Update on Residential HVAC Market

- Recently completed an update to market study of furnaces, heat pumps, and ductless heat pumps
- Covered 2012-2013
- Report will be posted to the website
- Based upon results no changes to our programs were deemed necessary
- Contact me with any questions

Resource Assessment Update

Ted Light

June 18, 2014

EnergyTrust of Oregon

Outline

1. Background
2. Methodology
3. Results

*Complete study available on our website.

Background

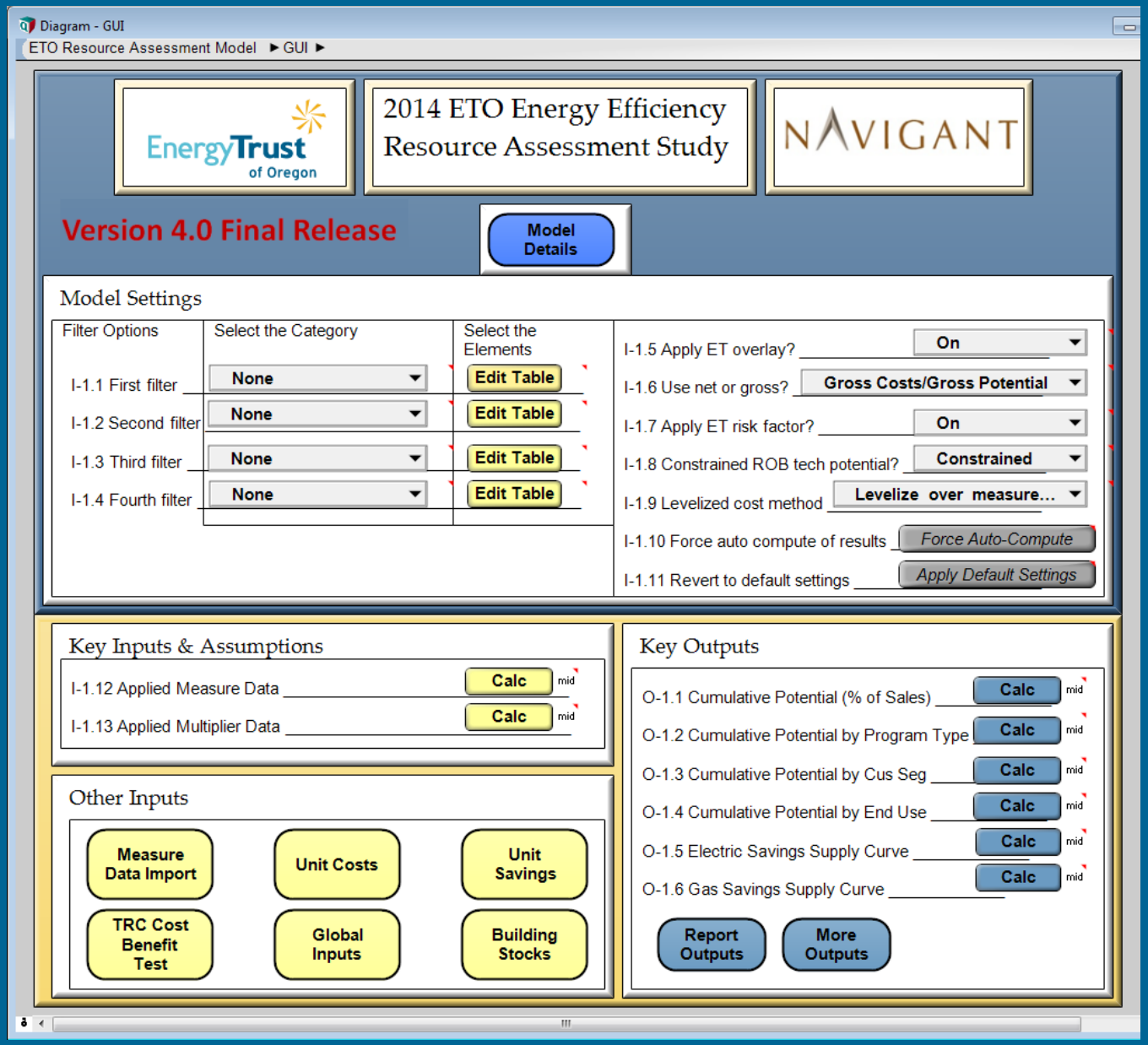
What is a resource assessment?

- Estimate of available, cost-effective efficiency left to be acquired
- Uses utility load and customer forecasts, avoided costs, fuel splits, measure data, etc.

