



INTEGRATING ENERGY EFFICIENCY AND RENEWABLE ENERGY

SECTORIAL CHALLENGES AND APPROACHES:
MÉXICO

SANTIAGO CREUHERAS DIAZ
DIRECTOR GENERAL FOR ENERGY EFFICIENCY AND SUSTAINABILITY

SEPTEMBER 8, 2016



1

BACKGROUND

2

MEXICAN ENERGY REFORM

3

GOALS AND CHALLENGES FOR ENERGY TRANSITION

4

INTEGRATING ENERGY EFFICIENCY AND RENEWABLE
ENERGY: HOUSING PROGRAM

2014

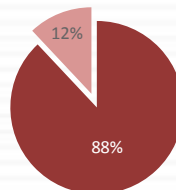
119 million
inhabitants



406 cities



75% of the total
population is located in
cities



30.7 million vehicles using
petrol and diesel



2029

137 million
inhabitants

503 cities

90 % of the total
population will be
located in cities*

39.8 million vehicles will
use petrol and diesel



December 1st



January 29
CLIMATE
CHANGE
INTERSECTING
TARIAL
COMMISSION
14 Ministries



June 3rd
CLIMATE CHANGE
NATIONAL STRATEGY
10-20-40 years Vision



December 20th
ENERGY
REFORM

December 18th
CLIMATE
CHANGE
NATIONAL
SYSTEM
31 STATE
GOVERNMENTS
AND 3 MUNICIPAL
ASSOCIATIONS

December
ENERGY
TRANSITION
LAW



2012

2013

2014

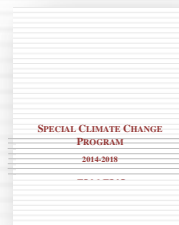
2015



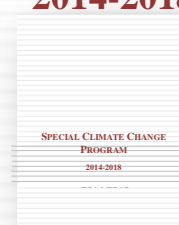
NATIONAL
INSTITUTE OF
ECOLOGY AND
CLIMATE CHANGE

November 14th
CARBON TAX

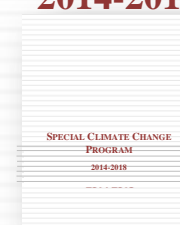
April
SPECIAL CLIMATE
CHANGE
PROGRAM
2014-2018



