MEXICO Sustainable Energy Technologies Development for Climate Change (P145618)

**Key Dates**

**Key Project Dates**
- Bank Approval Date: 06-Mar-2015
- Effectiveness Date: 21-Sep-2015
- Planned Mid Term Review Date: 31-Jan-2018
- Actual Mid-Term Review Date: 05-Mar-2018
- Original Closing Date: 31-Dec-2019
- Revised Closing Date: 31-Dec-2020

**Project Development Objectives**

Project Development Objective (from Project Appraisal Document)

The objectives of the Project are to improve the institutional capacity of ACE technology institutions (both public and private) in the territory of the recipient and to foster the commercialization of ACE technologies by providing financial incentives to the private sector, which together are expected to lead to GHG emissions reduction in the future.

Has the Project Development Objective been changed since Board Approval of the Project Objective?
No

**Components Table**

Name
- Regional Needs Assessments for ACE technologies and Clean Energy Regional Investment Plans (CERIPs): (Cost $4.54 M)
- Grants and technical assistance for private enterprises in the ACE sector: (Cost $11.50 M)
- Project Management: (Cost $0.80 M)

**Overall Ratings**

<table>
<thead>
<tr>
<th>Name</th>
<th>Previous Rating</th>
<th>Current Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress towards achievement of PDO</td>
<td>Moderately Satisfactory</td>
<td>Moderately Satisfactory</td>
</tr>
<tr>
<td>Overall Implementation Progress (IP)</td>
<td>Moderately Satisfactory</td>
<td>Moderately Satisfactory</td>
</tr>
<tr>
<td>Overall Risk Rating</td>
<td>Substantial</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

**Implementation Status and Key Decisions**

The project became effective in September 2015 and is under full implementation. Status of the activities for the three components is as follows:
(i) All ten Regional Assessments under Component 1 are completed, and an ex-post analysis of their outcome is underway, (ii) five of the fifteen subprojects supported by the incentives or Premios under Component 2 have successfully completed their activities and the other ten are at different stages of implementation, and (iii) Project Management activities (Component 3) are underway. The closing date of the project was extended by 12 months, until December 31, 2020.
The World Bank
MEXICO Sustainable Energy Technologies Development for Climate Change (P145618)

The ratings for Progress towards achievement of the Project Development Objective (PDO) and for Overall Implementation Progress (IP) are both Moderately Satisfactory (MS).

### Multiphase Programmatic Approach (MPA) Status

### Risks

#### Systematic Operations Risk-rating Tool

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Rating at Approval</th>
<th>Previous Rating</th>
<th>Current Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political and Governance</td>
<td>--</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Macroeconomic</td>
<td>--</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Sector Strategies and Policies</td>
<td>--</td>
<td>High</td>
<td>Substantial</td>
</tr>
<tr>
<td>Technical Design of Project or Program</td>
<td>--</td>
<td>Substantial</td>
<td>Substantial</td>
</tr>
<tr>
<td>Institutional Capacity for Implementation and Sustainability</td>
<td>--</td>
<td>High</td>
<td>Substantial</td>
</tr>
<tr>
<td>Fiduciary</td>
<td>--</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Environment and Social</td>
<td>--</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>--</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Other</td>
<td>--</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Overall</td>
<td>--</td>
<td>Substantial</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

### PDO Indicators by Objectives / Outcomes

#### To improve the institutional capacity of ACE institutions in Mexico

**CERIPs published. (Number, Custom)**

<table>
<thead>
<tr>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>32.00</td>
<td>32.00</td>
<td>32.00</td>
</tr>
</tbody>
</table>

**Date**

| 30-Jun-2015 | 24-Sep-2019 | 06-Apr-2020 | 31-Dec-2019 |

**Comments:**

The Clean Energy Regional Investment Plans (CERIPs) are the key outcome of the Regional Assessments. As of December 3, 2018, all RNAs had been completed. 32 CERIPs have been designed and posted on the "Ecosystem of Clean Energy in Mexico", a web platform that is public and that can be used to inform public policy, private investments, and research and development (https://oel.mx). SENER is currently working on a direct link to this web platform directly from SENER's website.

#### To foster the commercialization of ACE technologies by providing financial incentives
### Capital Mobilized for Government programs or initiatives aimed at fostering clean energy innovation (public and private) (Amount(USD), Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>3,910,000.00</td>
<td>6,450,000.00</td>
<td>6,000,000.00</td>
</tr>
<tr>
<td>Date</td>
<td>30-Jun-2015</td>
<td>24-Sep-2019</td>
<td>06-Apr-2020</td>
<td>31-Dec-2019</td>
</tr>
<tr>
<td>Comments :</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SENER provided an update for this indicator after reviewing programs and initiatives supported by sectorial funds with similar objectives to those of PRODITES (Clean energy innovation). The details of those programs and initiatives are included in the annual progress reports.

