

Interruptible Load Program for the Argentinian electricity market: an economic instrument

Sabrina Solange Nava, MSEER

The University of Texas at Austin, 2023

Supervisor: David Spence, Co-Supervisor: Jay Zarnikau

This research proposes a new regulatory framework for an interruptible load program for large users in the Argentine electricity market, using a Regulatory Impact Analysis (RIA) approach to evaluate its impact from technical, economic, energy and environment, and regulatory perspectives.

The technical analysis identifies 266 MW as the technical potential for load interruption, which could meet almost 1% of the peak demand in 2021, with 15 large companies contributing 35% of the interruptible load. The chemical, rubber, plastic, and other non-metallic mineral materials industries show the most promising potential.

The economic approach suggests an initial price cap of 106 USD/MWh (3-hour events) for interruptible load payments. The program could generate greater monetary savings during winter periods, indicating that seasonal variations in energy demand may impact the program's effectiveness.

The section on energy and environment highlights the challenge of the geographical distribution of potential providers and costly generation, with some regions being balanced, and others presenting a barrier to fully implementing reductions. The program targets gas and steam turbines, with natural gas and gas oil being the most frequently reduced fuels.

The regulatory analysis emphasizes the need for an effective regulatory framework and identifies the shortcomings of the current regulation. Three essential approaches to mitigate risks associated with the implementation are leveraging best practices from successful programs, applying transparent stakeholder consultation processes, and developing detailed and comprehensive rules.

These findings offer valuable insights for policymakers seeking to improve the regulatory framework for interruptible load programs in the electricity market. The study limitations and potential areas for future research are also discussed.

A handwritten signature in black ink, appearing to be 'D. B. S.', with a stylized flourish extending to the right.