April
SPECIAL
RENEWABLE
ENERGY
PROGRAM
2014-2018



April
SPECIAL
SUSTAINABLE USE
OF ENERGY
PROGRAM
2014-2018



March 27th
INDC



1

BACKGROUND

2

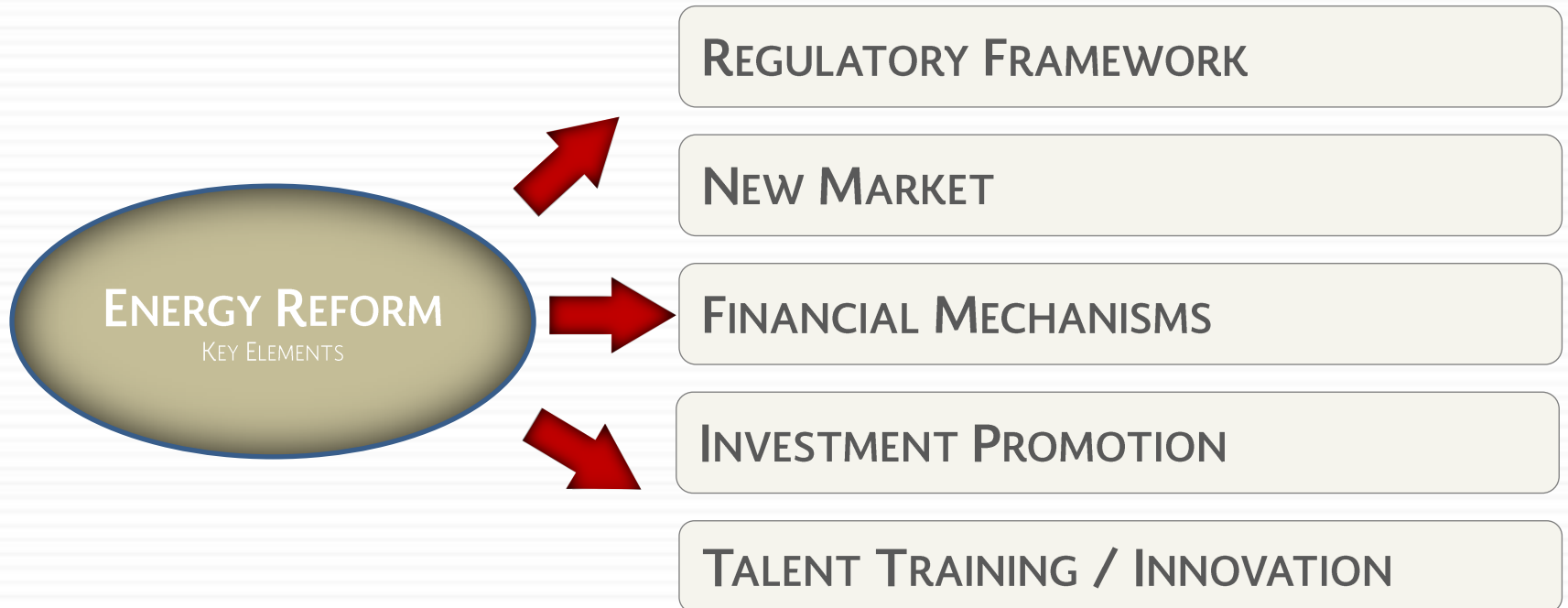
