Executive Summary: Churn Prediction Model

Conclusion: Our churn prediction model identifies clients likely to churn, though there are areas for improvement to enhance its precision and recall.

Model Accuracy and Performance

- The model correctly predicts churn and non-churn clients **90.39%** of the time.
- Precision is **82.61%**
- Recall is **5.19%**, indicating the model only captures 5.19% of actual churn cases, showing need for improvement.

Key Predictive Factors

- The most significant features influencing churn are **Electricity Consumption Last 12 Months, Net Margin, and Forecasted Bill of Meter Rental for Next 12 Months.**

Visual Insights

- **Feature Importance:** Visual of most impactful variables that drive churn.
- **Confusion Matrix:** Indicates high accuracy but reveals low recall rate, meaning actual churns are not predicted.
- **ROC Curve:** The curve shows room for improvement in model sensitivity.

Actionable Insights

- **Model Refinement:** Focus on improving the model's recall to better capture all client churn.
- **Client Engagement:** Engage at risk clients identified by the model, particularly those with low net margins and low electrical consumption.
- **Personalized Interventions:** Use insights to tailor retention strategies, enhancing satisfaction and loyalty.