



CHILE: INVENTORY OF ESTIMATED BUDGETARY SUPPORT AND TAX EXPENDITURES FOR FOSSIL-FUELS

Energy resources and market structure

Chile, being a mountainous country, has significant hydroelectric resources, contributing to 42% of its electricity supply. However, annual output is variable, as droughts are frequent, and generation remains concentrated in the central-southern zones of the country. Biomass in the form of firewood, mostly used for heating and cooking, accounts for more than half of the final energy consumption in Chile's residential sector. Nevertheless, fossil fuels accounted in 2010 for almost 70% of the country's total primary energy supply (TPES), where petroleum products are the dominant form (35%), followed by natural gas (20%) and coal (18%). With little indigenous production of fossil fuels, Chile imports close to 65% of its TPES in the form of oil, natural gas and coal. And, until the arrival of liquefied natural gas (LNG) in July 2009, it depended almost exclusively on one supplier of piped gas: Argentina. LNG is now imported through two terminals located at Quinteros and Mejillones.

In 2007 and 2008, Chile lost most of its natural-gas imports from Argentina, at a time when its hydroelectric production was severely affected by drought. Chile was thus faced with an immediate challenge to find additional energy supplies to fuel its economic growth and replace the costly diesel oil that had to be used in power stations that had been originally built to run on natural gas from Argentina. In 2010, the domestic production of coal accounted for 5% of Chile's total coal consumption and this resource is expected to play a larger part in the power sector's energy supply over the longer term.

Chile produces small amounts of oil and gas from the Magallanes Basin in the far south. In 2008, an international tender for hydrocarbon exploration in the Magallanes Region was launched, under the supervision of the Ministry of Mining. Of the ten blocks on offer, nine were awarded; six will be operated exclusively by independent companies and consortia. In the three remaining blocks, the winning bidders will operate in partnership with the national oil company, ENAP.

Under the Chilean Constitution, the exploration for, and extraction of, crude oil and natural gas can be carried out either directly by ENAP or by private companies through exploration and exploitation contracts established with the Chilean state. Private companies can also participate in imports, refining, storage, and distribution activities. Currently, ENAP remains the leading company not only in oil extraction, but also refining (it owns the country's three refineries), importing, storage and maritime transport, as well as pipeline transport in partnership with other companies. It does not compete directly in the retail sector, however.

ENAP is also active in natural-gas transmission, and owns pipelines in the far south of the country. Other companies, all privately owned, operate the three major pipelines in the populous centre of the country, and the three pipelines in the northern region. Seven of all those pipelines, including the one located in the Austral Zone, are international and connect Chile to Argentina. Natural gas is distributed through networks owned by seven companies in various cities.

The pioneering privatisation and liberalisation of Chile's electricity sector, starting in the 1980s, was completed in 1998 with the sale of the last state-owned utility, Edelsaysen. The SIC, which supplies electricity to

more than 90% of the country's population of 17 million, is the country's main electrical system. The northern system, SING, comprises one-third of the country's total installed capacity and covers an area equivalent to 25% of Chile's continental territory, but serves only 6% of the population. Generation, transmission and distribution are unbundled horizontally in both the SIC and the SING. However, generators in the SIC also own transmission assets and distribution networks in the SIC since a single holding company can own assets in more than one of these sectors through companies with independent legal status. Thirty-five generation companies currently operate in the SIC. Almost 90% of the capacity belongs to three large holding companies.

Prices, taxes and support mechanisms

Prices for petroleum-based fuels are freely set by the refiner and throughout the distribution chain, including retail sales at service stations. A specific excise tax (IEC) is levied on transport fuels (i.e. gasoline, diesel, LPG and compressed natural gas for use in vehicles). Gasoline is taxed at a fixed rate of UTM¹ 6 per m³ (USD 0.48 per litre), diesel at a fixed rate of UTM 1.5 per m³ (USD 0.12 per litre), and LPG and compressed natural gas are taxed at a rate of 1.4 UTM per m³ (USD 0.11 per litre) and 1.93 UTM per 1 000 m³ (USD 0.15 per m³) respectively.

