support of the project**

***Indicator 1: A financeable feed-in-tariff including transmission charges***

***Target 1: Enabling legislation in place with the assistance of GEF project***

First of all, it must be noted that the Feed-in-tariff (FiT) was never applied in Belarus. As correctly stated in the ProDoc, the Law on RES refers to feed-in premium but not FiT. Nevertheless, in the LogFrame FiT was established as an indicator for Outcome 1.

During the study tours to Germany and Denmark the Project Team observed that these countries are moving to more market-based tariff regulation of RES. But even before that, in 2015 the Government of Belarus made a decision to introduce quotas distributed on a competitive basis to potential developers and investors in RES projects based on the overall cap of annual REs capacity additions set by the government. At present, the latest suggested amendments to the Decree of the President of the Republic of Belarus No. 209 abolishes the elevating coefficients (multiplying factors) and introduces only reducing coefficients for the RES projects, which only changes the size of the multiplying factor applied to REs-based electricity sold to the grid, while keeping the base tariff (i.e. price of electricity paid by industrial consumers) to which these factors apply effectively “floating”. This clearly shows that National RE policy doesn’t consider FiT scheme. Nevertheless, the Project was applying a “static approach” rather than a “dynamic approach” and continued advocating FiT. In 2016 the following reports were prepared and approved by the MNREP (Implementing Partner):

* Analysis of normative legal acts, regulating the tariff policy in RE
* Different scenarios of financial incentives for wind power, including: (i) establishment of FiT (together with the calculation of its value) for the purchase of electricity produced by wind turbines; (ii) introduction of a green certificate system (or equivalent); (iii) introduction of a mechanism to stimulate the development of wind energy in "Belenergo" system; (iv) formation of a separate fund for wind power; (v) combination of various financial incentive mechanisms.

These reports contain detailed and argumentative information and suggestions on the FiT tariff to be introduced in the regulatory practice in Belarus.

Based on the conclusions of these reports, the project together with the WESU prepared a letter which was sent by the MNREP to the Ministry of Energy, in which the need for the fixed FiT tariff was highlighted. Later a letter was sent to the Ministry of Energy, the Ministry of Economy and the Department of Energy Efficiency. A separate letter with the same subject was sent to the Ministry of Antimonopoly Regulation and Trade (which, by the time, took over the tariff-setting mandate from the Ministry of Economy). All these governmental bodies sent their comments and mostly at that time they did not express much support for the suggestions developed by the project. In late February 2018 the above ministries confirmed in their official letters that they do not support the introduction of the FiT.

It is obvious that the Project failed in “lobbying” FiT and there is no sign that the situation would be changed. Moreover, the lobbying of FiT per se is a wrong decision even though it comes from the ProDoc. Nowadays many countries, including EU States and some of former Soviet countries (Kazakhstan, Georgia) are moving to the market-based supportive schemes for RES development, and first of all the auctioning.

Nevertheless, it cannot be concluded that the achievement of this Output and Outcome 1, as a whole, is unsatisfactory. Indeed, the Project was trying hard with the following:

* Enhancing the capacity of the policy makers in legal and regulatory framework by taking them to the study tours with the adequate programmes including meetings with the relevant policy makers
* Developing methodology for tariff estimation
* Preparing the amendments to the Law on RES
* Developing a scheme of introduction of CO2 payments as environmental taxes, which shall be accumulated and distributed as a premium to the RES producers

**Formally, the progress towards achievement of this target is rated as Moderately Unsatisfactory (MU).**

**At the same time, if the indicator is revised (e.g. possibility of signing Power Purchase Agreement with the fixed tariff) then the target can be achieved and the progress towards achievement of this target would be Moderately Satisfactory (MS)**

***Indicator 2: Rules and procedures for grid connection***

***Target 2: Secondary legislation and regulations and procedures for grid connection and financing grid connection with the assistance of the GEF project***

No additional justification is needed here

**Overall rating for achievement of the Outcome 1**

Two targets under this Outcome 1 were rated as MU (target 1) and MS (target 2). Therefore, the additional analysis is needed for the overall rating of Outcome 1.

The reality of Belarusian RE sector is that after introducing of quotas, potential developers are offering competitive (lower) multiplying factors, i.e. the feed-in-premium scheme is replaced by the “auctioning” with a difference that the bidders (potential investors) are offering multiplying factors instead of attractive tariff values.

The Project could play a facilitative role in this process by:

* Advising the Government to introduce tariff values (instead of multiplying factors) as criteria for issuing quotas
* Assisting the Government in estimating of affordable tariff level

It must be noted that the Project has already started working in this direction. Just after the MTR mission, a meeting was held at the Ministry of Energy and it was decided to start working on the Strategy for RES development in Belarus as well as on proposals for the amendment of the Law on RES. The Project will provide expert support and initiate coordination of Inter-institutional working group, which will oversee the development of the mentioned documents.

The above activities are in line with Outcome 1, which considers supportive secondary legislations in place.

However, the MTR Team has got an opinion that the Project Team is still trying to continue urging the policy makers to introduce the FiT scheme, instead of supporting of the actual scheme (very similar to auctioning except having fixed tariff values, instead fixed multiplying factors are offered by the bidders), i.e. the Project is lacking strategic vision on how to achieve this Outcome.

The achievement of the Outcome 1 greatly depends on the role of RES in short-, medium- and long-term National energy strategies, whether the development of RES belongs to the highest priorities. During the MTR mission the evaluation team was trying to get the answer to two questions:

* What are the future electricity demand-supply patterns; and
* How strongly is RES positioned in the energy strategy

The MTR Team got an opinion that there will be an excess of electricity in the country after the commissioning of NPP. The prospects of exports of the nuclear-based electricity are unclear. Therefore, despite the interest in RES development, declared by all stakeholders, representing Governmental entities, still there is a lack of confidence that the quantitative targets are determined based on the comprehensive analysis considering energy, environmental and economic factors and corresponding policy instruments.

The creation of the Secondary Legislation to support wind energy should not be focussed only on tariff methodology but also include:

* Economic analysis of the wind energy development at the National level. If the analysis confirms that the costs of wind energy projects in Belarus is higher than in the neighbouring countries (opinion of the key stakeholders), then the reasons shall be identified and adequately addressed
* Penetration of inefficient technologies must be prevented
* Establishment of quantitative targets for wind energy, based on the cost-effectiveness criteria and elaboration of the Strategy / Action plan to achieve those targets. Action plans, among others, should include improved financing opportunities (access to the financing; possible, preferential terms for loan financing)
* For the RES investors, not only the tariff level is very important, but also the guarantee that all the generated energy will be sold. In Belarus one of the criteria for issuing quota, is that the RES facilities have to participate in curtailment, i.e. grid operator may not accept electricity form windfarms during the certain periods, and it is difficult to predict lengths of these “cut-offs” and correspondingly estimate future cash flows. To address the need for and extent of REs curtailment (generating capacity varying during a day), the Project experts proposed the following daily regulation scheme of RES operation: 22 h working time (with higher tariff) + 2 h idle time. The Department of EE is not supportive because the costs of the electricity buyer are the same; level of depreciation (at least, of moral depreciation) remains unchanged, i.e. overall efficiency is not increased.

The Project has not paid enough attention to the above issues.

**Considering the abovementioned the overall rating for Outcome 1 is Moderately Unsatisfactory (MU).**

**Outcome 2: Increased confidence in the profitability of wind power projects in Belarus**

No additional justification is needed for this Outcome

**Outcome 3: An Investment Grant is made by the GEF project which funds the WPFI**

***Indicator 1: Availability of adequate funding for the WPFI and the PMU***

***Target 1: USD xxx***

Even the ProDoc doesn’t determine exact values of funds for effective operation of WPFI and the PMU, still it is possible to evaluate the achievement based on the availability of necessary resources. It is opinion of the MTR Team that the funds spent for this purposes to date and considered in the future budgets are, in general, adequate.

***Indicator 2: Selection of an outside consultant capable of performing the development work***

***Target 2: At least 1***

No additional justification is needed for this target.

***Indicator 2: Installation of at least five meteorological towers are installed and data is collected for at least one year***

***Target 2: 6***

No additional justification is needed for this target.

***Indicator 3: The WPFI, a private entity, obtains permits and Investment Agreements for at least 5 projects***

***Target 3: 5 or more***

As mentioned in Chapter 4.1.2 above, according to the ProDoc “25MW of installed capacity could come from 5 wind farms of 5 MW but it could also be from one site of 10 MW and 15 MW”. Therefore, the target (5 or more) can be revised as 2 or more. In this case the WPFI and the PMU as well, would be concentrated on lesser number of projects, that in turn would increase the efficiency and effectiveness of the assistance to those investment projects.

The WPFI has purchased 5 set of wind measurement equipment, 4 of which are installed at the sites of wind farms, being developed by the WPFI. The fifth one is used for the wind measurement of a project developed by a third-party investor. The WPFI under the contract installed it at the client’s site (the client has got quota for that site).

***Indicator 4: The WPFI, a private entity, successfully tenders at least 5 projects and finds acceptable level of investor interest***

***Target 4: 5 or more***

This is the most challenging target not only under this Outcome but for the whole Project. Private investments in wind energy development in Belarus are neither at the satisfactory level, nor efficient. Indeed, so far, the wind energy projects were implemented either by state-owned companies or private investors but in very inefficient way (second-hand equipment with unsatisfactory performance). In addition, private investors predominantly use their own resources and thus capacities of individual wind projects are very modest. Unfortunately, the ProDoc, in general, is supporting this inefficient way of developing by targeting 5 projects with the total capacity of 25 MW, or considering the capacities of the modern wind turbines, the optimum size of the windfarm should be a facility with up to 2 turbines, which is very inefficient, since it would have much higher transaction and infrastructure costs per unit. As noted above, the ProDoc considers also another option (25 MW = 15 MW + 10 MW), which would be more attractive for the investor, but the target refers to “5 or more”. Therefore, the PMU and WPFI are targeting 5 projects. Since the 25 MW quota was approved for one legal entity (Wind Farm Veleshkovich Ltd), WPFI identified 4 other potential sites but with smaller capacities, 3 sites with 9.9 MW each; and one – of 6 MW (see Table 2 above). But before investors for those projects are identified, respective quotas must be obtained. Even though the Project Team and WPFI are optimistic on this matter, the reality with regard of issuance of quotas for wind farms shows that very limited quotas are approved. In particular, wind projects account for around 27% of the total of 215 MW of quotas available until 2020:

* For 2016: 10 MW quotas were approved for 4 wind projects (4.5 MW; 2 MW; 2 MW; 1.5 MW)
* For 2017: 6 MW (one project) and 2.7 MW (for the international TA project)
* For 2018: 3.4 MW (one project) and 25 MW (the GEF project undergoing the present MTR)
* For 2019: 11.965 MW (5.965 MW; 3 MW; 3 MW)
* For 2020: 2.5 MW

If quotas for the 4 additional sites are not obtained, it would be difficult, practically not possible, to find investors for those projects because according to the Article 1.2.2 of the Resolution No. 41 (July 20, 2017) of the Ministry of Antimonopoly Regulation and Trade “On tariffs for electricity produced from RES”, the multiplying factor for installations irrespective of the type of RES created solely for the energy support of economic activity of legal entities and individual entrepreneurs outside of the quotas allocated for the establishment of facilities, and commissioned after January 1, 2018, equals to 0.1. In other words, for windfarms missing quotas and commissioned after January 2018, the electricity tariff would be the tariff for industrial consumers (equal to around $0.012/kWh) times 0.1, which unlikely will ensure the payback of investment.

