Clean Energy Certificates

CEL

November 2017

www.cre.gob.mx    @CRE_Mexico
Mexico’s Electric Context

- **Installed Capacity:** ≈73 GW*
- **Generation:** ≈309 TWh**
- **Peak Demand:** ≈40 GW**
- **Population:** ≈122 millones***

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**Transmission Lines:** 104,393 km**

**Distribution Lines:** 775,483 km**

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*Information from CRE up to February, 28th, 2017
** PRODESEN 2017 – 2031
***CONAPO 2017 projection
Those energy sources and power generation processes whose emissions or residues, if any, do not exceed the thresholds established in the regulations issued for that purpose.
The national goal of clean electricity generation is translated into individual obligations (requirements).

In the first quarter of every year, Sener will establish requirements for CEL acquisition.

<table>
<thead>
<tr>
<th>Year</th>
<th>CEL Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>5%</td>
</tr>
<tr>
<td>2019</td>
<td>5.8%</td>
</tr>
<tr>
<td>2020</td>
<td>7.4%</td>
</tr>
<tr>
<td>2021</td>
<td>10.9%</td>
</tr>
<tr>
<td>2022</td>
<td>13.9%</td>
</tr>
</tbody>
</table>

**Clean Energy Goals**

**Energy Transition Law**

**Transition Strategy to promote the use of cleaner technologies and fuels**
One of the mandates for the Electricity Sector, derived from the Energy Reform, is to achieve the goals in electricity generation from clean energy sources and reduce the respective GHG emissions. (LIE, LTE and LGCC).

Clean Energy Certificates (CEL) is the main tool for achieving these goals for the Electricity Sector.

**CEL**: Title issued by the Energy Regulatory Commission (CRE) which attests the production of a certain amount of electricity from clean energy sources and serves to meet the requirements associated with the consumption of the load centers.
### Determinación del %ELC

<table>
<thead>
<tr>
<th>Caso I</th>
<th>Caso II</th>
<th>Caso III</th>
<th>Caso IV</th>
<th>Caso V</th>
</tr>
</thead>
<tbody>
<tr>
<td>No requieren criterios</td>
<td>0 %</td>
<td>Parcial o Total</td>
<td>SI / No</td>
<td>No</td>
</tr>
</tbody>
</table>

#### % ELC, con respecto a la producción de energía eléctrica de la central

En términos de la metodología

#### Variables

<table>
<thead>
<tr>
<th>Caso I</th>
<th>Caso II</th>
<th>Caso III</th>
<th>Caso IV</th>
<th>Caso V</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Cogeneración Eficiente</td>
<td>II. Centrales eléctricas limpias que utilizan combustibles fósiles</td>
<td>III. Bajas Emisiones y procesos de Captura y Almacenamiento Geológico o Biosecuestro de CO₂</td>
<td>IV. Aprovechamiento de Hidrógeno</td>
<td>V. Hidroeléctricas</td>
</tr>
<tr>
<td>- Energía eléctrica neta. ( E ) [MWh]</td>
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<td>- Energía eléctrica neta. ( E ) [MWh]</td>
</tr>
<tr>
<td>- Energía de los combustibles empleados. ( F ) [MWh]</td>
<td>- Energía de los combustibles fósiles empleados. ( F ) [MWh]</td>
<td>- Energía de los combustibles fósiles empleados. ( F ) [MWh]</td>
<td>- Energía aprovechable del hidrógeno. ( E_{H₂} ) [MJ]</td>
<td>- Energía eléctrica neta. ( E ) [MWh]</td>
</tr>
<tr>
<td>- Energía térmica neta o calor útil generado. ( H ) [MWh]</td>
<td>- Energía de los combustibles no fósiles empleados. ( F_{EL} ) [MWh]</td>
<td>- Energía de los combustibles no fósiles empleados. ( F_{EL} ) [MWh]</td>
<td>- Energía de los combustibles fósiles empleados en el proceso. ( F ) [MJ]</td>
<td>- Capacidad de Generación de energía eléctrica. ( P ) [Watts]</td>
</tr>
</tbody>
</table>

#### Criterios

- \( ELC > 0 \)
- \( \eta_e \geq \eta_{Ref} \)
- Si \( \text{Factor}_{mc} \leq \text{Factor}_{mRef} \)

#### %ELC

- \( \%ELC = \frac{ELC}{E} \)

### Casos

- Caso I: %ELC > 0
- Caso II: Parcial o Total
- Caso III: SI / No
- Caso IV: No
- Caso V: No

### ELC Nacional [%]

- a) \( \eta_{H₂} \geq 70\% / \text{Proceso Eficiente} \)
- b) \( ELC = E \times ELC_{Nacional} \)