MEXICAN ENERGY REFORM

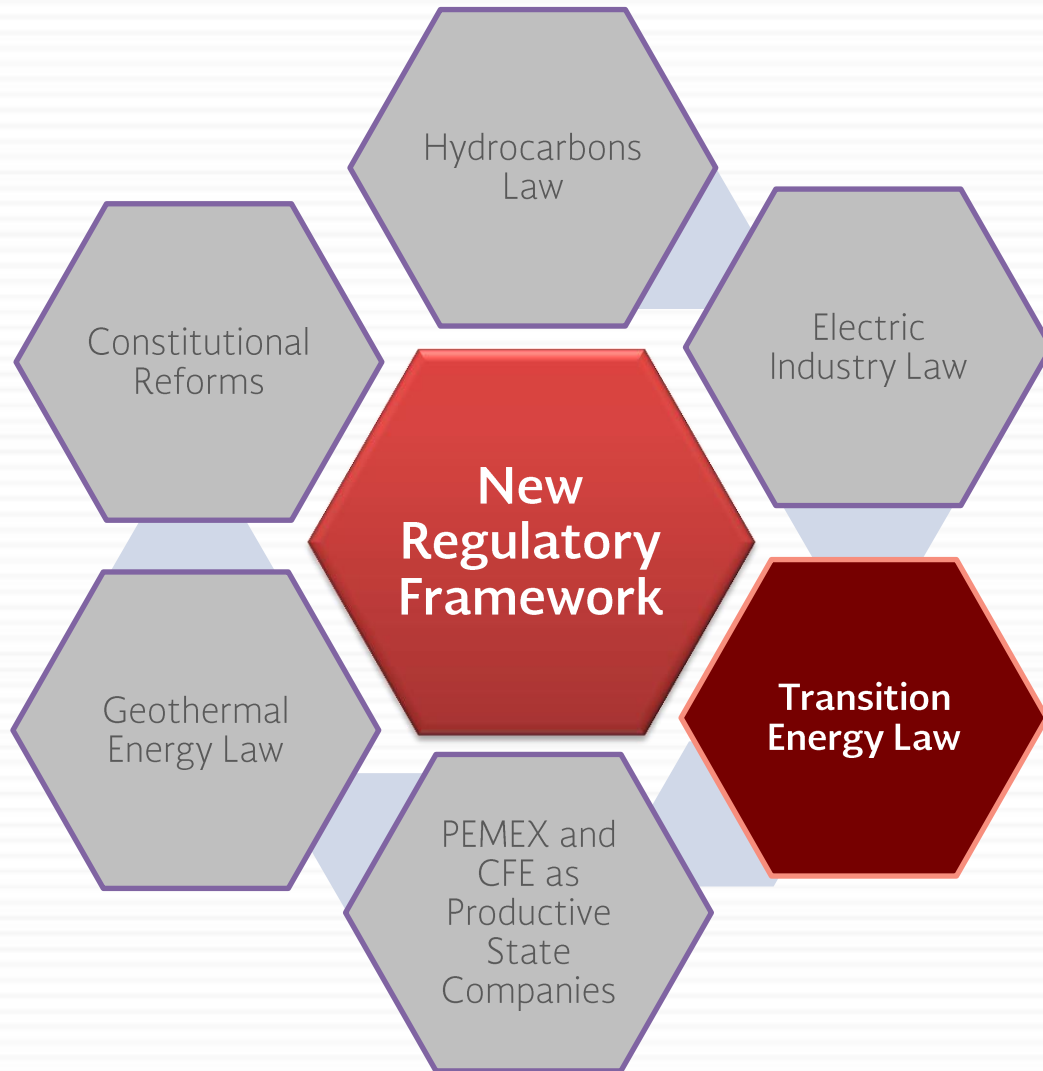
3

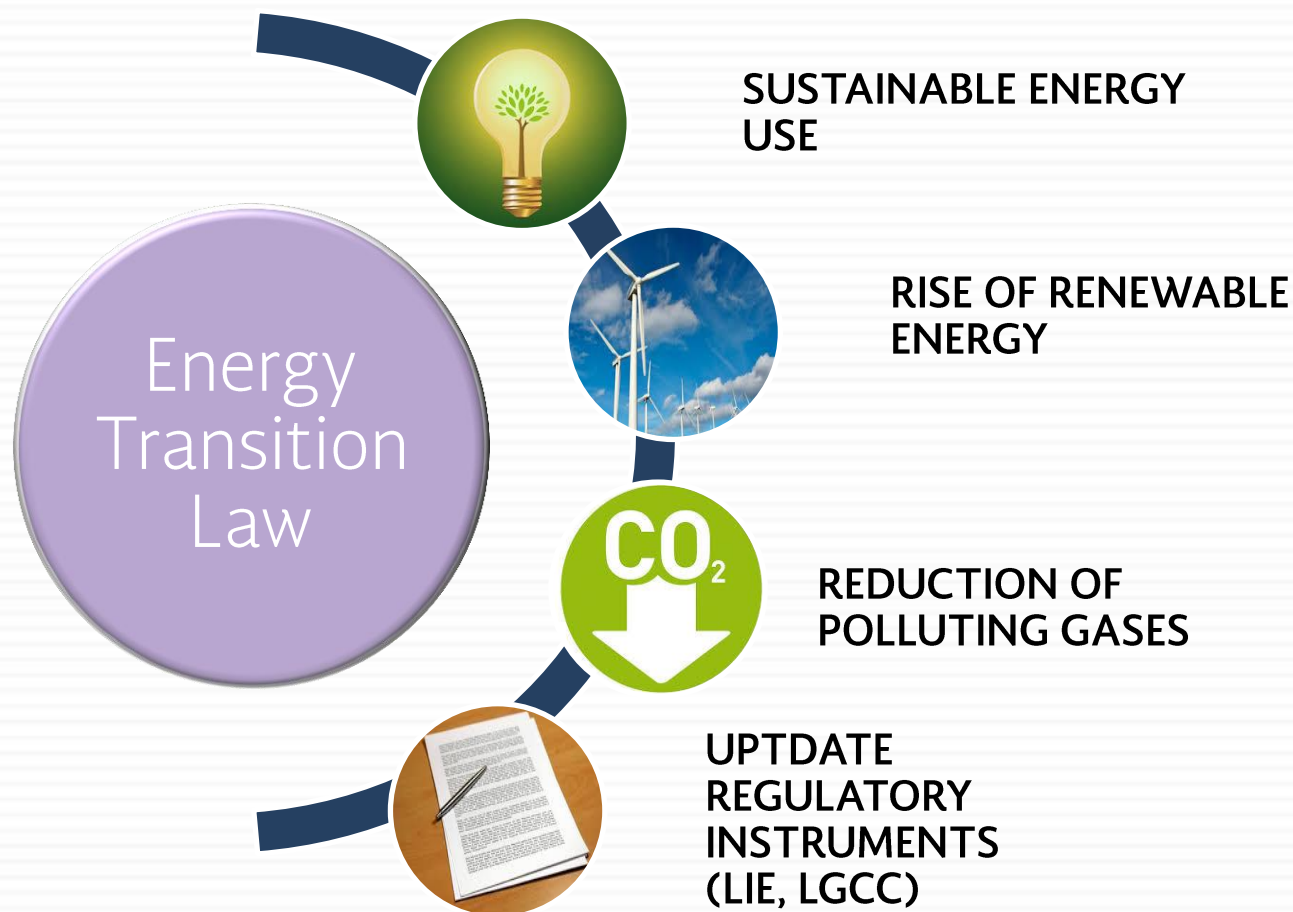
GOALS AND CHALLENGES FOR ENERGY TRANSITION

4

INTEGRATING ENERGY EFFICIENCY AND RENEWABLE
