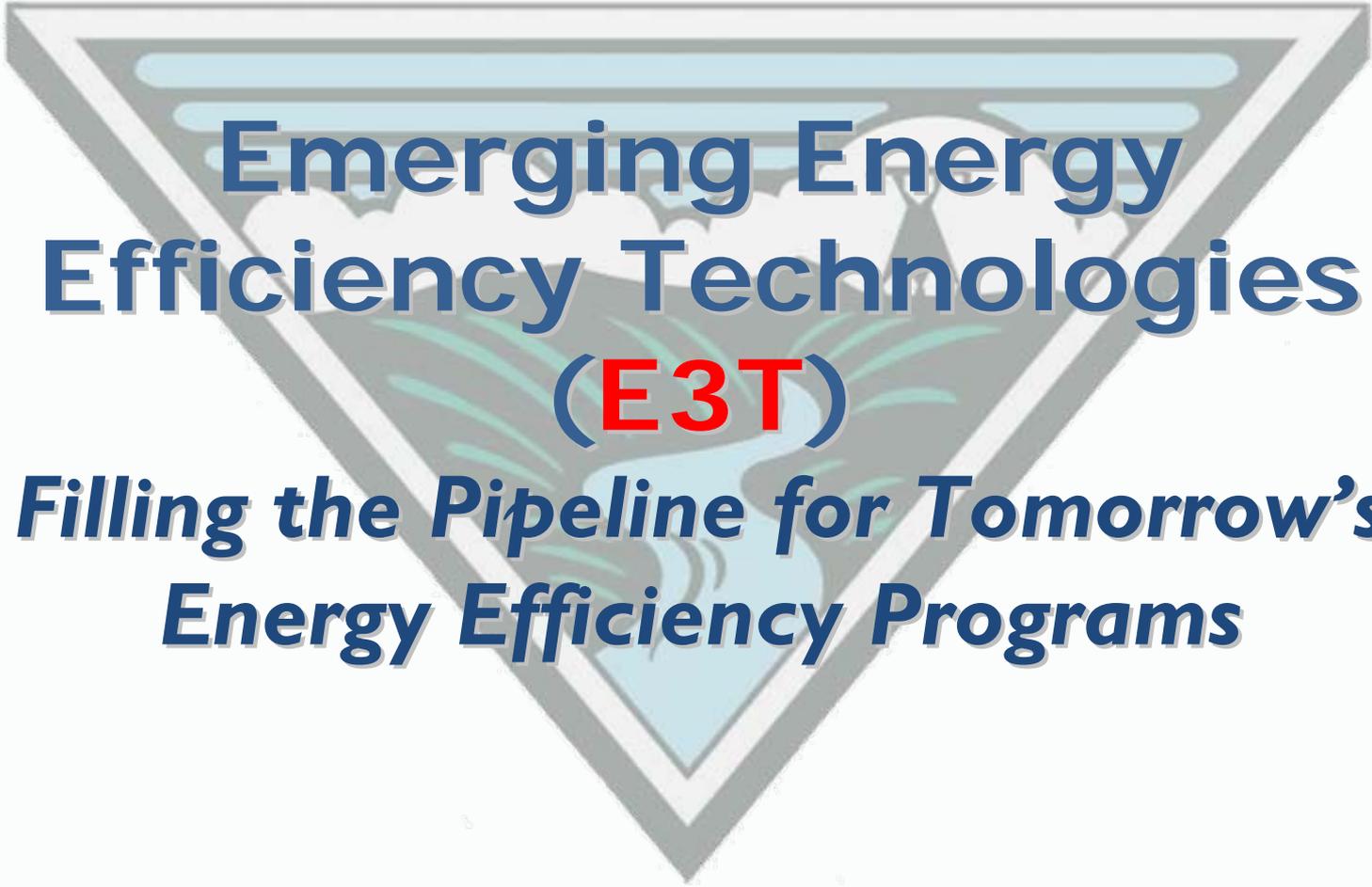


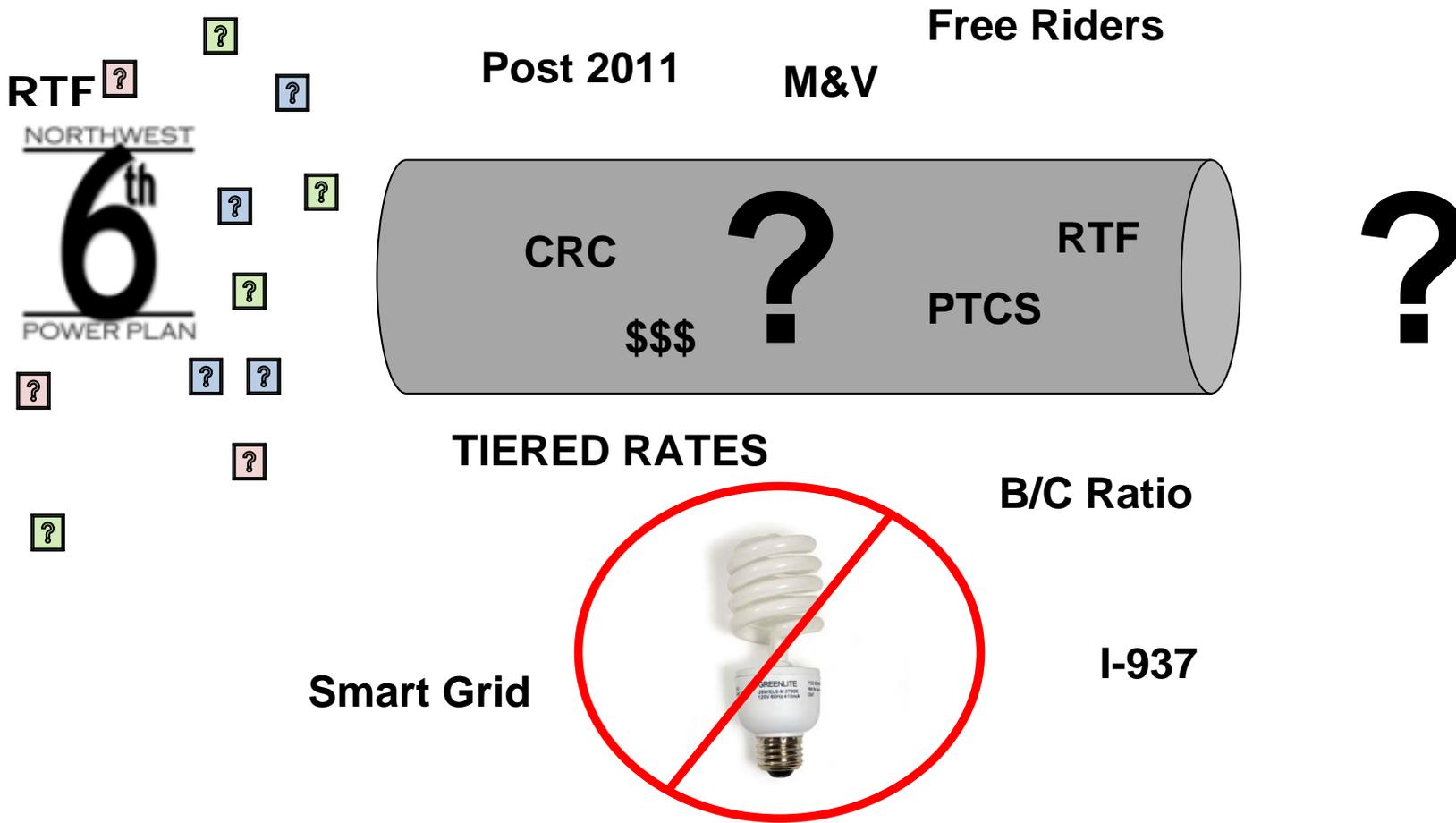
B O N N E V I L L E
P O W E R A D M I N I S T R A T I O N



