ENHANCING THE IMPACT OF ENERGY EFFICIENCY AND RENEWABLE ENERGY POLICIES: BUILDING SYSTEMS

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A. Legal Framework
B. The Roadmap
C. Sustainable Housing Program
D. Sustainable SME’s
E. Sustainable Cities
D. Conclusions
ENERGY TRANSITION LAW
(DEC/24/2015)

OBJECTIVES

SUSTAINABLE USE OF ENERGY

GRADUAL INCREASE OF CLEAN ENERGIES

REDUCE THE GENERATION OF POLLUTING EMISSIONS

ALIGNMENT WITH EXISTING INSTRUMENTS SUCH AS ELECTRIC INDUSTRY LAW (LIE) AND GENERAL LAW ON CLIMATE CHANGE (LGCC)

POLICY INSTRUMENTS (CONSULTATIVE COUNCIL)

<table>
<thead>
<tr>
<th>ESTRATEGY</th>
<th>SPECIAL PROGRAMS</th>
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<tbody>
<tr>
<td><img src="estrategia.png" alt="Image" /></td>
<td><img src="programa_especial.png" alt="Image" /></td>
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<tr>
<td>02/Dec/2016</td>
<td>19/Jan/2017</td>
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</table>

- Transition strategy to promote the use of cleaner fuels and technologies
- National Program for the Sustainable Use of Energy
- Special Program of the Energy Transition
LEGAL FRAMEWORK

TRANSITION STRATEGY: GOALS

CLEAN ENERGY
(% OF TOTAL ELECTRICITY GENERATION)

- 2024: 35.0
- 2030: 37.7
- 2050: 50.0

ENERGY EFFICIENCY (AVERAGE ANNUAL RATE OF REDUCTION OF FINAL ENERGY CONSUMPTION INTENSITY- %)

- 2016-2030: 1.9
- 2031-2050: 3.7
<table>
<thead>
<tr>
<th><strong>Governance</strong></th>
<th><strong>Capacity Building</strong></th>
<th><strong>Policy &amp; Programme</strong></th>
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<tbody>
<tr>
<td>2. <em>Building energy codes and standards</em></td>
<td>2. Awareness of energy efficiency for local governments</td>
<td>2. Third party system for enforcement of building energy codes</td>
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<td></td>
<td>5. Implementation of R&amp;D programme for development of new technologies</td>
<td>5. Incentives for compliant municipalities</td>
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<td>6. Data collection of buildings and systems characteristics</td>
<td>6. Improve NMXs incorporation in NOMs</td>
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<td>7. Energy efficiency plans, audits and managers for buildings</td>
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<td>8. Energy efficiency label for buildings</td>
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<td>9. Financial incentives for energy efficient buildings</td>
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</table>
• Population growth, increasing urbanization and economic development will increase energy demand in buildings in Mexico

  - In 2017 buildings accounted for about 20% of final energy consumption

• The fulfillment of the goals of energy efficiency established by the LTE through the Transition Strategy

• It facilitates the alignment, conduction and implementation of a number of policy actions that have already been carried out in the field of energy efficiency in buildings
Objectives:

To collaborate with the government and other stakeholders to build market confidence and provide a long-term strategy.

To help provide coherence, commitment, clarity and long-term stability in policies to promote energy efficiency in buildings.

To get an agreement with the building industry and other interested entities on the future of energy efficiency in buildings.
### The Roadmap

<table>
<thead>
<tr>
<th>Capacity Building &amp; Communication</th>
<th>Development</th>
<th>Adoption</th>
<th>Enforcement</th>
<th>Review &amp; Update</th>
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</thead>
<tbody>
<tr>
<td><strong>2015</strong></td>
<td>2015 national model code</td>
<td>State code adoption: 5</td>
<td>&gt;50% verification of compliance with adopted building energy code</td>
<td>Evaluation of code adoption and enforcement of model and stretch codes with recommended updates</td>
</tr>
<tr>
<td><strong>2021</strong></td>
<td>Stretch:10%</td>
<td>City code adoption: 10</td>
<td>&gt;75% verification</td>
<td>Evaluation of codes with recommended updates</td>
</tr>
<tr>
<td><strong>2030</strong></td>
<td>Model: 10% Stretch:15%</td>
<td>Stretch code adoption: 5</td>
<td>&gt;95% verification</td>
<td>Evaluation of codes with recommended updates</td>
</tr>
<tr>
<td><strong>2050</strong></td>
<td>Model: 20% Stretch:30%</td>
<td>Stretch code adoption: 10</td>
<td>100% verification</td>
<td>Evaluation of codes with recommended updates</td>
</tr>
<tr>
<td><strong>2015</strong></td>
<td>Stretch:10%</td>
<td>City code adoption: 10</td>
<td>Adoption of model by 100% of states &amp; cities</td>
<td>Regular evaluation and recommended updates to the model and stretch codes</td>
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<td><strong>2021</strong></td>
<td>Model: 20% Stretch:40%</td>
<td>Stretch code adoption: 20</td>
<td>Adoption of stretch by 40 major cities</td>
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<tr>
<td><strong>2030</strong></td>
<td>Model: 30% Stretch:50%</td>
<td>Stretch code adoption: 40</td>
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<td><strong>2050</strong></td>
<td>Model: 40% Stretch:70%</td>
<td>Stretch code adoption: 80</td>
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#### Short-term activities & targets
- Increase awareness of building energy codes and the benefits of energy efficiency. Train cities, builders and auditors.

#### Medium-term activities & targets
- Additional training for cities and builders on building energy codes, energy labelling and to pilot net zero emission buildings.

#### Long-term activities & targets
- Programme to train cities and builders on net zero emission buildings and the latest advances in energy efficiency and building integrated renewable energy.
To achieve sustainable improvement of existing housing by implementing actions that help reduce energy consumption.

**Enhancing Energy Efficiency and Renewable Technologies**
Energy Efficiency and Renewable Technologies for Housing

1. Photovoltaic systems
2. Efficient gas heaters with or without the support of solar water heaters
3. Efficient air conditioners
4. Thermal isolation
5. Thermal windows
6. Solar control films
7. Efficient lighting
Incentives

✓ Loans with low interest rate
✓ Discount of 40% final price of technology
✓ Payments through electricity bill (5 years)
✓ Maximum loans USD 2,600
Financing new technologies

Energy Management Systems: ISO 50001

- Air conditioning
- Efficient Lighting
- Commercial Refrigerators
- High Efficiency Motors
- Electrical Power Substation
- Capacitor Banks
- Between others...
Sustainable Cities

1. Potential Assessment
2. Capacity Building
3. Financial Mechanism
Sustainable Cities

1. Federal Buildings
2. Municipal Buildings
3. Hospitals
4. Schools
Key Messages:

Yes! It is possible

Emerging Policies can incorporate Energy Efficiency and Renewable Technologies

Buildings policies: a good example of Energy Efficiency and Renewable Energy Integration
THANK YOU

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