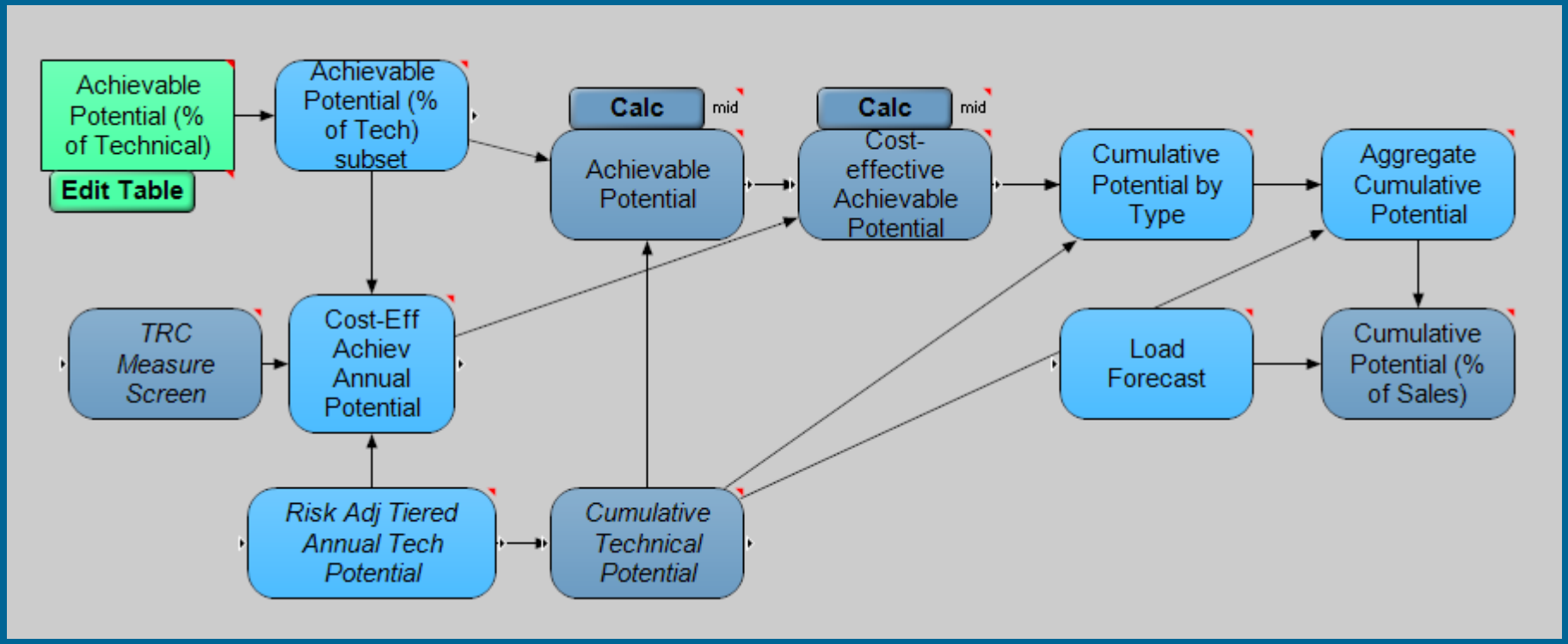
Background

- Energy Trust uses for utility IRP work & strategic plan
- Used same model, with updates, since 2005
- Issued an RFP in 2013
- Navigant Consulting selected

Methodology: New Platform



Methodology: New Platform



Methodology: Measure Definition

- Characterized 191 measures
- Across 27 customer segments
- Commercial, residential, industrial, and agriculture sectors
- Each measure has roughly 30 defining characteristics

Methodology: Measure Definition

- Incremental measure approach, no market share assumptions
- Factor in some known codes & standards

Methodology: Emerging Technology

- Include some emerging technologies
- Factor in changing performance, cost over time
- Use risk factors to hedge against uncertainty

	ET Risk Factor				
Risk Category	10%	30%	50%	70%	90%
Market Risk (25% weighting)	High Risk: • Requires new/changed business model • Start-up, or small manufacturer • Significant changes to infrastructure • Requires training of contractors. Consumer acceptance barriers exist.			Low Risk: • Trained contractors • Established business models • Already in U.S. Market • Manufacturer committed to commercialization	
Technical Risk (25% weighting)	High Risk: Prototype in first field tests. A single or unknown approach	Low volume manufacturer. Limited experience	New product with broad commercial appeal	Proven technology in different application or different region	Low Risk: Proven technology in target application. Multiple potentially viable approaches.
Data Source Risk (50% weighting)	High Risk: Based only on manufacturer claims	Manufacturer case studies	Engineering assessment or lab test	Third party case study (real world installation)	Low Risk: Evaluation results or multiple third party case studies

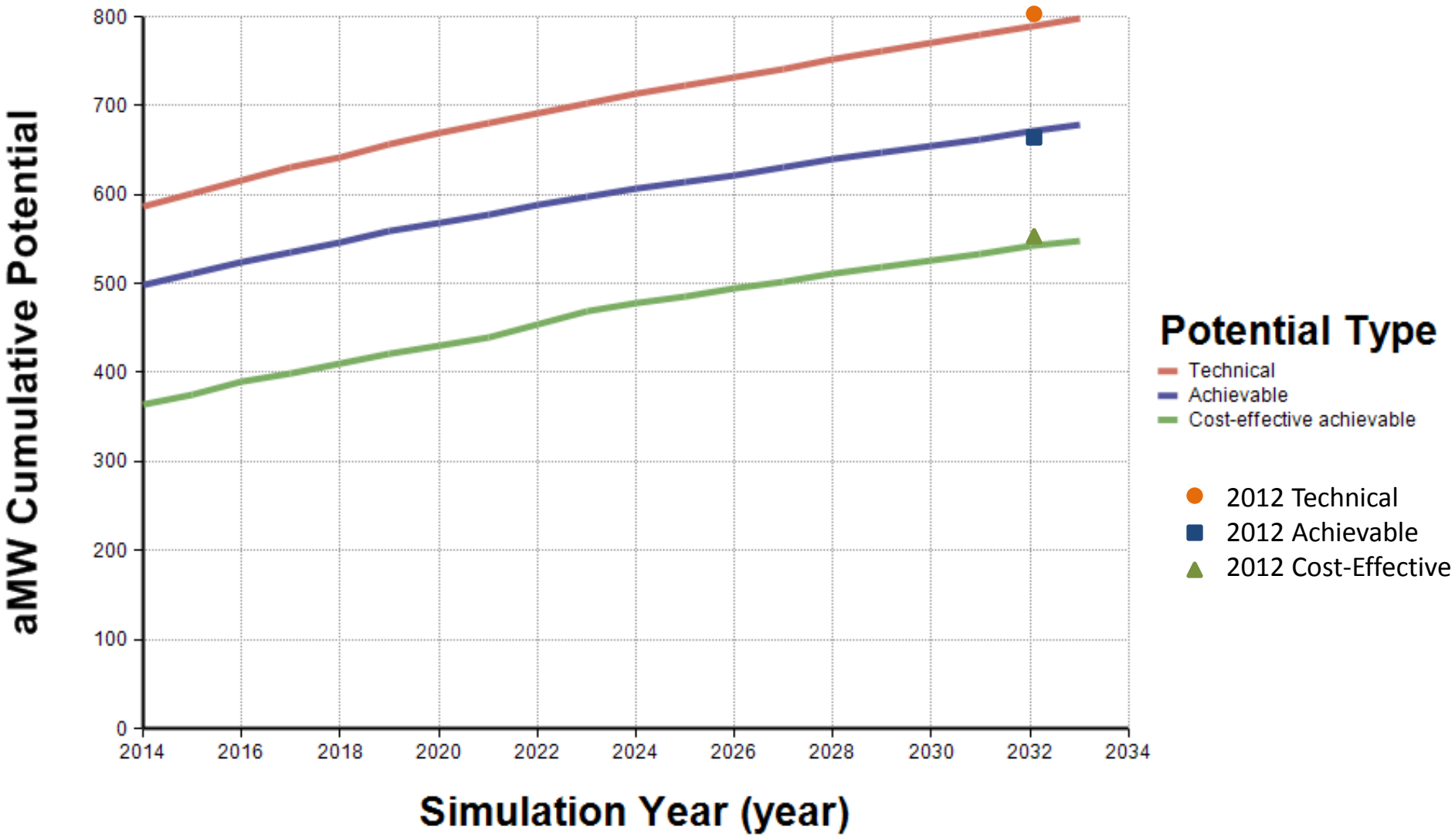
Methodology: Emerging Technology

End result:

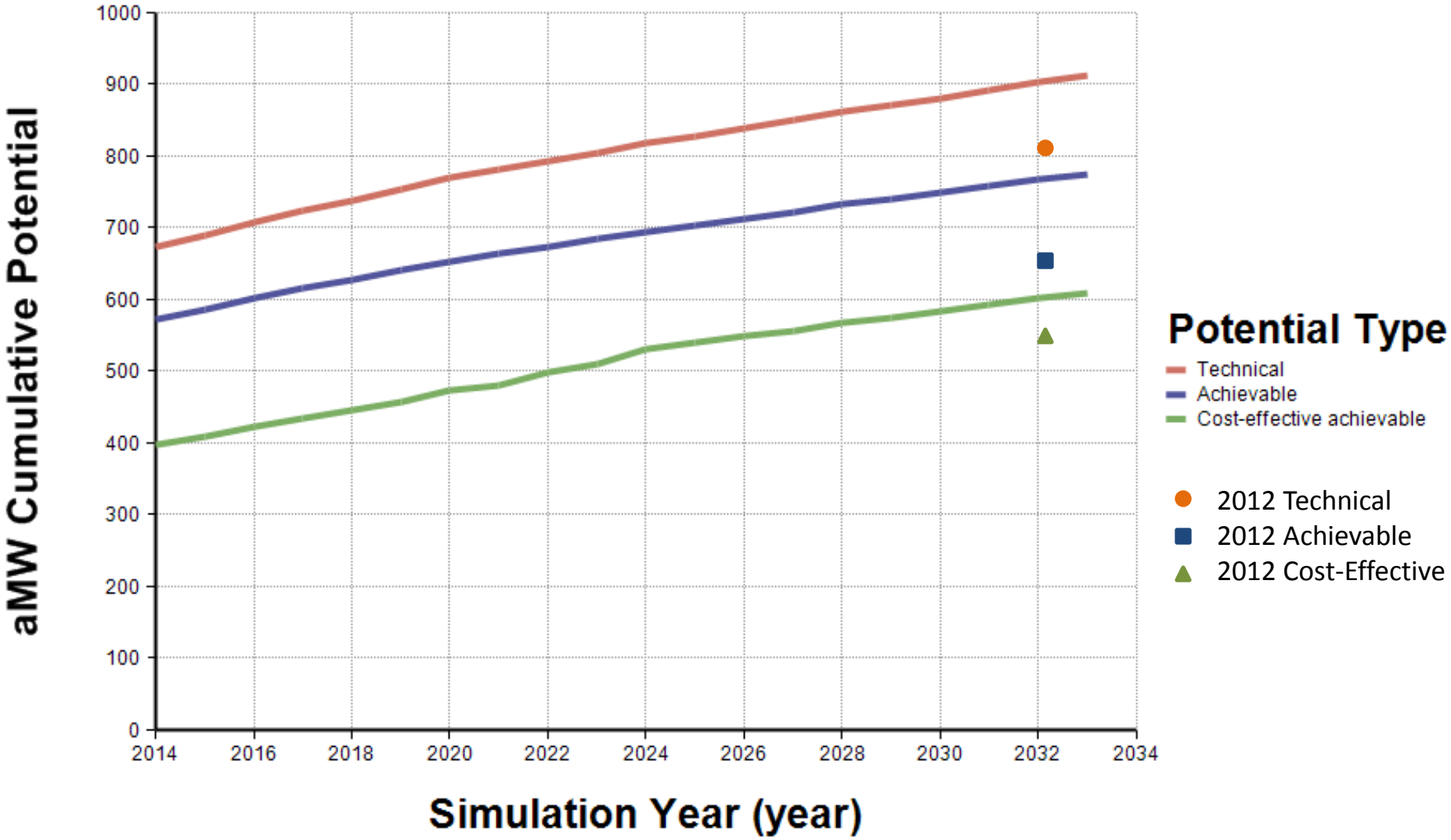
- The estimate for any given emerging technology is not accurate
- Taken as a whole, provides a reasonably conservative estimate of what is possible

Results

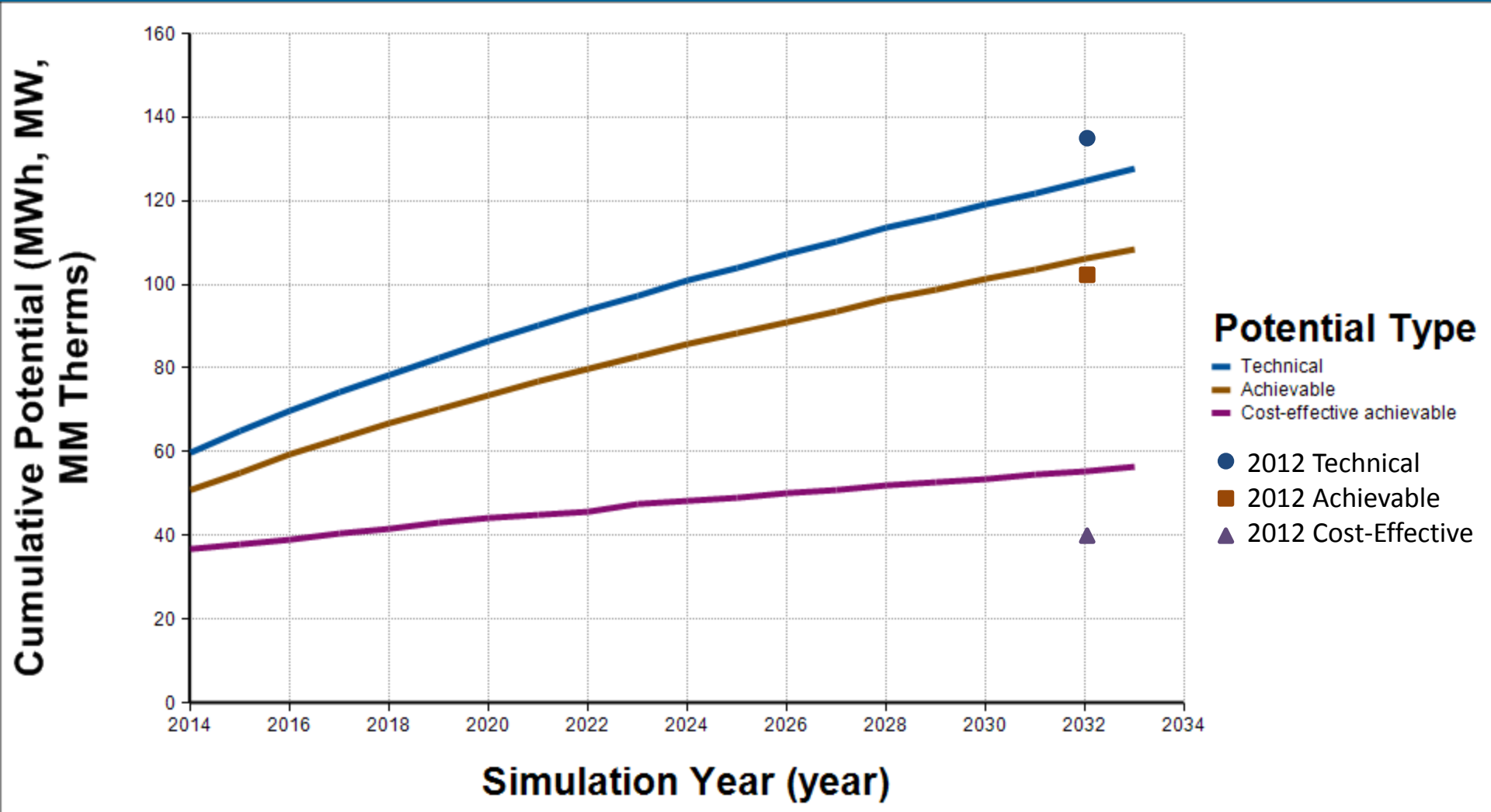
Electric Potential without Emerging Tech