Even if the quotas are obtained for all 4 sites, finding of investors will be not an easy task unless the MNERP manages to get high multiplying factors (as mentioned above, multiplying factor for 25 MW project equals to 1.2 and is much higher than for other projects that obtained quotas). In general, investors are very careful with the investments in wind energy because of: (i) complicated approval process; (ii) high interest rates; and (iii) most important factor: investors don’t trust that in long-term sustainability of the energy policy (as mentioned above, though in the PPA the value of the multiplying factor is fixed but not the tariff value and the later depends not only the multiplying factor but also the level of electricity tariff for the industrial consumers, which is at present higher than it might be in case of electricity market liberalization). Therefore, local private investors are mostly investing in small projects (less loans are needed) and installing cheap (and inefficient) second-hand technologies to ensure payback of investments in 3-5 years. But if the WPFI will sell the pre-investment documentation together with the quota to the investors under the request to consider only highly efficient technologies, then it is not clear how many investors would express their interest.

The WPFI, Project Team have performed a preliminary “screening” of potential investors but these efforts were not systematic and completed feasibility studies (at least, summaries) were not shared with them.

Another issue is that the WPFI has to strengthen its capacity to develop wind farm projects, which includes not only obtaining of permits and coordination of activities, what WPFI is actually doing, but in the future, beyond the Project, to carry out wind measurements, pre-feasibility and feasibility studies. For this purpose, the WPFI shall obtain a certificate as required by the Decree of the Council of Ministers No. 225 dated March 21, 2014. The WPFI plans to apply firstly for the certificate for the assessment of the wind energy potential based on the wind measurements and later for engineering and construction works as well. But for this purpose, the number of staff members has to be increased and corresponding sources of financing identified (through respective increase in business activity).

**Outcome 4: At least 5 wind farm projects are successfully developed and the WPFI continues to operate past the lifetime of the project**

***Indicator: WPFI, a private entity, develops 5 wind farms which developers purchase and proceed to construction***

***Target: 25 MW with a minimum of 5 MW per project***

The feasibility studies and Environmental Impact Assessments have been completed for 5 sites. According to the Belarusian legislation, the FSs have been reviewed and approved by the State Construction Expertise (an independent reviewer and approver of any construction activity undertaken on the territory of the Republic of Belarus); the EIA reports have been reviewed and approved by the State Environmental Expertise (no construction activity can be started on the territory of Belarus without this approval). The report on wind measurements at the 25 MW Veleshkovichi site has been reviewed and confirmed by the UK-based company Wind Prospect - DIN accredited company. The banks and credit agencies that the Project approached, confirmed that the documents approved by the State expertise are accepted and treated as having undergone an independent verification.

In principle, this target can be achieved if the 25 MW project in Veleskovichi is split into 5 parts and correspondingly 5 investors implement them separately. But this split would be artificial, just to meet the target of 5 projects, unless the investors themselves are unable to implement the larger project. The prospects of 4 other projects are uncertain until the quotas are obtained. The necessary steps for wind farm project development would include:

* Announcement of the Call for the Expression of Interest (EoI) by the WPFI – preparation of EoI; clearance by the Consultant
* Decision made by the investor to respond to the EoI – site visit, study of pre-investment materials
* Selection of the investor based on competition
* Detailed design (before that the update of the feasibility studies might be required)
* Development of financing scheme
* Procurement of WTG – since only few WTGs will be purchased for the individual windfarms, suppliers are unlikely to show big interest and thus the procurement process may take long
* Construction
* Commissioning
* Connection to the grid

All the above steps are time- and resource consuming and involve different national and international partners (WPFI, Consultants, FIs, WTG suppliers, grid company, etc.). All the related works are unlikely to be accomplished by the Project official end date (31 December 2019). Probably they will be completed beyond 2019.

### Remaining barriers to achieving the project objective

In spite of the progress observed in Project implementation, there are still existing barriers hampering the achievement of the planned outcomes. In particular:

* **Legal/regulatory barrier** – the planned legal/regulatory changes (Secondary Legislation in place to support wind energy with the support of the project) are not approved yet
* **Financial barrier** – this barrier is partially removed by providing support for potential sites identification, environmental impact assessments, pre-feasibility and feasibility studies, and business planning that would meet requirements of potential investors and developers. However, carbon financing is not available; financing mechanism not established (this was not planned in the LogFrame but is very important factor for the financing of wind energy projects).

## Project Implementation and Adaptive Management

**Overall rating for Project Implementation and Adaptive Management is “Moderately Unsatisfactory”, i.e. implementation of all seven components – management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action.** The main reason for this MU rating is that there were issues with the project design which three years into the lifetime of the project, still have not been addressed and fixed and as a result of which the project requires urgent adaptive management to be undertaken in the near future.

The details for that are provided in the following chapters.

### Management Arrangements

As mentioned in Chapter 3.4 above the Project is being implemented under the UNDP National Implementation Modality (NIM) and thus the MNREP is responsible for the overall management of the project. Full-time Project Manager (PM) is responsible for the day-to-day management and decision-making for the Project, work planning, reporting, supervision of the work of the Project experts and other Project staff. Full-time Project Assistant (PA) is supporting the PM on administrative and financial issues. Full-time Expert in Wind Energy is dealing with technical aspects of the Project. Short-term International Chief Technical Adviser (CTA) also was (his contract expired at the end of 2016) supporting PM. In addition, the project hired an international advisor on financing issue for the first 6 months of 2016 but this contract was terminated at the start of 2017 due to the consultant having some health issues. The Project Board, chaired by the Deputy Minister of Natural Resources and Environment Protection, is responsible for making management recommendations for the Project when guidance is required by the Project Manager. The Project Steering Committee has had seven meetings, out of which 5 periodic meetings in December 2015, July 2016, December 2016, July 2017, December 2017; and two ad-hoc meetings in September 2017 (on transfer of the ownership of wind measurement equipment to the WPFI) and October 2017 (on Inclusion of State institution, Republican Centre for Hydrometeorology, Control of Radioactive Pollution and Environmental Monitoring into the list of Project beneficiaries).

Considering the Belarusian realities, the decision on NIM was appropriate. However, the MNERP has limited possibilities for promoting wind energy development in the country, especially when it relates to the development of investment programmes and attraction private sector investments.

One of the key roles in the achievement of the Project Objective and Outcomes is given to the WESU. However, as mentioned above, the management structure of WESU is not as strong as planned in the and no full-time person or persons work for the WESU, as was envisaged. The Chairperson of WSESU is a member of the Project Steering Committee and at its second meeting proposed to consider the introduction of a “carbon tax” and the formation of a national carbon market as an alternative mechanism of financing RE. According to the Minutes of that PSC meeting, introduction of a “carbon tax” has been agreed with the Ministry of Taxation and is being negotiated with the Ministry of Economy and the Ministry of Finance. However, this statement wasn’t confirmed in the future. It must be also noted that the Deputy Director General of company Tripe (Triple should provide Co-financing of USD 17 million – ProDoc – but has suspended its wind energy projects and will not be investing). Triple is a member of PSC, didn’t take any part in the discussions during the PSC meetings.

The MNREP has managed to get the quota for 25 MW windfarm with a high multiplying factor for one site. This is a positive result but unfortunately, only for one particular project and one site; it is unlikely that other projects can enjoy a similar high factor (if not supported by the MNREP).

During project implementation a number of issues came up, which could have been prevented, if there had been an appropriate management response:

* The WPFI was established by two entities (the MNREP was main initiator of such setting), which never cooperated before; their cooperation after the WPFI establishing is also very limited. The selection of WPFI director took long
* The legal/regulatory initiatives/changes prepared by the Project, in most cases, weren’t adopted partly due to the inappropriate focus (only FiT scheme to support wind farm investments)
* No tangible progress in attracting of investors for selected wind projects partially due to the lack of an international consultant in 2017
* No adequate management of risks – de-risking study, conducted by the Project, has identified a number of risks, which weren’t included into the risk log; in some cases, the monitoring of risks showed that the status was increased but no additional mitigation measures were elaborated
* The Implementing Partner, PMU, were strictly following the provisions of the ProDoc and LogFrame, that in principle is correct, but they weren’t reviewing the baseline scenario and in case of its changes (e.g. Government’s priority has been shifted from feed-in premium to auctioning) didn’t revise the implementation strategy accordingly.

### Work planning

Work planning is being carried out in a manner which is consistent with the ProDoc. In particular, it is conducted on the basis of annual work plans (AWPs), which are reviewed and approved by the PSC. In general, the planning is based on the Results-Based principles.

The delays in project start-up and implementation, as mentioned in above chapters of this report, were caused by the objective reasons and mostly beyond the Project control.

### Finance and co-finance

Project progress is reflected in the rate of expenditure until February 28, 2018. The original budget considered the following expenditures:

***Table 3: Planned budget (ProDoc)***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Source** | **1st year** | **2nd year** | **3rd year** | **4th year** | **5th year** | **Total** |
| GEF | 625,232 | 826,632 | 766,032 | 372,392 | 454,712 | ***3,045,000*** |
| UNDP | 68,934 | 68,937 | 62,005 | 52,029 | 48,095 | ***300,000*** |
| Total | 694,166 | 895,569 | 828,037 | 424,421 | 502,807 | ***3,345,000*** |

The budget has been several times revised. This indicates that the financial control was in place.

The Project Team provided the following Co-financing table:

***Table 4: Co-financing Table (provided by the Project Team)***

|  |  |  |
| --- | --- | --- |
| **Partner** | **Amount in USD as claimed in the Project document** | **Amount in USD as of Mid-term review** |
| UNDP | 300,000 | 104,727 |
| DEE | 70,000 | 56,000 |
| M of Education | 20,000 | 12,600 |
| M of Energy | 3,100,000 | 13,000,000 |
| M of Environment | 110,000 | 47,000 |
| TDF-Ecotech | 20,000,000 | The company did not pursue the wind energy projects as it had been planned |
| Triple LLC | 17,000,000 | The company did not pursue the wind energy projects as it had been planned |
| Conte Spa | New partner identified in the course of the project | 8,000,000 |
| Belarusfneft | New partner identified in the course of the project | 300,000 |
| **Total** | **40,600,000** | **21,520,327** |

An analysis of the co-financing suggests that the project may only leverage approximately half of the co-financing that was stated in the project document. The main reason for this is the failure of private sector co-financing to materialize from TDF-Ecotech and from Triple LLC due to the decision of these companies to stop their wind energy developments altogether.

Companies Triple and TDF Ecotekh did not pursue their earlier planned projects in wind energy and so their co-financing fell through., Therefore, the Project began to work with new partners - Belarusneft and Conte Spa to aim to ensure provision of the co-financing from the private sector with levels that are at least the same or more as the amounts that are indicated in the project document. This is appropriate, but the MTR Team hasn’t received evidence yet on:

* Whether the partnership with Conte Spa and Belarusneft means that these companies would be interested in implementation of 5 projects, being supported by the Project and if not, what kind of partnership is meant
* Whether Conte Spa already has provided co-financing in amount of USD 8 million. In addition, it is unclear how the Project has been supporting Conte Spa in developing of wind farm project.

