Sector Updates:
Agricultural, Industrial, and Utility Efficiency

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Utility Roundtables

Agricultural Sector

Agricultural (Ag) Sector aMW target for FY2012: 5 aMW

- Ag Motors – Variable Frequency Drives (VFD):
  - Completed two-year data collection and evaluation.
  - Working with Planning to finalize a completion of work timeline.
  - Will present findings to the RTF for an approved deemed measure; subsequent changes should be effective October 1, 2012.
- EE Marketing created
  - Ag programmatic ‘information packets;’ reinforces the benefits of energy saving opportunities.

Ag Sector: Scientific Irrigation Scheduling

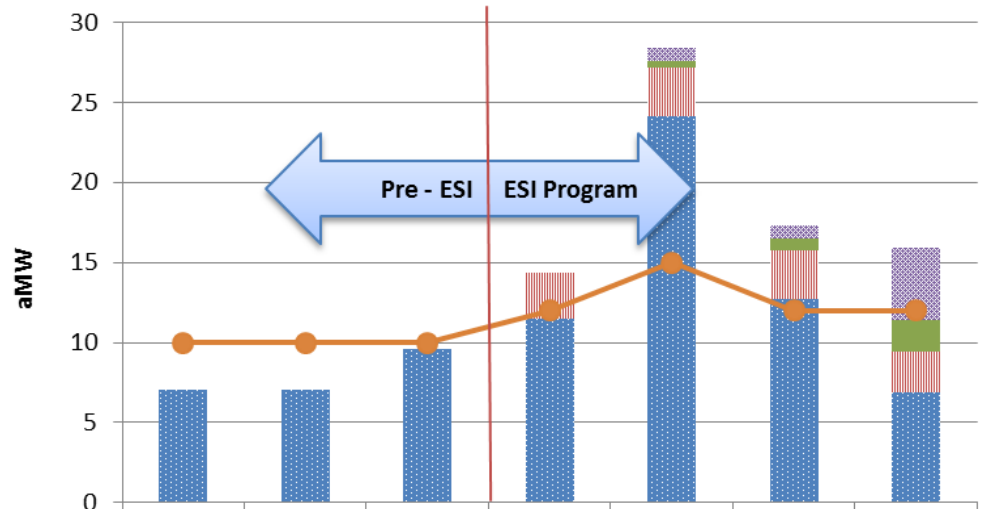
- SIS accounts for ~17 percent of Ag sector's target.
- One-year measure.
- Fixed, deemed incentive: $5.20 per acre.
- Requires weekly data and soil moisture measurement
- Data on measure costs, crop type, acreage and energy savings submitted to BPA at end of irrigation season.
- Energy savings is based on actual on-farm energy savings determined by the BPA-approved SIS M&V calculator spreadsheet.

Ag Sector: RC&D Program

- Resource Conservation and Development (RC&D) Council Ag Efficiency Program
  - First year [FY11] completed projects/reported savings:
    - Oregon: 441,770 kWh – 22 projects
    - Washington and Idaho/Montana/Wyoming reported : 20+ projects (awaiting final year-end reports to confirm energy savings)
      - Washington and Idaho/Montana/Wyoming developed the staffing and delivery system for the program.
  - 2012 budgets were evaluated and re-established with a 22 percent reduction.

Energy Smart Industrial Program

Industrial Sector aMW Target for FY2012: 12 aMW



	2007	2008	2009	2010	2011 (projected)	2012 (projected)	2013 (projected)
HPEM (aMW)	0	0	0	0	0.8	0.88	4.49
Track & Tune (aMW)	0	0	0	0	0.43	0.74	2
Deemed Lighting (aMW)	0	0	0	2.86	3	3	2.5
Custom Projects (aMW)	7	7	9.6	11.5	24.11	12.7	6.91
Goal (aMW)	10	10	10	12	15	12	12
Total Savings	7	7	9.6	14.36	28.34	17.32	15.9