There is, however, an explicit government policy to reduce price volatility for those final consumers that are subject to the IEC. The Consumers' Protection System for IEC taxpayers (SIPCO) was established in February 2011 and covers all the transport fuels mentioned above (i.e. gasoline, diesel, LPG and compressed natural gas). The use of those fuels for other purposes than transport is not covered by SIPCO since it is not subject to the IEC. In practice, for each fuel subject to SIPCO, a price band is established around that fuel's average of past and future prices over a five-month window. Every week, the National Energy Commission (CNE) estimates an import parity price based on prices in the two previous weeks. If this estimated price exceeds the price-band ceiling, a reduction in the rate of IEC tax is applied to benefit final fuel consumers. Conversely, if the import parity price of the week is below the price-band floor, an increase in the rate of IEC tax is applied to make up the difference, paid for by final consumers. SIPCO thus aims to be revenue-neutral over the medium-term.

Before SIPCO was implemented, two other price-stabilisation mechanisms existed, which had similar objectives but were designed differently. The Petroleum Price Stabilisation Fund (FEPP) was the first of these mechanisms. It was established in 1991 and initially covered a wide range of petroleum products. Its scope is now restricted to domestic kerosene only. The second of these mechanisms was the Fuel Price Stabilisation Fund (FEPC) that operated from 2005 to 2010 and is thus no longer active. Both FEPP and FEPC shared SIPCO's main objective, which is to insulate consumers of fuels from price volatility. They were, however, designed differently since both mechanisms were funds while SIPCO varies rates of tax.

All fuels and electricity are charged the normal value-added tax (VAT) rate of 19%. In addition, imported fuels attract a most-favoured-nation import duty of 6%; imports from countries that have signed a trade agreement with Chile enter the country duty-free.

Data documentation

General notes

The Chilean tax system relies on the use of the UTM (*Unidad Tributaria Mensual*). The UTM is a unit of account used exclusively for tax purposes. Its exchange rate *vis-à-vis* the Chilean peso is adjusted monthly on the basis of the consumer price index, thereby keeping its real value more or less constant.

¹ The UTM (*unidad tributaria mensual*, or monthly tax unit) is an inflation-tracking currency unit. The UTM was valued at CLP 39 689 (USD 80) in July 2012.

Consumer Support Estimate

Transitory Reduction on Gasoline Tax (data for 2008-2010)

This measure was adopted in 2008 and ended in 2010 following an increase in international oil prices. It provided consumers with a temporary reduction (24 months) in the fuel tax usually levied on gasoline. This tax concession was designed to increase with the world price of crude, as measured by the West Texas Intermediate (WTI) reference index. More specifically, the size of the reduction was to increase progressively from UTM 1.5 per m³ to UTM 3.5 per m³ whenever the WTI would exceed USD 80, though it never reached the UTM 3.5 maximum authorised by law.

Sources: Ley Chile (various years), Ministerio de Hacienda.

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Petroleum Price Stabilisation Fund (FEPP) (data for 2007-)

Since 1991, the government of Chile has introduced two different price-stabilisation funds for petroleum products. One is the *Fondo de Estabilización de Precios del Petróleo* (FEPP) and the other is the *Fondo de Estabilización de Precios de los Combustibles* (FEPC). Their shared objective was to partially cushion the Chilean economy against fluctuations in the world price of oil. Both funds thus worked in a countercyclical way. This means that when world prices were high, previously accumulated revenues would be used to lower domestic prices, thereby subsidising the consumption of petroleum products. When world prices were low, however, revenues would be raised by levying a tax on sales of the same petroleum products.

