



**PROJECT IMPLEMENTATION REPORT (PIR)
FY 2022**

GEF - IDB

IMPORTANT: The reporting period is GEF Fiscal Year (July 1st, 2021 to June 30th, 2022)

of PIR: 9th

PROJECT GENERAL INFORMATION

Project Name:	Promotion and Development of Local Wind Technologies in Mexico		
Project's GEF ID:	4132	Project's IDB ID:	ME-X1011 GRT/FM-13249-ME
Country/ies	Mexico		
GEF Focal Area	Climate Change		
Executing Agency:	The National Electricity and Clean Energy Institute (INEEL)		
Project Finance and Disbursements:	GEF Trust Fund	\$ 5,000,000	
	Co-finance at CEO Endors. / Approv.	\$ 33,600,000	
	TOTAL Project Cost (GEF Grant + co-finance)	\$ 38,600,000	
	Total disbursements of GEF Grant resources as of end of June 30 th , 2022 (cumulative)	\$ 4,992,485.91	
Project Dates:	Date of First Disbursement	06/7/2013	
	Agency Approval Date	05/15/2012	
	Effectiveness (Start) Date	08/15/2012	
	Original Last Disbursement Expiration Date ¹ (OED)	02/15/2017	
	Current (CED)	07/30/2022	
	Estimated Operational Close Date ² (EOC)	10/28/2022	
	Actual Date of EOC, if applicable		

¹ For the GEF, this is equivalent to the project's "Expected Completion Date".

² For the GEF, this is equivalent to the project's "Expected Financial Closure Date".



Project Evaluation:	Mid-term Date (Expected or Actual)	07/30/2015
	Terminal evaluation Date (Expected)	01/31/2023

DEVELOPMENT OBJECTIVE RATING (DO) & ASSESSMENT

The general objective of the project is to include Mexico as a key player in the world's wind energy market, expanding its wind generation capacity by enabling local development and implementation of windmill technologies.

Make an overall assessment and provide a rating³ of “likelihood of achieving project objective” during the period (2021-2022). Describe any significant environmental or other changes attributable to project implementation.

OVERALL (DO) ASSESSMENT	PREVIOUS RATING	NEW RATING
<p>The project has been structured in four components: 1) design and specification of wind turbine components; 2) procurement, manufacturing, and assembly of the components; 3) erection, starting-up and operational testing of the wind turbine; 4) capacity building and institutional strengthening to promote wind power market through DG by small power producers (SSPs).</p> <p>During the period of evaluation, the project covered by GEF funds was practically completed, pending the test of the blades that will conclude in July 2022. However, as reported in last PIR 2021, due to the unavailability of the total counterpart resources, the erection, starting-up and operational testing of the 1.2MW wind turbine prototype is still pending.</p> <p>This fiscal year 2022, the Executing Agency mainly focused on completing the blade manufacturing for the wind turbine, as well as in the preparation and beginning of the static and destructive tests of the blades, which are going to be finalized until July 2022. This is the last product committed to be delivered with the grant resources.</p> <p>Under this scenario the project is expected to achieve most of its major relevant objectives, but the execution of its component 3 will be pending. Thus, the development objective rating for this period remains as Marginally Satisfactory (MS).</p>	MS	MS

³ See Annex 1: Definition of Ratings.

IMPLEMENTATION PROGRESS RATING (IP) & ASSESSMENT

Make an assessment and provide ratings⁴ of overall *Implementation Progress*, including information on progress, challenges and outcomes on project implementation activities from July 1st, 2021 until June 30th, 2022. As applicable, please include *information on issues and solutions related to COVID-19*.

