

# CHINESE TAIPEI

## 1. GOALS FOR EFFICIENCY IMPROVEMENT<sup>1</sup>

### 1.1. Overall Energy Efficiency Improvement Goals

#### a) Goals

The goal is to improve energy efficiency by more than 2 % per annum, so that when compared with the level in 2005, energy intensity will decrease 20% by 2015. Supplemented by further technological breakthroughs and proper administrative measures, energy intensity will decrease 50% by 2025.

#### b) Base year

2005

#### c) Goal year

2015 and 2025

### 1.2. Sectoral Energy Efficiency Improvement Goals

#### a) Industry

Reform the industrial sector towards a high value-added and low energy intensive structure, so that its carbon intensity could reduce more than 30% by 2025.

#### b) Transportation

Raise standard fuel efficiency for private vehicles (measured in terms of passenger kilometres per litre) incrementally to 25% by 2015

#### c) Residential and commercial

Raise appliance efficiency standards by 10% to 70% in 2011. Further raise the efficiency standards in 2015 to promote high efficiency products.

#### d) Government

Reduce the energy use of governmental agencies and schools by 10% in 2015.

#### e) Base year

2008

#### f) Goal year

2025 (for industry), 2015 (for transport and government), 2015 (for residential and commercial)

### 1.3. Action Plans for Promoting Energy Efficiency

#### a) Name

Energy Conservation and GHG Emission Reduction Action Plan

#### b) Objectives

Reduce CO<sub>2</sub> emissions by applying cleaner energy and energy conservation measures

#### c) Applicable sectors

Residential, commercial, industry, transport, and government

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<sup>1</sup> BOE (2008A).

**d) Outline**

A number of measures have been introduced to achieve the energy efficiency goals.

- Raise power generation efficiency
- Replace coal-fired power plants with high-efficiency generating units (efficiency raised 7.5% by 2025) and gas-fired power plants (efficiency raised by 11%)
- Improve power dispatch and transmission facilities (reducing line loss 0.5% by 2015)
- Raise vehicle energy efficiency standard<sup>2</sup>
- Raising private vehicles' standard fuel efficiency incrementally 25% by 2015
- LED electricity saving lighting
- Traffic signal lamps completely replaced with LED lamps by 2012
- Building (exit, fire alarm signal, etc.) and landscape lighting completely replaced with LED lamps by 2025
- Promote the uptake of energy efficient appliances
- Voluntary energy saving partnership agreement
- Energy auditing of major energy consumers.

Details can be found at <http://www.moeaboe.gov.tw>.

**e) Financial resources and budget allocation**

For policy development the annual energy research budget will be increased within the next four years from NTD 5 billion to NTD 10 billion.

**f) Method for monitoring and measuring effects of action plans**

- Measure the sales of energy efficiency appliance monthly
- Monitor the progress of energy efficiency standard revision quarterly
- Monitor the result of voluntary energy saving agreement quarterly.

**g) Expected results**

Reduced CO<sub>2</sub> emissions through more efficient energy use

**h) Future tasks**

No information available

**1.4. Institutional Structure****a) Name of organisation**

Bureau of Energy, Ministry of Economic Affairs

**b) Status of organisation**

No information available

**c) Roles and responsibilities**

- Draw up drafts of policy and law
- Plan and predict the energy demand and supply
- Examine and approve energy development, distribution and sale
- Monitor the energy price
- Build an energy database
- Energy saving promotion and dissemination; energy technology R&D.

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<sup>2</sup> BOE (2008B).

**d) Covered sectors**

All sectors of the economy are covered.

**e) Established date**

No information available

**f) Number of staff**

No information available

**1.5. Information Dissemination, Awareness-raising and Capacity-building****a) Information collection and dissemination**

Media dissemination programs will evaluate the potential audience reached. In the meantime, an economy-wide telephone survey is conducted to assess public awareness.

**b) Awareness-raising**

There are two awareness-raising programs. One is the Research and Promotion of the Energy Conservation Labelling and Energy-Efficiency Labels systems; the other is Energy Conservation Environment Establishment, Achievements Appraised and Technology Promotion.

**c) Capacity-building**

There is a government-funded program to train energy auditors and managers for manufacturing firms and the commercial sector.

**1.6. Research and Development in Energy Efficiency and Conservation**

The Chinese Taipei Government's Energy Conservation Technology Mid-Term Project is administered by Bureau of Energy, Ministry of Economic Affairs; the project is applicable to industry (excluding agriculture), transport, residential, commercial, and government sectors.

The aim of the project is to develop and advance Chinese Taipei's research and development capabilities and intellectual property in many energy technologies, including LED lighting, photo voltaic, hydrogen power, air-conditioning, refrigeration, electric motors, energy information and communication technology. The Government allocates an annual budget of about USD 33 million to this project and 59% of this budget is used for energy-related research and design.