The FEPP is the first of Chile's two funds, having been established in 1991. It was initially designed to smooth final prices for a wide range of petroleum products such as gasoline, diesel fuel, naphtha, kerosene, heavy fuel oil, and liquefied petroleum gas (LPG). This changed with the introduction of the FEPC in 2005, when it was decided to restrict the FEPP's range of products to fuel oil and LPG only. Termination of the FEPC in 2010 then brought all those products back under the aegis of the FEPP. Starting with the introduction of SIPCO in February 2011 (see above), the FEPP now only covers domestic kerosene.

Price intervention occurs at the point of first sale (or import) of the relevant product. It is based on an import parity price (IPP) and an intermediate reference price (iRP), both of which are set on a weekly basis and are measured in USD per m³. The former — the IPP — is obtained by adding to the c.i.f. import price of crude oil a mark-up to account for “admission” and transport costs. In the case of the FEPP, the iRP stands for the expected price of oil over the medium-term, which is different from the calculation of the iRP in the case of SIPCO (see above). The *Comision Nacional de Energia* (CNE) calculates the FEPP's iRP value on the basis of the following formula:

$$\text{iRP} = a_0 \text{HP} + a_1 \text{STF} + a_2 \text{LTF}$$

where “HP” is a historical weighted average of the IPP, “STF” and “LTF” are short-term and long-term forecasts of IPP prices respectively, and a_0 , a_1 and a_2 are parameters that change over time.² This formula is therefore both backward- and forward-looking. The CNE then adds a fixed margin on either

² Currently, their values are 0.85, 0.10 and 0.05 respectively.

side of the iRP to define a price band inside which the domestic price is to fluctuate. A tax is levied or a subsidy granted whenever the IPP falls outside that band.

The initial version of the FEPP (1991-2000) had a built-in asymmetry in the direction of lower prices. This stemmed from a bigger weight ascribed to overshooting of the target price, meaning that subsidies would always be higher than taxes for a given equal variation on either side of the target. This asymmetry resulted in the government having to provide more than USD 463 million in nominal terms to keep the programme in place over the years.

The rapid exhaustion of the fund's resources prompted the Chilean government to reform the scheme in 2000. Among the many changes brought about by the reform, the formula for setting the iRP was made public and some degree of flexibility was introduced in the determination of the band's margins. The government also disaggregated the fund at the product level, thereby establishing separate balances for each type of fuel. Last, the formulae were modified to make FEPP transfers contingent upon the fund's available resources, and the CNE was asked to update the scheme on a weekly basis, thereby allowing for a better transmission of world prices to final consumers. Since February 2011, the FEPP has been restricted to domestic kerosene only. This reform (law n°20.493) also provided for a USD 5.4 million recapitalisation of the fund.

We allocate annual estimates for the 2007-10 period to heavy fuel oil given that the FEPP ceased to cover LPG starting in 2007. Estimates for 2011 and later years are entirely allocated to kerosene.

Sources: Ley Chile (various years), Ministerio de Hacienda.

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Fuel Price Stabilisation Fund (FEPCO) (data for 2006-2010)

The FEPCO operated between 2005 and 2010 and has since been discontinued. As the second of Chile's two price-stabilisation funds (see "FEPP" above), its introduction resulted in the FEPP scheme being temporarily suspended for the relevant range of commodities (i.e. gasoline, diesel fuel, kerosene, and since 2007, LPG) while maintaining a residual role for a few other products (heavy fuel oil, and LPG up to 2007). After the FEPCO stopped operating in 2010, all petroleum products that were covered by the FEPCO were once again allocated to the FEPP until the latter was in turn replaced by SIPCO. Funding for the FEPCO was provided using resources drawn from the national copper fund (*Fundo de Compensación de los Ingresos del Cobre*), with the initial endowment amounting to about USD 10 million.