Industrial: Incentives, General Trends

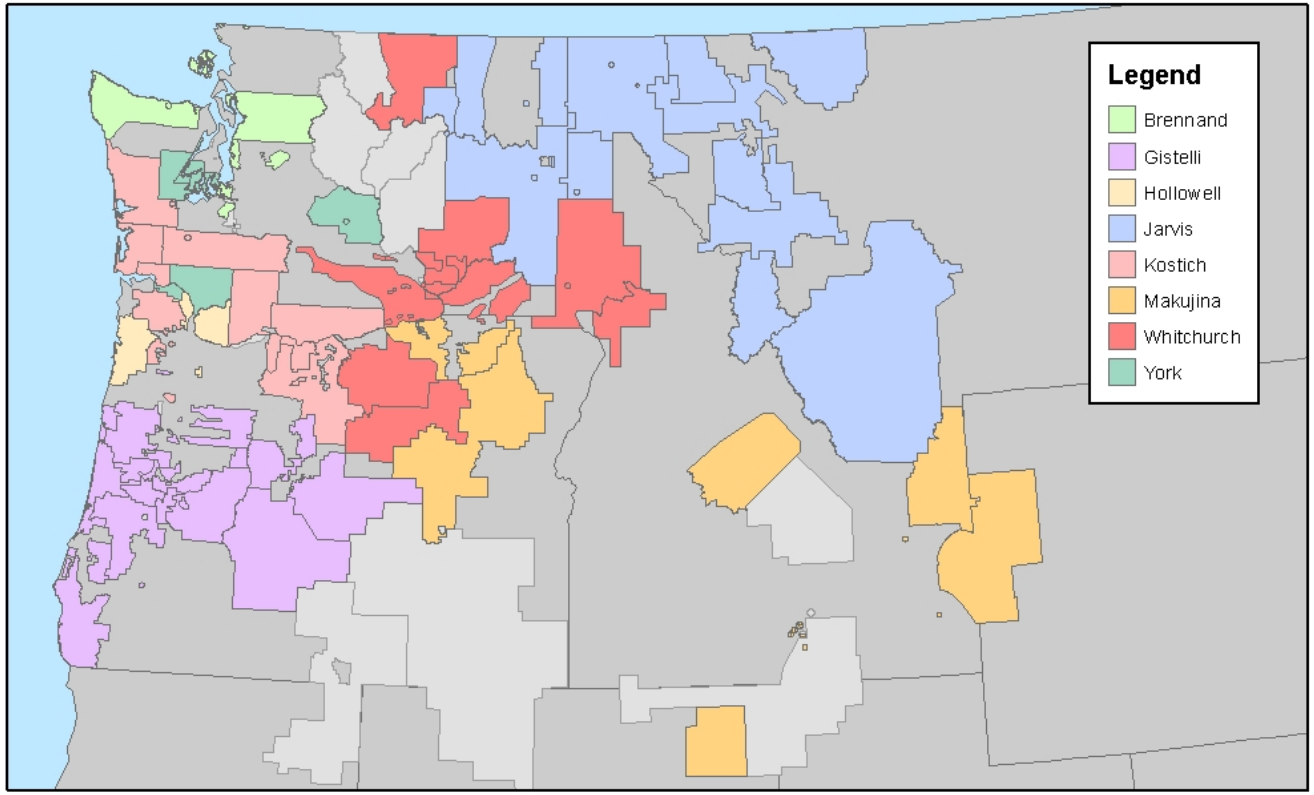
- Utility custom project incentive rates:
  - Maintain at $0.25/kWh, roughly 50 percent
  - Variable incentive determined by project, roughly 30 percent
  - Fixed incentive below ceiling, roughly 9 percent
  - Offer a combination, roughly 11 percent
- Utility usage of project caps:
  - Cap at estimated custom project proposal (CPP), roughly 40 percent
  - Maintain cap at 70 percent (project's incremental cost), roughly 30 percent
  - Undetermined/other/unknown roughly 30 percent
- Utility self-funding[1]:
  - Roughly 33 percent across the board (Yes / No / Undeclared)

[1]Based on updated utility account plans and ESIP conversations with utilities (majority of the top 30 with industrial load).

Industrial– ESI Program Updates

- Energy Smart Industrial – Phase 3 (changes):
  - ESIP reduction (now 8 FTE, was 12 FTE) has stretched utility coverage territories [see slide 8] and contact frequency.
  - Technical services budget reduced by ~50 percent.
  - Overall ESI program delivery budget reduced ~33 percent from FY2011 Actuals.
  - Market activity varies because of utility uncertainty (i.e., EEI funding transition, budget overrun reconciliation, variable incentives, self-funding requirements, etc.).

