

## PLMA GIWH Interest Group Report

During the recent PLMA Conference in Atlanta, the GIWH Interest Group had the opportunity to formally introduce itself and its mission to the PLMA board as well as to the conference attendees. Immediately following the conference, the Interest Group held an informational meeting followed by a post-conference workshop entitled “The Emerging Market for Grid-Interactive Electric Water Heating”. With 30 interested and animated participants, the GIWH workshop heard from those utilities and technology providers at the forefront of the GIWH market – see attached agenda.

Following the workshop, there was a period of open discussion on the topic of future pro-active efforts designed to raise the visibility of the GIWH opportunity while utilizing the Interest Group structure to facilitate information sharing and market development activities. Suggestions included but were not limited to:

1. Organize a ½ day PLMA GIWH web conference with the same subject, format and speakers as the workshop. Note: PLMA has scheduled a DR Dialogue session for Nov. 21 with Gary Connett, GRE and Steve Koep, Vaughn as speakers.
2. Organize a pre-conference GIWH workshop in conjunction with the upcoming PLMA Spring Conference in Denver.
3. Introduce the GIWH Interest Group to the attendees of the ACEEE Hot Water Forum
4. Identify barriers to market acceptance of GIWH technologies, programs, etc.
5. Initiate a series of PLMA GIWH white papers to address identified barriers
6. Promote the GIWH concept at the regulatory level; Interact with NARUC, regulators, PUCs, etc.
7. Initiate a series of Case Studies on GIWH demonstration projects, pilot projects, lab results, etc.
8. Work with ESource on the development and dissemination of a GIWH Report
9. Introduce and develop a GIWH efficiency narrative as it relates to the difference in transmission losses during peak periods versus off-peak periods
10. Draw attention to the amount of curtailed/unused renewable energy on a national and regional basis. Initiate a dialogue with AWEA and SEIA on the subject.
11. Work with PJM, Battelle and others on the modeling of grid-scale applications of GIWH technology and the valuation of ancillary services.
12. Promote the market transformation impact of large-scale water heater rental programs.
13. Consider the strategic application of GIWH resources in response to localized grid conditions.
14. Work with the PLMA Board on the specifics of a GIWH advocacy plan.

The PLMA Grid-Interactive Water Heating Interest Group was an active topic of conversation at the ACEEE Hot Water Forum, Nov. 3-5, at the same hotel in Atlanta. Several of the post-conference workshop speakers stayed over or returned for the event. The Hot Water Forum included 3 Grid-Interactive Water Heating sessions – 2 sessions (organized by PLMA) were a repeat of the GIWH Workshop, while the 3<sup>rd</sup> session pertained to the addition of grid-interactive functionality to electric HPWHs. The GIWH sessions were attended by several major water heater manufacturers (AO Smith, GE, HTP, Rheem) who were interested to learn of the GIWH market development efforts underway at PLMA. Going forward, the GIWH-IG will be reaching out to manufacturers and utilities alike, particularly those who are already members of PLMA, in an effort to move GIWH methodology from the demonstration phase to MW scale implementation. **“Come on in, the water’s fine!”**

## October 31, 2013 PLMA Post-Conference GIWH-IG Workshop

# Come On In, The Water's Fine!

## The Emerging Market for Grid-Interactive Electric Water Heating

On Thursday, October 31, 2013, the PLMA Grid-Interactive Water Heating Interest Group (GIWH-IG) will conduct a workshop entitled "The Emerging Market for Grid-Interactive Electric Water Heating". The workshop will be open to attendees of the PLMA Fall conference at no additional charge and will be open to interested parties for a nominal fee. Grid-Interactive Water Heating (GIWH) is the emerging consensus term describing real-time, two-way communication between the GIWH appliance and the Smart Grid, electric utility, ISO or aggregation entity. When equipped with a GIWH control, a large-capacity (80+ gallons) ETS (Electric Thermal Storage) water heater can respond to near real-time input by enabling fast up and down regulation and frequency control for the purpose of providing ancillary services and renewable storage to the utility or grid-operator. The agenda for the ½ day workshop is as follows:

### Session 1 - Presentations/Speakers:

- Change the Technology or Change the Source Energy - Gary Connett, Great River Energy, Chairman – PLMA GIWH Interest Group (GIWH-IG)
- Grid-Interactive Electric Thermal Storage Water Heating – Paul Steffes, Steffes Corp.
- Collaboration to Competition – GIWH Market Development; Steven Koep, Vaughn Thermal Corp.

### Session 2 – Presentations/Speakers

- Waivers Vs. Classifications, DOE and the US Congress – Panel Discussion
- Modeling of MW-Scale GIWH Technology Applications – Eric Rehberg, Battelle Memorial Institute; Dan Flohr, Sequentric Energy Systems
- Evaluation of GIWH Technology Applications – Harshal Upadhye, EPRI

### Session 3 – Presentations/Speakers

- Water Heating & Demand Response at TVA – Bill Jackson, TVA (confirmed)
- Renewable Integration Utilizing GIWH Technology – Bill Kallock, Integral Analytics (confirmed)
- GIWH - The Way Forward – Closing Panel Discussion

The PLMA Grid-Interactive Water Heating Interest Group (GIWH-IG) has been formed to provide the platform for information sharing and participative market development efforts in order to move GIWH technologies from pilot project to market introduction. Plan to join us for this highly informative workshop to learn more about Grid-Interactive Water Heating and its potential for carbon reduction, renewable storage and grid-optimization.

**"Come on in, the water's fine!"**

## PLMA Grid-Interactive Water Heating Interest Group

**Mission Statement:** The PLMA Grid-Interactive Water Heating Interest Group (GIWH-IG) provides a focused platform for information sharing and market development efforts in support of wide scale implementation of grid-interactive electric water heating technologies. Grid-Interactive Water Heating (GIWH) is the consensus term describing high-speed, two-way communication between the electric water heating appliance and the electric utility, balancing authority, independent system operator or aggregation entity. When equipped with a grid-interactive control device, a large-capacity electric thermal storage (ETS) water heater becomes a ‘thermal battery’ for storing electric energy, having the ability to follow locational marginal pricing, providing fast regulation service and better integrating renewable energy, thereby effectively reducing the carbon footprint of the appliance.

The GIWH-IG is dedicated to bringing the economic, environmental and societal benefits of grid-interactive electric water heating to end-use electric customers.

**About the Peak Load Management Alliance.** The Peak Load Management Alliance (PLMA) was founded in 1999 as the national voice of demand response practitioners. It is a non-profit organization dedicated to the principles of demand side management, load shaping, and the integration of energy efficiency and demand response. Its membership represents a diverse collection of utilities, curtailment service providers, service and technology companies, industry consultants, and consumers. PLMA strives to be an advocate of critical energy management initiatives – providing a community of expertise within a rapidly changing energy landscape. Details at [www.peaklma.org](http://www.peaklma.org).

*Media Contact: Ed Thomas, Executive Director, PLMA; phone (707) 652-5333 or email [ethomas@peaklma.org](mailto:ethomas@peaklma.org)*