



For Businesses



For Homes



Renewable Energy



For Trade Allies



About Energy Trust

# Energy Trust of Oregon, Inc.

## Resource Assessment

### CAC Meeting April 19, 2006

# Energy Efficiency Resource Assessment

**Purpose: To quantify the amount and cost of gas and electric efficiency resources within the territory Energy Trust serves through 2017.**

- Update 2004 study with significant amount of new information available (surveys, studies, program data)
- Results will be used to help establish policies and target programs for efficiency resource acquisition.
- NWN contracted separately for low-income and WA territory.
- Cascade has contracted separately for their territory to be included.

# Resource Assessment - Scope

- **Technical and achievable savings potential and total measure cost**
  - Technical includes all savings available from possible participants, no market barriers reflected
  - Achievable incorporates constraints and market barriers which limit participation (Power Council assumption ~ 85% of technical)
- **Secondary data sources only**
  - No new surveys/site visits/engineering analyses funded under this contract
- **Electric and Gas resources included**
  - Both fuels considered but summarized separately
  - Interactive effects to other fuel quantified as impact to O&M cost
  - All sectors studied except industrial gas
- **Results presented for 2006, 2012, and 2017**
- **Hardware and operational/behavioral measures included**
- **Direct application renewable resources and CHP addressed**

# Resource Assessment – Data Sources

- **Utilities – PGE, PacifiCorp, and NWN**
  - Load forecasts and historical sales by sector and SIC code
  - Survey data – (e.g. Residential Appliance Saturation Survey (RASS))
- **NW Power Council / RTF**
  - Measure characteristics, load shapes
- **Energy Trust**
  - Existing program data
  - Measure cost and savings assumptions
- **Regional / National reports and studies**
  - Commercial Building Site Assessment (EUIs) - Alliance
  - DEER database, ACEEE studies
  - 2004 Census, FERC Form I
  - Recent NEEA Market Research Data

