



AI-Powered Long-Term Energy Forecasting for Utilities

A case study



Overview

Gridea is transforming long-term energy forecasting with its proprietary ML-powered tokenization technology, enabling utilities and energy suppliers to accurately predict energy consumption and optimize portfolio management. Unlike traditional forecasting methods, which often rely on static models and outdated techniques, Gridea provides highly adaptive, AI-driven insights that improve forecasting accuracy and operational efficiency.

The Problem

Most energy companies prioritize short-term forecasting (day-ahead or intra-day) to minimize balancing costs, while their long-term forecasting strategies (months to years ahead) remain outdated and inflexible. This leads to:

- **Unmanaged Risks:** Millions in potential financial losses due to demand fluctuations and inaccurate portfolio management.
- **Inefficient Pricing:** Poorly structured energy portfolios that fail to align with future market conditions.
- **Limited Customer Insights:** A lack of personalized engagement strategies, resulting in missed upsell opportunities and customer churn.
- **Underutilized DERs & Flexibility Markets:** Ineffective integration of distributed energy resources (DERs) and demand response programs. Not accounting for 3rd party energy management platforms leads to increased balancing costs.

High Computational Costs: Inefficiencies in data processing, leading to unnecessary overhead expenses.

Solution: Gridea's AI-Powered Forecasting Platform

Key Features & Benefits:

- ✓ **AI-Powered Customer Engagement**
 - Customers interact with the platform to analyze their energy consumption.
 - Continuous feedback loop enhances forecasting accuracy over time.
- ✓ **Cost-Efficient Scalability**
 - Optimized computational algorithms reduce processing costs by up to 40%.
 - Enables utilities to scale forecasting without excessive infrastructure investments.
- ✓ **Efficient Pricing**
 - Predictive modeling helps energy suppliers design competitive, profitable offerings.
 - Pricing models adjust dynamically based on expected demand shifts.
- ✓ **DER & Flexibility Market Insights**
 - Improved forecasting enhances distributed energy resource (DER) allocation.
 - Facilitates strategic participation in demand response and flexibility markets.
- ✓ **Upsell & Customer Retention**
 - Deep consumption analytics enable utilities to identify upsell opportunities.
 - Personalized tariffs and asset sales boost customer loyalty and retention.
- ✓ **Affordable & Accessible**
 - High-accuracy forecasting available at just €1 per measuring point per month.
 - Eliminates the need for costly in-house development and maintenance.

Example Use Case: Large Utility Company

Challenge:

A major European utility struggles with long-term demand forecasting, leading to suboptimal procurement strategies and missed revenue opportunities.

Solution:

By integrating Gridea's AI-driven forecasting solution, the utility gets:

- Better financial forecasting and group level budgeting by 20%.
- Optimized pricing, leading to a 15% increase in customer retention.
- Leveraged DER forecasting to enhance participation in demand response markets and allows for additional flexibility and extra earnings.

Market Impact

Gridea empowers energy companies to transition from reactive to proactive portfolio management. By providing high-accuracy, scalable, and cost-effective forecasting, Gridea is setting a new industry standard, ensuring that utilities maximize profitability while maintaining grid stability and customer satisfaction.

