



Energy Conservation Policies and Programs in Brazil

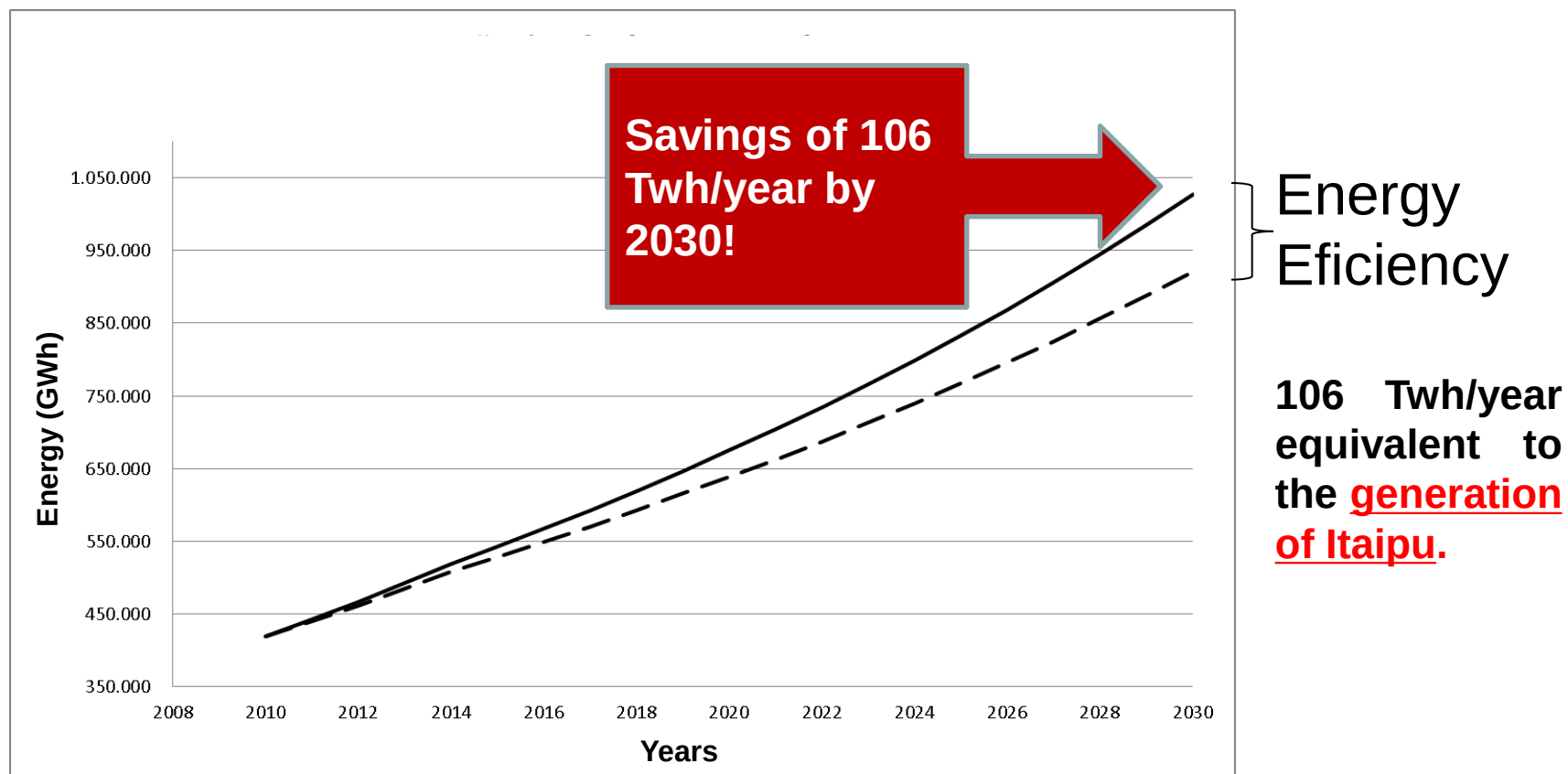
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NATIONAL ENERGY PLAN 2030 - INCORPORATION OF ENERGY EFFICIENCY IN THE LONG-TERM PLANNING

(10% SAVINGS IN THE ELECTRICITY CONSUMPTION BY 2030)





National Energy Efficiency Plan - PNEf

- Actions envisaged in the Working Plan 2013-2014:
 - ✓ Program for efficiency improvement in industrial water pumping systems, compressed air generation and distribution, and heat thermal insulation
 - ✓ Qualification and integration of Solar Heaters' supply chain
 - ✓ Introduction of subjects related to Energy Efficiency in the curricula of technical education, engineering and architecture degrees
 - ✓ Promoting the use of efficient equipment
 - ✓ Strengthening mechanisms of communication and relationship with society
 - ✓ Increase Energy Efficiency in Public Buildings
 - ✓ Leveraging the Building's Labeling
 - ✓ Implementation of energy efficiency databases and information in Brazil

National Program for Electricity Conservation – Procel

- Mission: “**Promote energy efficiency, contributing to improve the life quality of the population and the efficiency of goods and services, reducing environmental impacts**”.
- Main results:



- **62 million products** with the label were sold in 2013, in 36 different categories
- Instruction on energy efficiency to over **25 million students** in basic education since 1995
- Since 2000, about **2.7 million streetlight points were replaced throughout the country**
- More than **2 thousand labels for commercial and residential buildings** were issued in Brazil in 2013