# Resource Assessment – Methodology

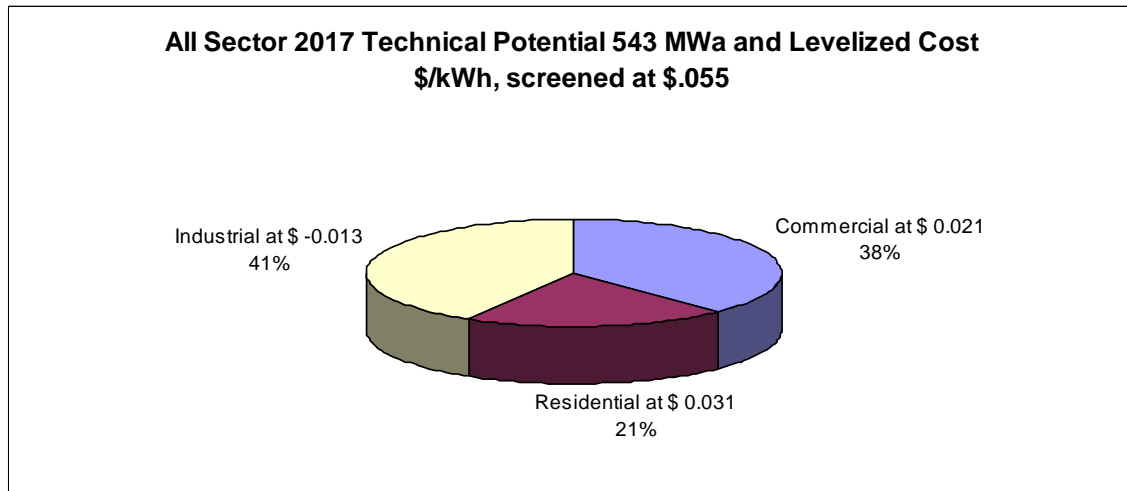
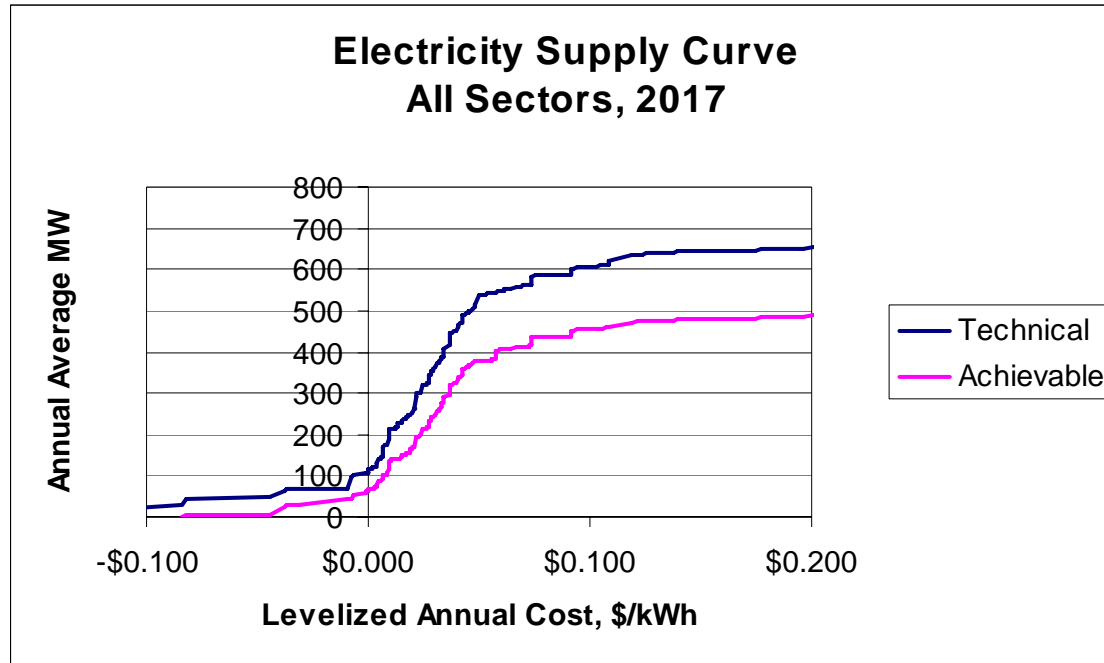
- **All Sectors**

- Baseline of existing gas/electric usage by utility, apply utility growth rates for future energy use estimates
- Sort energy use by building types, use/square foot, etc to get typical energy use intensity
- Screen large list of potential measures for those with savings but limited risk
- Intent is not to represent all measures (too many) but to represent the cost, savings, and end-uses they come from reasonably well.
- Data collection – savings, cost, saturation and applicability to ETO territory and various building types
- Calculate technical and achievable savings potential
- Calculate measure levelized cost