**Emerging Energy
Efficiency Technologies
(E3T)**

***Filling the Pipeline for Tomorrow's
Energy Efficiency Programs***

The NW Energy Efficiency Pipeline



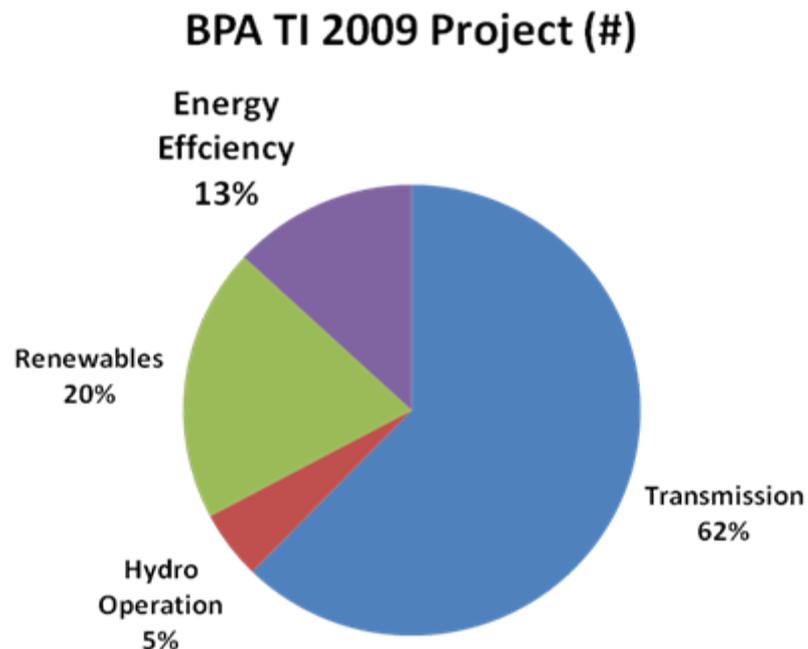


BONNEVILLE POWER ADMINISTRATION TECHNOLOGY INNOVATION TCI Council

- In 2005, Bonneville re-started its R&D program.
- Bonneville created a series of “**technology roadmaps**”
- The group has developed a **Portfolio Philosophy**, as well as a **Portfolio Decision Framework**.
- The FY'09 portfolio includes 57 projects funded at about \$7.5 million.

Takeaways

- Roadmaps
- Portfolio Philosophy
- Stage Gates



Northwest Energy Efficiency Taskforce

Work Group #2 - Emerging Solutions and Technologies

July – December 2008

How can we keep the pipeline full of energy efficiency innovations for use in the Pacific Northwest?

Takeaways

- ❑ Regional role for R D & D for energy efficiency
- ❑ Dedicated funding and dedicated staff
- ❑ Focus on PNW needs while and leverage work in the region and beyond



ETCC Summit

EMERGING TECHNOLOGIES
COORDINATING COUNCIL

October 2008



Takeaways

- ❑ Lots of Innovation
 - ❑ Large scale and scope of utility and public efforts
 - ❑ Model for how to do Emerging Technology programs
- Session 3: **State-of-the-Art Lighting**
 - Session 4: **Moving Towards Zero Energy Homes**
 - Session 17: **Data Centers - The Next Frontier for Energy Efficiency**
 - Session 20: **Consumer and Office Electronics and Emerging Appliances**





Emerging Energy Efficiency Technologies (E3T)

Mission

Identify, assess and disseminate emerging technologies and solutions.

FY 2009

- Establish framework
- Focus on Lighting and HVAC projects



E3T People

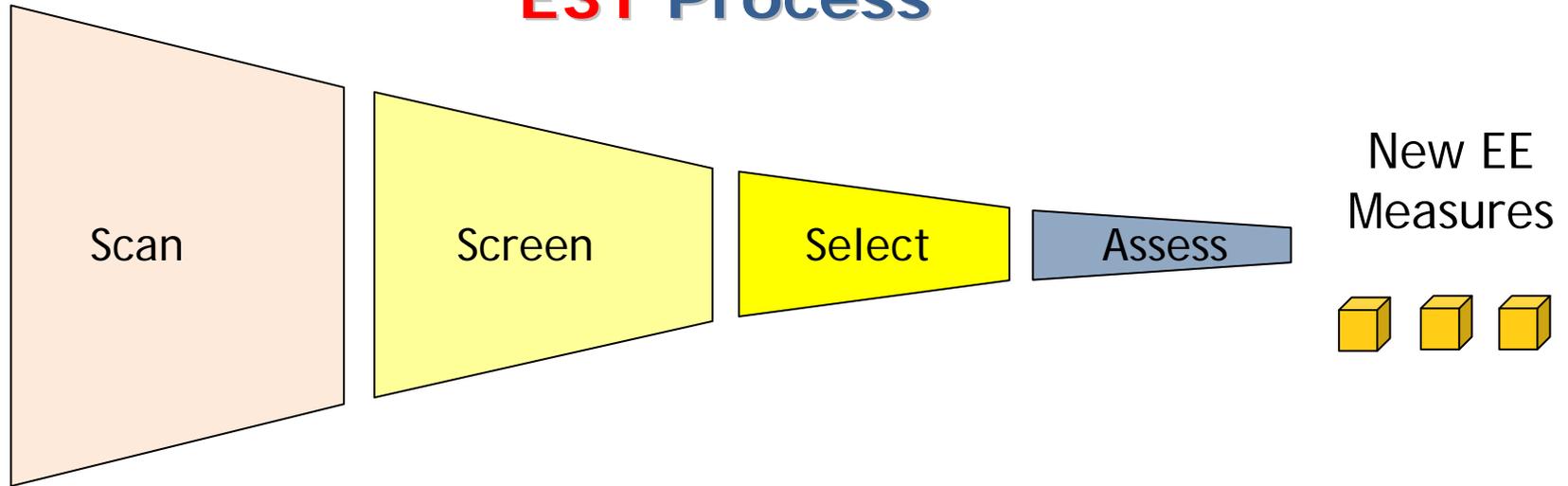
People: EE Staff, Consultants, TAGs, utility staff

