Tri-Generation: Power-Heat-Cooling for Homes, Independent of the Grid

• WADE DistribuGen Conference 2015
A Power System that...

... is 2 to 3 times as efficient as the utility grid power
And capable of ...

Generating All of...

Power  Cooling  Hot water and space heating
What if it could.. provide...

- 3 Levels of Power Redundancy
- Whole Environment Uninterruptable Power Supply (UPS)
- Whole Environment Surge and Spike Protection
Interconnect to ...

The Utility Grid

Creating intelligent mini-grids capable of sharing power and sourcing power using the path of least resistance

Other Systems
What if it could …

do ALL this…

At the price of a High End High Efficiency Central Air Conditioning System or An equivalent whole house Standby Generator.
PowerAire

• 6-8 kW of Electrical Power
• 5 tons of Thermal Power
  • Space Heating
  • Hot Water
  • Pool, Dehumidification, Hot Tub, Dryer, Greenhouse
• 5 tons of Cooling Power
• UPS Batteries
• On or Off Grid
• Compatible with Renewables
• Fully Addressable
• Peer to Peer Communication
Breaking News!!

• M-CoGen is now M-TriGen
• As of April 7, 2015 M-TriGen’s PowerAire received ETL Certification for UL, ANSI, CSA, CGA conformance
Distributed Grid Technology

• The PowerAire unit from M-TriGen provides a platform from which to build the distributed grid while facilitating the application of renewable energy sources and utilizing an 85% efficient uninterruptible power from a primary fuel source.

• PowerAire could become the PC of a distributed power network.
What Are the Implications of the M-Trigen Technology for the Distributed Grid?

- For the Wholesale Power Provider
  - Allows for Organic DG Growth
  - Low Investment Cost
  - Higher Level of Security
  - More Reliability
  - Greater Resiliency
• Superior Power Delivery
  • M-TriGen system load is managed at the point of production with redundancy.
• Capacity to Aggregate Excess Power Production from Multiple M-TriGen Units.
• Ability to Communicate Peer-to-Peer among other M-Trigen units facilitating virtual Mini-Grids
• For Retail Power Providers
  • Provides a Mechanism to Manage Power Generation Costs
  • Promotes Customer Loyalty through Long Term Contracts
  • Facilitates the Capture of Occupant Behavior Data
  • Increases Service Revenue Opportunities with Long-Term Maintenance Contracts
The Consumer receives numerous Benefits from a Distributed Grid using M-TriGen’s PowerAire System:

- Uninterruptable Power Service
- Back-Up Power
- Care Free Service
- Green Alternative
- No Sacrificing of Power Quality or Price
NRG Energy CEO --- David Crane
Home-Generated Power 'Mortal Threat' to Utilities

"All the natural-gas industry needs is a gizmo in your house to convert natural gas into electricity,"

March 21, 2013, 12:57 p.m. ET
Manufactures that GIZMO!