Script

* Intro 15s - Dheeraj
  + Relatable scenario
* Need for AI in energy industry 30s - Dheeraj Slide /2
  + Problem statement
* What SMART Power does 1 min – Dheeraj Slide 3

SMART power seeks to provide accurate short term electrical load forecasting to save money for customers as well as the people of Canada.

* Demo/Prototype – explain its implementation 3 mins /180s Slide 4
  + Login – Nathen 10s
  + Dashboard – outline UI – Nathen 35s
  + Model – Toggle model settings and submit (1 iterations) - Adam 30

Our approach to the model interface is that we wanted to extend personalization to the *customer.* So, we have implemented four layers of settings.

*The region* can be selected if they have a subscription purchased for its forecasting.

For the purpose of this demo we have integrated Toronto, Ottawa and Bruce Penninsula.

We’ve reviewed some of the **classical** metrics used to *measure forecasting accuracy* and allowed the customer to optimize the model **based** on their selection.

The Forecast horizon setting determines how far into the future the user wishes to *predict*.

This being a **short term forecast**, we designed the range to be within 24 hours.

The cost of using a larger forecast horizon is that there is *inherent error* the wider the range becomes, just for the user to always keep in mind as a cost-benefit.

The last setting is the *start time*, where the user would input the current and end timestamps to outline the range they wished to predict. We also intend to incorporate a historical functionality to allow reviewing trends on *past days.*

* + Forecast – graphs demand forecasts and overlays real data - Adam 80s

After submitting your model submission, we request our running webservice to obtain and pass the data to the webapp. The main chart shows SMART power’s **specialized** forecast, including a *diversified view* to allow the customer to know all the uncertainty before any kind of decision making on their end.

- and if they are only interested in a single *dataset*, the user can toggle any of them off at their leisure.

Now, a forecast is only as good as the model *itself*, so we’ve incorporated common metrics to provide insight.

Its strength can be identified through a colour combination of green yellow and red to distinguish from ideal to poor to make it easy for the user to know the validity of their model.

We believe in passing on as much information to the customer as possible so that they can make the most informed decision.

If the model’s not to the user’s *liking*, they can submit a re-run request. This is not an implemented feature in the prototype yet, but we believe it would be essential in any kind of final product.

Lastly, all the forecasting data can be exported to common file formats for analysis outside of the webapp.

* + Show Samples for Toronto, Ottawa and Bruce over 1 week – Adam Slide 5

Now, you might be thinking, that’s great that you can provide all this *data* but how accurate are the models that SMART power makes?

We tested forecasts over 7 days from April 4th -10th on a regional basis to show it outperforms the industry standard even during the variability of the COVID lockdown.

* + Model comparison

Our test for Ottawa, achieving a 2.7% error from the actual electrical demand which would’ve been classified as a strong performance on our webapp.

The testing continued to out beat the system operator for our other regions consistently

* Flow chart for architecture 30s - Nathen
* Business Model 2 mins
  + Value proposition 20 s - Nathen
  + Customers, Relationships, Partners 20s - Nathen
  + Revenue Streams 30s - Nathen
  + Cost Model 10s - Nathen
  + Financial Statements & Assumptions 40s - Dheeraj
* Next Steps 30s - Adam
  + Timeline

Moving forward, we believe a feasible amount of time needed to launch Smart power is 10-12 months

and in that time we would address company incorporation, acquiring our primary customer; the IESO, launching our official webapp on our domain, and automated model training.