ENERGY: HOUSING PROGRAM







MAIN AMENDMENTS

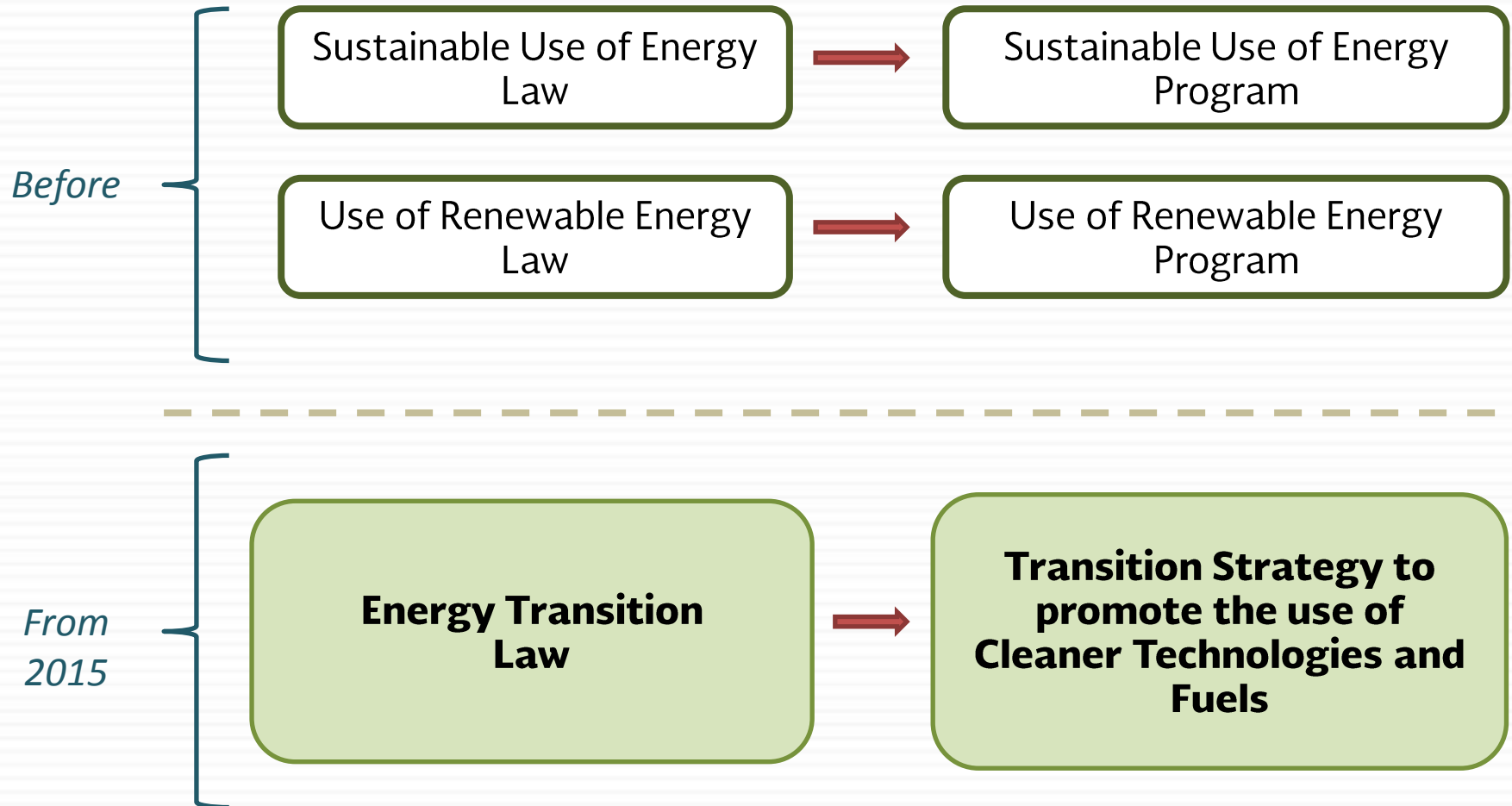
**ADVISER BOARD FOR
ENERGY TRANSITION**

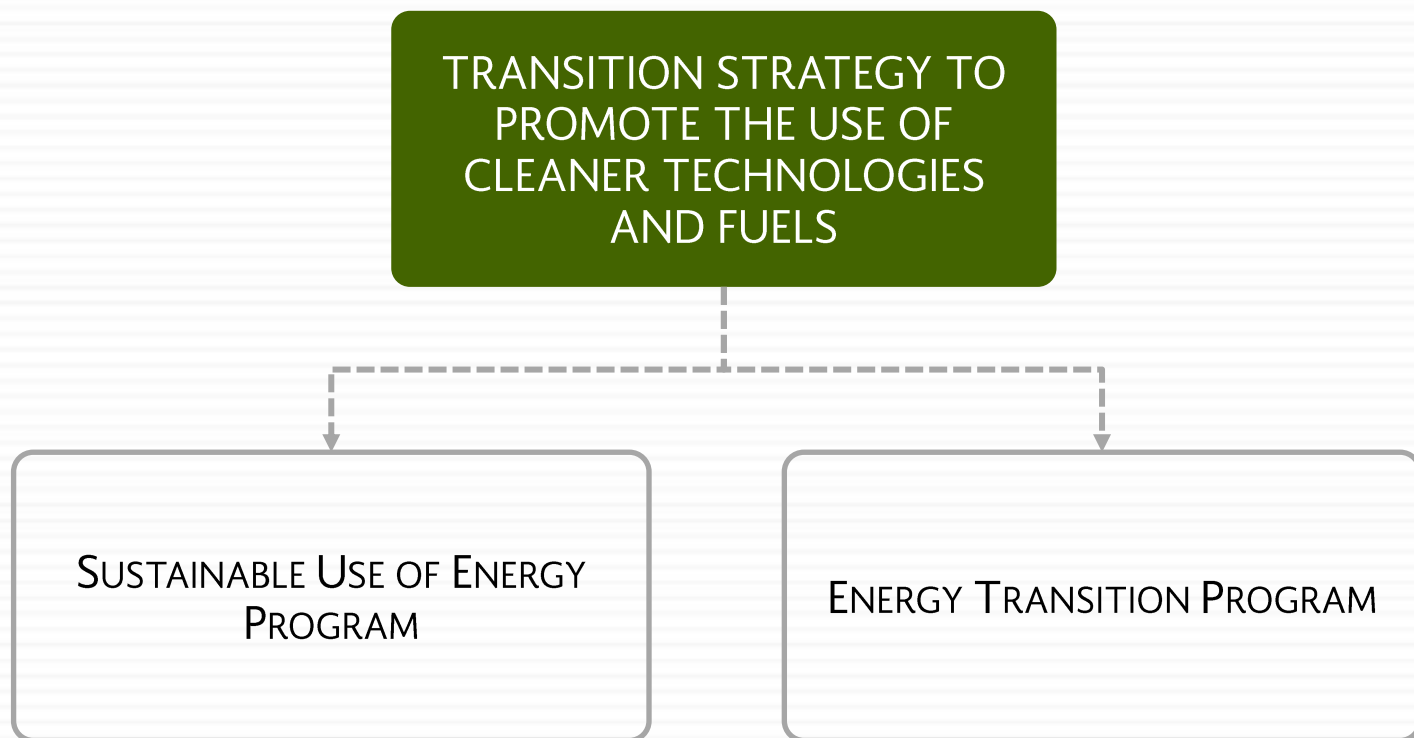


PLANNING INSTRUMENTS

- FEDERAL GOVERNMENT
 - ELECTRICAL INDUSTRY
 - ACADEMY
 - ONGs
-
- TRANSITION STRATEGY TO PROMOTE CLEANER FUELS AND TECHNOLOGIES USE
 - NATIONAL PROGRAM FOR SUSTAINABLE ENERGY USE
 - SPECIAL PROGRAM OF ENERGY TRANSITION

