ENERGY PARTNERSHIP
CHILE-ALEMANIA

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SUMMARY

"Study of Alternatives Regulatory Policies for the Transfer of Efficient Costs to End Customers"

This document summarizes the "Study of Regulatory Alternatives for the Transfer of Efficient Costs to End Customers", which focuses on the regulatory diagnosis and pricing proposals associated with the mass adoption of Measurement, Monitoring and Control Systems (SMMC) or smart meters in Chile.

1. Introduction

Within the framework of the national and international energy transition, Measurement, Monitoring and Control Systems (SMMC), commonly known as *smart meters*, are an indispensable tool for the decarbonization and efficiency of the electricity system. Its value lies not only in the technology, but in its potential to enable greater demand flexibility, facilitate the integration of renewable energies and improve grid visibility, transferring direct benefits to end customers.

Chile faces this challenge with a complex historical precedent: the attempt to implement smart meters in 2019, which generated widespread citizen rejection and forced the adoption of a voluntary scheme. This experience underscores the need for an approach that combines technological innovation with social legitimacy and an appropriate regulatory framework.

The central purpose of this study is to propose regulatory and tariff improvements that generate attractive incentives for the mass adoption of SMMC, ensuring that systemic benefits—*such as cost-efficiency, flexibility, and sustainability*—are effectively passed on to end consumers. This means that, by using SMMC, customers can take advantage of times of low prices, reducing their consumption during critical hours and shifting it to off-peak hours, with lower energy costs. To achieve this, it is essential to address the main current obstacle: a regulatory framework anchored in structures of the past.

2. Regulatory Framework

For the energy transition to move forward successfully, it is essential to have a regulatory framework aligned with the objectives of modernisation, efficiency and sustainability. However, the current structure of the Chilean electricity system, based on average prices and cross-subsidies, makes it difficult to deliver efficient price signals to consumers and discourages the adoption of technologies that promote smarter and more flexible consumption. This dysfunctionality is observed not only in generation and distribution, but also in transmission, where a single charge for the use of the network negates any incentive to control demand in times of congestion.

The main **regulatory barriers** identified are the following:

Average prices in generation and transportation: The General Law of Electric Services (LGSE) establishes a single Average Node Price (PNP) per distribution company. This provision prevents the establishment of differentiated prices by hourly or seasonal blocks, a crucial mechanism to manage demand in the face of the intermittency of renewable energies and to encourage consumption at times of lower cost for the system.

Misaligned incentives in distribution: The current regulation remunerates distribution costs based on the "power supplied". This scheme incentivized distribution companies to increase their customers' consumption to increase their income, instead of promoting a more rational and efficient use of the electricity grid.

Complexity of cross-subsidies: The regulatory structure, as it is based on averages and cross-subsidies, causes a distortion in price signals. As a result, consumption in higher-cost areas or times tends to be higher than it would be if users faced prices that reflected the real costs of supply, affecting the overall efficiency of the system.

To overcome these structural obstacles, the analysis of international experience offers a roadmap.

3. Strategic lessons from the international experience

The analysis of international experiences is a fundamental tool to inform the design of public policies in Chile. The study reviewed in depth the cases of Australia, California, Germany and the United Kingdom to identify effective practices, common challenges and replicable lessons that can guide the deployment of SMMCs at the national level.

The key findings of this review are:

- **Multidimensional vision, not just economic:** Global experience shows that the value of SMMCs transcends immediate economic benefits. Their adoption should be framed within a broader strategy that considers their impact on the digitalization of the sector, the operational efficiency of the grids, the resilience of the system and the integration of large-scale renewable energies.

- **Central and non-delegable role of the State:** The State is a key actor to lead the process, coordinate public and private actors, and define an enabling regulatory framework that generates trust. The creation of independent public institutions, oriented to the operation of SMMCs and data management, emerges as an effective alternative to mitigate risks and give credibility to the process.

- **Importance of social acceptance:** Although a mandatory deployment can be effective in accelerating the realization of systemic benefits, its social viability depends on a solid and sustained communication strategy. This lesson is particularly critical for Chile, where the 2019 attempt at mandatory deployment failed precisely because of a deficit of legitimacy and social communication.

- **Effectiveness of incentives over penalties:** Simplified tariff structures aligned with public policy objectives are more effective. In particular, incentive-based schemes – such as bonuses for reducing consumption at critical hours (Critical Peak Rebate (CPR) – have proven to be more successful in encouraging behavioural change than those that operate solely as penalties (Critical Peak Pricing (CPP).

These international lessons are the basis of the strategic vision and the specific recommendations proposed.

4. Strategic vision and recommendations for Chile

This section presents the core of the study's recommendations, outlining a strategic roadmap for the successful and massive adoption of Measurement, Monitoring and Control Systems (SMMC) in Chile, based on both the national diagnosis and lessons learned at the global level.

4.1. Principles for successful implementation

For the deployment of smart metering to be successful and sustainable, it must be guided by the following strategic principles:

Take a continuous adaptation approach: Rather than looking for a perfect design from the start, it is recommended to move forward through phases, pilot plans, and progressive agendas. This approach allows you to learn and adjust the strategy on the fly, ensuring that policies are adapted to the reality of the market. Conducting additional studies on the *elasticity of demand* in Chile is key to improving tariff schemes and anticipating consumer behavior.

Promote an entrepreneurial role of the State: The State must assume an active leadership in the conduct of the process. This role must be accompanied by communication campaigns that emphasize the multidimensional benefits of SMMCs, such as digitalization, operational efficiency, and sustainability of the electricity system, to build a positive narrative and ensure social legitimacy.

Ensure a balanced mix of factors: The success of the initiative depends on a balanced combination of three pillars: *adequate financing, social legitimacy, and tariff reforms* that deliver clear and effective price signals. The conduct of this balance must fall on a leading and coordinating role on the part of the State.

4.2. Regulatory reforms

To materialise this strategic vision, it is imperative to make specific and urgent regulatory changes that enable more flexible pricing that is consistent with the needs of a modern electricity system. The three most critical reforms are detailed below:

Proposed Amendment	Expected impact
Allow more than one PNP per distributor (Art. 157° LGSE).	Enable rates with prices differentiated by time or seasonal blocks, reflecting the real costs of the system and sending clear signals to consumers.
Facilitate the creation of new rates (Art. 185° LGSE).	Grant the CNE the flexibility to design and implement new tariff options, incorporating a reliquidation mechanism to ensure collection from distributors.
Adjust the recognition of distribution costs (Art. 181° LGSE).	It decouples the distributor's revenues from the volume of energy sold, incentivizing demand management and efficiency instead of maximizing consumption.

5. Conclusions

The massive adoption of Measurement, Monitoring and Control Systems is a strategic necessity for Chile. It is not only a technological advance with economic benefits, but a fundamental pillar for the digitalization, efficiency and sustainability of the national electricity sector. SMMCs are the tool that will allow consumers to actively participate in the market and the system to safely and efficiently integrate the growing sources of renewable energy.

The success of this process depends on a balanced combination of three key factors:

- **bold regulatory reforms** that modernize the price structure,
- an **adaptive implementation strategy** that learns from experience through phases and pilot plans,
- and a **clear leadership role on the part of the State**.

Only through this comprehensive approach will it be possible to ensure the social legitimacy of change and position Chile as a leader in the management of smart, resilient and consumer-centric electricity grids.

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