



*BPA Energy Efficiency:*  
BPA E3T Technical Advisory Group  
Commercial HVAC Emerging Technologies (2015 HVAC TAG)

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*January – May 2015*

**Purpose**

In 2008, the Bonneville Power Administration (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 utility conservation programs with innovative energy efficiency solutions and technologies that promise significant and reliable region-wide energy savings.

The process uses Technical Advisory Groups, or TAGs, to help scan, screen, and score the most promising products, technologies and strategies (collectively called emerging technologies, or ETs), which are then formally assessed by BPA for their benefit to BPA customers – publicly-owned utilities throughout the Pacific Northwest region. Past TAGs have focused on data centers, lighting, HVAC (the last one in 2010), energy management, and residential and commercial buildings.

If we have asked you to participate in the E3T TAG, it is a reflection of the value and insight you bring to the energy efficiency knowledge base, and your ability to work as part of a group with a range of expertise and organizational representation. We appreciate your willingness to contribute to this important process.

**Goal**

The goal of the 2015 Commercial HVAC TAG (HVAC TAG) is to identify and screen HVAC commercial-sector emerging technologies.

**Scope**

The scope of the HVAC TAG is described here. The scope may be further refined at the initial meeting.

- Technologies are limited to commercial-sector HVAC with emphasis on existing technologies that currently have limited market share
- The focus is on technologies that reduce electric resistance heat
- We are only considering retrofit technologies, not those applicable to new construction only

Examples of specific technologies to consider:

- Variable refrigerant flow (VRF)
- Rooftop units
- Web-enabled equipment
- Demand-controlled ventilation (DCV)
- Heat pumps
- Critical subcomponents, i.e. fans and motors

Technologies and applications that are excluded:

- Data center HVAC solutions
- Residential buildings-only

We will exclude any technologies already in BPA utility programs and most technologies already in assessment by BPA. The list of ETs that meet the above criteria will be pared down to the highest-ranked ETs through a rating and scoring process.

## Logistics

The TAG is composed of 20 to 30 experts focused on various aspects of commercial HVAC. TAG members are recruited from utilities, research organizations, building designers, contractors, and other key entities from the Northwest and across the country.

Participation in the TAG is voluntary; BPA will not provide monetary compensation for participation. Meetings will be web-enabled conference calls. The process includes two meetings and two presentation webinars with extended discussion. The commitment for TAG participants is February through April 2015. Participants in the TAG will be expected to make a good-faith effort to participate in all meetings, and to contribute to documenting emerging and under-utilized technologies. The overall time commitment for members is expected to be 12 to 20 hours over the three-month period; those who develop presentations will likely spend some additional hours.

## Expected Benefits

These activities are expected to provide strategic guidance for BPA's investment in ETs for Northwest utility efficiency programs. In addition, we hope that learnings from the TAGs will benefit the planning and operation of your programs as well as other energy efficiency organizations throughout the country.

## Expected Benefits to Participants

The BPA E3T TAG provides a unique opportunity to:

- Collaborate with expert colleagues in the field of commercial-sector HVAC,
- Keep abreast of technology innovations, and
- Play a role in influencing the direction of commercial-sector HVAC efficiency effectiveness in the Northwest and elsewhere.

Participants' organizations will be recognized on the E3TNW website.

## Anticipated HVAC TAG Timeline for Meetings & Interim Work

Approx. Timeline	Hours	Purpose
<b>MEETING</b> March 10	3	<i>Initial meeting</i> – Introductions to the program and to each other, and brainstorming ET ideas
March 18	1-5	<i>Ranking</i> – Complete ranking survey. This is the due date.
<i>March 20-31</i>	<i>3-20</i>	<i>Presentation preparation (select individuals)</i>
<b>MEETING</b> April 2	1.5	<i>Presentation webinar #1</i>
April 3	1	<i>Scoring surveys due</i> from first presentation
<b>MEETING</b> April 8	1.5	<i>Presentation webinar #2</i>
April 9	1	<i>Scoring surveys due</i> from second presentation
<b>MEETING</b> April 14	3	<i>Final meeting</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.

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