Smart Grid Northwest™

GRIDWISE Architecture Council

Call for Papers

TES 2017

THE 2017 4TH INTERNATIONAL TRANSACTIVE ENERGY SYSTEMS CONFERENCE AND WORKSHOP

"MAXIMIZING YOUR VALUE: WHAT CAN TRANSACTIVE ENERGY SYSTEMS DO FOR YOU?"

Portland, OR
June 13 – 15, 2017

Submit abstracts to: gridwiseac.coordinator@pnnl.gov

Abstract Submission Deadline: February 28, 2017

The GridWise® Architecture Council will convene the Fourth International Conference and Workshop on Transactive Energy Systems in Portland, Oregon, on June 13 - 15 2017.

The theme for this year's conference will be "Maximizing your value: what can transactive energy systems do for you?"

Location:

World Trade Center, 121 SW Salmon Street, Portland, OR 97204

Date and Times

- *June 13, 2017 (8:00 AM to 5:00 PM)*
- *June 14, 2017 (8:00 AM to 5:00 PM)*
- *June 15, 2017 (8:00 AM to 4:00 PM)*

Submission Process

Abstracts for papers should be submitted no later than **February 28, 2017**. Email the abstract to gridwiseac.coordinator@pnnl.gov

Please review the Subject Areas, and Topics for Panel Sessions and Workshops described below and clearly indicate those that are most aligned with what you have selected for the basis of your talk.

Abstracts should be no longer than 500 words.

Subject Areas

Abstracts for papers are being sought to address transactive energy methods and systems in three tracks: Electric Grid, Buildings and Facilities, and Grid Integration. We plan to organize the presentations into these three tracks, plus some sessions specifically geared for the NIST TE Challenge work:

- Real World Challenges
- Areas for Standardization
- TE in Practice
- NIST Transactive Energy Challenge Summit

In addition, it is anticipated that papers will also be classified by the four main categories from the TE GWAC Framework. Therefore, the conference will address not only the main areas of the Transactive Energy Framework, but also will align with the GWAC Transactive Energy Roadmap, which will be available soon. By aligning challenges, areas for standardization, and feedback from existing implementations with these topics, we intend to link examples from Regulatory and Policy, Business Models and Value Realization, System Design and Architecture, and Physical and Cyber Technologies and Infrastructure from one track to another.

The panel sessions will be followed by facilitated workshop sessions for in-depth discussions of the panel topics and presentations. Examples of the questions that may be asked during the workshop sessions are provided below to guide in preparing abstracts.

Some abstracts may be selected for plenary panels. GWAC has a strategic focus on interoperability in electric grids. Therefore, authors should, if possible, include discussions of the roles of requirements and standards for interoperability as they relate to Transactive Energy Systems in their submittals.

Topics for Panel Sessions & Workshops

Real World Challenges

Over the last few years transactive energy systems have moved from a topic of academic discussion to panel sessions at most energy conferences. We are seeing growing interest from regulators, utilities, and third parties. Among the questions that people pose are how does this impact me? Or what problems can this help address? Or I can see a use for this approach, but when should I start preparing to use it? This track will focus on real world changes and challenges to the electric infrastructure, and will set the context for the conference by focusing on problems that need to be addressed.

The following is a sample of relevant questions to address for this track:

- Regulatory and Policy
    - At what level of DER penetration should we be asking our utilities to start testing these approaches?
    - Do the existing regulations support Transactive Energy Systems?
    - What would be the implications of not having all states participate in a multi-state Transactive Energy System?
    - What would be the main differences to consider in designing a Transactive Energy Systems for multi-state or single state deployment?
    - How would regulations balance the obligation to serve all customers with a Transactive Energy market?

- Business Models and Value Realization
    - Who makes money from Transactive Energy Systems and how are the benefits measured and valued?
    - What grid (or other) parameters provide good leading indicators that can be monitored to indicate that establishing Transactive Energy Systems would be beneficial?
    - Who pays the cost for deploying and operating a Transactive Energy System?

  - Opportunities for new business models and markets
  - How will the value associated with the objectives be quantified and monetized?
  - What cost-justifications can Transactive Energy Systems provide for building managers?
  - What types of challenges are transactive energy systems best suited?

- System Design and Architecture

  - What are the current options for deploying a Transactive Energy System?
  - Are there different approaches and how do they vary?
  - How long does it take to implement a Transactive Energy Systems?
  - In what areas might new standards be needed to implement Transactive Energy Systems?
  - What is the relationship between the value of a transactive energy system from an operational perspective and a long-term planning perspective?