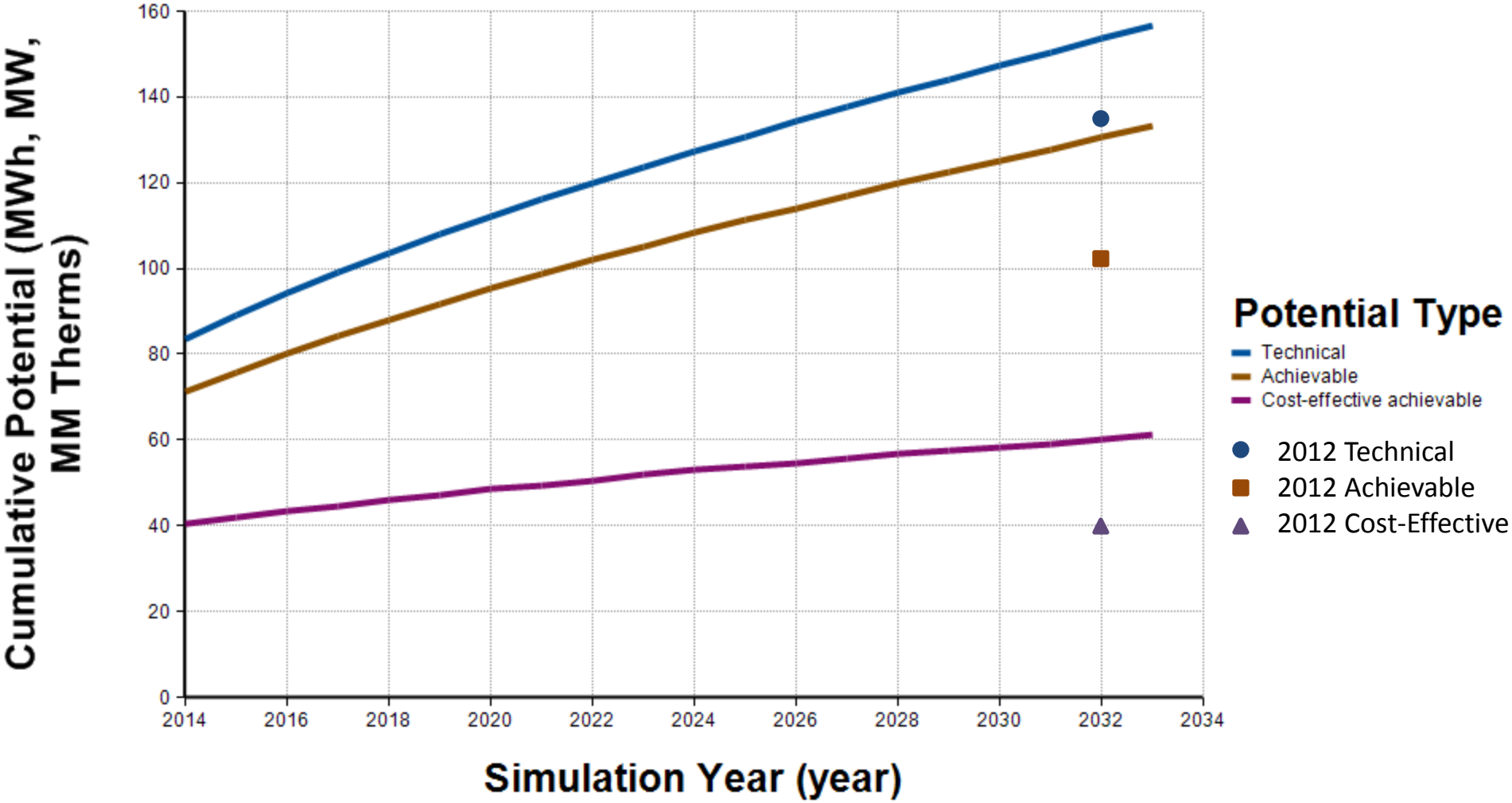
Electric Potential with Emerging Tech



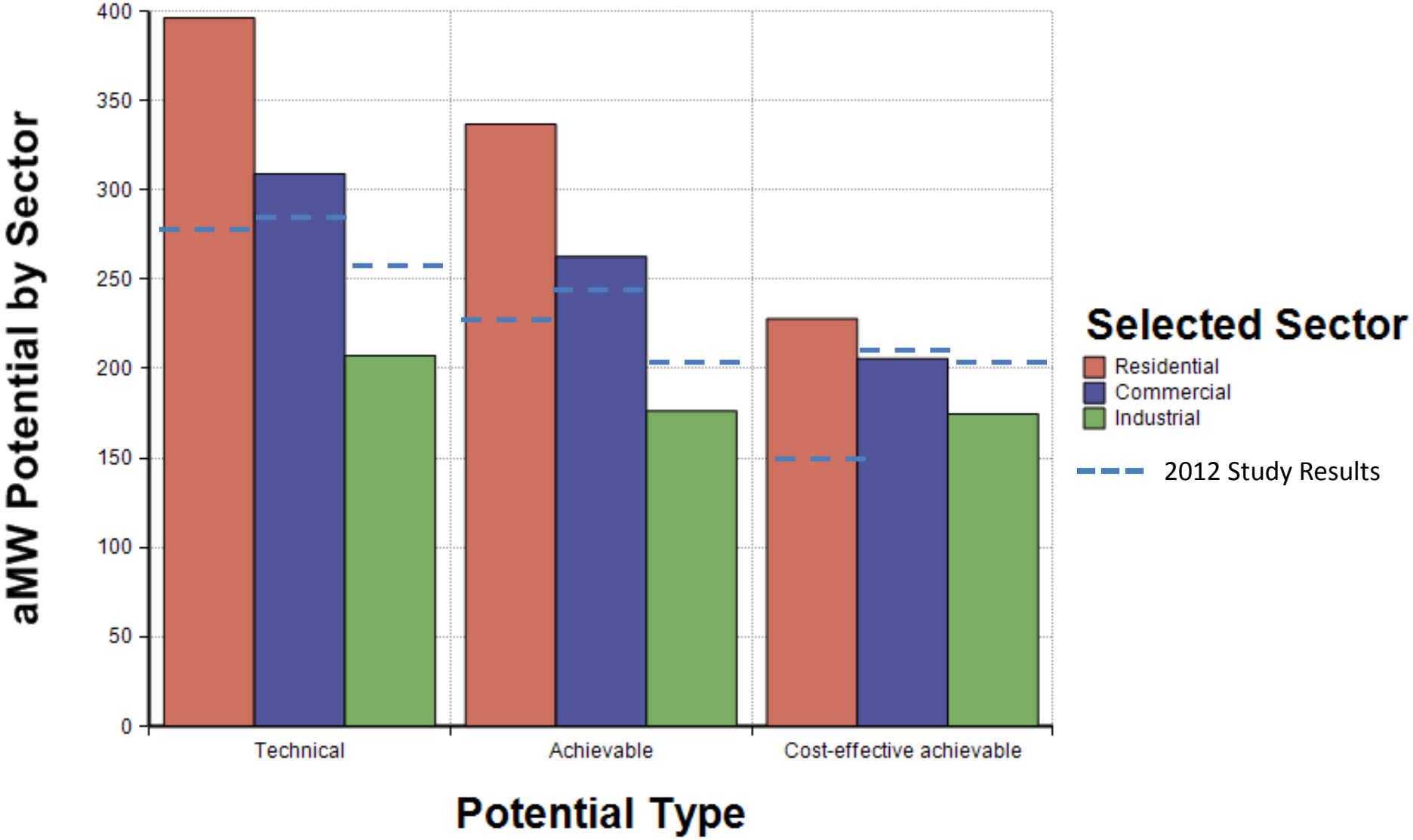
Gas Potential without Emerging Tech



