# Renewable Energy Forecasting for an Integrated Smart Grid

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**ABSTRACT:**

While modern grids increasingly make use of renewable sources of energy, their intermittent nature makes it essential to have a framework for integrating them with conventional sources. Accurate forecasting models for energy supply and demand will ensure grid stability, smooth scheduling and energy management. Scheduling algorithms will enable efficient distribution of energy thus minimizing wastage

Smart grids aim to achieve these aims by integrating real time sensors, storage systems and aforementioned algorithms to produce an automated system capable of efficiently switching between use of various sources by ramping their output up or down minimizing human intervention and error.

The model will forecast renewable energy outage for a certain duration of time, allowing the smart grid to seamlessly switch to the conventional energy source for that duration, taking into account their ramping periods and the need to minimize conventional energy usage.