

Describe analytics models and data that could be used to make good recommendations to the power company. Here are some questions to consider:

- The bottom-line question is which shutoffs should be done each month, given the capacity constraints. One consideration is that some of the capacity – the workers’ time – is taken up by travel, so maybe the shutoffs can be scheduled in a way that increases the number of them that can be done.
- Not every shutoff is equal. Some shutoffs shouldn’t be done at all, because if the power is left on, those people are likely to pay the bill eventually. How can you identify which shutoffs should or shouldn’t be done? And among the ones to shut off, how should they be prioritized?

Think about the problem and your approach. Then talk about it with other learners, and share and combine your ideas. And then, put your approaches up on the discussion forum, and give feedback and suggestions to each other.

You can use the {given, use, to} format to guide the discussions: Given {data}, use {model} to {result}.

To predict nonpayers:

Given {customer data - payment history, socioeconomic information, etc.}, use {logistic regression} to {identify which customers have a low probability of paying, so the company will target those customers}.

Scheduling shutoffs with capacity constraints:

Given {predicted likelihood of nonpayment, location, and worker capacity data}, use {an optimization model} to {best plan out shut offs while maximizing the number of nonpaying customers to shut off within the capacity of the company and minimizing how far the workers must travel}.

Best routes for workers:

Given {locations of customers for shutoff}, use {a common network model} to {reduce travel time}.

Combining it all:

Given {the outputs of all models above}, use {a combined framework} to {create a final schedule for the power company that lists the optimal shutoffs for each month, improving their efficiency and shutting off the proper customers}.