ENERGY EFFICIENCY AND RENEWABLE ENERGY





1

BACKGROUND

2

MEXICAN ENERGY REFORM

3

ENERGY TRANSITION; GOALS AND CHALLENGES

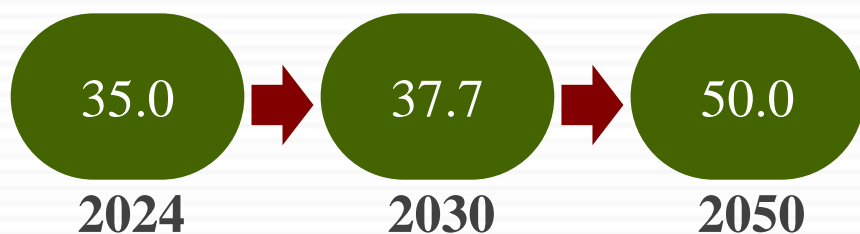
4

INTEGRATING ENERGY EFFICIENCY AND RENEWABLE
ENERGY: HOUSING PROGRAM

ENERGY TRANSITION; GOALS AND CHALLENGES

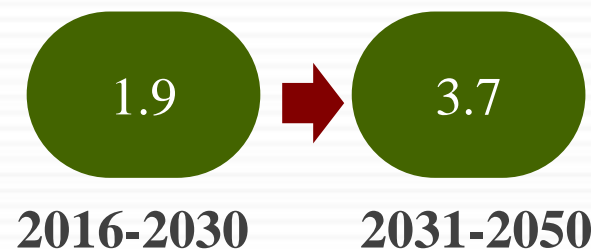
CLEAN ENERGY GOALS

(% OF TOTAL ELECTRICITY GENERATION)



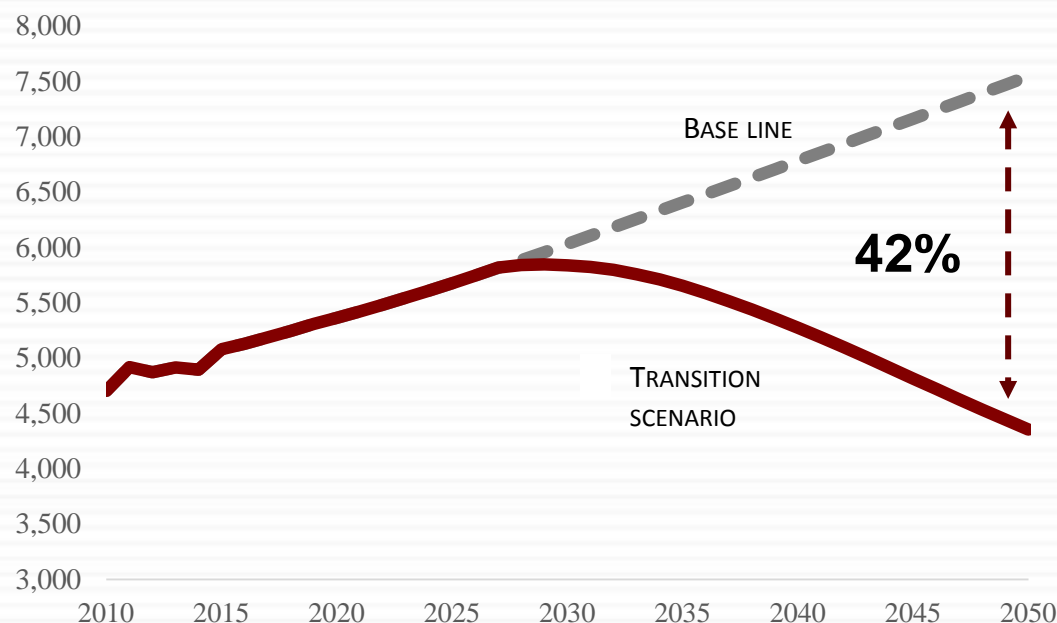
ENERGY EFFICIENCY GOALS

(AVERAGE ANNUAL RATE OF REDUCTION IN THE INTENSITY OF FINAL ENERGY CONSUMPTION)



