



BPA Energy Efficiency:

BPA E3T Technical Advisory Group: IT TAG (In-Building Data Centers)

September 16, 2013

Purpose

In 2008, the Bonneville Power Administration's (BPA) Office of Technology Innovation and Office of Energy Efficiency launched the Energy Efficiency Emerging Technologies program (E3T). The goal of E3T is to establish an ongoing collaborative effort to "fill the pipeline" of new utility programs with innovative energy efficiency solutions and technologies that promise significant region-wide energy savings.

The process uses Technical Advisory Groups, or TAGs, to help scan, screen, and score the most promising technologies, which are then formally assessed by BPA for the benefit of its customers: publicly owned utilities throughout the Pacific Northwest region. Past TAGs in the areas of lighting, HVAC, and energy management have recommended measures for further consideration by BPA.

The scope of the new In-Building Data Centers (IT) TAG is described here.

Defining In-Building Data Centers

This TAG is looking at small- to mid-sized data centers that are located in multi-use buildings. The TAG will focus on at least three basic areas of in-building data centers:

- "Provisioning" (i.e., software and hardware IT solutions), including network management and peripherals such as terminals and printers;
- HVAC and energy management; and
- Power supplies and electronic distribution.

The IT TAG will *not* address:

- Large, stand-alone data centers and server farms, such as those owned and operated by Microsoft, Google, Intel, and Amazon.
- Telecommunications and related infrastructure, except for computer network-related telecom equipment within a multi-use building.

The IT TAG *may* include:

- Medium to large data centers and equipment serving a large campus (e.g., university) that may be contained in a dedicated building but may not rise to the level of a Microsoft or Google server farm.

The IT TAG probably will not include:

- Copiers or related electronic office equipment. This type of equipment will only be included to the extent that it is integrated into the computer network.
- Mobile devices. This type of equipment will only be included to the extent that they are integrated into the computer network.

Logistics

The IT TAG will be composed of experts on various aspects of data center energy efficiency from across the Northwest, as well as selected experts from outside the region. The group will be comprised of 6 to 15 members and include experts from utilities, industry, and other key entities. TAG members' expertise may include HVAC and energy management for IT, software and hardware, power supplies and electronic distribution, manufacturing, and codes, as well as market acceptance and electric utility conservation program issues.

Participation in the IT TAG is voluntary; BPA will not provide monetary compensation for participation. Meetings will be web-enabled conference calls. We anticipate two meetings and two other presentation webinars starting in October 2013, and ending before December 31, 2013. Participants in the TAG will be expected to make a good-faith effort to participate in all meetings, and to contribute to documenting new emerging technologies. The overall time commitment for members is expected to be 12 to 20 hours over a three-month period; those who develop presentations will likely spend some additional hours.

In December 2013, the IT TAG will deliver a final list of scored energy efficiency emerging technologies (ETs) to BPA.

Expected Benefits to the Northwest

These activities are expected to provide strategic guidance for BPA's investment in ETs for utility efficiency programs.

Expected Benefits to Participants

The BPA E3T IT TAG provides a unique opportunity to:

- Collaborate with expert colleagues in the field of data center efficiency,
- Keep abreast of IT technology innovations, and
- Play a role in influencing the direction of data center efficiency effectiveness in the Northwest.

Participants will be recognized on the BPA and Conduit websites, and in the BPA Energy Efficiency *Customer News* newsletter. If we have asked you to participate in the E3T IT TAG, it is a reflection of the value and insight you bring to the E3T knowledge base as part of a group with a range of expertise and organizational representation. We appreciate your willingness to contribute to this important process.

Anticipated IT TAG Timeline (meetings & interim work)

Approx. Timeline	Length, Hrs.	Purpose
MEETING October 15	3	<i>ID session</i> – Introductions to the program and to each other, and brainstorming ET* ideas
October 18	1-5	<i>Ranking</i> – Complete Ranking survey. This is the due date to the WSU Energy Program.
Oct 30 to Nov 18	5-20	<i>Presentation Preparation (select individuals)</i>
MEETING November 20	1.5	<i>Presentation webinar #1</i>
November 21	1	<i>Scoring surveys</i> – due for first presentation
MEETING November 26	1.5	<i>Presentation webinar #2</i>
November 29	1	<i>Scoring surveys</i> – due for second presentation
MEETING December 5	3	<i>Scoring Confirmation session</i> – Review and provide final comment on scores
As needed	2-6	We may ask you for additional advice or information on assessment protocols, selected technologies or strategies as the need arises.

*ET = Emerging technology, defined broadly to include emerging products, technologies, and strategies.

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