OVERALL (IP) ASSESSMENT	PREVIOUS RATING	NEW RATING
<p>Overall, for the period 2021-2022, the project’s implementation progress rating granted remained as: Marginally Satisfactory (MS) given the level of achievement of outcomes per component, which are detailed as follows:</p> <p>Component 2 - Procurement, manufacturing, and assembly of the components. <i>In progress.</i></p> <ol style="list-style-type: none"> 1. Manufacturing of wind turbine blades: The National Research Centers Advanced Technology Center (CIATEQ for their Spanish acronym) and Engineering and Industrial Development Center (CIDESI for their Spanish acronym) have successfully completed the design and manufacturing of the wind blades and are currently advancing on the testing process, which will finalize in July 2022. <p>The CIDESI concluded the structural design of different components of the blades, such as: pressure and suction sides molds, root mold, leading and outlet edges molds and stringers molds. It also concluded the documentation required for the design certification process and begun the process of certification with the certifying body Det Norske Veritas (DNV), and the advice of National Renewable Energy Center (CENER) from Spain. The design of nineteen tools for carrying out different kind of maneuvers during the manufacturing of the molds and the blades was also concluded.</p> <p>The CIATEQ concluded the following activities: i) the manufacturing of the molds of the shells of the blades (suction and pressure sides); ii) procurement of the materials, consumables, and equipment for implementing the infusion process for molds and blades; iii) the manufacturing of blades (this include the manufacturing of spar caps LP, blade crossbars, spar caps LS, maintenance platform, balancing boxes, root LP and LS, shell LP an LS; iv) positioning of beams and false casting; v) glued shell of the blades; striping and repair of blade; v) blade static test.</p> <p>The COVID-19 pandemic restrictions continued affecting the project during 2021 and 2022, by limiting the capacity of the INEEL-CIATEQ-CIDESI personnel to work in-situ on the manufacturing of the blades, and the delay in the provision of some key materials and equipment by suppliers, and in many cases, it became more challenging to find suppliers that meet the technical requirements, delivery times,</p>	MS	MS

⁴ See Annex 1: Definition of Ratings.

<p>guarantees and bonds conditions, which resulted in longer procurement processes and, in other cases, it limited purchases to only one supplier. By June 2022, all the materials and equipment were already supplied.</p>		
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RISK RATING & ASSESSMENT

*For fiscal year 2022, make any adjustments necessary to the assessment ratings⁵ of overall **Project Risk**⁶ that you provided in the last PIR (2020-2021). Please include details and remedial measures for High and Substantial Risks, specifying who will be responsible for these measures.*

OVERALL RATING FOR PROJECT RISK	PREVIOUS RATING	NEW RATING
<p>The risk of delay in the manufacture of blades due to COVID-19 pandemic restrictions was overcome due to the extension of the project execution, as well as the supervision and support of the participants in it, through the weekly follow-up meetings held, in which the INEEL, CIATEQ and IDB teams participated, including procurement specialists</p> <p>The remaining risk is the non 100% recovery of the advance granted to the company called Composite Material Technology (TEMACO for their Spanish acronym) for the manufacturing of the blades, which is considered as substantial (S). The origin of this risk and the remedial actions implemented to mitigate it are described below:</p> <p><u>Origin of the risk</u></p> <p>The execution of the contract for the manufacturing of the wind turbine blades was awarded by INEEL to the local company TEMACO who was selected for showing enough capacity to carry out the design and manufacturing of a set of 5 blades for the MEM project. However, TEMACO was unable to meet key milestones in the contract. TEMACO requested an extension for the completion of the contract during 2020, but they missed the renewal of a commercial bank guarantee that would allow the approval of the said extension by INEEL. The contract with TEMACO was not renewed and INEEL claimed the reimbursement of the advance granted to which the company argued that they had already spent all the resources granted as an advance.</p> <p><u>Actions implemented:</u></p> <p>Under the termination of the contract with TEMACO, a review process from INEEL’s legal, financial, and technical teams was done, aiming to recover the non-eligible expenses of the advance granted. During the revision, TEMACO only</p>	<p>S</p>	<p>S</p>

⁵ See Annex 1: Definition of Ratings.

⁶ These should include risks identified at CEO Endorsement AND any new risks identified during implementation.

<p>comply the verification of expenses for USD 50,190, of the total amount of the advance, which is USD 300,000.</p>		
<p>In June 2022, to achieve the recovery of the unverified advance, INEEL and TEMACO, certified by a notary public, signed an agreement for the return of the unverified resources of the advance granted. If TEMACO does not return the pending resources in accordance with the provisions of the agreement, they will have to be recovered through the existing bond.</p>		
<p>It is estimated that the recovery of resources through the application of the bond will exceed the period of conclusion and closing of the operation, which implies the need to establish an additional agreement with INEEL to continue with the process after completion and closing of the operation.</p>		

STAKEHOLDER ENGAGEMENT

Please add information on any progress, challenges, and outcomes with regards to stakeholder engagement, based on the project’s activities during its implementation through the 2020-2021 GEF Fiscal Year. As applicable, please include **information on issues and solutions related to COVID-19.**