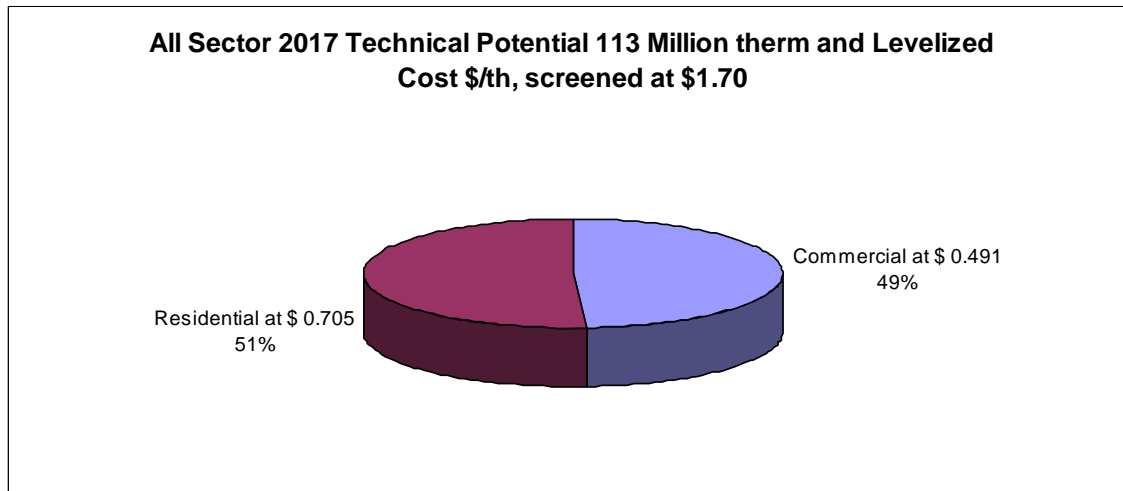
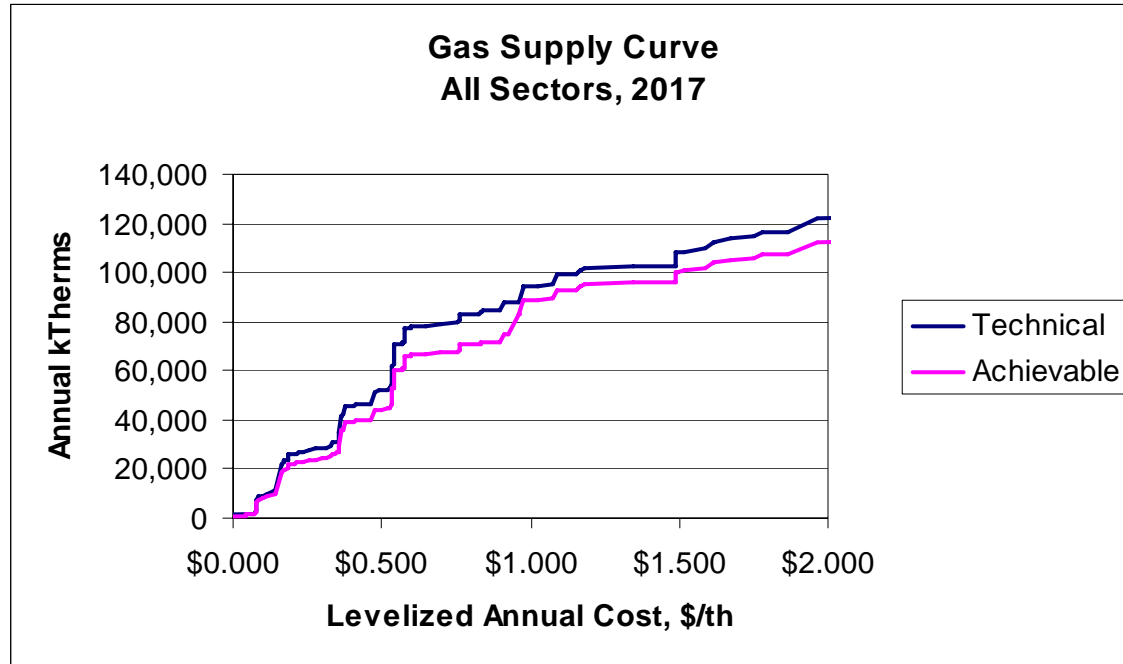
# Resource Assessment – Methodology

- **Residential**
  - Utility building characteristics: housing type (SF, MF, MH) vintage, heating & DHW fuel
  - Average consumption by house type through calibration of retail sales to population data
- **Commercial**
  - Population data converted to square footage by building type with EUI estimates and utility retail sales.
- **Industrial / Agriculture**
  - Top down approach – Sales by SIC code split into end use process categories
  - Measures characterized as % of end use load that can be saved