- **BPA Office of Technology Confirmation/Innovation (OTI):** *Strategic oversight and review of portfolio*
- **BPA Energy Efficiency Staff:** *Overall E3T management*
- **Technical Advisory Groups (TAGs):** *Screen and rank ETs*
- **Utilities:** *Advising, Hosting, Sharing*
- **NEEA:** *Market Linkage, regional coordination*
- **Collaborators:** *Trade allies, National Labs, EE organizations, etc.*





E3T Process



- Find review, and rank new ETs
- Selecting & Managing Portfolio
- Field tests and small pilots
- Disseminate assessment results

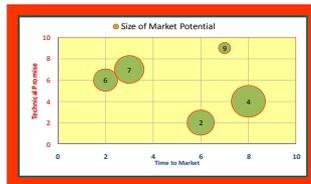




E3T Products

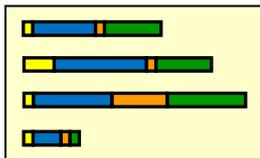
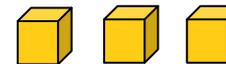
Technology	MWh	MW	Performance	Years to Market
Ductless HVAC	xxxxx	xxxxx	xxxxx	xxxxx
LED	yyyyy	yyyyy	yyyyy	yyyyy
HAN	zzzzz	zzzzz	zzzzz	zzzzz
Plug Load	www	www	www	www