In addition, the co-financing by the Ministry of Energy requires justification; it might include financing of the 9 MW Grabniki windfarm (visited by the MTR Team). In this case, the project should already be claiming GHG ERs from this windfarm (assuming that co-financing means that the Project has provided TA to that project; Otherwise the financing of the Grabniki windfarm cannot be considered as a co-financing of this UNDP/GEF project).

### Project-level monitoring and evaluation systems

The project-level monitoring & evaluation is in place but at an insufficient level. The original Monitoring & Evaluation plan included:

* Inception workshop and report – practically no updates of baseline scenario, implementing strategy, LogFrame
* Regular update of the risk analysis – as mentioned above, risks were regularly monitored but the mitigation measures were not always adequate

Positive examples of the adequate evaluation of the results of the monitoring, which have resulted in application of the adaptive management, are as follows:

* Based on the analysis of the legal framework, the Project has identified opportunities for the development of wind power for the captive use. But industrial enterprises, which would be interested in installation of wind farms and thereby meet their own electricity demand, were not identified.
* The Project has added to the Project beneficiaries the Republican Centre for Hydrometeorology, Control of Radioactive Pollution and Environmental Monitoring (Belhydromet). The purpose was that the Project would provide TA to the Belhydromet to increase the quality of the wind forecast.

Due to the instable character of the daily energy generation grid operator must balance the power system by more stable power plants. For this purpose, grid operator, as a rule, purchases so called “reserved capacity”, in some days (1-2 days) advance. And the lower the accuracy of the wind forecast is, as higher “reserved capacity” should be purchased. Therefore, increase of accuracy of wind forecast would lead to the decrease of the volume of “reserved capacity”, i.e. save funds of the grid operator. Therefore, assistance to Belhydromet in this direction is appropriate. At the same time, the economic effect of this assistance should be estimated and what is even more important, other funding sources should be identified (it would be not reasonable that all the related costs are covered by the Project)

* The Project has organized a study tour to Ukraine to learn the experience in conducting EIA for wind energy projects. Within the framework of this event, a Reference Guide for conducting EIA for wind energy projects was also developed.

At the same time, the scope of the adaptive management could be much broader. If the results of monitoring are adequately analysed and then evaluated, the following needs in adaptive management would be identified:

* To ensure achievement of Outcome 1: Secondary Legislation is in place to support wind energy with the support of the project, the focus should be shifted from FiT scheme to auctioning
* Future trend of electricity demand as well as the impact of commissioning of the NPP on future electricity supply should be carefully studied. This activity wasn’t planned in the ProDoc but is absolutely necessary for estimating optimum ratio of the RES in overall energy balance and elaboration of RES-supportive policy and strategy. The experience of countries, with high RES potential but lower demand (e.g. Iceland), when their governments support the development of high energy-consuming industries (of course, assuming that the efficiency of those technologies are at the advanced level), and the likelihood of application of similar approach in Belarus, was not studied. Other options for the increase of electricity consumption under the future national strategies might include switch to electric transport, electricity-based District Heating (DH), etc.

It must be also noted that the representatives of the engineering-consulting companies active in the wind power sector and interviewed by the MTR Team, among others, noted that they see less prospects for application of their knowledge in Belarus mostly because of low demand for RES technologies in the future (from their point of view) and therefore, they are targeting at the neighbouring countries (e.g. Russia).

* Since the WESU was established under the MNREP, which has limited capacity for promoting wind power development in Belarus, ways of engagement of relevant ministries and state agencies should be ensured to increase WESU’s effectiveness.
* After getting clear signal that companies Ecotech and Triple would not pursue the wind energy projects as it had been planned, more attention should have been paid to the work aimed at identification of potential investors and entering into active communication even before the WPFI announced a call for EoI. For the same purpose, closer cooperation could be established with local and international FIs, which are/potentially might be financing wind projects. In so doing, the probability of successful implementation of those particular wind farm projects would be increased because of sharing project risks. In addition, the Project would spend less resources on identification of wind projects; instead more valuable assistance would be provided in the development of feasibility studies and detailed design. In addition, intensive communication with potential investors could help to better understand the problems that investors might face, and address them adequately.

### Stakeholder engagement

From the very beginning of the Project, it has established partnerships with all key stakeholders by inviting them in the PSC. However, the level of effectiveness of their cooperation is not high enough.

During the MTR interviews all stakeholders expressed the full support to the Project, its objectives and implementation strategy. However, it is not always supported by the real cooperation aimed at improvement of the legal and regulatory framework for wind energy development. This was observed also by the other similar programmes as well. For instance, one of the Lessons Learned from the EBRD funded Belarus Sustainable Energy Finance Facility (BelSEFF), which provided loans in combination with TA (technical solutions, energy audit) and grants (for new technologies up to EUR 500,000 compensation), was that policy makers are supporting RES & EE in general but not by the real actions. And the Project couldn’t manage so far to sharply change the situation in a positive way.

The Project could cooperate with the Ministry of Energy on abolishing of un-used quotas (this issue was flagged during the interviews as well as the need in corresponding TA).

Cooperation with the National Agency for Investments and Privatization also has to be improved. The Agency could share the Road map for investors with the Project and also to look for investors for the selected windfarms.

The Project could more intensively cooperate with EBRD, which conducted Legal & Regulatory framework analysis and identified gaps (IFC also did similar with more efforts on RES).

The Project is not actively cooperating with the RES Association (even though the Association itself is not very effective).

### Reporting

The Project prepares annual progress reports as well as PIRs. PIRs follow the standard UNDP/GEF format and provide general ratings and comments on Project progress from the Project Manager, UNDP Country Office Programme Officer and the Regional Technical Advisor. The reports are well-structured and provide information on planned and implemented activities. However, not all activities implemented are documented, especially the details on why and how the adaptive management has been applied. Such details are very important for better understanding of the Project implemented environment, reasons for delay and not implementation of the planned activities at the full-scale (e.g. why the recommended changes of legal/regulatory framework were not adopted). The Project really did its best for its successful implementation and learning its experience from the reports, documents, publications, would be very helpful for other similar projects.

### Communications

The internal communications between the Project and its stakeholders is regular through e-mail, phone, informal meetings, and at a higher level, the PSC meetings. None of the key stakeholders is left out of communication. The stakeholders participate in the PSC meetings, provide feedbacks to the legislative initiatives; participate in the awareness raising activities, etc. The MTR Team can confirm that all the stakeholders interviewed are aware on the objectives and strategy of the Project as well as its current status and future plans. One of the reasons for that might be that the PSC consists of about 20 members representing different stakeholder groups.

To date the external communication was mostly ensured through the Project website, dissemination of prepared publications, organized Wind Energy Days, etc.

#### Summary of the Project’s progress towards results in terms of contribution to sustainable development benefits, as well as global environmental benefits

The Project has ambitious goal to remove barriers to the widespread implementation of wind energy projects in Belarus. The Project has 4 main targets to be achieved: (i) to have corresponding secondary legal/regulatory framework in place, which would allow wind energy projects to ensure the payback of investments; (ii) wind farms be integrated into the national power grid; (iii) to create a private company (WPFI) capable for wind energy development; and (iv) to implement windfarm projects with total capacity of 25 MW or more. Nowadays the Project has reached its critical stage when practically all pre-investment activities are completed, which created a basis for the sound move to the second stage, more important one, main outcomes of which are finalization of legal provisions and attraction of the private investors and following successful implementation of the selected windfarm projects. Feasibility studies for those projects showed technical, environmental and financial attractiveness of them through standard approaches applied to investment projects in Belarus. But all this has to be confirmed by the actual implementation of investor-backed projects. Sustainability of such projects would be one of the pre-conditions for the acceleration of wind energy development in Belarus (other critical factors are related to the impact of NPP commissioning on the power market).

The Project will contribute to both local and global environmental benefits. The EIA shows that the impact of selected projects on the local environment; air, water and soil pollutions are negligible; implementation will not lead to a significant loss of species diversity of soil insects; the conservation of biological diversity will be not affected negatively.

As for the global environment benefits the Project contributes to the reduction of GHG emissions due to the replacement of electricity from the gas-fired generating facilities by the green energy.

## Sustainability

In the ProDoc the risks have been identified and potential mitigation measures discussed. Since the ProDoc was not based on the comprehensive barrier analysis, not all the risks were identified and first of all, financial risks (bioenergy projects might be not feasible, instable national currency). In addition, political and institutional risks, related to the political changes in 2014, which couldn’t be predicted during the ProDoc preparation, became critical from the beginning. Therefore, the Project should pay a big attention to the risk management. This was not fully addressed/presented in the Annual Project Review/PIRs. On the other hand, the information from the ATLAS Risk Management Module (Annex 10) shows that the political, institutional and some financial risks have been increased by the date of Project start and thus should be carefully monitored. It must be noted that due to the risk mitigation measures many risks have been decreased. However, the political risk: Lack of political will to adopt a necessary policy and legal/regulatory framework, remains critical. It must be also noted that the Project only monitored the already identified (in the ProDoc) risks but didn’t identify new ones. Theoretically this might be due to insufficient monitoring of risks.

**Overall rating for sustainability is Moderately Likely (ML), i.e. moderate risks, but expectations that at least some outcomes will be sustained due to the progress** **towards results on outcomes at the Midterm Review**

### Financial risks to sustainability

Question[[13]](#footnote-13): What is the likelihood of financial and economic resources not being available once the GEF assistance ends (consider potential resources can be from multiple sources, such as the public and private sectors, income generating activities, and other funding that will be adequate financial resources for sustaining project’s outcomes)?

Answer: **Moderately likely**. As it was mentioned above the financial barriers are not removed yet and thus the financial risks remain by the date of MTR. This risk is related to the overall investment climate in the country but not specifically to the wind energy projects. Access to financing is limited, cost of equity and cost of loan are relatively high in the country; if the projects are financed by foreign sources (foreign investor, WTG supplier), then there is a risk related to the conversion and exchange rate variation.

### Socio-economic to sustainability

Question: Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained?

Answer: No social risks can be identified. But there exist the political risks that after commissioning of the NPP there might be significant excess of energy, and a ban on development of new wind power (and other types of RES) might be imposed. Management of this risk is a critical factor to achieve the outcomes.

Question: Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project? Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future?

Answer: Certainly yes, stakeholders are interested in successful implementation of the Project because either they will benefit from it or, at least, it would be in line with the declared energy policy priorities. For instance, MNREP will facilitate the achievement of Sustainable Development Goals (SDGs) and Intended Nationally Determined Contribution (INDC); Ministry of Energy will develop more realistic energy scenario; FIs will diversify their credit portfolio; project developers (engineering/consulting) will have more job opportunities, etc.

**Rating: Likely**

### Institutional framework and governance risks to sustainability

Question: Do the legal frameworks, policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems/ mechanisms for accountability, transparency, and technical knowledge transfer are in place

Answer: The coordination of activities of various institutions supporting RES development is very important and the establishing of the WESU was appropriate to ensure the coordination of the different Governmental institutions and private businesses. However, then WESU was established not exactly as planed and therefore, there is a risk that it wouldn’t be able to adequately address the existing challenges. This risk can be overcome by strengthening the WESU and making it more effective.

**Rating: Moderately Likely**

### Environmental risks to sustainability

Question: Are there any environmental risks that may jeopardize sustainability of project outcomes?