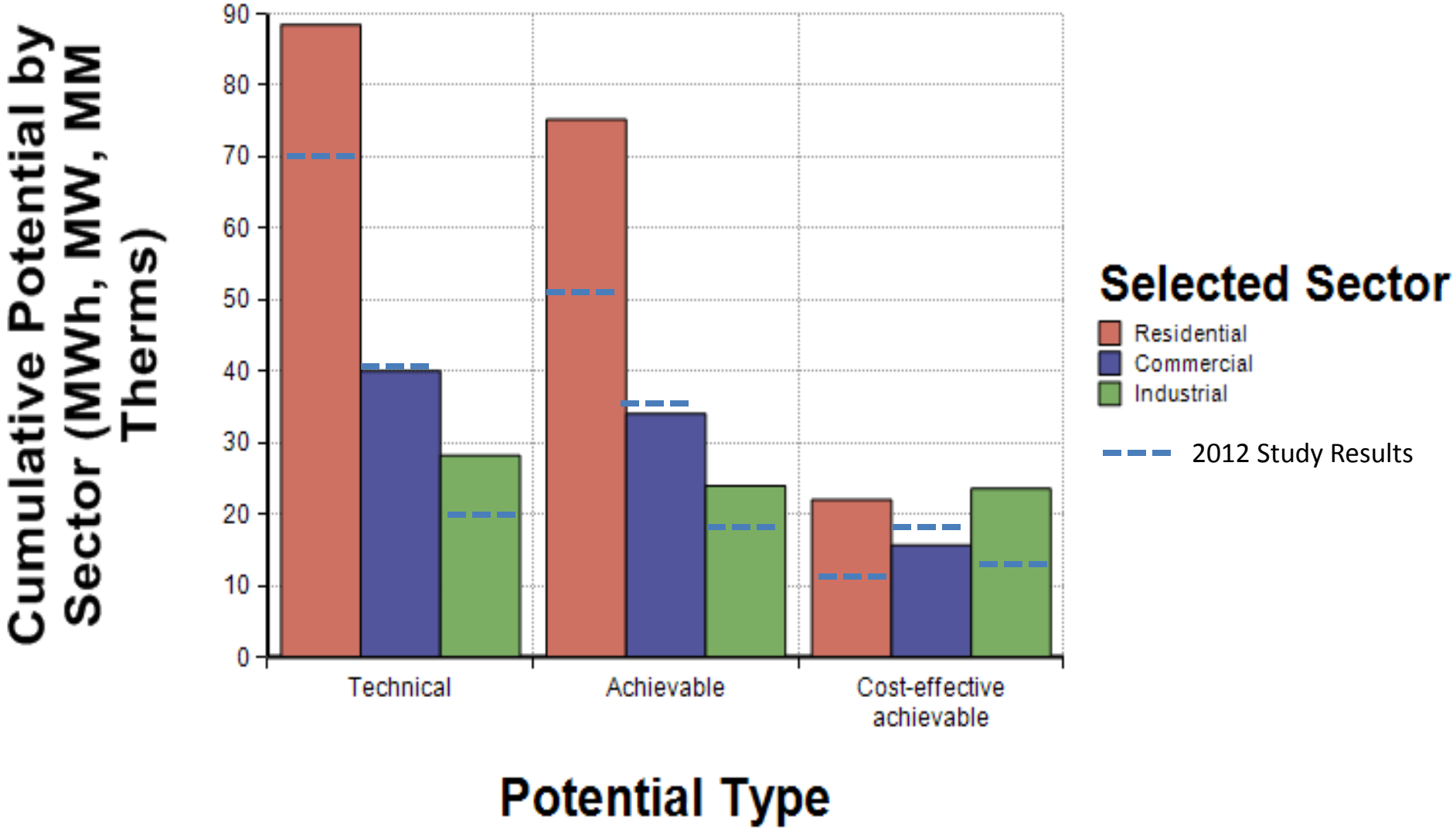
Gas Potential with Emerging Tech



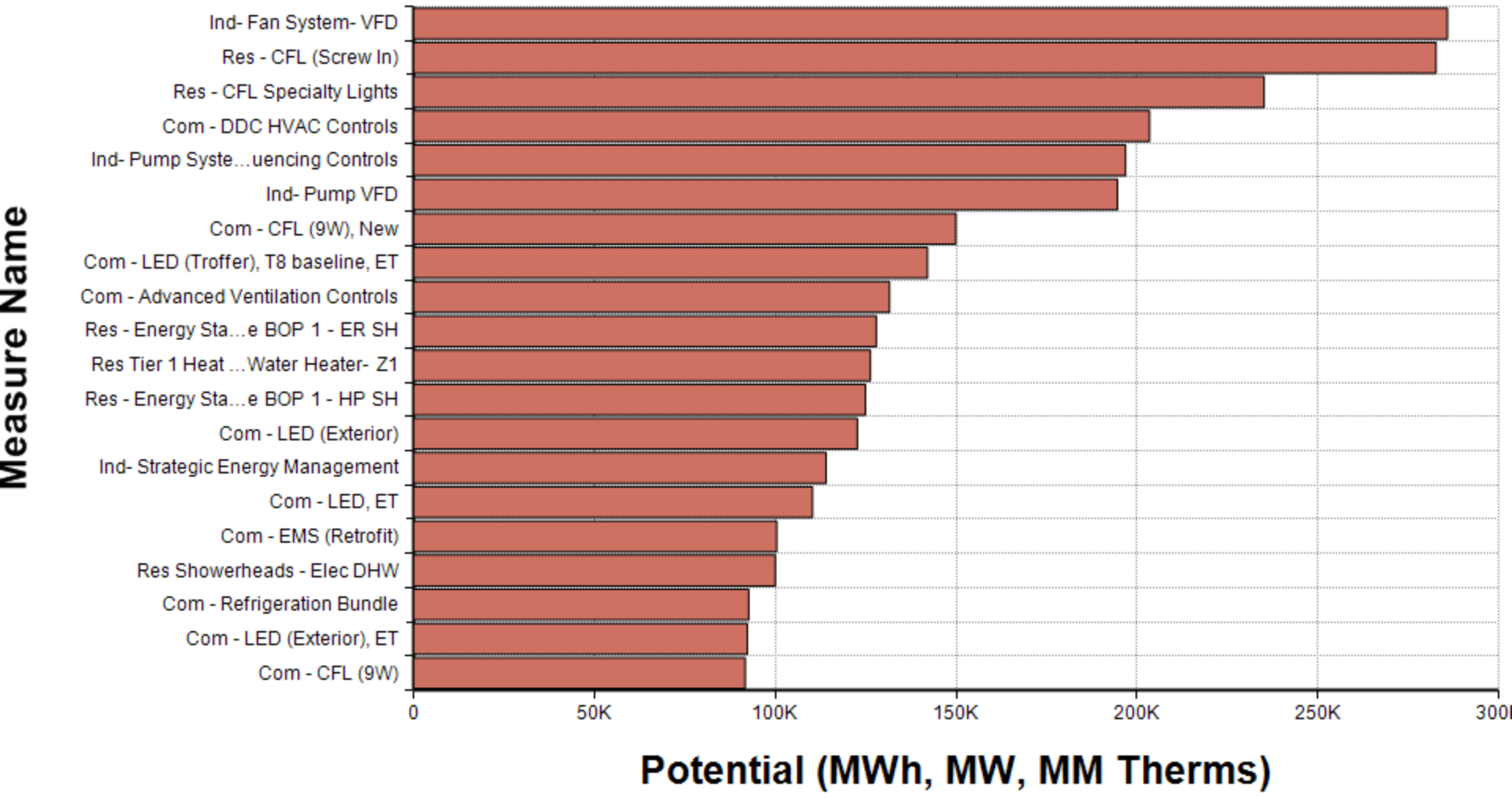
Electric Potential by Sector



