

CHILE

1. GOALS FOR EFFICIENCY IMPROVEMENT

1.1. Overall Energy Efficiency Improvement Goals

During the first quarter of 2010 the Chilean Government will publish the Action Plan on Energy Efficiency 2010–2020, which will contain overall and sectoral goals.

1.2. Sectoral Energy Efficiency Improvement Goals

See answer for 1.1.

1.3. Action Plans for Promoting Energy Efficiency

Chile has a number of government institutions working to achieve increased energy efficiency. The body directly responsible for promoting, developing and implementing energy efficiency policy and programs is the National Energy Efficiency Program (Programa País de Eficiencia Energética, or PPEE), a program of the National Energy Commission (Comisión Nacional de Energía, or CNE). Furthermore, Chile has significant policy and program development related to energy efficiency that takes place within other government agencies responsible for transport, housing, economic development and technology transfer.

One of the most important policies on energy efficiency is the government's recently approved institutional structure involving the creation of a Ministry of Energy, an entity that will centralise the functions of developing, proposing and evaluating public policies in this area, including the definition of objectives, regulatory framework and strategies to be applied, as well as the development of public policy instruments. As a part of the creation of the new Ministry, the government will create the Chilean Energy Efficiency Agency (Agencia Chilena de Eficiencia Energética, or ACHEE), a public-private organisation in charge of the implementation of the energy efficiency programs.

1.3.1 Energy Efficiency Monitoring and Reporting

The National Energy Commission (CNE) publishes the National Energy Balance annually, as well as aggregate and sectoral energy intensity data. Universidad de Chile, by means of the Programa de Estudios e Investigaciones en Energía (PRIEN), conducts decomposition analysis to distinguish structural and activity changes in energy intensity.

The Studies Area of the National Energy Commission is responsible for gathering the information necessary to elaborate the energy balances.

1.4. Institutional Structure

1.4.1 Central Institutional Structure

a) Name of organisation

National Energy Efficiency Program (Programa País de Eficiencia Energética or PPEE)

b) Status of organisation

Policymaker and program implementer

c) Roles and responsibilities

Promote energy efficiency and constitute themselves as a technical organisation

d) Covered sectors

Industry (including mining), transport, residential, commercial, construction, public sector (including government) and education

e) Date of establishment

2005

f) Number of staff members

45

g) Description of PPEE

PPEE is part of the National Energy Commission, which is the Government's energy regulating institution. PPEE coordinates energy efficiency actions with a number of public and private institutions and organisations, including the Superintendence of Electricity and Fuels (for the labelling program), Ministry of Housing, Public Works, Health and Education (for energy efficiency in construction), mining, retail, food, etc. companies organised in roundtables, etc. PPEE's advisory committee is formed by public and private entities, where initiatives are discussed and coordinated.

The mission of the PPEE is to consolidate energy efficiency as source of energy that contributes to Chile's sustainable energy development.

The strategic objectives of the PPEE are to:

- 1) establish the institutional foundations and regulatory framework for energy efficiency
- 2) develop incentives and support tools for energy efficiency
- 3) develop useful and accessible information for making public and private decisions, as well as collective and individual ones
- 4) position and introduce energy efficiency in all levels of training, both formal and informal
- 5) take advantage of international experiences and instruments to accelerate the development of energy efficiency and measure the reduction in generated emissions
- 6) strengthen institutional management through process quality.

1.4.2 Regional or Local Institutional Structure**a) Name of organisation**

Regional Working Tables

b) Status of organisation

These are public-private advisory committees for the implementation of PPEE's regional projects. Currently, there are regional working tables in six out of the 15 administrative regions of the economy.

c) Roles and responsibilities

Disseminate and promote the efficient use of energy at the local level

d) Covered sectors

Industry, residential, commercial, construction, public sector (including government) and education

e) Starting date

2007

f) Number of staff members

One central coordinator, plus five in regions

1.5. Information Dissemination, Awareness-raising and Capacity-building

a) Information collection and dissemination

Chile has a product labelling program that leverages the European comparative labelling scheme, which breaks all similar models of a product into one of seven efficiency categories, A (most efficient) through G (least efficient). This label is currently applied to five lines of products in Chile (incandescent and compact fluorescent light bulbs; and one- and two-door refrigerators), with another five to six planned in 2009–10. Products covered are mostly for residential applications, with future coverage aimed at residential to small commercial applications.

b) Awareness-raising

Since 2007, Chile has carried out four communication campaigns aimed at residential users, involving television, billboards and newspapers. The total cost for all three campaigns was approximately USD 4.5 million.¹

c) Capacity-building

There are numerous opportunities for training energy efficiency and related professionals, including courses offered in 19 universities, and two engineering associations with sub-groups focused on energy.