Answer: Not really; water and soil pollutions are negligible; air pollution is within the standards. As for the risk associated with a decrease in biomass resource due to climatic conditions, this is unlikely to happen within the project timeframe.

**Rating: Likely**

# Conclusions and Recommendations

## Conclusions

The Project has been designed without thorough analysis of the current (pre-project) situation and future trends at global and national levels. As a result, the considered baseline scenario was not confirmed by the actual developments. In particular:

* At the global level:
  + Decrease of costs of wind energy technologies has been observed
  + Replacement of Feed-in-Tariff scheme by market-oriented schemes supporting the wind energy development (feed-in, auctioning) has been also observed
* At the national level:
  + Windfarms with the total installed capacity of 82 MW were constructed under the business-as-usual scenario, compared to < 5 MW which was estimated in the project document
  + The nuclear power plant, construction of which was approved before the Project start, will generate about 50% of the current power supply

The abovementioned (not precisely identified baseline scenario) led to the not always justifiable assumptions. Among them:

* It was assumed that tariff level for windfarms should be high enough (at least 14 US cent/kWh) to make investments financially feasible. Therefore, only FiT scheme would be effective. Actually, the lower tariff is also attractive for investors and therefore, many governments opt auctioning schemes instead
* It was implicitly assumed that there will be no significant excess of electricity generation in the country and the energy generated by the RES would be easily supplied to the power grid. In the reality, after the commissioning NPP there would be huge excess of energy, to deal with, the Government is seriously considering switching to the electricity-based district heating (at least for new buildings), to make obligatory for RES to participate in the curtailment scheme (i.e. not 100% of the generated energy might be supplied to the grid), etc. This means that the attractiveness of the development of wind energy is mostly due to its green nature
* To demonstrate that the Project would have a significant impact on the wind energy development in Belarus, it was planned to have not a single but more investment projects, implemented under the technical assistance of the Project. It was understood that within the budget the Project could not provide TA to the projects with tens of MWs and as a compromise, it was planned to have at least 5 projects with at least 25 MW total installed capacity. But in this case (5MW individual windfarms) only local SMEs would be interested in such projects. Individual projects would consist of 1-2 wind turbines only and the purchase of advanced equipment would be a problem (procurement would take long because such projects wouldn’t be a priority of suppliers); in addition, the transaction costs (per MW) would be higher

Due to the abovementioned some targets had to be modified (e.g. legal improvements not to be focused on FiT only; to reduce the number of projects without reducing the total capacity) and the adaptive management would be widely applied.

The implementation of the Project can be evaluated from two angles:

* The Project strictly followed the implementation strategy of ProDoc and implemented all planned activities (not all of them are completed by the MTR) but due to the problems in the design mentioned above, the project is not on track to achieve all targets
* The need in the revision of some targets (without revising Outcomes; they are still achievable), was not always identified. Therefore, application of the adaptive management was (and still is) limited

Selection of the Ministry of Natural Resources and Environment Protection as an Implementing Partner was not the best solution (MNREP has limited experience in developing energy policy as well as attracting investments) but if the MTR recommendations are followed, the Project Objective and Outcomes can be achieved under the MNREP execution. The main reason for that are as follows:

* The Project managed to ensure that all stakeholders understood the importance of the development of wind energy in achieving the national strategic goals
* The MNREP has managed to obtain quota for 1 location (25 MW windfarm); there is a high probability that quotas for 4 other locations also would be obtained
* WPFI, WESU are established and if their capacity and, as a result, effectiveness is increased, they would be able to improve the legal & regulatory framework for wind energy development and attract private investors
* There is a local capacity for the development of wind energy projects, which, if guided by the experienced international consultant, would ensure implementation of engineering-consulting and construction works at the necessary level (in the commissioning and operation, supplier’s assistance would be needed)
* The Project paid high level attention to increase of the level of professional understanding of the policy and economic aspects of the wind energy development among the policy makers as well as other interested parties, by organizing study tours, focused events, preparing publications, etc.
* The Project also paid attention to the environmental and social impact that the windfarms might have through carrying out environmental impact assessments
* The Project objective and outcomes are on target to be achieved. However, to achieve the end-of-project targets without significant shortcomings, the efforts, in addition to the planned activities, shall be made. These efforts are formulated in the next Chapter, Recommendations.

## Recommendations

Objective and Outcomes are expected to be achieved subject to following recommendations:

**Recommendation 1:** **Hire and engage the international consultant for investment component on Wind Energy Financing**

The drafts of the pre-investment documentation have been already developed, which must be reviewed by the experienced expert(s) and revised if needed. This will ensure the high quality of the pre-investment documentation, which in turn will make them more attractive for the investors. These activities should be implemented in line with the recommendation of the 5th meeting of PSC (to attract the investor to the design process in order to take into account specific wind power equipment that the investor will be ready to purchase in the elaborated project documentation. In the future, this will improve the quality and value of the acquired pre-investment asset for an investor)”

However, under the current conditions, when there is a lack of investors in the country with the relevant experience in wind energy, due to the under-developed wind energy sector, additional efforts should be made to attract investors. These efforts among others may include:

* Screening of local potential investors and sharing information (brief summaries of the Project objectives, activities and pre-investment information of 5 selected projects) with them
* Realistic estimation of the market values of the pre-investment documentation and their selling prices (considering the urgency of attracting investors, the selling price may be lower than the market value)
* Preparation of materials for the selection process of investors and evaluation of candidates
* Contract negotiation between the WPFI and the investor (contract among others should include provisions for non-compliance, e.g. if the investor will not invest)
* Identification of the scope of TA to be provided to the investor (e.g. in detailed design, procurement of the equipment, project financing, management of the supervision of the construction)
* Oversight of construction
* Assist the WPFI in the development of the short-term (for 2-3 years) strategy

These tasks have to be planned and supervised under the guidance provided by the Chief International Technical Advisor on wind energy financing (CTA), who will be focused on providing advice/guidance to the WPFI on attraction of private investments for wind energy projects. The early engagement of the CTA is of crucial importance as the WPFI is at the final stage of the preparation of pre-investment documentation, which is to be sold to the investors. Besides, the Project has been without an international expert on wind energy financing for over 1 ½ years now. The International CTA has to have practical experience in developing of wind farm projects including project financing. The CTA has to spend the majority of his/her time under the assignment in Belarus and it is essential that he/she has previous experience with successfully raising finance for renewable energy projects.

The project team has taken early steps to implementing the above recommendation by announcing the vacancy for the position of the Wind Energy Financing Expert (i.e. International CTA) before the finalization of the MTR report (<http://minpriroda.gov.by/ru/mezdunarod/>).

The duties of the Expert, as indicated in the above vacancy, include:

* Part I: Preparation for Wind Energy Investor Attraction (25 days total):
  + Development of the qualification criteria for the identification of potential investors for the pre-investment assets developed in the framework of the project
  + Development of a Brief Strategy Guide for Investor Attraction for Wind Energy for Republic of Belarus
* Part II: General Support Related to launch for Wind Energy Private Sector Finance Initiative (35 working days total)
  + Support the WPFI with drafting the marketing strategy to promote the services that WPFI provides in accordance with the project document and its statutory documents
  + Support the Project and WPFI in the process of the investment tender with evaluation of the proposals submitted by potential investors; review of the proposals, compilation of the short list of the investors, identification of the best proposal
  + Make a presentation at the conference in November 2018 on investing in wind energy in Belarus and other countries

These duties are generally in line with the recommendation but don’t cover all the aspects of the recommended TA. In particular, the above terms of reference don’t address a need in additional TA to the investor once the pilot sites have been selected, monitoring and evaluation of the implemented projects and assistance to the WPFI in the development of the short-term strategy. It is thus recommended to extend the scope of the CTA to include these elements (either by the contract amendment or under a new contract).

**Recommendation 2**: **Strengthening the capacity of WESU through nominating of additional WESU members and regular meetings and follow-up**

Wind Energy Support Unit was established under the Implementing Partner, Ministry of Natural Resources and Environment Protection. The MNREP is lacking the capacity and experience in attracting of investors for energy projects. Nevertheless, the Project was registered (a process of formal endorsement by the government followed by all technical assistance projects in Belarus) under these circumstances. If the Implementing Partner is replaced, WESU would also (potentially)[[14]](#footnote-14) need to be re-established and the Project re-registered. All this would lead to dramatic delays in implementation, which would seriously (negatively) affect the possibility of attracting private investors. At the same time, the MNREP has already entered the process of wind energy development (is developing and lobbying the legal/regulatory changes, applying for quotas, supervising WESU and WPFI activities, cooperating with the stakeholders, etc.) and achieved some positive results. Therefore, it is not recommended to replace the Implementing Partner. Instead, it is recommended to strengthen the WESU and thereby increase its effectiveness and efficiency. The WESU is already strengthened by inclusion of a representative of the hydrometeorological centre, which makes its activities in the field of wind measurements more professional. However, ways for WESU’s further strengthening have to be carefully investigated. The best option would be if a representative of the Ministry of Energy is assigned to work as part of WESU. Additional WESU members should also be considered. It is recommended that the WESU members meet once per month and the MNREP provide the minutes from each meeting, outlining the roles and responsibilities of the various Parties in implementing the decisions made. This would be very useful not only for WESU (the elaboration of the wind energy supportive policies and measures will take into account the opinion of the main actor in the energy sector) but for the Ministry of Energy as well (more valuable inputs will be received for the development of sectoral strategies and action plans). It is also recommended that the Project will develop an exit strategy for the usage of WESU’s capacity beyond the Project timeframe, including the development of a website for WESU and ensuring there is funding available to support WESU operation beyond the lifetime of the project.

**Recommendation 3: To shift the focus for the improvement of the legal & Regulatory framework from the Feed-in-Tariff scheme to the Auction mechanism**

The world experience shows that for the initial take-off of renewable energy technologies, the strong financial incentives should be offered to the private investors. The most frequently used tool for this purpose is so called Fee-in-Tariff scheme, which offers long-term contracts to RE producers typically based on the average cost of generation of each technology. In many cases this scheme includes also a guarantee that 100% of the generated electricity will be purchased. However, it was also observed recently that the costs of RE technologies, including wind energy equipment, have significantly decreased and the RE market strengthened (became more developed). Therefore, buyers of the RE tend to reduce their costs and are willing that RE producers also take on at least some share of the market risks. Therefore, many countries, including EU member states, have been introducing new schemes for RE investors. Among them the feed-in premium and auctioning are some of the most frequently used ones.

The RE legislation in Belarus that had existed before the Project start was similar to a “feed-in premium”, which considers that RE generators sell their electricity directly in the market; support is paid as a premium in addition to the market price. Indeed, in Belarus the multiplying factors were introduced (1.3 for the wind energy, i.e. wind farms were receiving 30% more compared with the base tariff). This means that already by that time the Belarusian legislation has had introduced one-step forward scheme compared with FiT and objectively it would be very difficult to convince the Government to “come back” by introducing FiT.

Over the recent past, auction schemes have gained popularity given their inherent advantage in minimizing support costs (which is a better solution for governments as they obtain increased investment in renewable energy at the lowest marginal cost) and regulating the deployment of RE. The feature of the auctioning is that only selected RE-based electricity generators benefit from the support tariff, and the tariff level is based on the prices indicated by the project developers in their bids during the auction process. Since RE quotas introduction in 2015, the legal framework for RES development in Belarus has been resembling auctioning. Indeed, the bidders offer competitive multiplying factors to get quotas. But the difference with the auctioning is that in Belarus investors are offered uncertain (for the long-term) tariffs because the tariff is determined by the factor and the base tariff for industrial consumers, which might change over the contract (PPA) duration and this possible change makes the cash flow unpredictable, which in turn increases the financial risks.