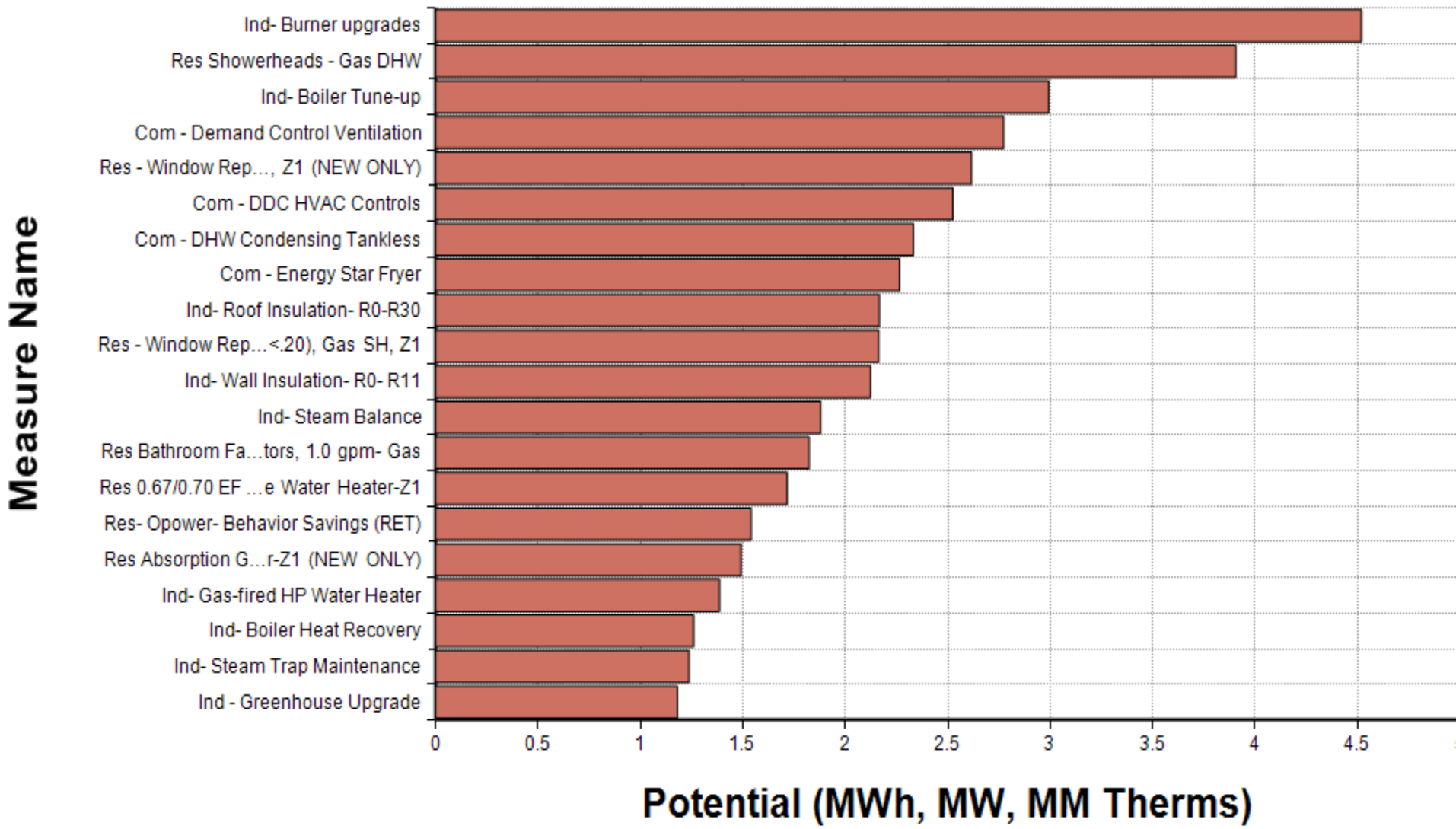
Gas Potential by Sector



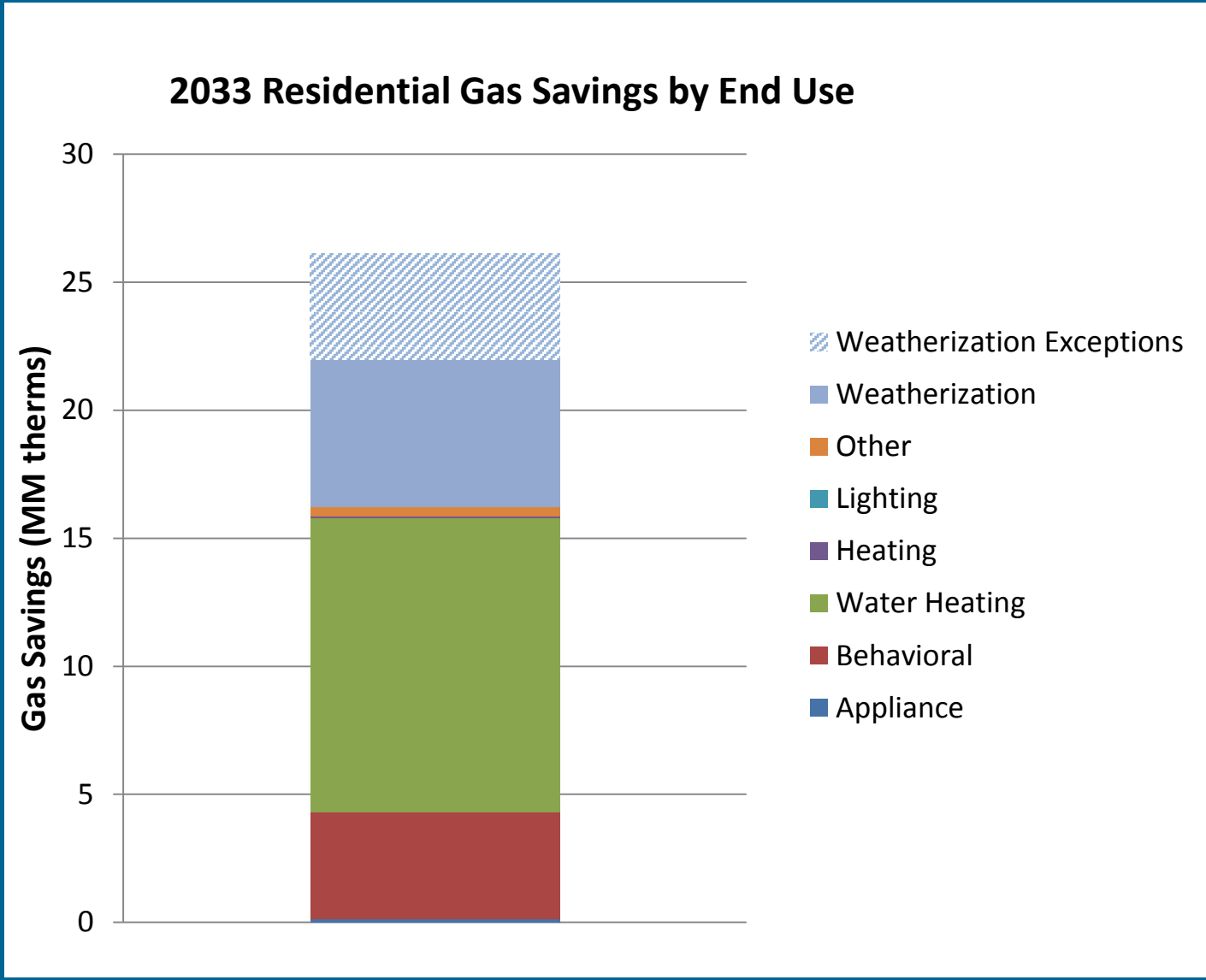
Top Electric Measures