The Chinese Taipei Government has allocated USD 12 million to establish the Energy Conservation Labeling and Energy-Efficiency Labels system for the transport, residential, commercial and government sectors since December 2001. This system is expected to result in annual energy savings of up to 160,000 kilolitres of oil equivalent, and energy efficiency increases of 25% for air-conditioners, 70% for refrigerators, 36% for hot-warm water drinking fountains, 16% for fluorescent Lamps with embedded ballasts, 20% for clothes washers, 5% for electric cookers, 15% for warm-hot water dispenser, 20% for dehumidifier, 50% for electric fans, 10% for electric pots, and 15% for automobiles.

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**2. MEASURES FOR ENERGY EFFICIENCY IMPROVEMENTS****2.1. Government Laws, Decrees, Acts****a) Name**

Energy Management Law (EML)

**b) Purpose**

The EML is designed to govern the energy efficiency of energy-consuming devices.

**c) Applicable sectors**

The EML applies to all large energy users across all sectors. This mainly includes the industry, transport and commercial sectors.

**d) Outline**

- Energy utilisation facilities or equipment that are designated by the central competent authority, manufactured by local manufacturers or imported by merchants for domestic use, are to conform to the permit standards of energy consumption established by the central competent authority
- Vehicles that are designated by the central competent authority, manufactured by local manufacturers or imported by merchants for domestic use are to conform to the permit standards of energy consumption established by the competent central authority.

**e) Financial resources and budget allocation**

Governmental fund

**f) Expected results**

Energy efficiency improvement of 2% every year for the next eight years; improve appliance energy efficiency 10%–70% by 2015

**2.2. Regulatory Measures****a) Name**

Minimum Energy Performance Standard (MEPS) for appliances and lighting; fuel efficiency standards for automobiles

**b) Purpose**

Improve the energy efficiency of appliances, lighting devices, and vehicles

**c) Applicable sectors**

Industry, transport, residential, commercial, energy, and government

**d) Outline**

The MEPS and efficiency standards for the following products will be raised:

- Private vehicles by 2015
- Fluorescent Lamps with embedded ballasts from 2010
- Compact fluorescent lamps from 2010
- Room air-conditioners and refrigerators from 2011
- Dehumidifiers from 2011
- Incandescent lamps from 2012

**2.3. Voluntary Measures****a) Name**

Energy Labelling Program

**b) Purpose**

To encourage manufacturers to develop highly-efficient products and promote customer purchases of these products. These projects started in December 2001.

**c) Applicable sectors**

Industry, transport, residential, commercial, energy, government, etc.

**d) Outline**

No information available

**e) Financial resources and budget allocation**

No information available

**f) Expected results**

Raising energy efficiency of appliances from 10% to 70% (conservation labelling as follows)

**2.4. Financial Measures Taken by the Government****2.4.1. Tax Scheme**

No information available

**2.4.2. Low-Interest Loans**

No information available

**2.4.3. Subsidies and Budgetary Measures**

No information available

**2.4.4. Other Incentives**

The FREE Energy Audit started 15 years ago, to assist owners in improving their energy efficiency and to increase energy efficiency by 30% by 2025 in the industrial and commercial sectors.

**2.5. Energy Pricing**

The equation used to adjust gasoline and diesel prices, originally determined by China Petroleum Corporation, was abolished in September 2000 after FPCC's petroleum products were released to the market. Following significant fluctuation in international petroleum prices in the second half of 2005, MOEA authorised CPC to adopt a floating fuel pricing mechanism at the beginning of 2007. However, the petroleum price should maintain the principle of the lowest price among the neighbouring economies in Asia.

The pricing mechanism for electricity is controlled by the government rather than based on the generation cost. The proposal for electricity price adjustment is reviewed by a governmental committee.

Higher energy prices have proved to be an effective tool for energy conservation. Chinese Taipei raised the petroleum and electricity price in June and July 2008, and petroleum and electricity consumption significantly declined in the following months. Higher energy prices may also provide the incentive for equipment replacement. However, the effect is not easy to assess due to higher sales price of higher-efficiency products.

**2.6. Other Efforts for Energy Efficiency Improvement****2.6.1. Cooperation with Non-Government Organisations**

The Government cooperates with non-government organisations to disseminate energy efficiency and energy saving policies.

### **2.6.2. Cooperation through Bilateral, Regional and Multilateral Schemes**

The Chinese Taipei Government participates in APEC Energy Working Group projects that are related to energy efficiency and conservation.

### **2.6.3. Other Cooperation/Efforts for Energy Efficiency Improvement**

Chinese Taipei is an affiliate partner of the Collaborative Labelling and Appliance Standards Program (CLASP) based in California, USA to promote energy-efficient products by developing and updating the standards and labelling program.

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## **REFERENCES**

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