- Physical and Cyber Technologies and Infrastructure

  - How do Transactive Energy Systems integrate and interoperate with my existing grid?
  - Who is responsible for operating a Transactive Energy System?
  - What is the interface to any existing markets?
  - What automation is required/available to support participants?
  - In what ways (if any) do Transactive Energy Systems change or impact customer data provisions from privacy or other perspectives?

Areas for Standardization

This track provides a logical progression from the challenges facing the industry. Since temporary solutions or pilot systems often become long term solutions, the objective here is identify areas of standardization where:

- Different approaches to Transactive Energy Systems can converge
- Existing standards can be adapted to Transactive Energy Systems,
- There are common challenges amenable to common approaches and standards, and
- Vendor support and sharing of best practices would develop.

These areas will be classified in the same way as the other tracks, recognizing that there are benefits to common approaches from regulatory requirements, system design and so on. Papers submitted to this track should focus on an area of potential benefit that standardization would provide to one of the following areas:

- Regulatory and Policy
- Business Models and Value Realization

- System Design and Architecture
- Physical and Cyber Technologies and Infrastructure

Transactive Energy Systems in Practice

This track will offer practical perspectives from transactive energy systems that have been implemented already. Papers are encouraged that address each of the four areas below:

- Regulatory and Policy
- Business Models and Value Realization
- System Design and Architecture
- Physical and Cyber Technologies and Infrastructure

This should be done by explaining:

- What challenges the systems were created to address,
- How Transactive Energy Systems were presented to and embraced by utilities, service providers, vendors, and customers,
- What areas caused the most challenge, and
- Which issues (design, rules, financial, technology etc.) could have been improved and made more effective had some form of standardization been in place

Additional Information

We expect conference attendees to include regulators, policy makers, utility managers, system implementers, researchers and academics. We are encouraging a broad interchange of ideas to facilitate the further development of transactive energy methods and systems within the electric power, energy management and related communities. The perspective for discussion is described in various GWAC publications including the Interoperability Context-setting Framework document, the Transactive Energy Framework, the GridWise Transactive Energy Decision Maker's Checklist, and a Transactive Energy Info-graphic available at:

www.gridwiseac.org/about/publications.aspx

At TES2017 we will again provide an opportunity for vendors to exhibit transactive energy systems products.

NIST Transactive Energy Summit

The NIST TE Challenge is working to advance modeling and simulation for Transactive Energy while working with industry stakeholders to better understand Transactive Energy and how to implement it. The National Institute of Standards and Technology (NIST) in collaboration with the GWAC and others has established the Transactive Energy Modeling and Simulation Challenge for the Smart Grid ("TE Challenge") as a means to bring together researchers and companies with simulation tools to collaborate with utilities, product developers, and other grid stakeholders to create and demonstrate modeling and simulation platforms while applying Transactive Energy approaches to real grid problems.

In Phase I of the Challenge participants worked to create a Co-simulation Framework with extensible Component Model, canonical experiment/simulation and core analytics. These are the building blocks on which Phase II simulation efforts are being built. In addition, teams are working on advancing our understanding of business and regulatory developments, microgrid implementations, and Transactive Energy standards. The goal is to provide technical results to guide utilities, regulators, and legislators in applying Transactive Energy. Following last year's successful TE Challenge Summit (TESC 2016), NIST will convene a TE Challenge Summit as part of TESC 2017 to provide participating teams the opportunity to present their work and successes.

While teams are encouraged to submit abstracts to any of the tracks according to the nature of their efforts and results, abstracts are also encouraged describing their activities as a participant in the TE Challenge. The products of the challenge will help the industry better understand the potential for transactive energy and create a path for real-world trial implementations and this track is to assure that all TE Challenge teams have the opportunity to present their work.

To submit your Abstract please complete the following no later than Feb. 28, 2017:

1-Review the Subject Areas, and Topics for the Panel Sessions and Workshops.

2-Develop an abstract – 500 words or less

3-Clearly indicate what Topic you have selected as the focus of the paper

4- Submit the abstract on the Transactive Energy Conference 2017 web site or submit the abstract to gridwiseac.coordinator@pnnl.gov no later than February 28, 2017.

5-Ensure the submission contains contact information where you can be reached.