Therefore, the Project has to redirect its efforts and try to convince the Government to fix in the PPA the absolute value of the tariff (e.g. current tariff of industrial consumers times the multiplying factor) rather than multiplying factor. The Project, WESU, CTA have to provide analysis of the application of auctioning in countries with similar economies and energy markets including the impact of auctioning on overall cost of energy, lessons learned, best practice, etc.

It is recommended that an international consultant is hired for developing issues and options related to the auction mechanism.

**Recommendation 4: Provide TA for development of future electricity demand-supply patterns**

The overall objective of the Project can be achieved only if the development of wind energy is a priority direction of the National energy strategy. This, in turn, depends on whether the development of RES is conditioned by the environmental reasons alone or increased level of energy security and/or are economically feasibility. Of course, diversification of supply increases the level of energy security especially if there a suppressed demand in the country (the situation where energy services provided are insufficient – due to poverty or lack of access to modern energy infrastructure – to meet the needs of stakeholders given their human development needs). But the situation of Belarus is rather the opposite. After commissioning of the nuclear power plant, there will be an excess of the electricity in the country. During the MTR mission the evaluators met the Ministry of Energy, Department of Energy Efficiency, Institute of Housing, etc. to get understanding on the value of this excess and have got an opinion that still there is a significant uncertainty on this matter. Therefore, there is an urgent need in development of a baseline scenario of the electricity demand and supply based on the integrated resource planning principles. Then an alternative scenario with the increased generation by RES should be developed and analyzed. It is recommended to hire a national consultant (or national consultants) to study in detail this issue.

These work needs to be implemented in close cooperation with the Ministry of Energy and other key sectoral stakeholders. The scope of work may include but not limited to:

* Assessment of the export opportunities for the nuclear-based electricity
* Assessment of the energy demand for heating (considering existing Energy Efficiency programs) and share of demand, which could be met by electricity
* Assessment of electricity demand of different sectors of economy
* Assessment of the lifetimes of the existing generating facilities and levelized cost of electricity (LCOE) in case of planned/necessary retrofits
* Assessment of GHG reduction costs for wind energy projects and comparing with other mitigation projects
* Development of future energy balances for the baseline and alternative scenarios and estimation of corresponding costs and benefits (including GHG reductions)
* Determination of the optimum ratio of wind energy in the energy balance (in which economic and environmental costs and benefits will be balanced/optimized)
* Active participation in the development of strategic documents and action plans in the field of sustainable energy

Findings and results of all past and ongoing programs aimed at similar goals should be carefully studied; cooperation with ongoing programs/projects should be established.

**Recommendation 5: Support Project Developers with establishing closer cooperation with IFIs, local Banks involved in financing of wind energy projects**

Though the cost of debt in Belarus is high, it is unlikely that wind projects, except very small-scale ones, would be financed by equity financing alone. Most probably loan financing will be involved for financing of the major part costs (at least for purchase of equipment). Financial institutions in Belarus, especially local banks, have a limited experience in financing of wind projects. Therefore, they would need outsourcing of expertise for the appraisal of loan application including technical due diligence. In addition, they might have loan applicants not only for 5 selected windfarms but from other projects as well. In both cases the Project can provide TA (subject to budget availability) and thereby enhance the Project benefits (due to more MWs installed; MWhs generated).

It is recommended that the international CTA and the Project Manager, together with the local project developers including the WPFI, meet regularly with IFIs, and local banks and discuss financing opportunities for the wind energy projects.

**Recommendation 6: Add an Output under the Outcome 4 on daily projection of the windfarm generation**

One of the main disadvantages of wind energy is the instability of generation (depending on the wind). Therefore, the grid operator that windfarm will supply the electricity to cannot rely only on this source and must have a possibility to compensate for insufficient generation by the windfarm because the grid has to meet the consumers’ energy demand regardless of the wind speed. For this purpose, the grid operator reserves the capacity (usually thermal power plants), which might be immediately switched-in when the wind turbine generates less electricity (compared with the situation when the wind farm would be working at full capacity). The services of “reserved capacity” are payable even if they are not used at all (when the wind farm is working at full capacity).

Another issue is that the higher the precision of the “reserve capacity” requirement estimate the lower the grid operator’s payment for it will be. But the reserving should be done at least 1-2 days in advance (“reserved” plants need to be prepared for switching in) and thus the projection of the “reserved capacity” can be done only if the future generation of the wind farm is known, which in turn, can be done only based on the wind generation forecast. This explains the need for precise forecast of meteorological elements, first of all, wind speed. In the case of a reliable forecast, purchase of unnecessary “reserved capacity” will be avoided.

The experience of leading countries in wind energy development shows that this target is achievable. For this purpose, the Project has already supported the hydrometeorological centre in training of its staff members in Meteo France. However, that training alone would not be enough to improve the quality of wind generation forecasts. It might be necessary to: (i) establish observations on additional parameters by involving of additional measurement equipment; (ii) purchase software; (iii) provide on-job training of the dedicated staff. The project could assist the hydrometeorological centre in the above issues as well as necessary marketing aimed at finding of clients for such services. However, the Project cannot cover all the related costs. Other sources for financing also have to be identified. All planned costs shall be approved by the Project Board (PSC).

**Recommendation 7: Extend the Project duration until December 31, 2020 as a no cost extension**

Outcome 1 of the Project has not been achieved yet mostly due to the unrealistic target, to have FiT scheme in place. If the MTR recommendation 1 is followed, the Outcome 1 can be achieved but in the best case, in a year’s time. But the practical application of auctioning when the bidders would offer competitive tariffs instead of multiplying factors can take even longer.

The WPFI hasn’t launched the process of attraction of investors. A call for the International CTA - Wind Energy Financing Expert, who is supposed to assist the WPFI in this, has been just recently announced. Therefore, the process can be launched in about three months (to contract the Expert; to organize his/her first mission; to develop the strategy for attracting of investors). Then the activities under the Outcomes 3 and 4 will be launched, including selection of investors for the 5 sites. As mentioned above, investors would need to do some work before making decision on bidding, which is a time-consuming process. Then the contracts with the selected investors should be negotiated individually (it is unlikely that there will be only one investor selected for all sites). The investors then have to close the financing and look for WTGs. Considering that just a few sets of WTGs will be needed for each project, the suppliers wouldn’t be interested in those projects and the purchase of turbines can be a long process. The construction has to be completed at least 6 months prior the Project closure to evaluate the results and present them to the terminal evaluation team.

Considering above mentioned it is recommended to extend the duration of the Project without cost until December 31, 2020.

The extension request should be prepared as soon as possible, along with the supporting justification that clearly explains why the extension of the project will greatly increase the chance of the project meeting its objective. The extension request should first be approved by the Project Board and then sent to UNDP Istanbul Regional Hub and UNDP HQ

**Recommendation 8: Revision of the Project Results Framework by the international CTA and the Project Manager**

If the above proposed recommendations are accepted, and following the completion of the UNDP Management Response to the Mid-Term Review, the Project Results Framework needs to be revised accordingly by the international CTA – Wind Energy Financing Expert in partnership with the Project Manager. In particular, targets should be consistent and the overall level of ambition of the project should not be reduced; the number of selected projects can be reduced but the overall target can and should stay unchanged (at least 25 MW); the target for Outcome 1 shouldn’t include FiT scheme; an Output should be added (see the Recommendation 6) to the Outcome 4.

# Annexes

## Annex 1: MTR ToR (excluding annexes)

1. **INTRODUCTION**

This is the Terms of Reference (ToR) for the UNDP-GEF Midterm Review (MTR) of the full-sized project titled Removing Barriers to Wind Power Development in Belarus (PIMS #4462) implemented through the Ministry of Natural Resources and Environmental Protection of Belarus (Ministry of Environment), which is to be undertaken in December 2017-March 2018. The project is in its second year of implementation (the Standard Letter of Agreement between UNDP and the Ministry of Environment to carry out activities when UNDP provides support services to the Project was signed on 30 September 2015). This ToR sets out the expectations for this MTR. The MTR process must follow the guidance outlined in the document [Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects](http://web.undp.org/evaluation/documents/guidance/GEF/mid-term/Guidance_Midterm%20Review%20_EN_2014.pdf).

**2. PROJECT BACKGROUND INFORMATION**

The United Nations Development Programme (hereinafter – UNDP) plays a key role as a partner of the Government of Belarus in the implementation of programs and policies to improve energy efficiency and introduce renewable energy sources. In particular, UNDP supports the Government of Belarus by virtue of the country's capacity building and arrangement of conditions for wind power development to achieve the goals to reduce the GDP energy intensity within the framework of the project “Removing Barriers to Wind Power Development in Belarus” financed by the GEF under the Climate Change Strategy.

This project provides for support in removing barriers to the implementation of projects in the field of wind power in the Republic of Belarus. Within the framework of this project, it is proposed to create financially viable partnership between the state and the private sector in order to promote investment activities in the Republic of Belarus through initial capital and to demonstrate practical elaborations in wind power on a market basis. By the time of the project completion it is expected to create stable incentive conditions and procedures for the assistance in the implementation of wind power projects with a total installed capacity of not less than 25 MW.

The project aims to render assistance in removing barriers to wind power development in the Republic of Belarus. The project's contribution to the achievement of this goal will be measured by its success in the development of not less than 5 sites for the construction of wind farms, that will directly or indirectly lead to obtaining permits, financing and construction of wind mills with a capacity of at least 25 MW in Belarus. The project task is the creation and application of such a mechanism for these wind power stations, which will become a standard scheme in the future and will open up opportunities for the prospective development of wind power stations by private developer’s companies. The major problem that the project seeks to address is that wind power in Belarus is not commercially attractive to private investments in the creation of wind farms due to certain barriers. In order to support the development of wind power in the Republic of Belarus, it is necessary to overcome a number of obstacles. In the course of the project, such obstacles are identified and practical measures to overcome them are developed and introduced.

**3. OBJECTIVES OF THE MTR**

The MTR will assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document, and assess early signs of project success or failure with the goal of identifying the necessary changes to be made in order to set the project on-track to achieve its intended results. The MTR will also review the project’s strategy, its risks to sustainability.

**4. MTR APPROACH & METHODOLOGY**

The MTR must provide evidence based information that is credible, reliable and useful. The MTR team will review all relevant sources of information including documents prepared during the preparation phase (i.e. PIF, UNDP Initiation Plan, UNDP Environmental & Social Safeguard Policy, the Project Document, project reports including Annual Project Review/PIRs, project budget revisions, lesson learned reports, national strategic and legal documents, and any other materials that the team considers useful for this evidence-based review). The MTR team will review the baseline GEF focal area Tracking Tool submitted to the GEF at CEO endorsement, and the midterm GEF focal area Tracking Tool that must be completed before the MTR field mission begins.

The MTR team is expected to follow a collaborative and participatory approach[[15]](#footnote-15) ensuring close engagement with the Project Team, government counterparts (the GEF Operational Focal Point), the UNDP Country Office(s), UNDP-GEF Regional Technical Advisers, and other key stakeholders.