### Aprovechamiento de Hidrógeno

- a) \( \%ELC = 100 \% \)
- b) \( \%ELC = \frac{ELC}{E} \)

### Hidroeléctricas

- \( P \leq 30MW \)
- \( \Omega \geq 10 \) \( \frac{W}{m²} \)
- \( \%ELC = 100 \% \)
Tracking System: Sistema de Gestión de Certificados y Cumplimiento de Obligaciones de Energías Limpias (S-CEL) is the platform through which CRE will carry out the registration and management of the following information:

- Management and Registry of Electricity Generation and Consumption
- Verify Clean Energy Obligations Compliance
- Issuance
- Transactions
- Liquidation
- Voluntary Cancellation
- Obligations Compliance

**Participantes:**

- Clean Energy Generators*
- CDG represented by Suppliers
- Obligated Parties
- Voluntary Entities

**Requirements to Registry in S-CEL**

- Fullfill Application
- Technical Certification as CE Generator
- Fee

**Obligated Parties**

- Fullfill Application
- Fee

**Voluntary Entities**

- Fullfill Application
- Fee

**Obligations Compliance**

- Monthly
  - Consumption Information
  - Partial or total compliance
  - To be registered 25 days after the correspondent month.

- Anually
  - To be registered on May 15th of the next year of compliance Period.
  - Obligations Report of Postpone Obligations.

Obligations Deferral and Penalties

**Guidelines**

- Guideline 25
  - Deferral
  - 5% annual rate
  - Applicable to the first 2 years

**Energy Transition Law**

- **Condition I**
  - There is no enough CEL to comply. (70% of total obligations)

- **Condition II**
  - CEL implicit price will result lower than 60 UDIs
  - Applicable to the first four years

**Postpone Obligations up to**

- 50%
  - 5% annual rate

**Criteria for Penalties**

\[
\text{% non compliance} = \left( \frac{\text{Clean Energy Obligations} - \text{CEL settled for compliance}}{\text{Clean Energy Obligations}} \right) \times 100
\]

The fine will apply for every MWh of non-compliance in the acquisition of CEL.

- To set penalties, CRE will consider:
  - If the Obligated Participant postpone obligations
  - The importance of the infringement
  - The economic capacity of the Parties
  - The reoccurrence
  - Actions taken to improve compliance

**Notes**

- **LINEAMIENTOS**: Lineamientos que establecen los criterios para el otorgamiento de Certificados de Energías Limpias y los requisitos para su adquisición
- **LTE**: Ley de Transición Energética
- **CRITERIOS**: Resolución por la que se expiden los criterios para la imposición de sanciones que deriven del incumplimiento de las obligaciones en materia de energías limpias.
Clean Energy Certificates Market

They’re entitled to receive CEL for a period of 20 years...  

Clean Energy Facilities that are commissioned after August 11th, 2014  

Legacy Contracts that generate electricity from Clean Energy sources which were commissioned before August 11, 2014, provided that the Facility has completed a project to increase the production of electricity using Clean Energy technologies.

Clean Energy Facilities with a generation capacity that has been excluded from a legacy contract for being included in a contract under the terms of the new Law (LIE).

Development of Tracking System and Applicable

CE facilities that are commissioned

Obligation Period 2018

Starting of S-CEL Market

DeclaraCEL 2018

Calculation of CEL issued and Obligations of the corresponding period

Registry to S-CEL

S-CEL Tests

Ene

Dic Ene ... May

As a result of the 2 long-term Auctions in the Electric Market, 15 states will directly benefit with the development of new clean energy projects.

34 companies from 11 countries (including Mexico)

6,600 MDD investment in the next years

Maximum Price vs. Average Price

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<tr>
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<tr>
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<td>70</td>
<td>90,016</td>
</tr>
<tr>
<td>Coah</td>
<td>48</td>
<td>64.1%</td>
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5000 MW de nueva generación

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CEL will help Mexico to:

- Achieve Paris goals by reducing GHG emissions
- Achieve the national goal of Clean Energy Generation
- Establish a legal framework that allows the fulfillment of the clean energy obligations and emission reduction
- Bring new investment to México
- Achieve Sustainable Development Goals
- Allow to decarbonize the economy
1. Preguntas Frecuentes sobre CEL
2. Marco Legal
3. Marco Regulatorio
4. Pre-Registro OPE
5. eCinco
6. Formatos
7. Contacto

(Instrumentos sobre CEL vigentes a la fecha)

sistemacel@cre.gob.mx
Certificados de Energías Limpias

CEL

Septiembre, 2017

www.cre.gob.mx  @CRE_Mexico