Direct Use of Natural Gas: A State’s Perspective
Natural Advantages

• Applications for Natural Gas are based on three advantages

  ✓ Precise energy value
  ✓ Availability (both supply + delivery)
  ✓ Price
Comparing Residential Water Heater Efficiency*

**Natural Gas**
- Energy Cost*: $275 (annually)
- Full-Fuel-Cycle Energy Consumption*: 26.2 MMBtu (annually)
- CO₂ Emissions*: 1.5 tons (annually)

**Electric Resistance**
- Energy Cost*: $576 (annually)
- Full-Fuel-Cycle Energy Consumption*: 49.8 MMBtu (annually)
- CO₂ Emissions*: 2.9 tons (annually)

* on average

Source: American Gas Association
Why Cost Matters

• 38% of American workers earn less than $20,000 (Source: Social Security Administration)
  o Federal Poverty Level – $24,300 for family of four

• Only 62.7% of noninstituional adults are employed (Source: Bureau of Labor Statistics)
  o 101.8 million adults do not have a job (Jan. 2016)

• Energy is the #2 cost for the average household (Transportation + Household)
Where The Money Goes

Average annual energy bill for typical single home

Source: Lawrence Berkeley National Lab via Energy Star
Household Specific Applications

- Natural Gas excels at creating heat
Household Specific Applications

- Natural Gas excels at creating heat
  - Space Heating
  - Water Heating
  - Cooking
  - Clothes Drying
Where The Money Goes

Average annual energy bill for typical single home

- **Heating**: 29%
- **Cooling**: 17%
- **Water Heating**: 14%
- **Appliances**: 13%
- **Lighting**: 12%
- **Electronics**: 11%
- **Other**: 4%
- **Other***: (includes external power adapters, telephony, set-top boxes, ceiling fans, vent fans and home audio)

Source: Lawrence Berkeley National Lab via Energy Star
Commercial Applications

- Same general applications as residential
- Large users include:
  - Restaurants
  - Dry Cleaners
  - Hotels
  - Hospitals
CPP Compliance

- Large potential growth in electric demand
  - Information Technology and personal electronics
  - Reshoring of U.S. Manufacturing
  - Electrification of the US Transportation Sector
CPP Compliance

• The Transportation sector consumes 31% of all US Energy production
  
  o Residential & Commercial energy use each ~17%

• 93% of Transportation energy from Petroleum

• Growth in electric demand can make compliance more difficult
Natural Gas Compliments Electricity

• Natural Gas excels at providing heat
  o More efficient than resistance heating (electric)

• Infrastructure already in place for large number of consumers

• Mitigates some demand on electricity production
Summary

- Benefits Consumers
- Extremely efficient source of heat
- Compliments Electrification and CPP plans