1.6. Research and Development in Energy Efficiency and Conservation

There are no specific policies on energy efficiency research, development and demonstration.

There are energy efficiency research, development and demonstration programs but not at the government level; this level is in academia.

There are several universities that have carried out studies related to energy efficiency. However, there is only one University that has a program working on energy issues with a special emphasis on energy efficiency - University of Chile's Energy Studies and Research Program (Programa de Estudios e Investigaciones en Energía, or PRIEN). The other universities are Universidad Técnica Federico Santa María; Universidad de Santiago; Universidad Católica de Santiago; and Universidad Católica de Valparaíso.

The applicable sectors are industry (particularly mining), agriculture, transport, residential, commercial, power, government, etc.

2. MEASURES FOR ENERGY EFFICIENCY IMPROVEMENTS

2.1. Government Laws, Decrees, Acts

In 2008, a bill was presented to the Chilean Parliament to create the Ministry of Energy, which was finally approved and signed by the President in November 2009. The aims of the new ministry include the strengthening of policy development, techno-economic regulation, as well as the energy efficiency of the economy.

The new ministry will centralise the functions of developing, proposing and evaluating public policies, including the definition of objectives, regulatory frameworks and strategies to be applied, as well as the development of public policy instruments.

2.2. Regulatory Measures

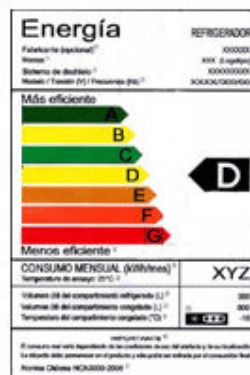
2.2.1. Mandatory Labelling

Chile has a product labelling program that leverages the European comparative labelling scheme, which breaks all similar models of a product into one of seven efficiency categories, A (most efficient) through G (least efficient). This has been applied to five products in Chile

¹Exchange rate: USD1 = CLP500.

(incandescent and compact fluorescent light bulbs, and one- and two-door refrigerators) with another five to six planned in 2009–10. Products covered are mostly for residential applications, with future coverage aimed at residential to small commercial applications:

- Freezers
- Refrigerators
- Refrigerators-freezers
- Single-phase induction motors
- Three-phase induction motors
- Single-capped fluorescent lamps
- Double-capped fluorescent lamps
- Air conditioners
- Standby in microwave ovens
- Metal halide lamps.



2.2.2. Minimum Energy Performance Standards

Chile is in the process of developing a strategy to establish MEPS, following the recent approval of the law that creates the Ministry of Energy, which establishes the faculty of the Minister to dictate MEPS. The first MEPS under development are for light bulbs.

The institution of MEPS to cover both residential products, such as the ones already labelled and planned for labelling, as well as a suite of commercial and industrial products would be enormously effective in reducing energy use and electricity demand in Chile.

2.2.3. Minimum Thermal Standards

a) Name

Minimum Thermal Standard for Residential Buildings

b) Purpose

To improve the energy efficiency of residential buildings

c) Applicable sectors

Construction

d) Outline

In 2000, the Ministry of Housing and Urbanism (Minvu) began a process to establish a Minimum Thermal Standard for Residential Buildings. This process consists of three milestones, two of which have been achieved:

- *Thermal Regulation for Roofs*: This regulation went into effect in March 2000 and includes minimum transmittance and thermal resistance requirements.
- *Building Envelope Regulation*: This went into effect in January 2007 and applies to the entire building envelope including roof, walls, ventilated floor and windows.
- *Maximum energy demand regulation for housing*: This is under development, and is aimed at regulating the maximum energy demand of a housing unit, which is understood as a system rather than the sum of different construction elements.