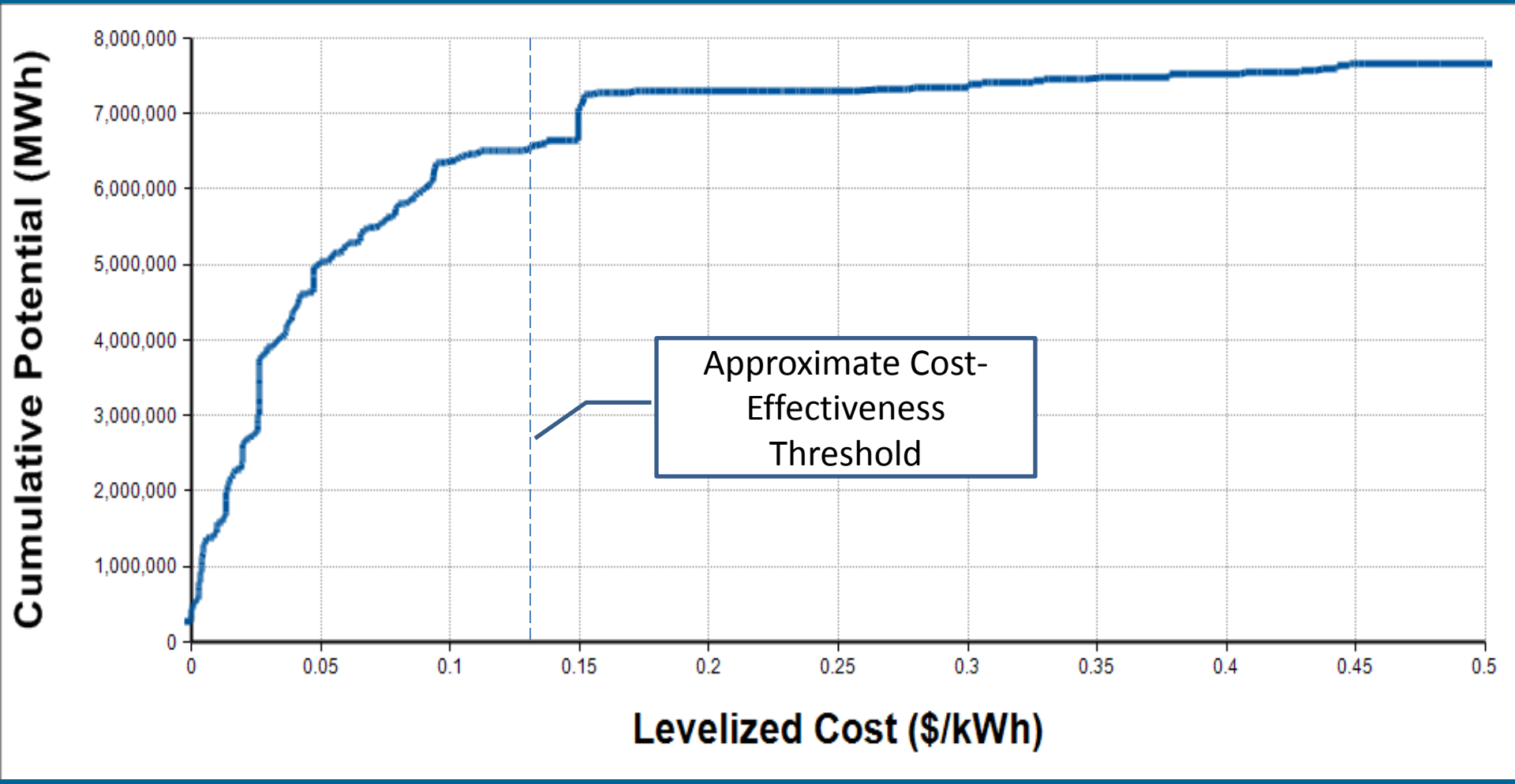
Top Gas Measures



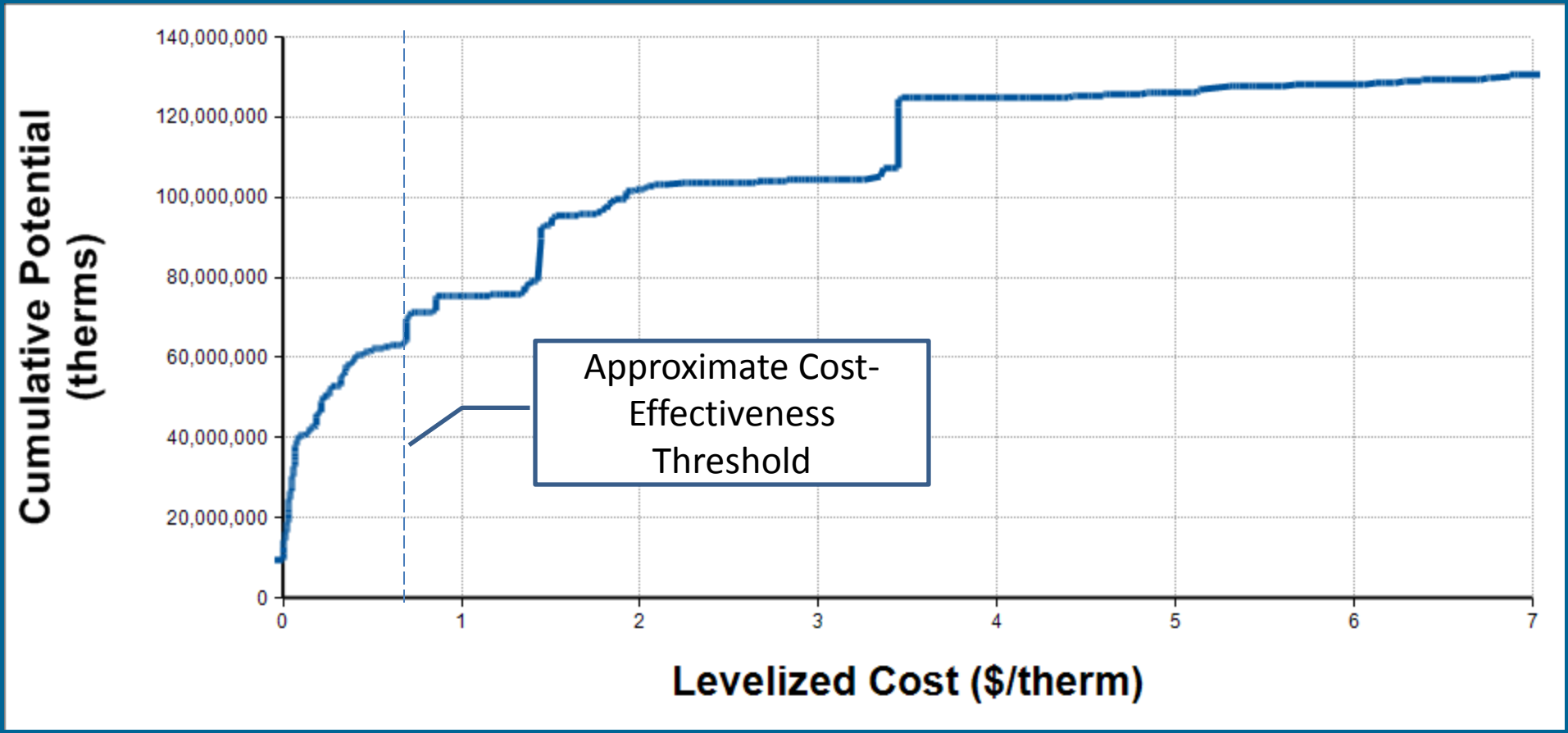
Cost-Effective Residential Gas Potential by End Use



Electric Supply Curve



Gas Supply Curve



Questions?

Thank You

Ted Light
Sr. Planning Project Manager
ted.light@energytrust.org
503.445.7643

EnergyTrust of Oregon