There are two paths to go by, but in the long run; there is still time to change the road you are on!

(Credit: from the Led Zeppelin song “Stairway to Heaven”)

Roads signs by:
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There are two paths to go by, but in the long run; there is still time to change the road you are on!

- Utility Incentives
  - Do they really do anyone good; or just raise the price to the consumer?

- Manufacturer Rebates
  - Why would a manufacturer extend discounts?

- Contractor Discounts
  - Is the trade (HVAC/R) that slow?

- Federal Tax Credits
  - Tax Credits expire at the end of 2016 for our industry!
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- Consider where we wish to be.
- Start from an end (i.e., end 1, end 2, then end final); not at the beginning, where we are at now.
- Plan back to the beginning!
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What are other industry associations doing?
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- What are electric utilities thinking about the future?

- Three Perspectives
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What is this 3.23 increase all about?
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Energy consumption in homes by end uses
quadrillion Btu and percent

1983

24.0%

18.3%

4.6%

Total 10.01

53.1%

2009

34.6%

17.7%

6.2%

Total 10.18

41.5%

space heating  air conditioning  water heating  appliances, electronics, and lighting
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Energy consumption in homes by end uses
quadrillion Btu and percent

1983
- Total 10.01
- Space heating 53.1%
- Air conditioning 24.0%
- Water heating 18.3%
- Appliances, electronics, and lighting 4.6%

2009
- Total 10.18
- Space heating 41.5%
- Air conditioning 34.6%
- Water heating 17.7%
- Appliances, electronics, and lighting 6.2%

Energy in the form of BTUs
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- Utilities
  - The crossroads
- Power supply
- The Internet of Everything (IoE) and/or Internet of Things (IoT)
- Power is about being a “Battery”
- Workforce in the Utilities today—well it looks like me—gray hair!
- Trust in the utility should allow us to move towards ENERGY EFFICIENCY!
- So how do you sell a NEGAWATT? Demand & usage reductions; and site sourced and stored energy.
  - **If one directly uses site sourced BTUs to condition space and heat water it eliminates Watts (and MCFs).**
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• What is happening around us:
  • In Oklahoma consider SB 1456 (passed and signed)
    • Directs the OCC (PUC) to establish a rate based tariff for residential installation of solar PV to be paid to the utility
  • In the U.S. the IRS has been asked to consider that solar PV net metering pay gross income on the net metered......
  • The GHEX is not subject to the above!
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• A suggestion: Energy efficiency and renewable energy are the pillars of any sustainable energy policy.
• In the U.S. the GHEX is best positioned to build on the pillars!
• The GHEX moves heat (Q); space conditioning and water heating are in BTUs--not MCFs or kWs.
• Our industry does not burn MCFs or use electrical power at 33% efficiency!

• Higher first cost is STILL the barrier!
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Inside the box for space heating, air-conditioning and water heating.
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- Operating lease
- Capital lease
- Debt
- Thermal Services Agreement
- 3rd party ownership with easement of record
- Limited Partnership funding
- On-bill payments
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- Rate based tariff with easement of record
- On-bill payments for 3rd party funding
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• Questions and Comments?