The FEPCO programme was initially supposed to operate until June 2006 and was meant to counterbalance a sharp increase in fuel prices that the FEPP alone could not address. Although it was rather similar to the FEPP in terms of its basic design, the FEPCO possessed a much smaller margin of fluctuation (5%). Also, calculation of the import parity price (IPP) was not based on the c.i.f. import price of crude oil, but instead on the standard West Texas Intermediate (WTI) price index.

As was already the case with the FEPP, the FEPCO did not prove self-financing. Over the two-and-a-half years between January 2007 and July 2009, credits outweighed taxes in the FEPCO by USD 288 million. To maintain a positive balance in the fund in the face of these outflows, the government injected more than USD 760 million, of which only USD 362 million remained when the fund effectively ceased to operate in September 2010. After that, the FEPP resumed its earlier functioning,

covering all products previously under the FEPCO's umbrella until it was in turn replaced by SIPCO in February 2011.

Annual support amounts for this measure are allocated to gasoline, diesel fuel, kerosene, and LPG on the basis of estimates provided by the Ministry of Finance (*Ministerio de Hacienda*).

Sources: Ley Chile (various years), Ministerio de Hacienda.

Tag: CHL_dt_02

Consumers' Protection System (SIPCO) (data for 2011-)

The Consumers' Protection System for IEC taxpayers (SIPCO) was established in February 2011 to smooth fluctuations in fuel prices. It applies to the use of gasoline, diesel fuel, LPG and compressed natural gas for transport purposes only.

Fuel taxation in Chile occurs at the point of first sale (or import) of the relevant product. It is based on an import parity price (IPP) and an intermediate reference price (iRP), both of which are set on a weekly basis and are measured in USD per m³. The former — the IPP — is obtained by averaging, over the last two weeks, the c.i.f. import price of the relevant fuel and by adding a mark-up to account for various elements such as “admission” and transport costs. This price aims to replicate the import price that would prevail in a competitive market given that Chile is a small producer of fossil fuels and relies extensively on imports to meet its energy needs. The iRP gives an average price for the relevant fuel based on the recent past and on near-term projections. The *Comision Nacional de Energia* (CNE) calculates its value on the basis of the following formula:

$$iRP = (1 - a).HP(n) + a.FP(m) + CS(s) + t$$

where “HP(n)” is a historical average of oil prices over the past “n” weeks, “FP(m)” is an average of anticipated oil prices over the future “m” months, “CS(s)” is the average crack spread³ over the past “s” weeks, and “t” stands for transport costs, insurance fees, customs duties and other costs of admission into Chile. The parameter “a” varies between 0 and 0.50, “n” and “s” between 8 and 30 weeks, and “m” between three and six months. A 12.5% price-band is then established around each side of the calculated iRP. If the IPP exceeds the band's ceiling (drops below the band's floor) a reduction (increase) in the rate of IEC tax is applied.

It follows that the domestic price for transport fuels in Chile is determined by:

$$P^{Dom} = (P^{Int} + DM) \cdot (1 + VAT) + IEC^{Tot}$$

where “P^{Dom}” stands for the domestic retail price, “P^{Int}” is the international reference price (c.i.f import price, including admission and transport costs), “DM” is the distribution margin, “VAT” is Chile's rate of value-added tax, and “IEC^{Tot}” is the total rate of Specific Excise Tax (IEC) on transport fuels. This total rate of tax itself comprises a fixed component and it's a variable one, which is in turn determined based on the difference between the iRP and the IPP.

³ The term “crack spread” is commonly used in the oil industry to refer to the difference between the price of crude oil and that of refinery output.

Annual amounts of the revenue foregone due to SIPCO are allocated to gasoline and diesel fuel on the basis of estimates provided by the Ministry of Finance (*Ministerio de Hacienda*).

Sources: Ley Chile (various years), Ministerio de Hacienda.

Tag: CHL_te_01

Sources

Policies or transfers

Ley Chile (various years), Biblioteca del Congreso Nacional de Chile, Available at: www.leychile.cl/.