PROCEL Main Results

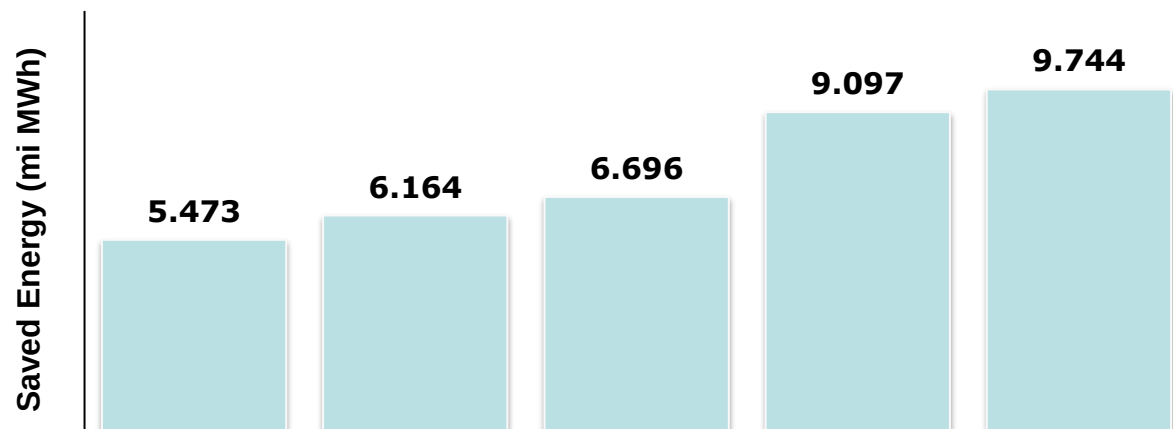


Investments in PROCEL amounted to approximately R\$ 1.4 billion in energy efficiency actions from 1986 to 2013

Saved electricity from 1986 to 2013:

70.1 million MWh

(~60% of the Brazilian residential demand in 2013)



Residential Demand

5.4%

5.8%

6.0%

7.7%

7.8%

Total Demand

1.4 %

1.5 %

1.6 %

2.0 %

2.1 %

CO₂ avoided (kt CO₂e)

135

316

196

624

935



National Program for the Rational Use of Natural Gas and Oil Products - CONPET



- Main initiatives:

- CONPET in Education
- CONPET in Transportation
- Energy Efficiency in Equipment
- Energy Efficiency in Light Vehicles

- Average annual investment: R\$ 10 mi





National Program for the Rational Use of Natural Gas and Oil Products - CONPET



Results

- Since 2005, **33 thousand teachers were trained in 16 thousand schools**
- More than **1 billion gallons of diesel saved**, equivalent to **2.7 million tCO₂** avoided
- More than **6 million m³ LPG** saved
- **70% of cars** sold in Brazil have energy efficiency label
- By 2017, **100%** of national car production should be labeled





Energy Efficiency Program of Power Distribution Companies (PEE/ANEEL)

- Energy Efficiency Program of Power Distribution Companies - PEE (Coordinated by the Electricity Regulatory Agency - ANEEL)
- Total investments by 2013: **R \$ 5.7 billion***
- Energy saved: **9.1 TWh/year**
- Number of Projects: **3,219**
 - Ex: More than 800 thousand old and obsolete refrigerators were replaced by new efficient models through PEE/Aneel.

* Law 9,991 which defines that at least 0.5% of Net Operating Revenue of the Power Distribution Companies should be mandatorily applied in actions that aim to decrease the electricity losses.



Energy Efficiency Law *: Results

- **Dozens of regulated equipment (2002/2013):**

Three-Phase Induction Motors, Incandescent and Compact Fluorescent Lamps, Refrigerators and Freezers, Cooker and Gas Stoves, Air Conditioners, Water and Gas Heaters, Electromagnetic Ballasts, Distribution Transformers.

- **Potential to reduce power consumption by 14 TWh/year in 2030**

- **Withdrawal of Incandescent Lamps:**

- ✓ In June 2012, began the gradual withdrawal of incandescent bulbs from the market.
- ✓ For the next twenty years, the energy benefits of this measure represent about **10 TWh/year**, providing savings of approximately **R\$ 6 billion**.





Brazilian Labeling Program- PBE

- PBE / Brazilian Labeling Program - 1984
(Coordination INMETRO / MDIC)
 - Classification of equipment with label
 - **39** Labeling Programs in progress
 - **R\$ 23 billion** saved since 2006, due to the replacement of inefficient bulbs
 - Since 2000, Refrigerators and Air Conditioning contributed for saving **R\$ 6 billion**



PROGRAMA
BRASILEIRO DE
ETIQUETAGEM



Key Policies and Programs for Energy Conservation in Brazil



PBE (1984)

Brazilian labeling program applied to manufacturers and suppliers



PEE da ANEEL

Energy Efficiency Program of Power Distribution Companies: launched in 2000



PROCEL (1985)

Brazilian Program for Electricity Conservation



Law 10,295 (2001)

Energy Efficiency Law launched in 2001

Decree 4.059/2001 - CGIEE



CONPET (1991)

Brazilian Program for the Rational Use of Natural Gas and Oil Products



PNEF (2011)

Brazilian National Energy Efficiency Plan

EE incorporated into the Brazilian Energy Planning: PDEs and PNE 2030 goals



Thanks!

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