Engagement of stakeholders is vital to a successful MTR.[[16]](#footnote-16) Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to UNDP Belarus, Ministry of Natural Resources and Environment protection of the Republic of Belarus, Wind Energy Support Unit (WESU), Wind Private Finance Initiative (WPFI), etc.; executing agencies, senior officials and task team/ component leaders, key experts and consultants in the subject area, Project Board, project stakeholders, academia, local government and CSOs, etc. Additionally, the MTR team is expected to conduct 8-days mission to Belarus, including the following project sites: a site for wind farm development near Veleshkovichi village (Liozno district, Vitebsk region); and a site for wind turbines installation near the village of Yanovichi, Novogrudok district, Grodno region.

In case, an additional mission to Belarus is deemed necessary, the consultant shall provide thorough justification, and discuss the issue with the UNDP Belarus Country Office and the UNDP/GEF Regional Technical Advisor. If required, the costs of travel and per diem for a second mission would be paid separately from the costs of this assignment but the time would be included within the overall 30 days.

The final MTR report should describe the full MTR approach taken and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses about the methods and approach of the review.

**5. DETAILED SCOPE OF THE MTR**

The MTR team will assess the following four categories of project progress. See the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for extended descriptions.

**i. Project Strategy**

Project design:

* Review the problem addressed by the project and the underlying assumptions. Review the effect of any incorrect assumptions or changes to the context to achieving the project results as outlined in the Project Document.
* Review the relevance of the project strategy and assess whether it provides the most effective route towards expected/intended results. Were lessons from other relevant projects properly incorporated into the project design?
* Review how the project addresses country priorities. Review country ownership. Was the project concept in line with the national sector development priorities and plans of the country (or of participating countries in the case of multi-country projects)?
* Review decision-making processes: were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, taken into account during project design processes?
* Review the extent to which relevant gender issues were raised in the project design. See Annex 9 of *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for further guidelines.
* If there are major areas of concern, recommend areas for improvement.

Results Framework/Logframe:

* Undertake a critical analysis of the project’s logframe indicators and targets, assess how “SMART” the midterm and end-of-project targets are (Specific, Measurable, Attainable, Relevant, Time-bound), and suggest specific amendments/revisions to the targets and indicators as necessary.
* Are the project’s objectives and outcomes or components clear, practical, and feasible within its time frame?
* Examine if progress so far has led to, or could in the future catalyse beneficial development effects (i.e. income generation, gender equality and women’s empowerment, improved governance etc...) that should be included in the project results framework and monitored on an annual basis.
* Ensure broader development and gender aspects of the project are being monitored effectively. Develop and recommend SMART ‘development’ indicators, including sex-disaggregated indicators and indicators that capture development benefits.

**ii. Progress Towards Results**

Progress Towards Outcomes Analysis:

* Review the logframe indicators against progress made towards the end-of-project targets using the Progress Towards Results Matrix and following the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects*; colour code progress in a “traffic light system” based on the level of progress achieved; assign a rating on progress for each outcome; make recommendations from the areas marked as “Not on target to be achieved” (red).

Table. Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Project Strategy** | **Indicator[[17]](#footnote-17)** | **Baseline Level[[18]](#footnote-18)** | **Level in 1st PIR (self- reported)** | **Midterm Target[[19]](#footnote-19)** | **End-of-project Target** | **Midterm Level & Assessment[[20]](#footnote-20)** | **Achievement Rating[[21]](#footnote-21)** | **Justification for Rating** |
| **Objective:** | Indicator (if applicable): |  |  |  |  |  |  |  |
| **Outcome 1:** | Indicator 1: |  |  |  |  |  |  |  |
| Indicator 2: |  |  |  |  |  |
| **Outcome 2:** | Indicator 3: |  |  |  |  |  |  |  |
| Indicator 4: |  |  |  |  |  |
| Etc. |  |  |  |  |  |
| **Etc.** |  |  |  |  |  |  |  |  |

**Indicator Assessment Key**

|  |  |  |
| --- | --- | --- |
| Green= Achieved | Yellow= On target to be achieved | Red= Not on target to be achieved |

In addition to the progress towards outcomes analysis:

* Compare and analyse the GEF Tracking Tool at the Baseline with the one completed right before the Midterm Review.
* Identify remaining barriers to achieving the project objective in the remainder of the project.
* By reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits.

**iii. Project Implementation and Adaptive Management**

Management Arrangements:

* Review overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Recommend areas for improvement.
* Review the quality of execution of the Executing Agency/Implementing Partner(s) and recommend areas for improvement.
* Review the quality of support provided by the GEF Partner Agency (UNDP) and recommend areas for improvement.

Work Planning:

* Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved.
* Are work-planning processes results-based? If not, suggest ways to re-orientate work planning to focus on results?
* Examine the use of the project’s results framework/ logframe as a management tool and review any changes made to it since project start.

Finance and co-finance:

* Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions.
* Review the changes to fund allocations as a result of budget revisions and assess the appropriateness and relevance of such revisions.
* Does the project have the appropriate financial controls, including reporting and planning, that allow management to make informed decisions regarding the budget and allow for timely flow of funds?
* Informed by the co-financing monitoring table to be filled out, provide commentary on co-financing: is co-financing being used strategically to help the objectives of the project? Is the Project Team meeting with all co-financing partners regularly in order to align financing priorities and annual work plans?

Project-level Monitoring and Evaluation Systems:

* Review the monitoring tools currently being used: Do they provide the necessary information? Do they involve key partners? Are they aligned or mainstreamed with national systems? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required? How could they be made more participatory and inclusive?
* Examine the financial management of the project monitoring and evaluation budget. Are sufficient resources being allocated to monitoring and evaluation? Are these resources being allocated effectively?

Stakeholder Engagement:

* Project management: Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders?
* Participation and country-driven processes: Do local and national government stakeholders support the objectives of the project? Do they continue to have an active role in project decision-making that supports efficient and effective project implementation?
* Participation and public awareness: To what extent has stakeholder involvement and public awareness contributed to the progress towards achievement of project objectives?

Reporting:

* Assess how adaptive management changes have been reported by the project management and shared with the Project Board.
* Assess how well the Project Team and partners undertake and fulfil GEF reporting requirements (i.e. how have they addressed poorly-rated PIRs, if applicable?)
* Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.

Communications:

* Review internal project communication with stakeholders: Is communication regular and effective? Are there key stakeholders left out of communication? Are there feedback mechanisms when communication is received? Does this communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results?
* Review external project communication: Are proper means of communication established or being established to express the project progress and intended impact to the public (is there a web presence, for example? Or did the project implement appropriate outreach and public awareness campaigns?)
* For reporting purposes, write one half-page paragraph that summarizes the project’s progress towards results in terms of contribution to sustainable development benefits, as well as global environmental benefits.

**iv. Sustainability**

* Validate whether the risks identified in the Project Document, Annual Project Review/PIRs and the ATLAS Risk Management Module are the most important and whether the risk ratings applied are appropriate and up to date. If not, explain why.
* In addition, assess the following risks to sustainability:

Financial risks to sustainability:

* What is the likelihood of financial and economic resources not being available once the GEF assistance ends (consider potential resources can be from multiple sources, such as the public and private sectors, income generating activities, and other funding that will be adequate financial resources for sustaining project’s outcomes)?

Socio-economic risks to sustainability:

* Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project? Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future?

Institutional Framework and Governance risks to sustainability:

* Do the legal frameworks, policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems/ mechanisms for accountability, transparency, and technical knowledge transfer are in place.

Environmental risks to sustainability:

* Are there any environmental risks that may jeopardize sustenance of project outcomes?

**Conclusions & Recommendations**

The MTR team will include a section of the report setting out the MTR’s evidence-based conclusions, in light of the findings.[[22]](#footnote-22)

Recommendations should be succinct suggestions for critical intervention that are specific, measurable, achievable, and relevant. A recommendation table should be put in the report’s executive summary. See the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for guidance on a recommendation table.

The MTR team should make no more than 15 recommendations total.

**Ratings**

The MTR team will include its ratings of the project’s results and brief descriptions of the associated achievements in a *MTR Ratings & Achievement Summary Table* in the Executive Summary of the MTR report. See Annex E for ratings scales. No rating on Project Strategy and no overall project rating is required.

Table. MTR Ratings & Achievement Summary Table for Removing Barriers to Wind Power Development in Belarus

|  |  |  |
| --- | --- | --- |
| **Measure** | **MTR Rating** | **Achievement Description** |
| **Project Strategy** | N/A |  |
| **Progress Towards Results** | Objective Achievement Rating: (rate 6 pt. scale) |  |
| Outcome 1 Achievement Rating: (rate 6 pt. scale) |  |
| Outcome 2 Achievement Rating: (rate 6 pt. scale) |  |
| Outcome 3 Achievement Rating: (rate 6 pt. scale) |  |
| Etc. |  |
| **Project Implementation & Adaptive Management** | (rate 6 pt. scale) |  |
| **Sustainability** | (rate 4 pt. scale) |  |

1. **TIMEFRAME**

The total duration of the MTR will be approximately 30 working days (20 home-based, one 8-working days mission to Belarus, 2 travel days) over a time period of 12 weeks (3 months) starting December 2017*,* and shall not exceed five months from when the consultant(s) are hired. MTR timeframe is as follows:

Options for site visits should be provided in the Inception Report.

|  |  |
| --- | --- |
| **TIMEFRAME** | **ACTIVITY** |
| *7 December 2017* | Application closes |
| *22 December 2017* | Select MTR Team |
| *17 January 2018* | Prep the MTR Team (handover of Project Documents) |
| *18 January 2018-24 January 2018 – 4 days* | Document review and preparing MTR Inception Report |
| *25 January 2018- 31 January 2018 - 5 days* | Finalization andValidation of MTR Inception Report- latest start of MTR mission |
| *1 February 2018-12 February 2018- 8 days* | MTR mission: stakeholder meetings, interviews, field visits |
| *12 February 2018* | Mission wrap-up meeting & presentation of initial findings- earliest end of MTR mission |
| *13 February 2018- 27 February 2018 - 11 days* | Preparing draft report |
| *28 February-1 March 2018 – 2 days* | Incorporating audit trail from feedback on draft report/Finalization of MTR report |
| *22 March 2018* | Finalization of the evaluation report (incorporating comments received on the draft report) |
| *29 March 2018* | Preparation & Issue of Management Response |
| *31 March 2018* | Expected date of full MTR completion |

1. **MIDTERM REVIEW DELIVERABLES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Deliverable** | **Description** | **Timing** | **Responsibilities** |
| **1** | **MTR Inception Report** | MTR team clarifies objectives and methods of Midterm Review | No later than 1 week before the MTR mission: 31 January 2018 | MTR team submits to the Commissioning Unit and project management |
| **2** | **Presentation** | Initial Findings | End of MTR mission: 12 February 2018 | MTR Team presents to project management and the Commissioning Unit |
| **3** | **Draft Final Report** | Full report (using guidelines on content outlined in Annex B) with annexes | Within 2 weeks of the MTR mission: 27 February 2018 | Sent to the Commissioning Unit, reviewed by RTA, Project Coordinating Unit, GEF OFP |
| **4** | **Final Report\*** | Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final MTR report | Within 1 week of receiving UNDP comments on draft: 22 March 2018 | Sent to the Commissioning Unit |

\*The final MTR report must be in English. If applicable, the Commissioning Unit may choose to arrange for a translation of the report into a language more widely shared by national stakeholders.