ESIP Territory Assignments



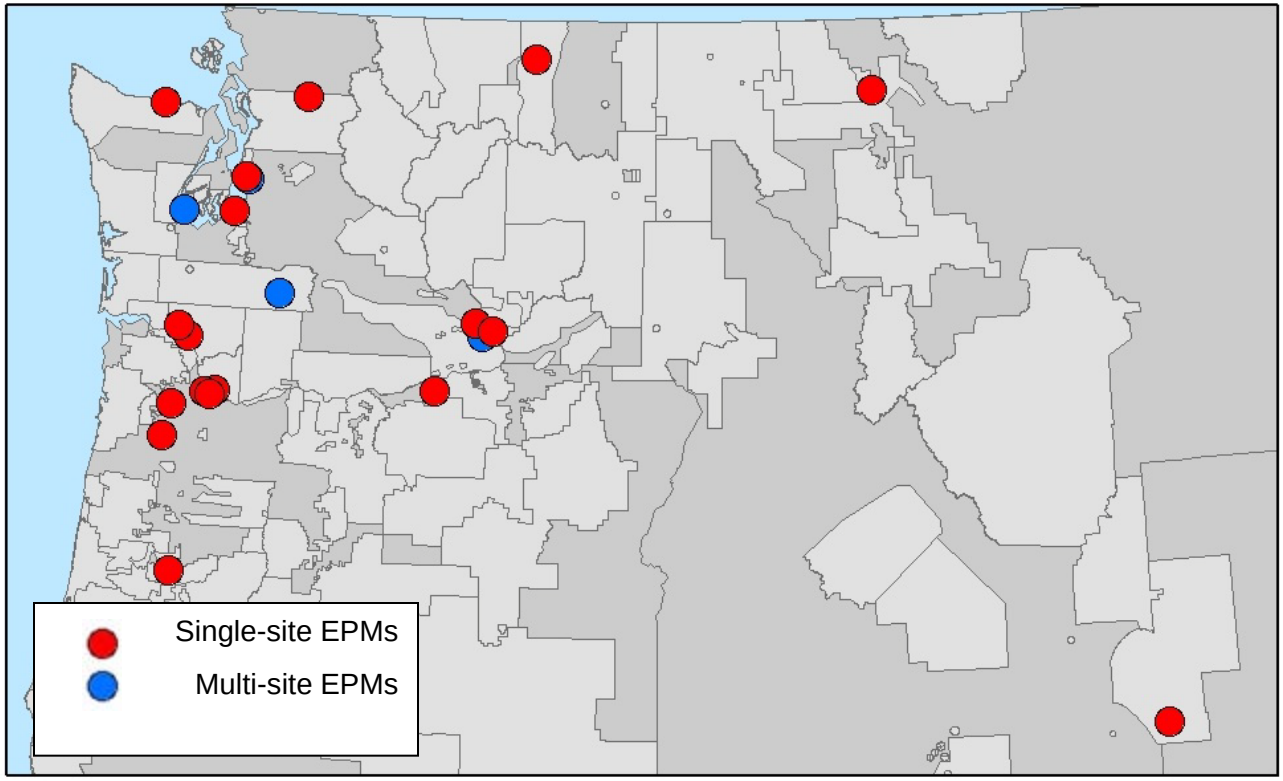
ESIP Approach to Market

- ESIPs maintain contact with regular utility check-ins – even those with low industrial activity in the rate period.
- Focus on low-cost/no-cost Track and Tunes and other Energy Management opportunities.
- Be responsive to utility customer service needs (i.e., project development, entry, etc.)
- Develop and review with utility - funding forecasts based on custom projects and energy management project pipelines.