e) Financial resources and budget allocation

No information available

f) Expected results

No information available

g) Other regulatory measures

No information available

2.3. Voluntary Measures**a) Name**

Mining Roundtable on Energy Efficiency (MMEE)

b) Level

Economy-wide

c) Purpose

The promotion of energy efficiency research; dissemination of results coming out of energy efficiency projects in the mining sector; evaluation of energy efficiency pilot projects; fostering technology development and innovation in energy efficiency for the mining sector and fostering an energy efficiency culture within the mining companies that are members of the roundtable.

d) Applicable Sectors

Mining sector

e) Outline

Started in 2007

f) Financial resources and budget allocation

No information available

g) Expected results

Demonstrate the reduction of 500 000 GJ of energy and improve workers' energy efficiency technical capacity.

h) Description

MMEE consists of a voluntary affiliation by the 14 largest mining companies in the economy* in addition to other participants, such as the Chilean Chapter of the International Copper Association (Procobre), Mining Council, PPEE and Mining Ministry.

*Anglo American, Antofagasta Minerals, Barrick, BHP Billiton Base Metals, Pacific Steel Company (CAP), CODELCO, Collahuasi, ENAMI, Los Pelambres Mining, Freeport, McMoran Copper & Gold, Polpaico Cement, Soquimich, Xstrata Copper and Bio Bio Cement.

i) Other voluntary measures

There are several other sectoral roundtables already established, all of them are conducting studies to determine consumption characteristics and are working on publications with energy efficiency recommendations for their members. These industrial sector roundtables are: retail, food processing, chemical, graphic and metal-mechanic.

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

Chile does not provide any tax scheme for energy efficiency improvements.

2.4.2. Low-interest Loans**a) Name**

National Economic Development Agency (CORFO) Energy Efficiency Credit

b) Purpose

This credit finances investments with a value up to UF² 25 000 (USD 890 000) and enables companies to finance needed investments in projects for optimising energy use. This instrument is aimed at investments in machinery and equipment; execution of construction, facilities and civil works; engineering and assembly services; or other services that companies require in order to engage in productive activities. This also includes working capital related to such investments.

c) Applicable sectors

Included are companies that produce goods and services with annual revenue up to the equivalent of UF 1 million (excluding value-added tax), which equals about USD 39 million. The credit is available for companies in a variety of sectors, such as industry, agriculture, mining, fishing, tourism and healthcare, among others.

d) Outline

No information available

e) Financial resources and budget allocation

No information available

f) Expected results

No information available

2.4.3. Subsidies and Budgetary Measures**a) Name**

Subsidy on Electric Motors

b) Purpose

The replacement of 700 motors in 2009 and 4673 in 2010

c) Applicable sectors

Industry (including mining)

d) Outline

No information available

e) Financial resources and budget allocation

USD 1 million

f) Expected results

This program is expected to improve the energy efficiency of motors between 1 and 10 horsepower by up to 12%

a) Name

Energy Efficiency Pre-investment Program

b) Purpose

Energy efficiency studies geared towards optimising consumption. There is a consultancy subsidy available for energy efficiency audits, plans for implementing energy efficiency

²The Unidad de Fomento (UF) is a unit of account that is used in Chile. The exchange rate between the UF and the Chilean peso (CLP) is constantly adjusted to inflation so that the real value of the Unidad de Fomento remains constant.

measures, and development of an investment project that can be presented to financing providers.

c) Applicable sectors

Companies that produce goods and services with annual revenue up to the equivalent of UF 1 million (excluding value-added tax) or about USD 39 million. The credit is available for companies from a number of sectors, such as industry, agriculture, mining, fishing, tourism and healthcare, among others.

d) Outline

No information available

e) Financial resources and budget allocation

Up to 70% of the total cost of the consultancy, to a maximum of CLP 6 million (equivalent to USD 11 200)

f) Expected results

Expected results not available

a) Name

National Light Bulb Replacement Program

b) Purpose

The replacement of 2.9 million incandescent lamps with compact fluorescent light bulbs (CFLs)

c) Applicable sectors

Residential (low-income homes)

d) Outline

This includes subsidies for 2008 and 2009

e) Financial resources and budget allocation

The financial resource for this program was equivalent to USD 8.8 million for both years.