E3T Database



E3T Portfolio

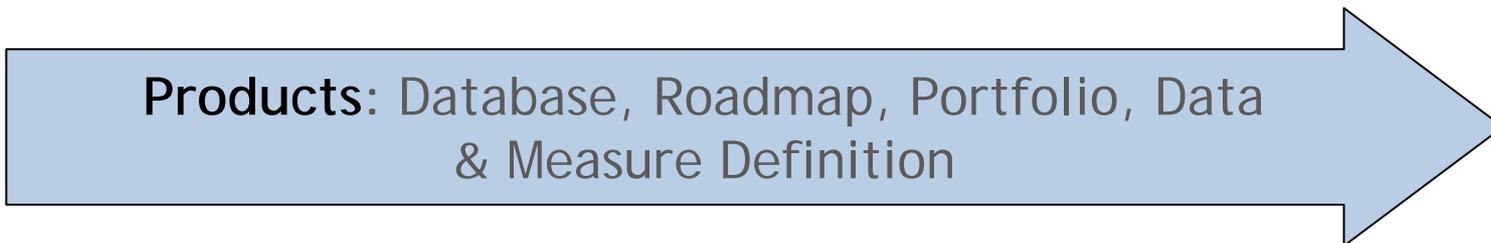
New EE Measures



E3T Roadmaps

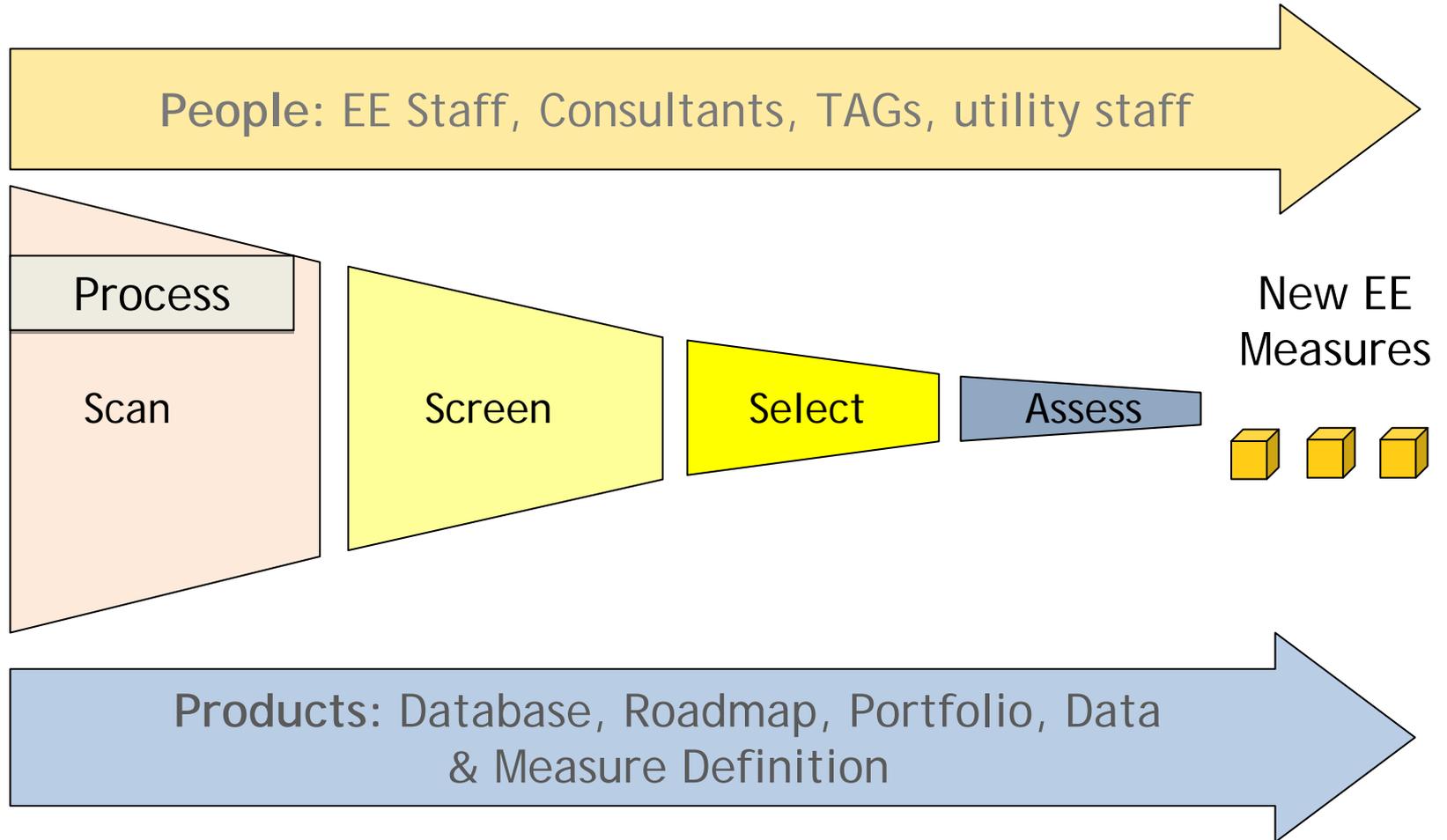


E3T Assessment Report





The **E3T** Solution (as of 3/12/09)



BPA 2009 R&D Project Sampler

- Mini-Split Heat Pump Demo



- Low Temp Heat Pump



- RTF Rooftop Unit subcommittee lab and field tests

- Self-Correcting HVAC Controls

- Premium Ventilation Package



- 2009 Expanded Rooftop Unit demonstration
- PNNL Smart Monitoring and Diagnostic System (SMDS).





Help Wanted

1. Identifying emerging technologies
2. Proposing ET development projects
3. Hosting demonstration projects and pilots
4. Sharing your stories: *"been there, done that"*
5. Participating in *Technical Advisory Groups*





B O N N E V I L L E
POWER ADMINISTRATION



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