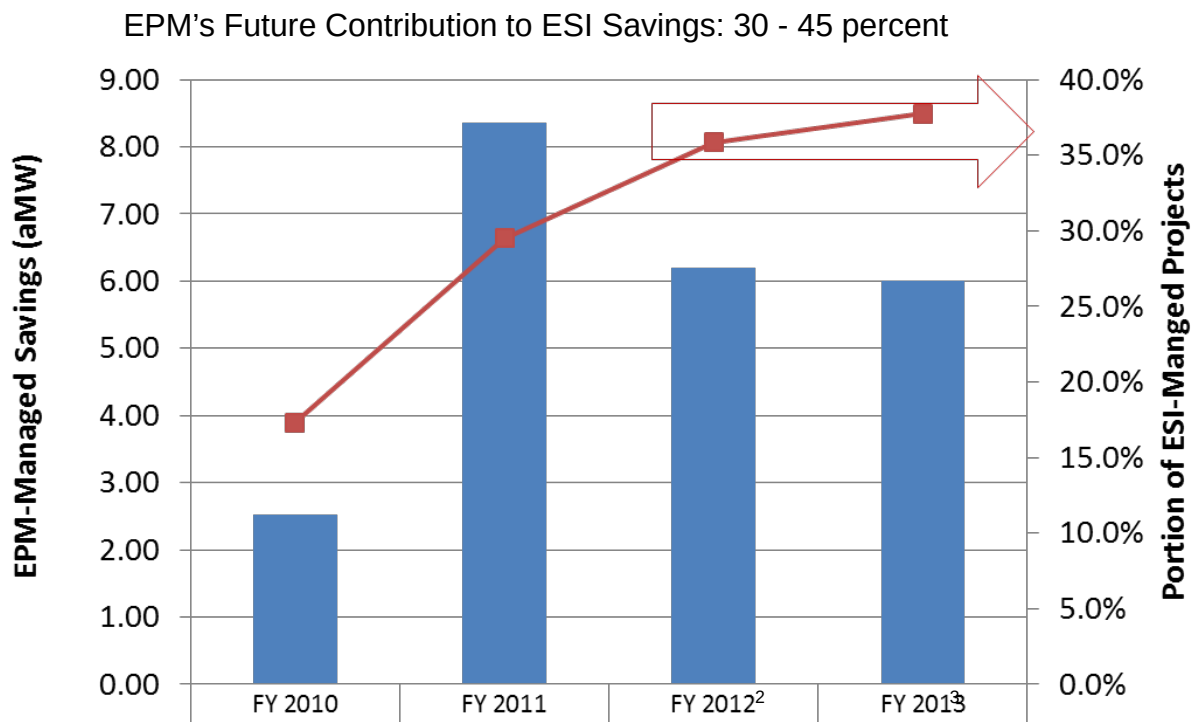
ESI Program: Energy Management

- Energy Project Managers (EPM): 25 executed EPM agreements YTD; of which 20 are active [16 in year-1; 4 in year-2].
- Track and Tune projects: 11 currently with a projected aggregate *first-year savings* of 20,000,000 kWh.
- High Performance Energy Management: two large cohorts (~150 aMW connected load) underway.
- Several utilities looking at three-year commitment (vs. five-year option) for Track and Tune/High Performance Energy Management. Multi-year commitments cause hesitancy in come cases.

Energy Project Managers by Location



EPM: Resources within Industry



	FY 2010	FY 2011	FY 2012[2]	FY 2013[3]
EPM Savings (aMW)	2.53	8.35	6.20	6.00
% of ESI Savings	17.3%	29.5%	35.8%	37.7%

[2]Note: FY2012 forecast is based on EPM custom project proposals and pre-CPPs.
[3]Note: FY2013 forecast is based on recent and expected EPM renewals.

Track and Tune Facts

- In FY2011, two Track and Tune projects' *first-year savings* were booked.
  - Cost effectiveness: Performance Tracking System (PTS) + Action Item Co-funding = $0.03/kWh.
- Several sub-sectors and systems are represented:
  - Industrial refrigeration
  - Fans/Blower Systems
  - Compressed Air
  - Future » Wastewater, High-Tech HVAC

