

Analysis of the Free Energy Market Opening for Low-Voltage Consumers in Brazil: A Critical Approach and International Comparative Study

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INTRODUCTION & AIM

Brazil's Free Contracting Environment (ACL) already accounts for 44% of national electricity consumption; however, low-voltage consumers, residential, small commercial, and small industrial, remain excluded from retail market choices. The opening of this segment, now formally mandated by Law No. 15,269/2025, constitutes a new and structurally complex phase of the Brazilian electricity reform, involving tariff affordability, market concentration, consumer protection, informational asymmetry, and supplier-of-last-resort design.

This study critically examines the regulatory, competitive, and informational conditions that shape effective low-voltage market liberalization, drawing on international evidence from 10 jurisdictions. Specific objectives include assessing the risk of retail market concentration, evaluating consumer switching behavior and inertia, identifying adequate contract designs for low-sophistication consumers, analyzing transparency and comparability requirements, examining stranded cost treatment for incumbent distributors, and deriving actionable regulatory lessons applicable to the Brazilian reform agenda.

METHOD

Qualitative comparative study based on systematic bibliographic and documentary review of 10 international jurisdictions, examining regulatory frameworks, switching rates, consumer protection, and tariff outcomes.

METHODOLOGY — COMPARATIVE REGULATORY ANALYSIS

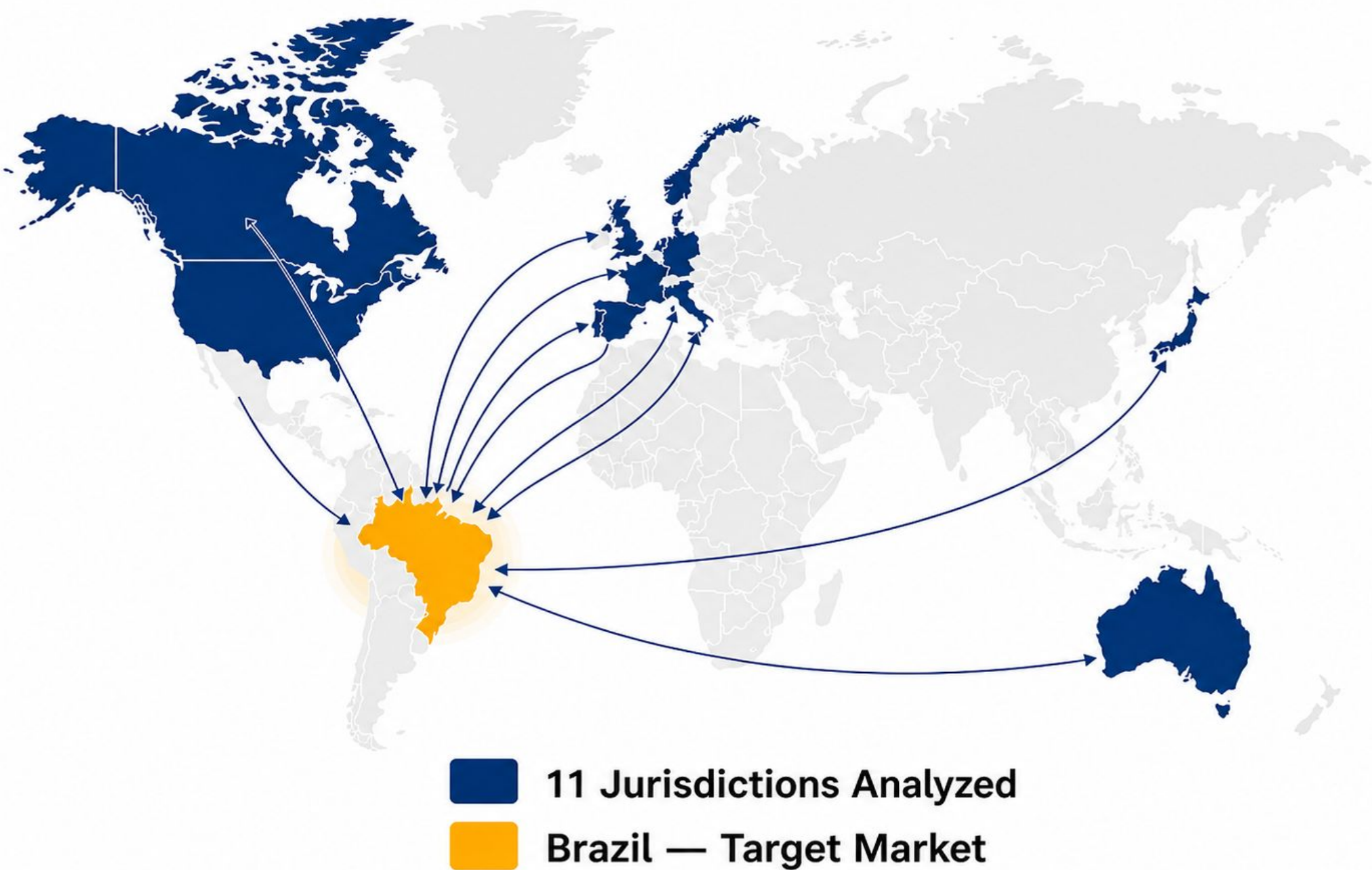


Figure 1. Methodological overview of the comparative regulatory analysis, showing Brazil as the target market in amber-gold and the 11 jurisdictions analyzed in navy blue: United States, Canada, Great Britain, Germany, France, Spain, Italy, Norway, Portugal, Australia, and Japan. Arrows indicate the analytical flow from each comparator jurisdiction toward Brazil.

RESULTS & DISCUSSION

Across 9 jurisdictions, no retail electricity market achieved full liberalization performance: 8 scored "Partial" and Germany alone reached "Underperforming", despite being the earliest liberalizer (1998) and holding the highest residential tariff among the sample (USD 0.404/kWh). Market competition (Dimension B) proved the strongest predictor of outcome differentiation: all four jurisdictions rated High on B (Canada-Alberta, Spain, USA, Italy) clustered at the top of the Partial tier, while the two rated Low on B (France, Great Britain) stagnated at the lower bound. Critically, high competition did not ensure consumer protection: the USA scored Low on Dimension A despite High market competition, revealing a structural regulatory gap between market design and consumer outcomes. Germany's triple-Low profile illustrates the ceiling effect of liberalization without demand-side engagement: with only 36% of residential consumers effectively switching away from the incumbent, market structure alone cannot deliver efficiency gains. These findings indicate that market competition is necessary but insufficient for successful retail liberalization; consumer protection mechanisms must be co-designed with competitive frameworks.

	Country / Jurisdiction	A — Consumer Protection	B — Market Competition	C — Systemic Efficiency	Outcome	Score
1	Canada (Alberta)	Medium	High	High	Partial	8
2	Spain	Medium	High	Medium	Partial	7
3	USA (14 jurisdictions)	Low	High	High	Partial	7
4	Italy	Medium	High	Low	Partial	6
5	Australia (5 states)	Medium	Medium	Medium	Partial	6
6	Japan	Medium	Medium	Medium	Partial	6
7	France	Medium	Low	Medium	Partial	5
8	Great Britain	Medium	Low	Low	Partial	4
9	Germany	Low	Low	Low	Underperforming	3

Figure 2. Ordinal classification table of the jurisdictions analyzed to date according to three regulatory dimensions: consumer protection, market competition, and systemic efficiency. Each dimension is classified as High, Medium, or Low, and the overall outcome reflects the combined assessment across the three criteria; jurisdictions with partial liberalization are evaluated according to the eligible universe declared for each subtopic.

Ordinal criteria applied only to the jurisdictions analyzed to date. Each dimension is classified as High, Medium, or Low, and the overall outcome reflects the combined assessment across the three dimensions. Jurisdictions with partial liberalization, USA, Canada, and Australia, are evaluated according to the eligible universe declared for each subtopic.

CONCLUSION

No assessed jurisdiction achieved full liberalization performance. High market competition was necessary but insufficient: consumer protection mechanisms consistently lagged behind competitive market design across all nine cases. Brazil's imminent low-voltage opening (Law 15.269/2025) should mandate co-designed consumer safeguards, including switching facilitation, transparent default offers, and supplier-of-last-resort regulation, before competitive access is universally extended.

FUTURE WORK / REFERENCES

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