### GHG emissions reductions in the future

#### Future emission reductions from ACE technologies supported by the Project (Metric ton, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>3,170,000.00</td>
<td>3,170,000.00</td>
<td>2,408,742.00</td>
</tr>
<tr>
<td>Date</td>
<td>30-Jun-2015</td>
<td>24-Sep-2019</td>
<td>06-Apr-2020</td>
<td>31-Dec-2019</td>
</tr>
<tr>
<td>Comments :</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SENER provided an update for this indicator in December 2018. The 3.17 MtonCO2e are the potential, future emission reductions from the 15 projects that have been awarded with a Premio PRODITES after three calls for proposals. SENER estimated these reductions based on (i) the methodology outlined in annex 6 of the PAD and (ii) the actual technology that is being supported by the ACE program. It should be noted that this update represents an estimation, and, as reported in previous ISRs, actual emission reductions would materialize only if the supported technologies are widely disseminated and successfully commercialized (beyond the scope of PRODITES).

### Intermediate Results Indicators by Components

#### Component 1. Regional Needs Assessments (RNAs)

##### Number of high-relevance investment opportunities identified in Component 1 that could be potentially supported by national and/or international sources of financing (Number, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>0.00</td>
<td>94.00</td>
<td>32.00</td>
</tr>
<tr>
<td>Date</td>
<td>30-Jun-2015</td>
<td>24-Sep-2019</td>
<td>06-Apr-2020</td>
<td>31-Dec-2019</td>
</tr>
<tr>
<td>Comments :</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SENER has identified 94 investment opportunities from Component 1 that could be deemed as "highly-relevant", as specified by the indicator. SENER's objective is to come up with a final list of 32 top-candidates, ideally one per province. This final list is expected to be provided as part of the closing activities of the project.

#### Component 2. Incentives for the Commercialization of ACE Technologies

##### Number of recipients of TA (Number, Custom)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Actual (Previous)</th>
<th>Actual (Current)</th>
<th>End Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.00</td>
<td>55.00</td>
<td>55.00</td>
<td>24.00</td>
</tr>
<tr>
<td>Date</td>
<td>30-Jun-2015</td>
<td>24-Sep-2019</td>
<td>06-Apr-2020</td>
<td>31-Dec-2019</td>
</tr>
</tbody>
</table>
In addition to the 15 awarded projects (5 from the first call for proposals, 4 from the second call, and 6 from the third call), SENER prepared and delivered a number of workshops targeted to applicants for Premios PRODETES, including training on business model development and legal aspects. The actual indicator value includes those 15 awarded projects as well as other projects from research centers, universities, and private sector companies whose proposals were not selected but that received TA during the proposal preparation stage.

| Number of patents or other industrial/intellectual property schemes for ACE technologies (Number, Custom) |
|---------------------------------------------------|------------------------------------------------|----------------|----------------|----------------|
| Baseline                                           | Actual (Previous) | Actual (Current) | End Target    |
| Value                                              | 0.00              | 0.00             | 3.00           | 3.00           |
| Date                                               | 30-Jun-2015       | 24-Sep-2019      | 06-Apr-2020    | 31-Dec-2019    |

Comments: SENER is currently providing TA for three identified subprojects under the 2016 call for proposals who will apply for a patent. SENER is following up with beneficiaries from the 2017 and 2018 calls for proposals to identify those who could potentially apply for a patent. If this is the case, the indicator will be updated during the closing activities of the project.

| Number of female participants (Number, Custom) |
|-----------------------------------------------|------------------------------------------------|----------------|----------------|----------------|
| Baseline                                      | Actual (Previous) | Actual (Current) | End Target    |
| Value                                         | 0.00              | 7.00             | 7.00           | 5.00           |
| Date                                          | 30-Jun-2015       | 24-Sep-2019      | 06-Apr-2020    | 31-Dec-2019    |

Comments: The target for this indicator has been met and passed. SENER reported that there are two female participants who are the legal representatives of two out of the six projects that were awarded in 2018, which brings the indicator to 7. Details are provided in the bi-annual progress reports.

| Web based platform developed (Yes/No, Custom) |
|-----------------------------------------------|------------------------------------------------|----------------|----------------|----------------|
| Baseline                                      | Actual (Previous) | Actual (Current) | End Target    |
| Value                                         | No                | Yes             | Yes           | Yes            |
| Date                                          | 09-Jul-2018       | 24-Sep-2019     | 06-Apr-2020    | 31-Dec-2019    |

Comments: This public platform is up and running, and includes all the information resulting from the RNAs (the information corresponding to the ex-post analysis will be included as soon as it is available). This platform constitutes a valuable depository of information for policy makers, entrepreneurs and private sector, and can be consulted in its dedicated website, which is already hosted in SENER's servers (https://oel.energia.gob.mx).

| Number of incentives awarded, with at least 40% of them under the CCEC category. (Number, Custom) |
|--------------------------------------------------------------------------------------------------|------------------------------------------------|----------------|----------------|----------------|
| Baseline                                                                                       | Actual (Previous) | Actual (Current) | End Target    |
| Value                                                                                         | 0.00              | 15.00            | 15.00          | 15.00          |
| Date                                                                                          | 30-Jun-2015       | 24-Sep-2019      | 06-Apr-2020    | 31-Dec-2019    |

