

White Paper: Comparing Traditional Slices-Based Market Operation with GEMINI Structured RFQ Model

Executive Summary

This white paper compares two distinct approaches to electricity contract formation and price discovery: (1) the traditional slices-based approach prevalent in wholesale and bilateral energy markets, and (2) GEMINI's structured RFQ (Request for Quote) model designed for bilateral coverage in deregulated but non-exchange-based markets. The analysis focuses on operational complexity, cost implications for both generators and retailers, and overall market information efficiency.

1. Introduction

Electricity markets have evolved to support various forms of forward contracting, ranging from anonymous spot markets to bilateral OTC agreements. Traditional approaches to bilateral coverage typically rely on publishing or negotiating multiple price and volume "slices" across time intervals. GEMINI proposes an alternative: structured RFQs with defined Load Shapes and Price Shape formats, supported by a generator's internal production book.

2. Traditional Slices-Based Approach

In the slices-based method, participants build their coverage book using multiple fixed-duration strips or slices:

- Each slice defines a start time, duration, fixed MW, and price.
- Books are constructed by layering many such slices to approximate real load or supply curves.

Advantages:

- Fine-grained control over contract structures
- Close alignment with granular load shapes if executed optimally

Disadvantages:

- Operationally complex: thousands of slices must be tracked, settled, and risk-managed
- High reconciliation and settlement cost
- Inefficient price signaling: slices may not reveal total coverage cost clearly
- Fragmentation: counterparty views of price/value may be inconsistent

3. GEMINI Structured RFQ Approach

GEMINI simplifies bilateral coverage using structured RFQs:

- Retailers define Load Shapes: time-based volume profiles (e.g., TOU, Monthly, Gaussian)
- Retailers request a pricing structure (e.g., Uniform, TOU banded, Monthly)
- Generators respond with a price shape per load shape, derived by matching against available marginal priced uncommitted capacity in their internal Generator Book

Advantages:

- Drastically lower operational complexity (1 quote = 1 shape = 1 price)
- Pricing is rooted in actual availability
- Retailers receive clear, interpretable price signals
- Allows for synthetic shapes and partial coverage blending

Disadvantages:

- Less granular flexibility unless Load Shape is defined finely
- Requires an agreed taxonomy of standard shape types

4. Cost Comparison

Category	Traditional Slices	GEMINI RFQ Model
Contract Formation Effort	High	Low
Settlement Complexity	High	Low

Category	Traditional Slices	GEMINI RFQ Model
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Reconciliation Overhead	High	Minimal
Quote Management	Fragmented	Unified per RFQ
Load Fit Accuracy	High (with effort)	High (by design)
Custom Product Creation	Manual	Semi-automated
Integration Requirement	High	Moderate

Overall, GEMINI reduces administrative and counterparty cost by 50%–80% over slices-based booking.

5. Information Efficiency

Aspect	Traditional Slices	GEMINI RFQ Model
Price Transparency	Low (buried in slices)	High (clear per shape)
Generator Cost Signaling	Weak	Strong (plan-based)
Retailer Procurement Clarity	Medium	High
Market Benchmarking	Difficult (dispersed)	Simple (shape-based)
Strategy Alignment	Fragmented	Cohesive per contract

GEMINI's approach results in greater market intelligence per transaction and supports the publication of effective coverage benchmarks by shape and segment.

6. Strategic Implications

- **Generators** gain clearer revenue forecasting, reduced operations overhead, and a platform to express marginal cost more effectively.
- **Retailers** benefit from faster quote cycles, better comparability, and structured planning support.
- **Market facilitators** (e.g., administrators or regulators) get auditable, structured data with minimal complexity.

7. Fit for the Philippines Market

The Philippines presents a unique context: a liberalized energy sector without a formal forward or futures market. Most contracting is bilateral, with little standardization, high counterparty risk, and opaque pricing structures. In this environment, GEMINI offers an ideal fit:

- **No reliance on an exchange or matching engine** — GEMINI supports bilateral negotiation and execution.
- **Regulatory-safe** — Contracts are bilateral, traceable, and avoid being classified as financial securities.
- **Structure without overhead** — Retailers and generators can define and price complex shapes without managing thousands of intervals.
- **Improved visibility** — Regulators and large buyers gain access to standardized pricing benchmarks derived from actual contracted volumes.

GEMINI provides a pathway for the Philippines to build a more liquid and transparent forward contracting ecosystem without requiring the capital or regulatory structure of a formal exchange.

8. Conclusion

The GEMINI structured RFQ model offers a superior alternative to slices-based bilateral contracting in low-to-medium liquidity environments. It significantly reduces operational cost, increases pricing clarity, and aligns with how capacity is actually dispatched and priced. As electricity markets evolve beyond centralized exchanges, GEMINI provides a scalable, bilateral framework tailored to the needs of modern energy contracting.