<p>The General Directors of INEEL, CIATEQ and CIDESI and the CIATEQ has expressed their high commitment to the project supported by the GEF and the project’s value for the country in the development of human capital, as well as in the creation of value chains for the local manufacturing of wind turbine components, and their interest to complete the project with the erection, starting-up and operational testing of the wind turbine.</p>
<p>For this purpose, on March 16, 2022, a meeting was held with the participation of the General Directors of the three research centers and representatives of IDB. In this meeting also participated a senior manager of the National Council of Science and Technology (CONACYT) by this acronym in Spanish), who expressed interest and the possibility of allocating part of the resources necessary to implement the pending actions (component 3) to complete the project.</p>

GENDER

Please add information on any progress, challenges and outcomes with regards to any and all gender-responsive measures that were undertaken in the project's activities during the 2020-2021 GEF Fiscal Year. Also: Were indicators on gender equality and women's empowerment incorporated in the project's results framework? (Yes/No). If applicable, include the indicator with its baseline, target and current value (2021-2022).

No. There is not any gender indicator included in the original result matrix of the project. However, IDB and INEEL have agreed on the importance of promoting gender equality during the execution of the resources. Considering the handcraft skills of the women of Oaxaca, INEEL considered the participation of a group of local women during the process of manufacturing of the blades. There is no additional participation of women besides the workshops that seek to identify such local capacities reported in previous PIR.

KNOWLEDGE

Please add information on knowledge activities and products developed in relation to the project (with GEF or non-GEF resources), with special emphasis on activities carried out during the 2020-2021 GEF Fiscal Year. As applicable, please include **information on issues and solutions related to COVID-19.**

The main results of assimilation of knowledge are those related to the important development of capacities and abilities within the young researchers who are participating in the project both at CIDESI and CIATEQ. These two institutions have master's and doctorate programs, so it is expected that the knowledge acquired will be disseminated to the students of these programs.

In collaboration with the IDB the following products have been prepared to disseminate the main outcomes of the project:

[Video: Mexican Eolic Generator](#)

[Publication: Infrastructure for Development - Vol. 4, No. 1: How to Join the Wind Sector Value Chain in Mexico](#)

CHANGES TO PROJECT DESIGN AND IMPLEMENTATION

IDB’s policies apply throughout the execution of GEF projects. Most changes considered “minor amendments” by GEF would, according to IDB’s regulations, norms, and policies, require EITHER no contractual adjustment at all [e.g., small changes in outputs or parallel co-financing] OR a contractual adjustment that does not require Board approval [e.g., extension of date of last disbursement]. These changes should be reported in the PIR for the Fiscal Year during which the changes took effect.

Please indicate in the table below (with an ‘x’ under Yes or No) which aspects of the project were affected by the changes and provide a short description, as well as a reference to any supporting material uploaded into the Bank’s systems:

In the Reporting Year, were any changes made that affected:	YES	NO	If YES, please briefly describe changes made:	Link to supporting material
Results Matrix/ Outputs: P(a) EOP values, wording of outputs, or addition of outputs?		X		
Component Cost: funding allocated per component (vs. originally approved)?		X		
GEF Co-financing: changes in sources and/or amounts expected?		X		
Dates reported to GEF (e.g., effectiveness, first/ extension of last disbursement, midterm evaluation)?	X		In November 2021, due to pandemic restrictions on the supply chains of goods and services prevailed with effects to the project, so an extension of the last disbursement was approved by the IDB with deadline on July 30th, 2022.	
Executing mechanism (e.g., change of Executing Agency or function of advisory committee)?		X		
Other implementation arrangements (e.g., coordination with other GEF projects)?		X		
Financial [risk] management (e.g., waiver for annual audit or change in % to be justified)?		X		
Management of E&S risks and impacts (e.g., changes to ESMP)?		X		



Management of other risks (e.g., changes due to health/ Covid-19 or security concerns)?

	X
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Please note: Should the request or need for any changes arise that, by IDB’s regulations, norms and policies, require authorization at the Manager level or above [see OA-420, OA-421, OA-430 and OA-431], project teams should invariably get in touch with the IDB-GEF Coordination team, preferably prior to discussing such changes with counterparts to ensure proper coordination with and reporting to the GEF.

Examples include, but are not limited to: (i) All substantial and fundamental changes covered by the OA-430; (ii) Changes to the general or specific project objective(s) or to the project’s area of intervention; (iii) Results Matrix/ Outcomes & Impacts: P(a) value, wording of existing or addition of Outcomes, Outcome Indicators, Impacts and/or Impact Indicators; (iv) Components: changes in types of activities that may be financed with project funding (eligibility of expenses); (v) Total Amount of Project Financing (above originally approved amount).

