VI-WATT
SMART ENERGY FOR ALL

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www.vi-watt.eu

Intelligent Analytics
Consumption forecasting based on historical data, external factors, and user-defined scenarios.

Our analytics system ensures highly accurate boiler operation planning and reduces costs through automated optimization of heating modes.

1. Data Aggregation and Preprocessing

Collects your hot water and electricity usage history (heating cycles, duration, peak loads).
Normalizes metrics by removing anomalies and accounting for actual usage times.

2. External Factors Consideration

Tariff zones: supports both dynamic and fixed hourly rates.
Power grid peak loads: provides recommendations to shift heating to off-peak hours.
Additional data (weather forecasts, inlet water temperature) improves calculation accuracy.

3. User-Defined Scenarios

Set schedules for morning/evening showers, laundry, or cleaning — you define the priorities and time windows.
Absence periods (vacation, business trips) — the boiler can be fully turned off without losing data.

4. Forecasting Models

Machine learning detects recurring patterns and seasonal trends tailored to your specific usage.
A hybrid model approach is used: ARIMA for linear trends, and decision trees for complex behavior.

5. Output and Recommendations

Hot water and energy consumption forecasts for the next 24 hours, 7 days, and 1 month.
Interactive dashboard in the app: plan vs. actual graphs, KPIs, and a summary of potential savings.
Automated recommendations: “Increase power to 80% from 6–7 AM”, “Reduce power to 30% from 2–4 PM”.

6. Integration and Reporting

API available for integration with smart home systems and utility providers.
Report export in CSV or PDF formats for analysis or accounting purposes.

With this analytics module, you gain more than just boiler control — you get a full-fledged intelligent planning system tailored to your lifestyle and local energy rates.
This feature is currently under development, and some functionalities may not yet be available.