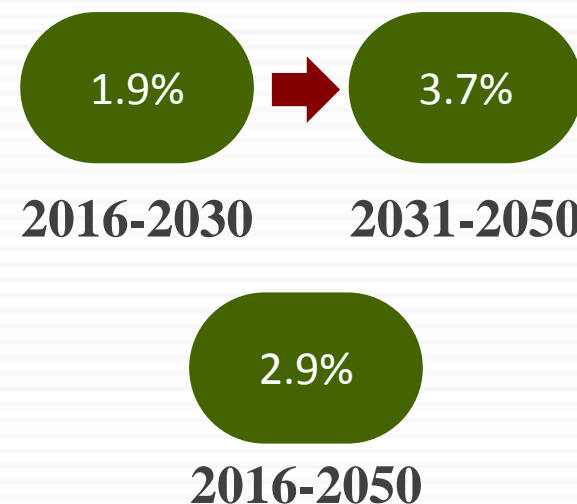
ENERGY TRANSITION; GOALS AND CHALLENGES

FINAL ENERGY CONSUMPTION (PJ)



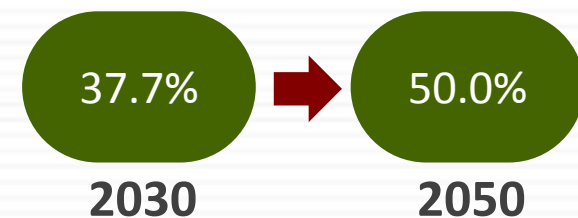
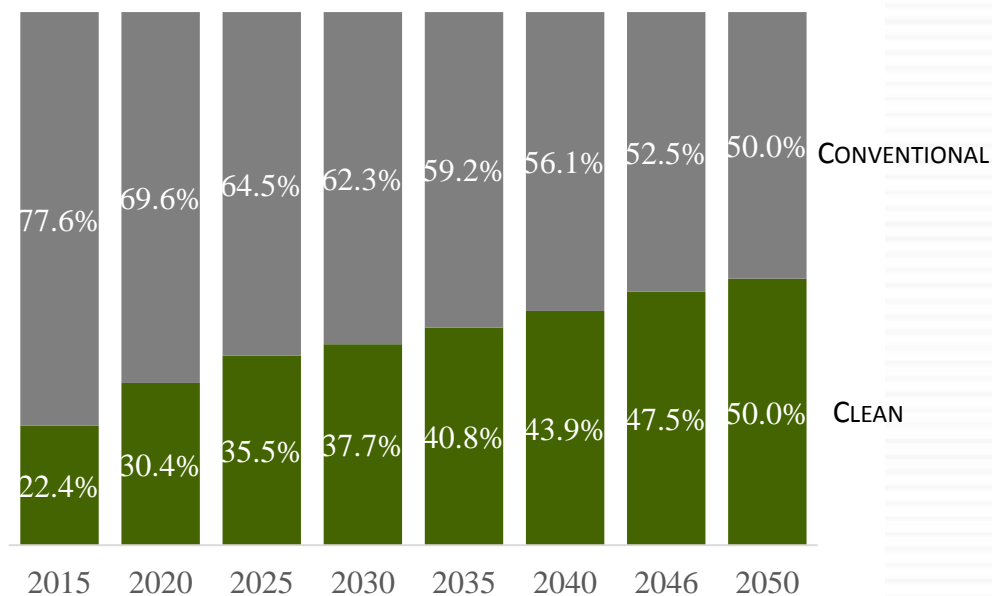
42% OF REDUCTION WITH ENERGY EFFICIENCY

TRANSITION ENERGY SCENARIO AVERAGE ANNUAL REDUCTION IN ENERGY INTENSITY



ENERGY TRANSITION; GOALS AND CHALLENGES

CLEAN ENERGY PARTICIPATION IN GENERATION 2015-2050



COMPREHENSIVE POLICY

CATEGORIES

- ☐ REGULATIONS
- ☐ INSTITUTIONS
- ☐ CAPACITY BUILDING AND HUMAN RESOURCES
- ☐ MARKETS AND FINANCING
- ☐ RESEARCH, DEVELOPMENT AND INNOVATION