Comments: The target of this indicator has been met. The first two calls for proposals resulted in 9 awarded projects, out of which 4 correspond to CCEC grants. The third call for proposals awarded 6 Premios PRODETES, out of which 5 correspond to CCEC grants. Updated (and final) indicator is thus 15 incentives awarded, with 9 (60%) under the CCEC category.

| Number of Commercialization Plans developed. (Number, Custom) |
|---------------------------------------------------------------|------------------------------------------------|----------------|----------------|----------------|
| Baseline                                                     | Actual (Previous) | Actual (Current) | End Target    |

Comments:
<table>
<thead>
<tr>
<th>Comments:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SENER is providing TA to each beneficiary for them to develop their own plan to make their project commercially viable. To date, there are six drafts of such commercialization plans at an advanced stage. The other nine plans are under development and will be completed by the closing date of the project (December 31, 2020).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>►Number of jobs created by the ACE program beneficiaries. (Number, Custom)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
</tr>
<tr>
<td>0.00</td>
</tr>
<tr>
<td>0.00</td>
</tr>
<tr>
<td>15.00</td>
</tr>
<tr>
<td>15.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comments:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SENER has confirmed that at least 1 job per subproject has been created. SENER is monitoring the number of direct and indirect jobs created by the ACE program beneficiaries during the development of their projects, and will provide an update in the upcoming progress report, which will include all subprojects under the three calls for proposals (2016, 2017 and 2018).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>►Number of safeguards follow-up plans developed and in place. (Number, Custom)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
</tr>
<tr>
<td>0.00</td>
</tr>
<tr>
<td>0.00</td>
</tr>
<tr>
<td>15.00</td>
</tr>
<tr>
<td>15.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comments:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Each ACE program beneficiary has to develop and enforce an environmental and social safeguards follow-up plan for their corresponding sub-projects. SENER prepared a template to be used by all 15 awarded projects, and was sent to the Bank for revision and comments in November 2018. The Bank provided comments and feedback by mid-November 2018, and approved a final version in early 2019. All fifteen safeguards plans have been be prepared and are under revision by SENER to make sure that all of them comply with national legislation and WB requirements.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>►Registered grievances satisfactorily resolved in line with the Grievance Redress Mechanism (GRM) (Percentage, Custom)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
</tr>
<tr>
<td>0.00</td>
</tr>
<tr>
<td>0.00</td>
</tr>
<tr>
<td>100.00</td>
</tr>
<tr>
<td>100.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comments:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The project has a dedicated outreach mechanism for Component 2 (Incentives to the private sector for the commercialization of ACE technologies, or Premios PRODETES, as they are known in Spanish), which consists of a specific website (<a href="http://www.premioprodetes.mx">www.premioprodetes.mx</a>) for the dissemination of relevant information, including the call for proposals and the corresponding deadlines. The PRODETES website also features a contact tab that is open to the public, and by which interested stakeholders can submit questions or complaints. In addition to the existing email account reported in the previous ISR (<a href="mailto:info@premioprodetes.mx">info@premioprodetes.mx</a>), SENER created two separate email accounts for the third call for proposals (Convocatoria 2018): <a href="mailto:soporte@premioprodetes.mx">soporte@premioprodetes.mx</a> and <a href="mailto:quejas@premioprodetes.mx">quejas@premioprodetes.mx</a>. Such dedicated mechanism is still in place, and all received inquiries are being responded to/addressed.</td>
<td></td>
</tr>
</tbody>
</table>

Data on Financial Performance

Disbursements (by loan)
<table>
<thead>
<tr>
<th>Project</th>
<th>Loan/Credit/TF</th>
<th>Status</th>
<th>Currency</th>
<th>Original</th>
<th>Revised</th>
<th>Cancelled</th>
<th>Disbursed</th>
<th>Undisbursed</th>
<th>% Disbursed</th>
</tr>
</thead>
<tbody>
<tr>
<td>P145618</td>
<td>TF-19403</td>
<td>Effective</td>
<td>USD</td>
<td>16.88</td>
<td>16.88</td>
<td>0.00</td>
<td>10.19</td>
<td>6.69</td>
<td>60%</td>
</tr>
</tbody>
</table>

**Key Dates (by loan)**

<table>
<thead>
<tr>
<th>Project</th>
<th>Loan/Credit/TF</th>
<th>Status</th>
<th>Approval Date</th>
<th>Signing Date</th>
<th>Effectiveness Date</th>
<th>Orig. Closing Date</th>
<th>Rev. Closing Date</th>
</tr>
</thead>
</table>

**Cumulative Disbursements**

![Cumulative Disbursements Graph]

**Restructuring History**

Level 2 Approved on 06-Dec-2016, Level 2 Approved on 29-Aug-2018, Level 2 Approved on 20-Nov-2019

**Related Project(s)**

There are no related projects.