



THE STATE OF ALASKA
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Questions Submitted by Senator Hughes

Senator Hughes. What are your population amounts for a “small town”? [This question references a slide which indicated that a “small town” utilizes 1 MW of electricity]

Dr. Ashley Finan. Simplistically speaking, the average American household uses 1 kW of electricity, so a 1 MW supply could power up to 1,000 homes.

Using a reasonable assumption that a typical household uses 7.2 MWh per year (using a non-electric heating system) and a 1 MWe reactor with a 90% capacity factor produces 7,889 MWh per year, 1 MW would power up to roughly 1,000 homes. However, this is a highly stylized statistic since you have variation in demand through the day (which could be managed through storage) and you would rarely choose to have just one primary generation source; in reality, you might have an integrated system with solar, wind, or other sources.

In conclusion, a number between 500 and 1,000 households is a reasonable range. A proper analysis would need to be customized to the town, its load profile, and other generators of power.