f) Expected results

Energy savings of 806 GWh in four years for both programs

a) Name

National Truck Replacement Program

b) Purpose

Replace 500 trucks that are older than 25 years during 2009–10 (225 in 2009 and 275 in 2010) with new and efficient ones that fulfil the EURO III or EPA 98 standards.

c) Applicable sectors

Transport

d) Outline

No information available

e) Financial resources and budget allocation

The financial resource for this program was equivalent to USD 4 million in 2009.

f) Expected results

No information available

2.4.4. Other Incentives

Information not available

2.5. Energy Pricing

There is a government-regulated pricing mechanism for small clients. The price of electricity for regulated consumers is set by the regulator (National Energy Commission), who calculates the cost of production for the generation utilities and the added value for distribution utilities. This regulation applies to customers with power demand below 2 MW. Above that, customers are free to sign contracts directly with the generation utilities.

For residential users of electricity, there is an overcharge for the consumption in winter that goes above the summer consumption.

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

There are a number of NGOs that provide feedback to PPEE. A study of the economy-wide energy efficiency potential was financed by NGOs.

2.6.2. Cooperation through Bilateral, Regional and Multilateral Schemes

Chile participates in COPANT for the harmonisation of energy efficiency standards, and is participating in the design of the ISO 50.001 standard.

2.6.3. Other Cooperation/Efforts for Energy Efficiency Improvements**2.6.3.1. Cooperation Agreements**

In 2005 the governments of Chile and Germany signed a cooperation agreement for EUR 2 million to support activities through the German Cooperation Agency (GTZ). Energy efficiency is supported by the financing of studies and the hiring of energy experts to work specifically in the fields of construction and industry. This agreement expires in December 2010.

In addition, Chile has signed several non-binding cooperation agreements with institutions from different economies, which include some kind of assistance on energy efficiency. These include:

- Memorandum of understanding between the State of California and Chile (June 2008)
- Memorandum of understanding between the Minister of Commerce, Industry and Tourism of Spain and the Minister President of the National Energy Commission (October 2008)
- Memorandum of understanding between the Department of Energy of the United States of America and the National Energy Commission on cooperation in clean and efficient energy technologies
- Memorandum of cooperation on energy issues between Portugal and Chile (December 2009).

2.6.3.2. Energy Efficiency Awards

The National Energy Efficiency Program (PPEE) of the National Energy Commission (CNE) has implemented the Energy Efficiency Award as an incentive to improve energy efficiency management in public enterprises. This award is given as an initiative of the Production and Commerce Confederation (CPC) which is working with PPEE for the recognition of the energy efficiency efforts in both industry and commercial sectors.

REFERENCES

- SERNAC (2005), *Eficiencia Energética Comportamiento de Consumo Energético, en Familias Urbanas Tipo Gran Santiago*, Servicio Nacional del Consumidor, Gobierno de Chile, Convenio SERNAC-CNE, Programa País Eficiencia Energética (PREE), Santiago, Chile, August 2005.
- SERNAC (2005), *Análisis Comparativo del Desempeño Energético de Ampolletas Residenciales Incandescentes y Fluorescentes Compactas*, Sistema Nacional del Consumidor, Departamento de Estudios, Santiago, Chile, November 2005, Santiago, Chile.
- APEC (2009), *Peer Review on Energy Efficiency in Chile – Final Report*, Asia-Pacific Economic Cooperation, Endorsed by the APEC Energy Working Group, Santiago, Chile, April 14, 2009.
- INAP – Universidad de Chile (2008), *‘Estimación del potencial de ahorro de energía mediante mejoramientos de la eficiencia energética de los distintos sectores’*, Programa de Estudios e Investigaciones en Energía (PRIEN), Santiago, Chile, January 28, 2008.
- CNE (2008), *Política Energética: Nuevos Lineamientos*, Comisión Nacional de Energía, Santiago, Chile, 2008, www.cne.cl.
- CLASP (2009), *Standards & Labelling Worldwide Summary – Chile*, Collaborative Labeling and Appliance Standards Program, www.clasponline.org/clasp.online.worldwide.php?rc=290|1.
- IEA (2009), *Chile: Energy Policy Review 2009*, International Energy Agency, October 2009, Paris, France, www.iea.org.