1. **MTR ARRANGEMENTS**

The principal responsibility for managing this MTR resides with the Commissioning Unit. The Commissioning Unit for this project’s MTR is UNDP Country Office in Belarus.

The commissioning unit will contract the consultants and ensure the timely provision of per diems and travel arrangements within the country for the MTR team. The Project Team will be responsible for liaising with the MTR team to provide all relevant documents, set up stakeholder interviews, and arrange field visits.

1. **TEAM COMPOSITION**

A team of two independent consultants will conduct the MTR - one team leader (with experience and exposure to projects and evaluations in other regions globally) and one national expert. The International Consultant is designated as the team leader and will be responsible for the entire midterm review and respective MTR deliverables mentioned above in line with this ToR, with inputs from the project. The National Expert will provide assistance to the International Consultant in line with a separate ToR focusing on preparation of the baseline data, organizing and participation in the midterm review mission to Belarus, incorporation of detailed comments received into the MTR report. The consultants cannot have participated in the project preparation, formulation, and/or implementation (including the writing of the Project Document) and should not have a conflict of interest with project’s related activities.

The selection of consultants will be aimed at maximizing the overall “team” qualities.

**Qualifications for Team Leader:**

* Advanced university degree (at least the Master level) in any of the following fields: engineering, energy, environment, international relations, economics, law, or business.
* Practical experience (within last five years) in mid-term or final performance evaluation of at least one international and/or regional projects funded by multilateral agencies.
* Experience in performance evaluation of such projects in CEE or/and FSU countries is preferred.
* Experience or knowledge of UNDP and GEF monitoring and evaluation policy (especially for NIM projects) demonstrated by performance evaluation of at least one other UNDP project.
* At least 5 years work experience in the field of energy and/or renewable energy, with preference for experience related to wind energy
* Familiarity with relevant Belarusian regulations and standards is an asset and Belarusian policy on renewable energy.
* Excellent written and spoken English is a must.
* Working knowledge of written and spoken Belarusian or Russian is an advantage.

**Technical Scoring for Team Leader:**

The following criteria will be rated as indicated below:

* Educational background (Advanced University Degree at the Masters Level = 3 points , +1 point if in energy or environment , +1 point if PhD in relevant field (Max 5 points)
* Practical experience (within last five years) in mid-term or final performance evaluation of at least one international and/or regional projects funded by multilateral agencies (including UNDP) or development bank. (15 points, if have it)
* Experience in performing one or more final evaluations in a Europe & CIS country in the past 5 years (5 points, if have it)
* Experience or knowledge of UNDP and GEF M&E methodology from having carried out at least previous evaluation for UNDP GEF (5 points, if have it)
* Fluency in both English and Russian (5 points, if fluent in writing/speaking of both English and Russian, 2 points if just English)
* At least 5 years of consultancy or advisory experience related to energy or renewable energy (Max 20 points, 15 points if energy related experience of 5 years or more, +5 points at least 5 years experience related to renewable energy)
* Experience working with wind energy during the past 5 years (Max 10 points, 2 points per year of experience specifically on wind energy)
* Familiarity with Belarusian regulations and standards (Max 5 points, 5 points if proper experience on working on Belarusian regulations and standards related to energy and/or renewable energy, 2 points if experience working in Belarus but not specifically on energy and/or renewable energy)

**MAXIMUM: 70 points**

Candidates who score (70%) meaning 49/70 points, will move to the financial scoring.

**Financial Scoring for Team Leader:**

Financial scoring will be carried out as follows. The lowest financial offer from a technically compliant offer will score 30 points and all other technically compliant offers will score a percentage of 30 points based on the formula of lowest financial offer divided by financial offer of the applicant x 100 x 30%.

**MAXIMUM: 30 points**

The total score out of 100 points will be technical score + financial score.

The highest scoring candidate will proceed to the validation interview with the interview panel.

1. **PAYMENT MODALITIES AND SPECIFICATIONS**

The total payment for the assignment of Team Leader will be a lump sum fee paid in 3 installments as specified in the table below:

|  |  |  |
| --- | --- | --- |
| Installment No. | Milestone No. (see Section 8 below) and timeframe | % of total contract amount |
| 1 | 1 upon approval of the final MTR Inception Report | 20 |
| 2 | 2 and 3 upon submission of the draft MTR report | 50 |
| 3 | 4 and 5 upon finalization of the MTR report | 30 |

Each of the installments shall be paid within 30 days after completion and approval of the reports as required in Section 8 ‑ “Milestones and Deliverables” below. **Travel expenses shall be included in the lump sum.**

1. **APPLICATION PROCESS[[23]](#footnote-23)**

**Recommended Presentation of Proposal:**

1. **Letter of Confirmation of Interest and Availability** using the [template](https://intranet.undp.org/unit/bom/pso/Support%20documents%20on%20IC%20Guidelines/Template%20for%20Confirmation%20of%20Interest%20and%20Submission%20of%20Financial%20Proposal.docx)[[24]](#footnote-24) provided by UNDP;
2. **CV** and a **Personal History Form** ([P11 form](http://www.undp.org/content/dam/undp/library/corporate/Careers/P11_Personal_history_form.doc)[[25]](#footnote-25));
3. **Brief description of approach to work/technical proposal** of why the individual considers him/herself as the most suitable for the assignment, and a proposed methodology on how they will approach and complete the assignment; (max 1 page)
4. **Financial Proposal** that indicates the all-inclusive fixed total contract price and all other travel related costs (such as flight ticket, per diem, etc), supported by a breakdown of costs, as per template attached to the Letter of Confirmation of Interest template. If an applicant is employed by an organization/company/institution, and he/she expects his/her employer to charge a management fee in the process of releasing him/her to UNDP under Reimbursable Loan Agreement (RLA), the applicant must indicate at this point, and ensure that all such costs are duly incorporated in the financial proposal submitted to UNDP.

All application materials should be submitted to the address UNDP, Kirava Street 17, 6th floor, 220050 Minsk, Belarusin a sealed envelope indicating the following reference **“Consultant for Removing Barriers to Wind Power Development in Belarus Midterm Review 878/2017”** or by email at the following address ONLY: [tenders.by@undp.org](mailto:tenders.by@undp.org) This email address is being protected from spam bots, you need Javascript enabled to view it by **23:59 6 December 2017 (Minsk time).**Incomplete applications will be excluded from further consideration.

**Criteria for Evaluation of Proposal:** Only those applications which are responsive and compliant will be evaluated. Offers will be evaluated according to the Combined Scoring method – where the educational background and experience on similar assignments will be weighted at 70%and the price proposal will weigh as 30% of the total scoring. The applicant receiving the Highest Combined Score that has also accepted UNDP’s General Terms and Conditions will be awarded the contract.

## Annex 2: Example Questionnaire or Interview Guide used for data collection

Interviews with the Project Team, Project Experts and Consultants, key stakeholders were focused on well-prepared questions presented in the MTR ToR; all these questions are appropriate and thus the MTR Team used them. These are already incorporated into the evaluative matrix (Annex 2 above) and therefore, are not reproduced here.

## Annex 3: Ratings Scales

|  |  |  |
| --- | --- | --- |
| **Ratings for Progress Towards Results:** (one rating for each outcome and for the objective) | | |
| 6 | Highly Satisfactory (HS) | The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/ outcome can be presented as “good practice”. |
| 5 | Satisfactory (S) | The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings. |
| 4 | Moderately Satisfactory (MS) | The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings. |
| 3 | Moderately Un­satis­factory (HU) | The objective/outcome is expected to achieve its end-of-project targets with major shortcomings. |
| 2 | Unsatisfactory (U) | The objective/outcome is expected not to achieve most of its end-of-project targets. |
| 1 | Highly Unsatis­factory (HU) | The objective/outcome has failed to achieve its midterm targets, and is not expected to achieve any of its end-of-project targets. |

|  |  |  |
| --- | --- | --- |
| **Ratings for Project Implementation & Adaptive Management:** (one overall rating) | | |
| 6 | Highly Satisfactory (HS) | Implementation of all seven components – management arrangements, work plan­ning, finance and co-finance, project-level monitoring and evaluation sys­tems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as “good practice”. |
| 5 | Satisfactory (S) | Implementation of most of the seven components is leading to efficient and effective project implementation and adaptive management except for only few that are subject to remedial action. |
| 4 | Moderately Satisfactory (MS) | Implementation of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action. |
| 3 | Moderately Unsatisfactory (MU) | Implementation of some of the seven components is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action. |
| 2 | Unsatisfactory (U) | Implementation of most of the seven components is not leading to efficient and effective project implementation and adaptive management. |
| 1 | Highly Unsatisfactory (HU) | Implementation of none of the seven components is leading to efficient and effective project implementation and adaptive management. |

|  |  |  |
| --- | --- | --- |
| **Ratings for Sustainability:** (one overall rating) | | |
| 4 | Likely (L) | Negligible risks to sustainability, with key outcomes on track to be achieved by the project’s closure and expected to continue into the foreseeable future |
| 3 | Moderately Likely (ML) | Moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Review |
| 2 | Moderately Unlikely (MU) | Significant risk that key outcomes will not carry on after project closure, although some outputs and activities should carry on |
| 1 | Unlikely (U) | Severe risks that project outcomes as well as key outputs will not be sustained |