# Overall Results – Electric 2017

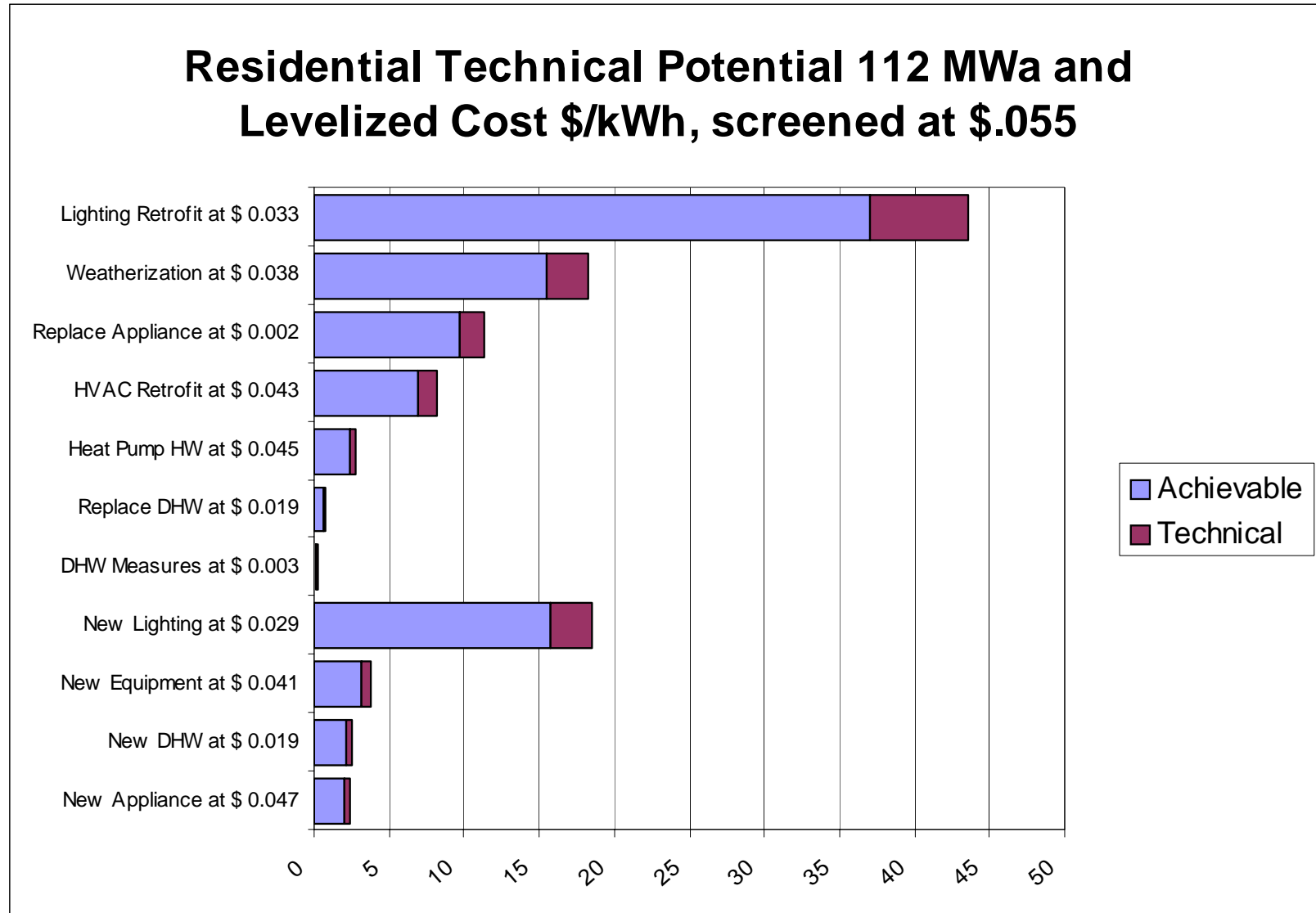


# Overall Results – Gas 2017



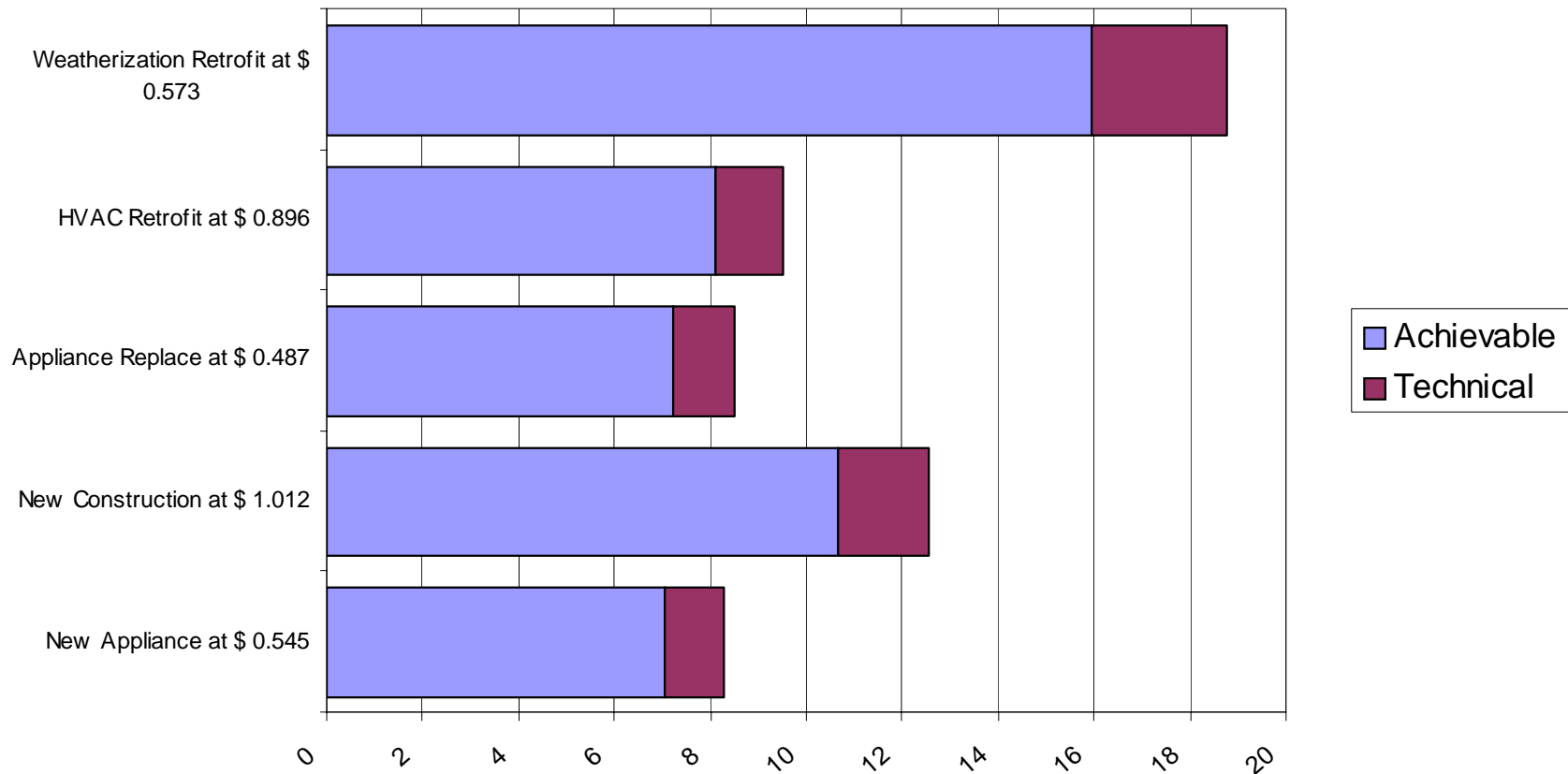
# Residential Results – Electric 2017

## Residential Technical Potential 