LESSONS LEARNED / BEST PRACTICES

*If the project generated any lessons learned or best practices during the 2021-2022 GEF Fiscal Year, please provide a short description. **As applicable, please include information on issues and solutions related to COVID-19.***

TOPIC/THEME	LESSONS
Stakeholder engagement	Due to the relevance of this project, other national research institutions can participate, and the CONACyT expressed its interest in supporting the hole conclusion of the project. The participation of all possible institutions will strengthen the technical and financial capabilities of the current institutions, providing a realistic option to continue the project to its final assembly and commissioning.
Knowledge and capacity building	The project is focused to the development of local skills, knowledge, and transfer of experiences between public and private stakeholders. CIATEQ's participation has demonstrated the advantages of involving a national center to assimilate the manufacturing capacity of blades for wind turbines. CIATEQ has become an important agent in the logistics adjustment for manufacturing as well as in the coordination of the different members of the team that participate in the process. Likewise, CIATEQ plays an important role in the fulfillment of the manufacturing plan within the estimated budget. CIATEQ will be an important disseminator of the experiences obtained by this project.
Planning and project management	The participation of institutions with sufficient technical capacity and infrastructure is necessary to ensure the adequate fulfillment of the activities, use of assigned resources, as well as the established times. Executing Agencies in similar Research and Development projects need to adopt different planning and project management mechanisms. This is because projects of this nature have a different life cycle than traditional infrastructure projects usually carried out in collaboration with multilaterals.

	<p>In addition, it is necessary to strengthen the execution and administration capacities of the executing agencies and intensify the supervision of the IDB. In this case, it was necessary to conduct weekly meetings to monitor the project with the participation of INEEEL, CIATEQ, and the IDB's energy, procurement, and fiduciary specialists, to identify risks and carry out preventive actions. It was also necessary to streamline all approval processes, as well as those for the implementation of different adjustments.</p>
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ANNEX 1. DEFINITION OF RATINGS

Development Objective Ratings

1. **Highly Satisfactory (HS):** Project is expected to achieve or exceed **all** its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as “good practice”.
2. **Satisfactory (S):** Project is expected to achieve **most** of its major global environmental objectives, and yield satisfactory global environmental benefits, with only minor shortcomings.
3. **Marginally Satisfactory (MS):** Project is expected to achieve **most** of its major relevant objectives but with either significant shortcomings or modest overall relevance. Project is expected not to achieve **some** of its major global environmental objectives or yield some of the expected global environment benefits.
4. **Marginally Unsatisfactory (MU):** Project is expected to achieve **some** of its major global environmental objectives with major shortcomings or is expected to achieve only **some** of its major global environmental objectives.
5. **Unsatisfactory (U):** Project is expected **not** to achieve **most** of its major global environment objectives or to yield any satisfactory global environmental benefits.
6. **Highly Unsatisfactory (HU):** The project has failed to achieve, and is not expected to achieve, **any** of its major global environment objectives with no worthwhile benefits.

Implementation Progress Ratings

1. **Highly Satisfactory (HS):** Implementation of **all** components is in substantial compliance with the original/formally revised implementation plan for the project. The project can be presented as “good practice”.
2. **Satisfactory (S):** Implementation of **most** components is in substantial compliance with the original/formally revised plan except for only a few that are subject to remedial action.
3. **Marginally Satisfactory (MS):** Implementation of **some** components is in substantial compliance with the original/formally revised plan with **some** components requiring remedial action.
4. **Marginally Unsatisfactory (MU):** Implementation of **some** components is not in substantial compliance with the original/formally revised plan with **most** components requiring remedial action.
5. **Unsatisfactory (U):** Implementation of **most** components is not in substantial compliance with the original/formally revised plan.

6. **Highly Unsatisfactory (HU):** Implementation of **none** of the components is in substantial compliance with the original/formally revised plan.

Risk ratings

Risk ratings will assess the overall risk of factors internal or external to the project which may affect implementation or prospects for achieving project objectives. Risks of projects should be rated on the following scale:

1. **High Risk (H):** There is a probability of greater than 75% that assumptions may fail to hold or materialize, and/or the project may face high risks.
2. **Substantial Risk (S):** There is a probability of between 51% and 75% that assumptions may fail to hold and/or the project may face substantial risks.
3. **Modest Risk (M):** There is a probability of between 26% and 50% that assumptions may fail to hold or materialize, and/ or the project may face only modest risks.
4. **Low Risk (L):** There is a probability of up to 25% that assumptions may fail to hold or materialize, and/ or the project may face only modest risks.