ACTION LINES

- ☐ ENERGY EFFICIENCY
- ☐ RENEWABLE ENERGY
- ☐ DEVELOPMENT OF INTEGRATED INFRASTRUCTURE

General Law on Climate Change

Published in 2012

- **Aspirational goal on reducing emissions (base line 2000):**
 - **30% to 2020**
 - **50% to 2050**
- **Clean energy generation goal:**
 - **35% to 2024**
- National Strategy on Climate Change (ENCC, in its Spanish acronym)
- Special Program on Climate Change (PECC, in its Spanish acronym)

1

BACKGROUND

2

MEXICAN ENERGY REFORM

3

ENERGY TRANSITION; GOALS AND CHALLENGES

4

INTEGRATING ENERGY EFFICIENCY AND RENEWABLE
ENERGY :HOUSING PROGRAM

INTEGRATING ENERGY EFFICIENCY AND RENEWABLE ENERGY :HOUSING PROGRAM

NATIONAL PROGRAM FOR SUSTAINABLE IMPROVEMENT OF HOUSING

Achieve sustainable improvement of existing housing by implementing actions that help reduce energy consumption and electric billing, through:

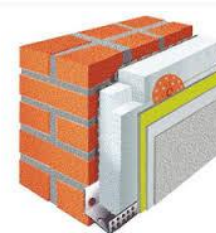
Energy Efficiency and Renewable Technologies



INTEGRATING ENERGY EFFICIENCY AND RENEWABLE ENERGY :HOUSING PROGRAM

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



INTEGRATING ENERGY EFFICIENCY AND RENEWABLE ENERGY :HOUSING PROGRAM

NATIONAL PROGRAM FOR SUSTAINABLE IMPROVEMENT OF HOUSING

Incentives

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

Institutions



Incandescent Light Bulb Replacement National Program In towns up to 100,000 inhabitants (Rural Zones)



- **Target:** 6,400,000 families
- **CFL:** 5 CFLs per family
- **Total CFLs:** 40,000,000
- **Program launched in** 2014

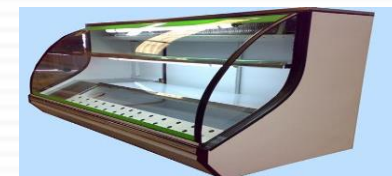


Energy Efficiency in Enterprises

A Program designed to support the industrial national sector including SMEs (Small and Medium Enterprises) through financing schemes with attractive rates. It considers the replacement of old appliances for efficient ones fulfilling standards established in the PAEEEM (Enterprise's Energy Efficiency Financing Program).

Financing New Technology

- ✓ Air conditioner
- ✓ Efficient Lighting
- ✓ LED Lighting
- ✓ Commercial Refrigerators
- ✓ High Efficiency Motors
- ✓ Electrical Power Substation
- ✓ Capacitor Banks
- ✓ Between others...



Municipal Energy Efficiency Project (PREEM)



* Pilot projects 2013

Municipal Energy Efficiency Project (PREEM)

- The Ministry of Energy considers as a part of his Energy Transition Strategy to establish a public policy project , in three phases:
 - **1. Diagnostics for Energy Efficiency in 32 municipalities of the country (TRACE – ESMAP) (August 2014- April 2015)**
 - **2. Policy and institutional strengthening**
 - **3. Support the implementation of energy efficiency investments.**
- The diagnostics for Energy Efficiency began in August 2104 (*supported by The World Bank*)
- The Ministry of Energy seeks international cooperation partnerships to promote the efficient use of energy in the cities/municipalities of Mexico, specially in phases 2 and 3.



Municipal Energy Efficiency Project (PREEM)

Evaluating Energy Efficiency Opportunities in 6 Municipal Sectors (through TRACE implementation)

1. Transport

2. Buildings

3. Public Lighting

4. Water & Wastewater

5. Power & Heating

6. Solid Waste



TRANSPORT



BUILDINGS



PUBLIC
LIGHTING



WATER &
WASTEWATER



POWER &
HEATING



SOLID
WASTE



THANK YOU

SANTIAGO CREUHERAS DIAZ
DIRECTOR GENERAL FOR ENERGY EFFICIENCY AND SUSTAINABILITY

SEPTEMBER 8, 2016

