

Forecasting Energy Consumption for a Global Consumer Goods Manufacturer

Our Client is a global manufacturer of consumer packaged goods. To maintain their status as an environmentally responsible and cost conscious manufacturer, it is becoming increasingly important for them to manage and reduce energy consumption across their regions. They looked to leverage familiar and reliable technology with robust statistical tools to accomplish this.

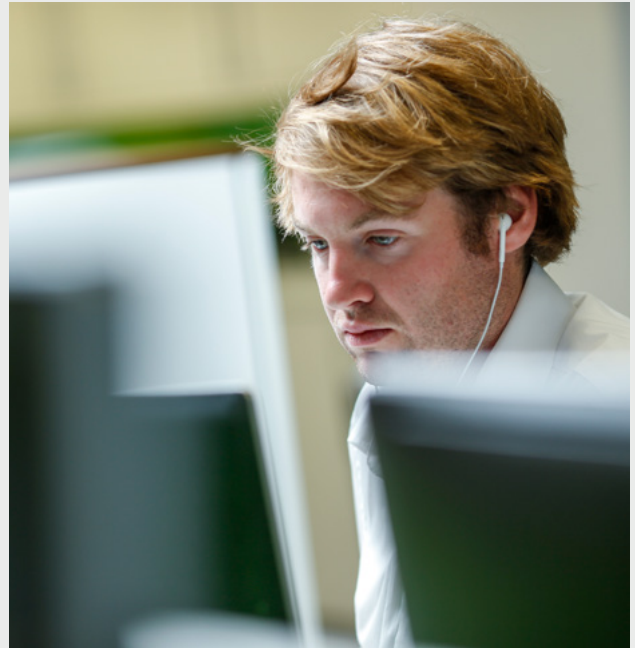


The Vision

Their vision was to create reliable, automatically generated energy forecasts by region to be used in conjunction with energy saving initiatives to set energy targets. The energy forecasts were previously created in Excel using few data points and requiring significant manual effort to create and share numbers. The new approach would be easily available for reporting in current front-end reporting tools and lend itself to future integration with other reporting applications. It would be flexible to allow for adjustments to the model to account for business scenarios such as volume plan changes or data lag.

Delivering the Vision

The technology used for the model and front-end is QlikView, the Client's reporting tool of choice, integrated with R for analytics capabilities. The integration significantly reduces manual efforts with a single button click required to run a fresh forecast. Since the application is built in QlikView alongside much of their other reporting, it leverages widely used and detailed data extracts to create a more reliable and robust linear model energy forecast in R. The integration also allows for 'one version of the truth' across applications, is available in a familiar and user friendly format, and allows for forecasted energy to be incorporated into other models. Further, the user is able to leverage QlikView's capabilities to write back data to files to perform 'what-if' analysis by adjusting volume plan data and re-running energy forecasts through R.



Next steps

The model is being re-examined to determine the feasibility of also including non-linear models to forecast energy in the application. There is also interest in integrating additional factors to the model including weather patterns and promotional cycles to improve the forecasts. With the forecasted data now readily available on the QlikView server, it will be integrated with other supply chain applications and reports. Eventually, the model could be expanded to forecast energy for more of the supply chain and not just manufacturing.