Long Term Vision

‣ Cell phone tower (2kW):
  – Power needs include reliable startup and running on hydrocarbon, likely propane.

‣ Residential (few kW):
  – Leverage CHP, assuming exhaust temp is at least sufficient for water heating.
  – Needs to run on NG and needs integrated reforming.
  – Variability of NG an issue. Would run continuously and feed grid when not needed for home power.
  – Consumer Acceptance could be an issue.

‣ Community (100 kW):
  – Advantages of integrating over a load distribution.
  – Felt to be more beneficial to the grid (power providers).
  – Easier to standardize and acceptance (other than cost) less of an issue.
Additional Attributes and Technology Needs

- Fuel flexible - at least the reformer module must be.
- Hybrid generation and storage perhaps but storage probably only a small fraction of generation capacity.
- Perhaps reversible.
- Component and feature developments needed: membrane, catalysts, material development, microstructural development, glass seals, anode, cathode, and electrolyte, electrode reforming