

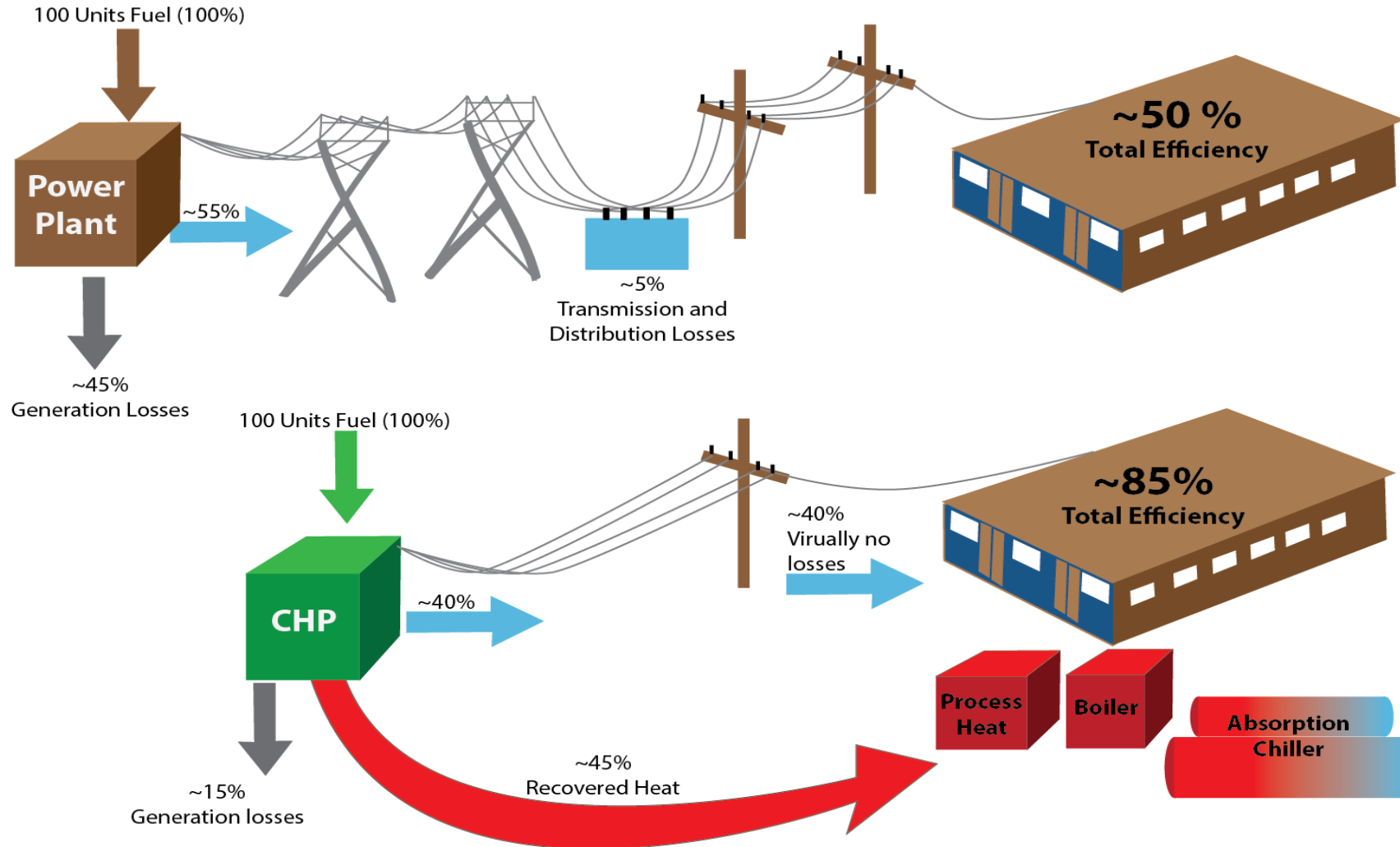
# Energy Creativity

Greg Northrup, Sustainable Partners

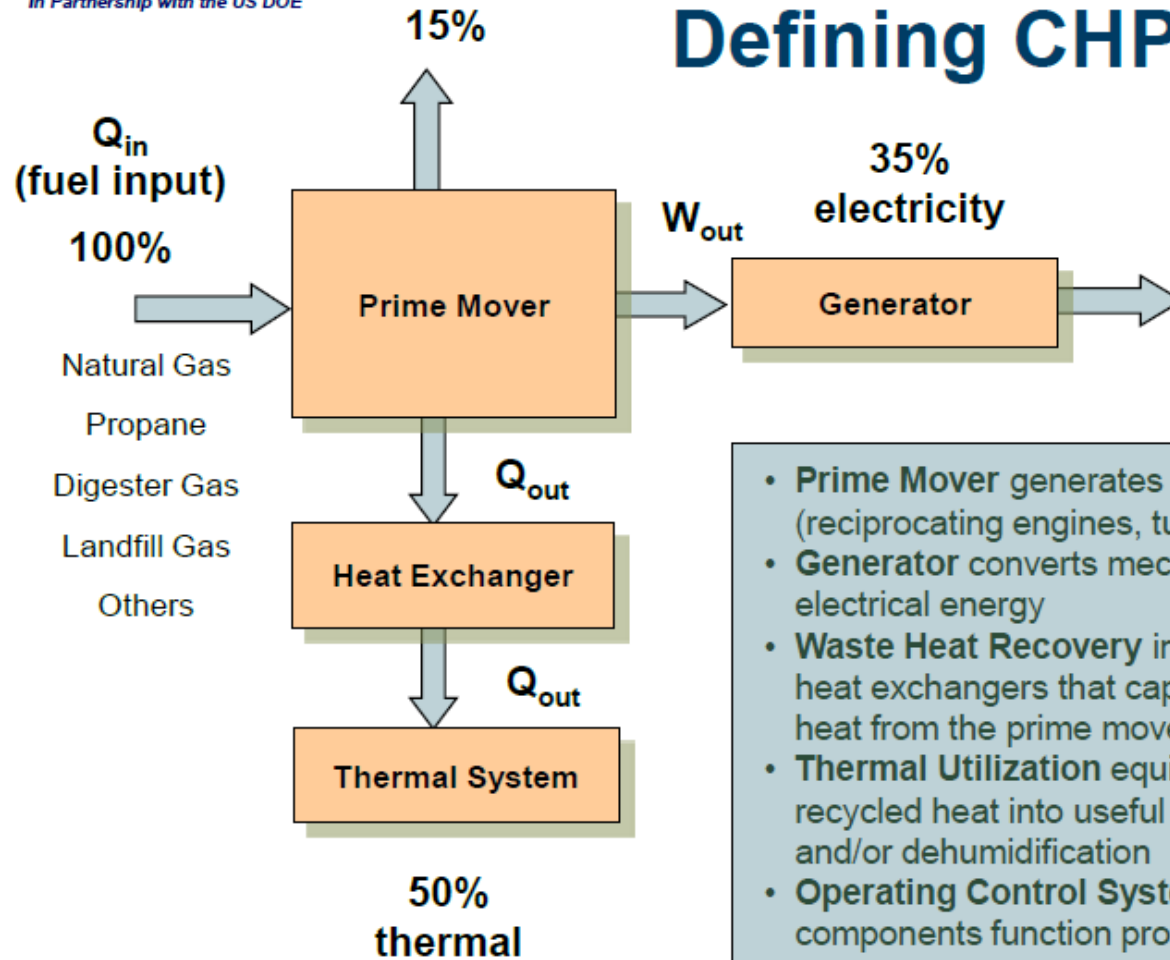
# Agenda

1. Why talk about energy?
  - a. Controlling costs
  - b. Improving reliability
  - c. Proven technology
2. A short primer on CHP and its benefits

