GEOEXCHANGE PROFESSIONAL GUIDELINES OFFER

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Well… there are “those rumours”!

- Two studies support “those rumours”:

1. GeoExchange BC study (18 sites):
   - ~5% perform in line with industry claims
   - ~50% perform better than conventional systems
   - ~25% perform on par with conventional systems
   - ~20% perform worse than conventional systems

   - 95% do not meet industry claims

2. Electric Power Research Institute (EPRI) US study:
   - mirrors GeoXBC study results
The Power Smart Perspective – Implications

• New system concerns:
  - improper design and installation – customer’s system / grid impacts
  - additional back-up energy required – customer cost / bill impacts
  - power factor implications – customer cost / bill impacts
  - BC Hydro infrastructure upgrade – customer cost / ratepayer impacts

• Retrofit system concerns:
  - fuel switching to electricity – unknown loads / grid impact
  - BC Hydro Tariff compliance – 15kW or 20% increase to be vetted by BCH
  - BC Hydro infrastructure upgrade – customer / ratepayer impacts
  - customer electrical load increases – customer bill impact
However…

• BC Hydro is conditionally supportive; if geoexchange is:
  - designed | procured | installed | commissioned | controlled

PROPERLY!

• For geoX success, customers must recognize the need to:
  - Engage the right people
  - On the right scope of work
  - At the right time
Geoexchange market share in Commercial/Institutional Sectors will increase

Power Smart Engineering views geoX to be:

- a core technology for near net zero buildings in the future
- as recognized in the new international outcomes-based green building code
- flexible in application and purpose
- a better way to apply high-quality (Exergy) electricity to thermal loads
Power Smart’s Indirect Program Support

• Power Smart provides study and incentive funding in two programs (indirect support for geoX):

  ❖ **New Construction Program**
    ➢ air to water heat pump baseline (NCP Energy Modeling Guideline)
    ➢ modelled with all building systems to achieve maximum savings
    ➢ minimum 50,000 kWh savings required, over baseline
    ➢ BCH pays up to 100% of study cost (ECM bonus)
    ➢ BCH pays on incentivizable kWh savings

  ❖ **Power Smart Partner Program** (retrofit)
    ➢ electric to electric – existing system is baseline w/geoX proposed
    ➢ other fuel to electric – non-incentable
    ➢ minimum 50,000 kWh savings required, over existing
    ➢ BCH pays up to 50% of study cost
    ➢ BCH pays on incentivable kWh savings
When considering a geoX solution, we want customers to:
- be able to ask the right questions
- know where to get the right answers

So...

In partnership with GeoExchange BC, Power Smart will:
- provide you a hard copy of the GeoExchange BC “User Guide” today
- provide you geoX advisory support through Gordon Monk
- support potential geoX projects, qualified by Gordon Monk, by referring you to GeoExchange BC for a FREE electronic copy ($199 Value) of the bundled set of professional guidelines.
Thank-You!

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