112 MWa and Levelized Cost \$/kWh, screened at \$.055



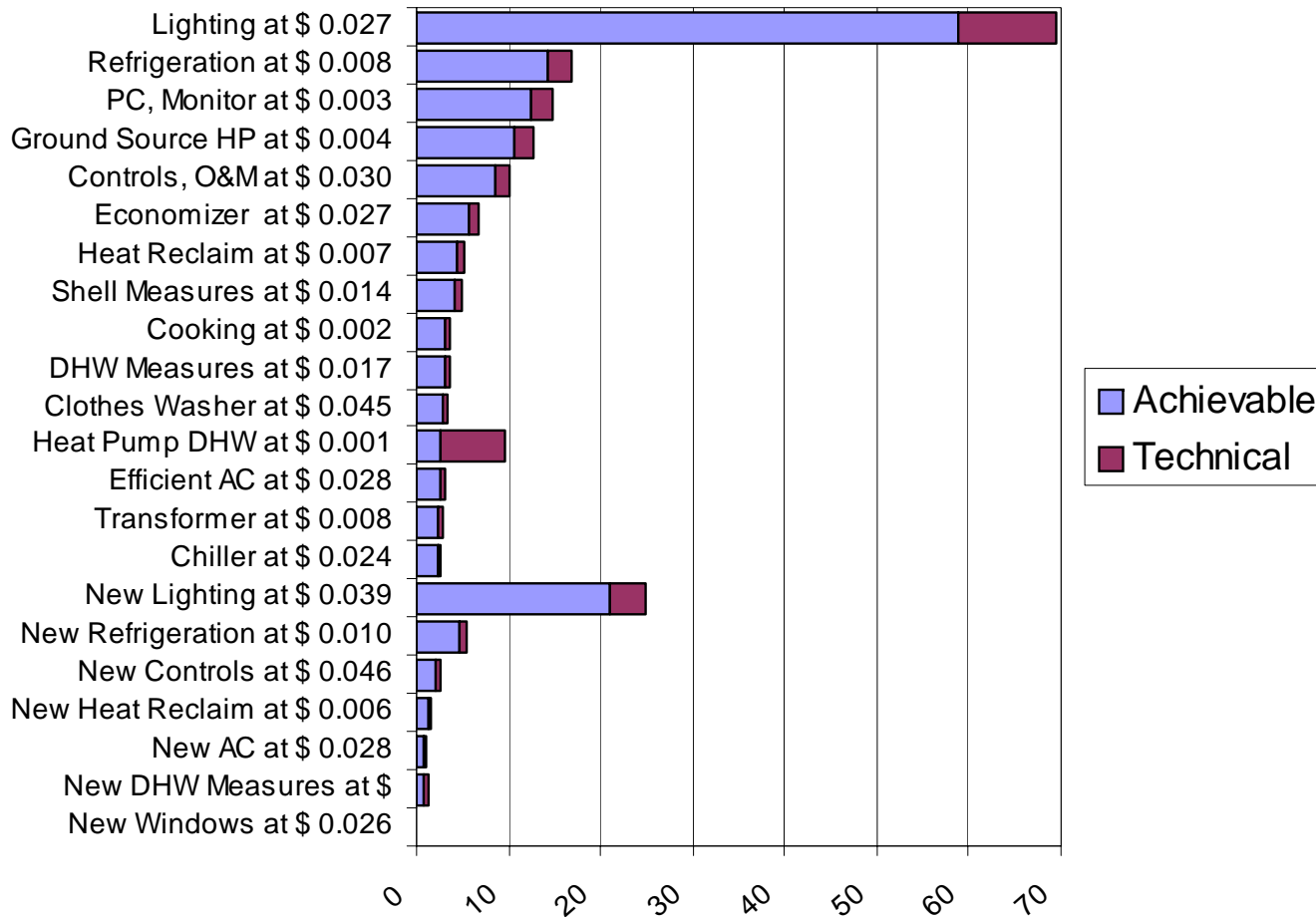
# Residential Results – Gas 2017

## Residential Technical Potential 58 Million Therms and Levelized Cost \$/th, screened at \$1.70



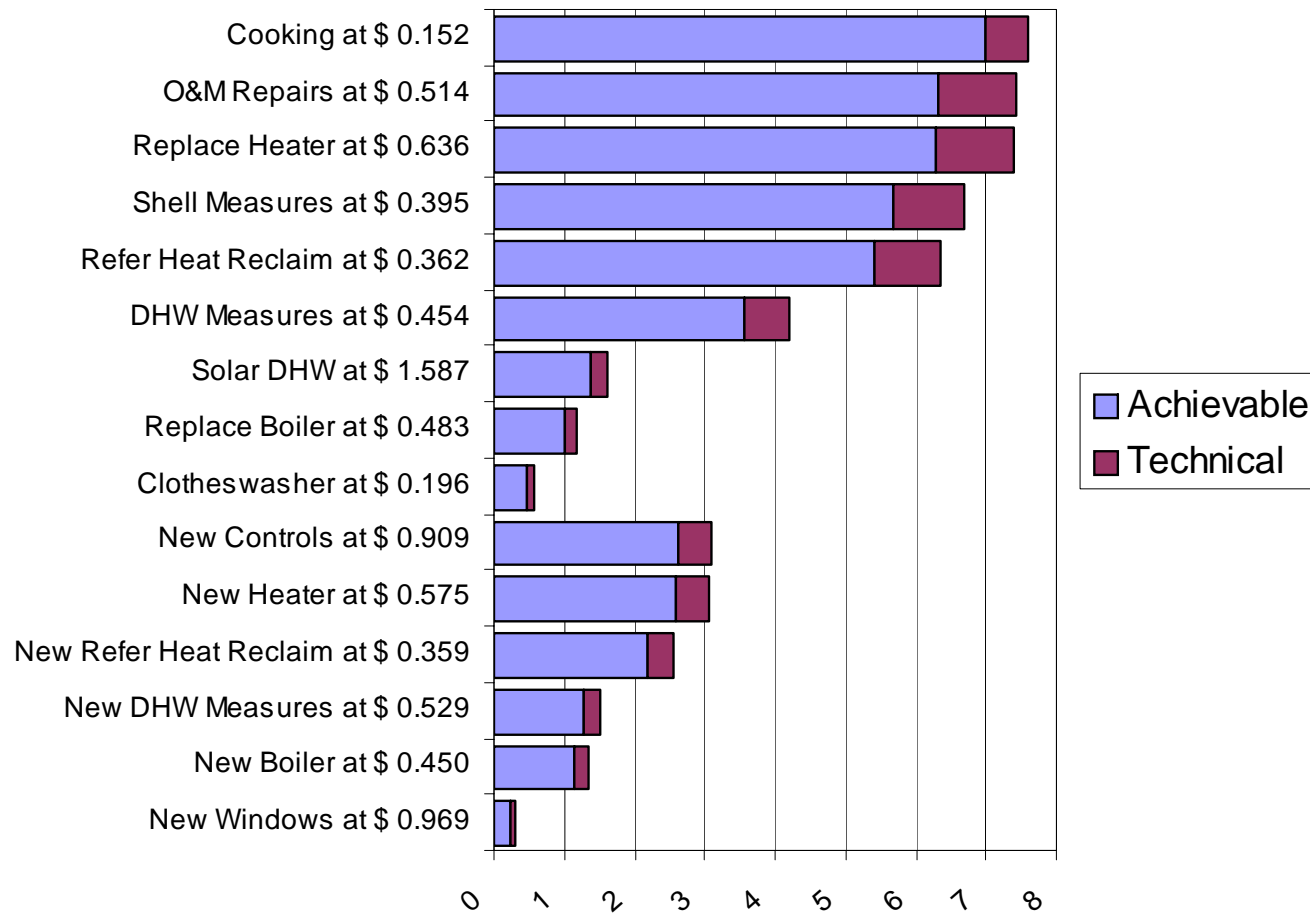
# Commercial Results – Electric 2017

## Commercial Potential 205 MWa and Levelized Cost \$/kWh, screened at \$.055



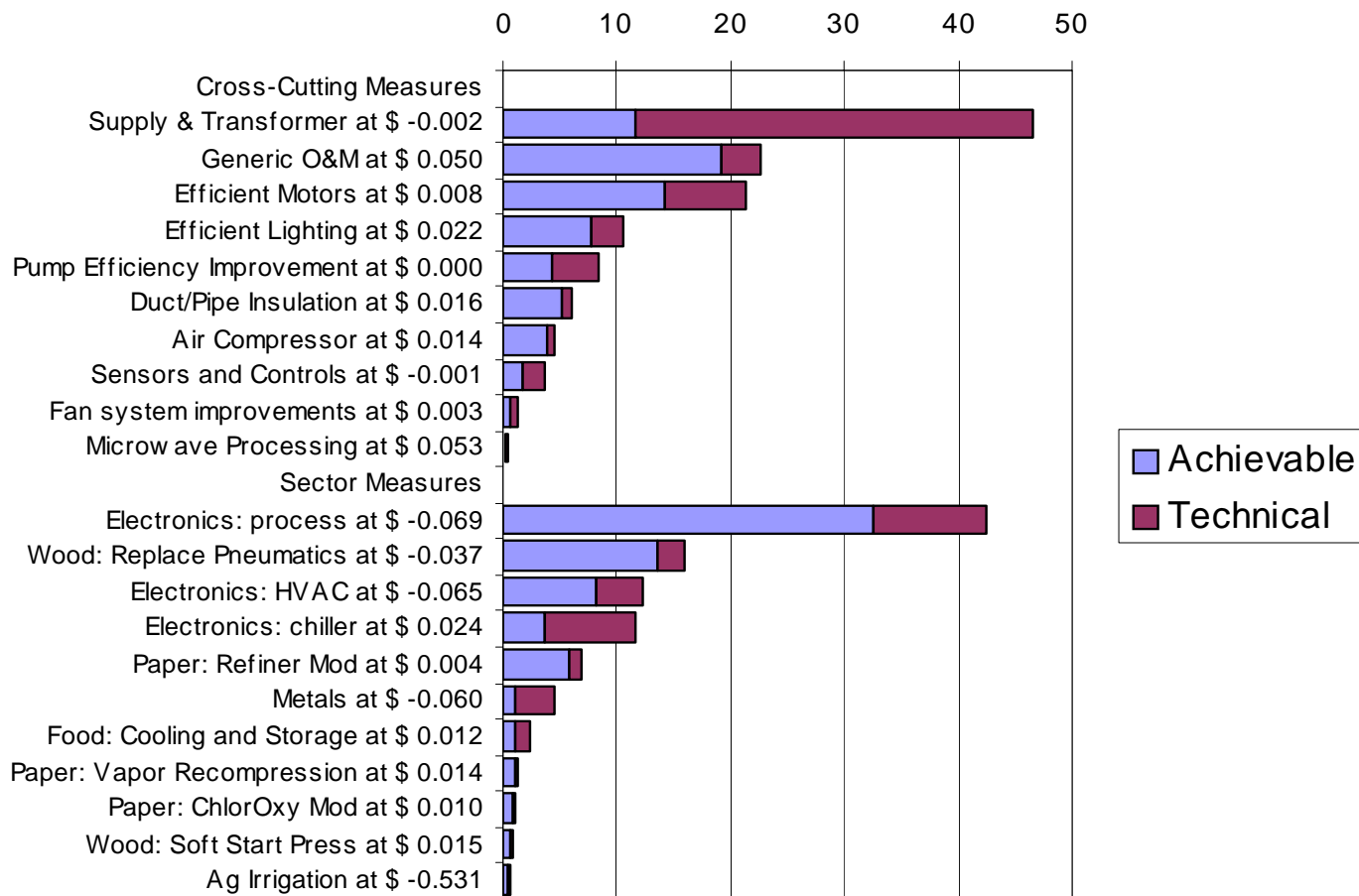
# Commercial Results – Gas 2017

## Commercial Potential 55 Million Therms and Levelized Cost \$/th, screened at \$1.70



# Industrial Results – Electric 2017

## Industrial Technical Potential 226 MWa and Levelized Cost \$/kWh, screened at \$.055



# Resource Assessment – Next Steps

- General guide for long term planning
- Input to Energy Trust strategic planning analyses
- Serves as a useful data source/tool for territory demographics

Comments/Questions