# CHP Energy Efficiency

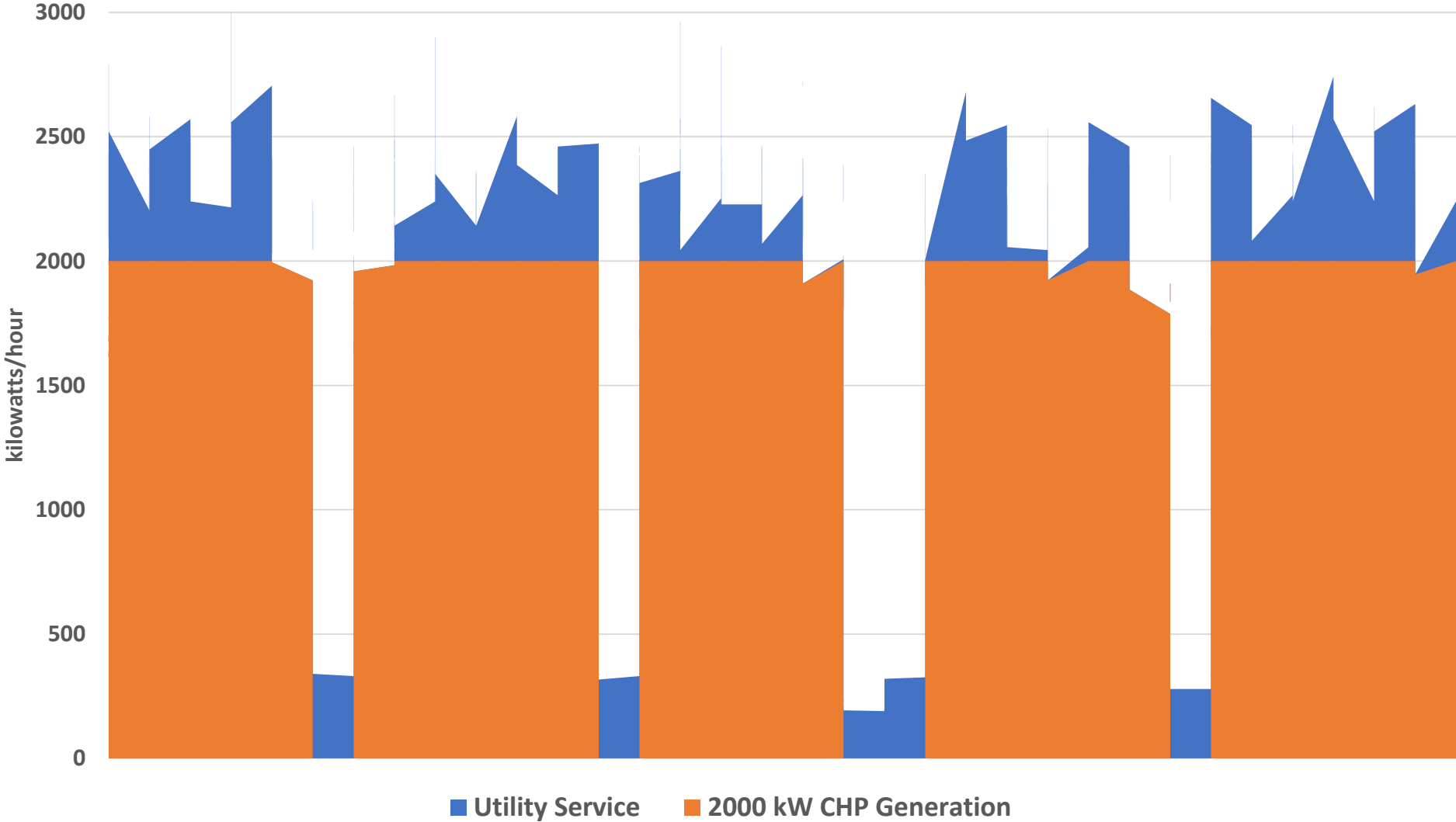


## Defining CHP Concept



- **Prime Mover** generates mechanical energy (reciprocating engines, turbines, fuel cells)
- **Generator** converts mechanical energy into electrical energy
- **Waste Heat Recovery** includes one or more heat exchangers that capture and recycle the heat from the prime mover
- **Thermal Utilization** equipment converts the recycled heat into useful heating, cooling, and/or dehumidification
- **Operating Control Systems** insure the CHP components function properly together

# Sample CHP Performance Profile (5-weeks)



# CHP Screening Questions

1. Do you pay \$500,000+ for electricity per year?
2. Does your facility operate for 6,000+ hours per year?
3. Do you have significant thermal loads throughout the year (including steam, hot water, chilled water, hot air, etc.)?
4. Are you concerned about the impact of current or future energy costs on your business?
5. Are you concerned about power reliability? Is there a substantial financial impact to your business if the power goes out for 1 hour? For 5 minutes?
6. Do you anticipate a facility expansion or new construction project within the next 1-5 years?
7. Have you already implemented energy efficiency measures and still have high energy costs?

If you can answer yes to any 4 of these questions we should chat!

# PIVOTPOINT

Breakaway Thinking for Advancing Manufacturing

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