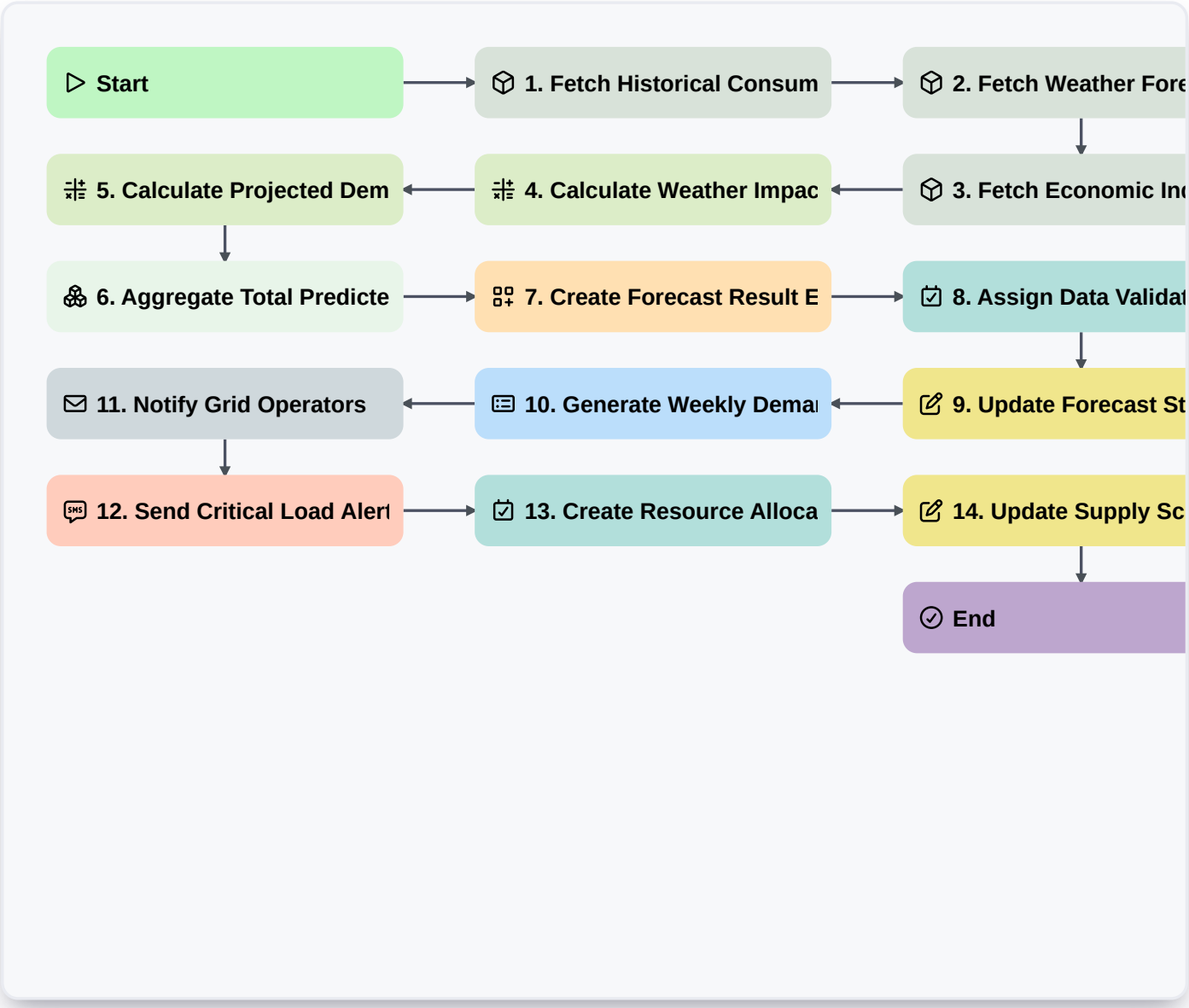
ChecklistGuro

Energy Demand Forecasting Process



Start
Start of the Workflow/Process.

1. Fetch Historical Consumption Data
Retrieve historical energy usage records from the Consumption Data Model for the specified period.

2. Fetch Weather Forecast Data
Retrieve temperature, humidity, and cloud cover predictions from the Weather Data Model.

3. Fetch Economic Indicators
Retrieve industrial activity indexes and GDP growth projections from the Economic Data Model.

4. Calculate Weather Impact Factor
Apply a coefficient to historical data based on temperature deviations in the forecast.

5. Calculate Projected Demand
Execute the core forecasting formula combining historical trends, weather factors, and economic weights.

6. Aggregate Total Predicted Load
Sum all individual regional predictions to calculate the total national/grid-wide demand.

7. Create Forecast Result Entry
Create a new record in the Forecast Results Data Model containing the calculated demand and metadata.

8. Assign Data Validation Task
Create a task for a Data Analyst to review the forecast for anomalies or outliers.

9. Update Forecast Status
Update the status of the Forecast Result entry from 'Pending' to 'Validated'.

10. Generate Weekly Demand Report
Generate a visual report comparing predicted demand vs. actual demand for the previous week.

11. Notify Grid Operators
Send an email to the Operations Team with the finalized demand forecast and any critical alerts.

12. Send Critical Load Alert
Send an SMS to the Emergency Response Lead if the predicted load exceeds the grid capacity threshold.

13. Create Resource Allocation Task
Create a task for the Supply Management team to adjust power generation schedules based on the new forecast.

14. Update Supply Schedule
Update the Power Plant Schedule Data Model to align production with the new demand forecast.

End
End of the Workflow/Process.