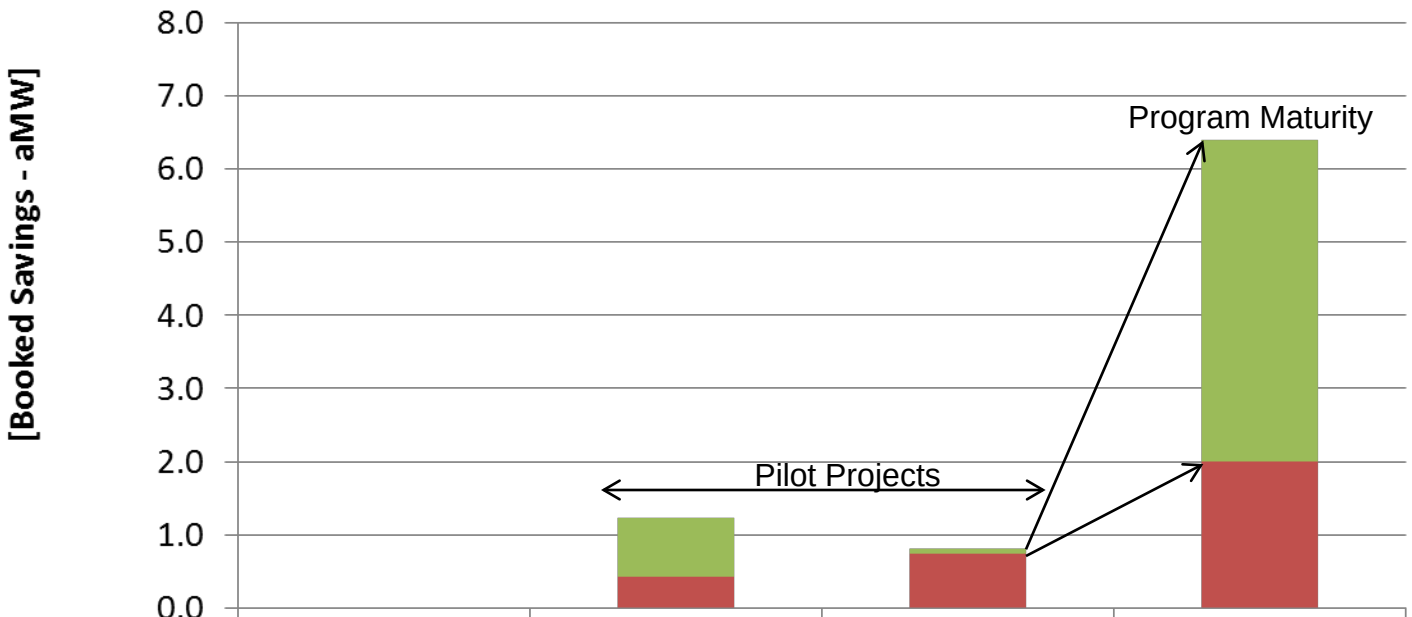
High Performance Energy Mgmt Facts

- Currently 25 HPEM projects underway, represents over 200 aMW of connected load.
  - Cohort 1: SW Washington[4] [13 companies / 31 aMW load]
  - Cohort 2: Puget Sound[5] [11 companies / over 70 aMW load]
  - Cohort 3: Georgia Pacific[6] [2 mills / over 90 aMW load]
- If we assumed a possible savings of 4 percent (net custom projects) over 5 years, it translates to 8 aMW of energy savings!

[4]Serving utilities: Clark Public Utilities, Clatskanie PUD, Cowlitz PUD, Lewis Co. PUD and the City of Richland.
[5]Serving utilities: Seattle City Light and Tacoma Power.
[6]Serving utilities: Lewis Co. PUD and Clatskanie PUD.