## Annex 4: MTR mission itinerary

| **Date/Time** | **Description** | **Participants** | **Where** | **Notes** |
| --- | --- | --- | --- | --- |
| **1 February, Thursday** | | | | |
| 5:45 – 7:00 | Arrival,  accommodation in hotel Hampton by Hilton, 8 Tolstoy St. |  | Airport Minsk 2,  Hotel “Hampton by Hilton” | Flight from Tbilisi:  Arrival 5:45  Transport: Taxi |
| 14:00 – 16:00 | Meeting with PMU |  | Ministry of Environment,  Kollectornaya Str. 10, off. 221 |  |
| 16:30 – 17:30 | Meeting in the UNDP Country Office | Igar Tchoulba | UNDP Belarus,  6th floor, 17, Kirova Str. |  |
| **2 February, Friday** | | | | |
| 11.00-13.00 | Meeting with the National Coordinator of the project and the Ministry of Environment | Alexander Korbut,  Deputy Minister  Andrei Pilipchuk  Marina Filipyuk. | Ministry of Environment |  | |
| 13.00-14.00 | Lunch |  |  |  | |
| 14.00-15.30 | Meeting with ENECA | Grigoriy Kuzmich | 177 Nezavisimosti Av., Entrance 1, 3rd Floor |  | |
| 15.30-17.00 | Meeting with WPFI | Pavel Yatsko | 177 Nezavisimosti Av., Entrance 1, 3rd Floor |  | |
| **5 February, Monday** | | | | | |
| 10:00-11:00 | Meeting with Ministry of Economy | Alena Sinilo, deputy head of the department of green economy | Ministry of Economy, 14 Bersona St. |  | |
| 11:30-13:00 | Belinvestbank | Alexander Mikhno, head of the department of development of SME | 29 Masherov St. |
| 13.00-14.00 | Lunch |  |  |  | |
| 14.00-15.00 | EBRD | Alexander Yevseichik, leading banker | 70 Myasnikova St., 5th floor, office 522 |  | |
| 15:00 – 16:00 | National Agency for Investments and Privatization (tbc) | Ekaterina Filist, consultant of the department of investment projects  Denis Melezhkin, Deputy Director | 14 Bersona St. |  | |
| **6 February, Tuesday** | | | | | |
| 09.30 – 10.30 | Meeting with NGOs | Andrei Pinihin “Green Economy”  Yasia Karalevich-Kartel, “Green network”, Citydog magazine, Port Mone Trio  Alexander Vinchevskiy “Akhova Ptushak Batskaushchyny”  Oksana Kuzina, Director of NGO Urban Projects and Initiatives “Prastora” (Vitebsk)  Anastacia Zhdanovich, General Director of NGO “Belarusian Ecological Movement” | Ministry of Environment |  | |
| 10.45 – 11:30 | Meeting with Malaya Energetika | Anatoly Smirnov | 5 Storozhevskaya St. (Troitskoye Predmestie) |  | |
| 12.00-13.30 | Lunch |  |  |  | |
| 13.30-15.00 | Meeting with PMU |  | Ministry of Environment |  | |
| 15.30 – 17:00 | Meeting with Ministry of Antimonopoly Regulation and Trade | Denis Bibikov, Deputy Head General Department of antimonopoly regulation | 8 Kirov St. |  | |
| 17:00 – 18:00 | MTR team meeting |  |  |  | |
| **7 February, Wednesday** | | | | | |
| 9:30 – 10.30 | Meeting with Vestas dealer | Alina Shakutina | Ministry of Environment |  | |
| 11.00-12.00 | Meeting at the Ministry of Energy | Olga Prudnikova, Deputy Minister  Sergei Greben, head of department of Energy efficiency, ecology and science  A representative of Belenergo (tbc) | 14 Karla Marksa St. |  | |
| 12.00 – 13.30 | Belorusneft | Andrei Kotik, Deputy Director General | Ministry of Environment | Meeting cancelled | |
| 13.30 – 14.30 | Lunch |  |  |  | |
| 14:30 – 15:30 | Department of Energy Efficiency | Mikhail Malashenko, Director  Andrei Minenkov, Head of department of science and technical policy and external economic links | 17 Svobody Sq. |  | |
| 16:00 – 17:00 | Meeting at Belhydromet | Roman Labaznov, Director  Eugeniy Korzun, member of WESU | 110 Nezavisimosti Av., Office 402 |  | |
| **8 February, Thursday (site visit)** | | | | | |
| 8.30-10.30 | Travel to Novogrudok | Vladimir Kouzmitch, Manager of EU project in Novogrudok  Pavel Yatsko, Director of WPFI  Denis Kovalenko, project consultant  Novogrudok part (tbc) |  |  | |
| 10.30-12.00 | Meeting at the Novogrudok District Executive Committee |  | Novogrudok, 11 Mitskevich St. |  | |
| 12.00-13.30 | Visit to Grabniki wind farm (Grodnoenergo) |  |  |  | |
| 13:30 – 15:00 | Lunch |  |  |  | |
| 15:00 – 16:00 | Visit to the Yanovichi site where wind measurement equipment is installed |  |  |  | |
| 16:00 - 18.00 | Trip to Minsk |  |  |  | |
| **9 February, Friday** | | | | | |
| 9.00–10.00 | Ad hoc meetings |  |  |  | |
| 10.00-11.00 | Meeting with Eco-tech | Yuri Kravchenko | Ministry of Environment |  | |
| 12.00–13.00 | Meeting at Belarusian Research Center Ecology | Sergey Melnov, Director, Ivan Narkevich,  Dmitry Melekh | Ministry of Environment |  | |
| 13.00-14.00 | Lunch |  |  |  | |
| 14.00–15.00 | Meeting with IFC | Anton Chernyshev | 6 Rumyantsev Street |  | |
| 15:30 – 16:15 | Meeting with GEF National Focal Point | Iya Malkina, First Deputy Minister of Natural Resources and Environment Protection of the Republic of Belarus | Ministry of Environment |  | |
| 16:30 – 18:00 | Ad hoc meetings, meeting with the PMU |  |  |  | |
| 18:30 – 20:00 | Dinner with the Deputy Minister | Alexander Korbut | Ulitsa Myasnikova 34, Minsk |  | |
| **12 February, Monday** | | | | | |
| 9.00-11.00 | Meeting with the PMU |  | Ministry of Environment |  | |
| 11.30–13.00 | Mission wrap-up meeting & presentation of initial findings |  | UNDP Belarus,  6th floor, 17, Kirova Str. |  | |
| 13.00-14.00 | *Lunch* |  |  |  | |
| 14:00-16:00 | Ad hoc meetings |  |  |  | |
| 16:00-17:00 | Meeting with RTA | John O’Brien | UNDP Belarus |  | |
| 22.45 | *Departure of MTR team leader from Minsk* |  |  |  | |

## Annex 5: List of persons interviewed

In addition to the interviews with the stakeholders during the MTR mission, the MTR Team has conducted Skype interviews with:

* + - * Mr. Evgeniy Nadezhdin, CTA
      * Mr. Damian O’Brien, International consultant (financing)
      * Mr. Christoph Heinrich, Co-author of the De-risking study
      * Mr. David Freund, International consultant (project document)

## Annex 6: List of documents reviewed

* Project-related documents:
  + PIF
  + Project Document
  + Project Inception report
  + PIRs (2016-2017)
  + APRs (2016-2017)
  + AWPs and their revisions (2015-2017)
  + Monitoring logs, Risk logs, Issue logs, Lessons learned logs (2016-2018)
  + Minutes of Project Board Meetings (2015-2017, 7 in total)
  + Project report: Belarus: De-risking Renewable Energy Investment, 2017
* Legal and regulatory acts on REs in Belarus:
  + Law on REs (#204-3 of Dec 27, 2010);
  + Presidential decree on REs quotas (#209 of May 18, 2015);
  + Cabinet of Ministers’ resolution REs quotas (#305 of Apr 26, 2017; previously #662 of Aug 6, 2015);
  + Ministry’s of Antimonopoly Regulation and Trade resolution on REs tariffs (#43 of Aug 18, 2017)
* Key strategic and planning documents:
  + Framework (concept) of energy security of Belarus, approved by Cabinet of Ministers on Dec 23, 2015
  + Strategy for tapping into energy potential of Belarus, approved by Cabinet of Ministers on Aug 9, 2010
  + State energy savings program 2016-2020, approved by Cabinet of Ministers on Mar 28, 2016
  + Sectoral program of power sector development 2016-2020, approved by the Ministry of Energy on Mar 31, 2016
  + Comprehensive plan of power sector development until 2025 to reflect impacts of Belarusian Nuclear PP, approved by Cabinet of Ministers on Mar 1, 2016
* Other reports:
  + Belarus ENERGY Sector: The Potential for Renewable Energy Sources and Energy Efficiency, ENER2I, 2014
  + In-Depth Review of the Energy Efficiency Policy of Belarus, Energy Charter Secretariat, 2013

## Annex 7: Signed UNEG Code of Conduct form

|  |
| --- |
| MTR Consultant Agreement Form  Agreement to abide by the Code of Conduct for Evaluation in the UN System:  I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.  Paata JANELIDZE  Signed at Minsk, 5.02.2018  Signature-2.jpg  Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

## Annex 8: Signed MTR final report clearance form

 *Annexed in a separate file:* Audit trail from received comments on draft MTR report

 *Annexed in a separate file:* GEF CC Mitigation Tracking Tool

1. Numbers of recommendations in this table correspond to those ones in Chapter 5.2 [↑](#footnote-ref-1)
2. <http://web.undp.org/evaluation/documents/guidance/GEF/mid-term/Guidance_Midterm%20Review%20_EN_2014.pdf> [↑](#footnote-ref-2)
3. Specific, Measurable, Achievable, Relevant and Time-Bound [↑](#footnote-ref-3)
4. For instance, in the article “Green energy in Belarus is a rival of nuclear?” (<https://www.belrynok.by/2017/11/02/zelenaya-energiya-v-belarusi-konkurent-yadernoj/> ) [↑](#footnote-ref-4)
5. BaU - Business as Usual [↑](#footnote-ref-5)
6. http://www.belenergo.by/content/investoram/v ozobnovlyaemaya-energetika [↑](#footnote-ref-6)
7. Belarus: Derisking Renewable Energy Investment (2017): cost of equity 20%, cost of debt 12% as of time of the study (2016) [↑](#footnote-ref-7)
8. SEFF – Sustainable Energy Financing Facility [↑](#footnote-ref-8)
9. Table 21 in prodoc actually mixes BU and TD figures: TD should be larger than the BU estimate, so 1.9 Mt is actually BU. [↑](#footnote-ref-9)
10. This number assumed 100% utilization of the country’s entire theoretical potential for wind (1.6GW), implemented within 10 years after the GEF project and with 100% GEF causality factor – all the above assumptions are non-realistic [↑](#footnote-ref-10)
11. After introducing of quotas for RES, the potential developers are offering competitive (lower) multiplying factors, i.e. the feed-in-premium scheme is replaced by the “auctioning” with a difference that the bidders (potential investors) are offering multiplying factors instead of attractive tariff values. [↑](#footnote-ref-11)
12. It is clear that it is not tenable for Belenergo to pay for the grid connection out of Belenergo’s finances. Belarus needs a mechanism for financing these expenses. [↑](#footnote-ref-12)
13. Questions are from the ToR [↑](#footnote-ref-13)
14. Under the technical assistance project legislation requirements in Belarus, WESU could still stay within the current arrangement (if the new Implementation Partner decides so) [↑](#footnote-ref-14)
15. For ideas on innovative and participatory Monitoring and Evaluation strategies and techniques, see [UNDP Discussion Paper: Innovations in Monitoring & Evaluating Results](http://www.undp.org/content/undp/en/home/librarypage/capacity-building/discussion-paper--innovations-in-monitoring---evaluating-results/), 05 Nov 2013. [↑](#footnote-ref-15)
16. For more stakeholder engagement in the M&E process, see the [UNDP Handbook on Planning, Monitoring and Evaluating for Development Results](http://www.undg.org/docs/11653/UNDP-PME-Handbook-(2009).pdf), Chapter 3, pg. 93. [↑](#footnote-ref-16)
17. Populate with data from the Logframe and scorecards [↑](#footnote-ref-17)
18. Populate with data from the Project Document [↑](#footnote-ref-18)
19. If available [↑](#footnote-ref-19)
20. Colour code this column only [↑](#footnote-ref-20)
21. Use the 6 point Progress Towards Results Rating Scale: HS, S, MS, MU, U, HU [↑](#footnote-ref-21)
22. Alternatively, MTR conclusions may be integrated into the body of the report. [↑](#footnote-ref-22)
23. Engagement of the consultants should be done in line with guidelines for hiring consultants in the POPP: <https://info.undp.org/global/popp/Pages/default.aspx> [↑](#footnote-ref-23)
24. <https://intranet.undp.org/unit/bom/pso/Support%20documents%20on%20IC%20Guidelines/Template%20for%20Confirmation%20of%20Interest%20and%20Submission%20of%20Financial%20Proposal.docx> [↑](#footnote-ref-24)
25. <http://www.undp.org/content/dam/undp/library/corporate/Careers/P11_Personal_history_form.doc> [↑](#footnote-ref-25)