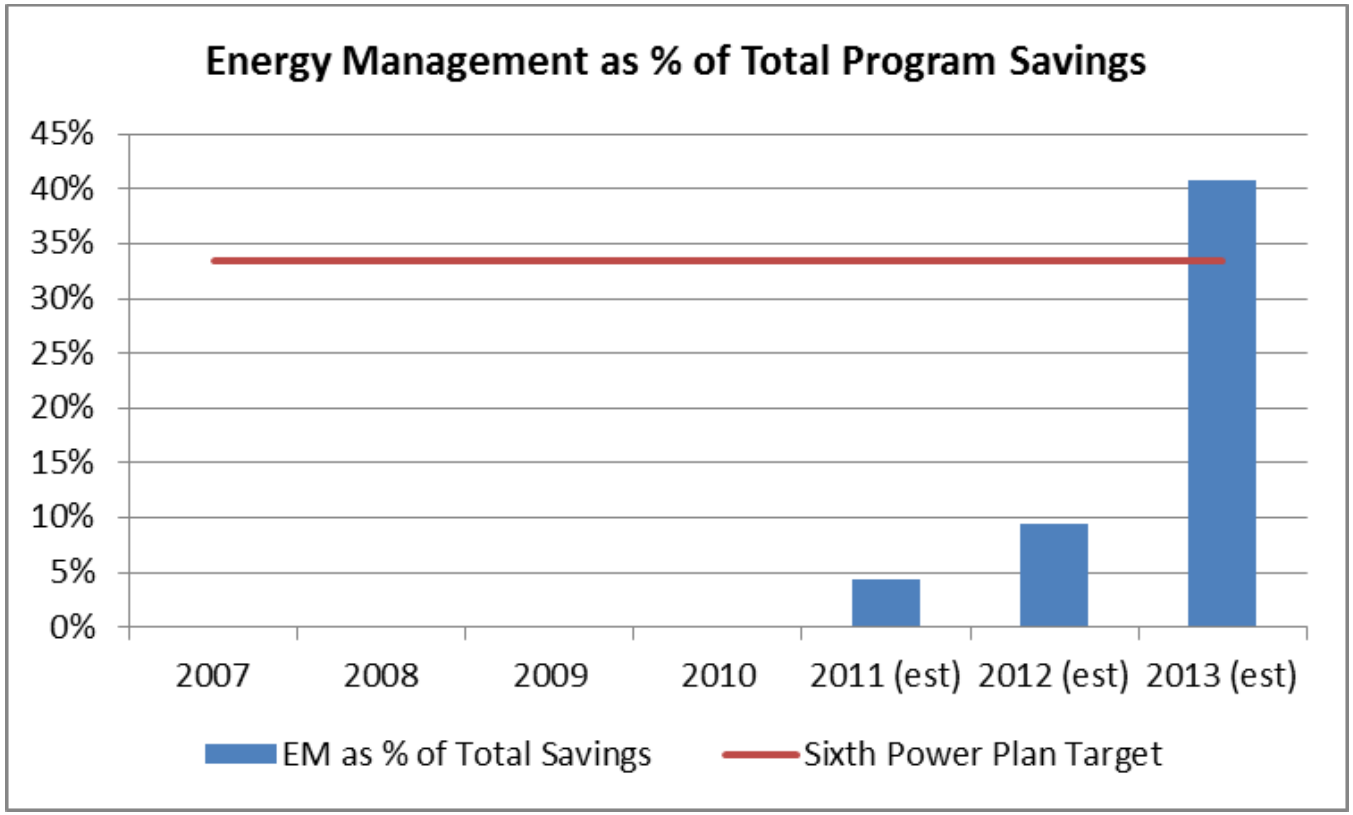
Energy Mgmt Pilot: Builds Pipeline

2011 Booked Savings, 2012 and 2013 Projected Savings



	FY 2010	FY 2011	FY 2012	FY 2013
HPEM/T&T % of ESI Total	0.0%	4.3%	4.7%	40.3%
HPEM	0.00	0.80	0.08	4.40
Track and Tune	0.00	0.43	0.74	2.00

Energy Mgmt Performance vs. 6th Power Plan Target



Energy Management savings are a combination of savings from HPEM and Track and Tune.

Savings from EPM projects are not included.

Quality Control System Update

- Quality improvement effort is underway:
  - Collaborative team is being formed (includes BPA ESI and Contracts staff and ESI QC staff) to review and recommend improvements of:
    - Project flow and communication
    - Invoicing and cost clarifications
    - Processing cycle times
    - Accuracy and rework reductions
    - Refinement and broader use of corrective action process
  - ESI Program Process Evaluation (in final stages)
    - Conducted by Research Into Action
  - ESI Impact Evaluation (in progress)
    - Conducted by Cadmus

Utility Efficiency Sector Update

Utility Efficiency Sector aMW Target for FY2012: 1 aMW

- ESUE saves energy through improvements to utilities' distribution system
  - System Improvements (i.e., reconductoring, transformer replacements, etc.)
  - Voltage Optimization (i.e., Voltage reduction)
- Since 2010, BPA has partnered with 14 utilities and studied 42 substations
  - Only Cowlitz PUD has submitted/approved custom project proposal
- In February 2012, BPA signed a two-year ESUE t*echnical services contract* with SAIC.
  - Contract supports 5-7 utility distribution system studies each year.