2010-2015 Industry & Agriculture Sector Strategic Plan

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Agenda

Current State of the Sector
Resource Potential
Strategic Plan

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Current State

Who Do We Serve?

- Industry
  - From 2001 – 2007, manufacturing was 32.1% of Oregon's real GDP.
  - OR has 3rd most industrial state economy in US.

- Agriculture
  - In 2008, the ag sector provided 2.5% of the state's real GDP.
  - OR is the 9th most agricultural state as a % of GDP.

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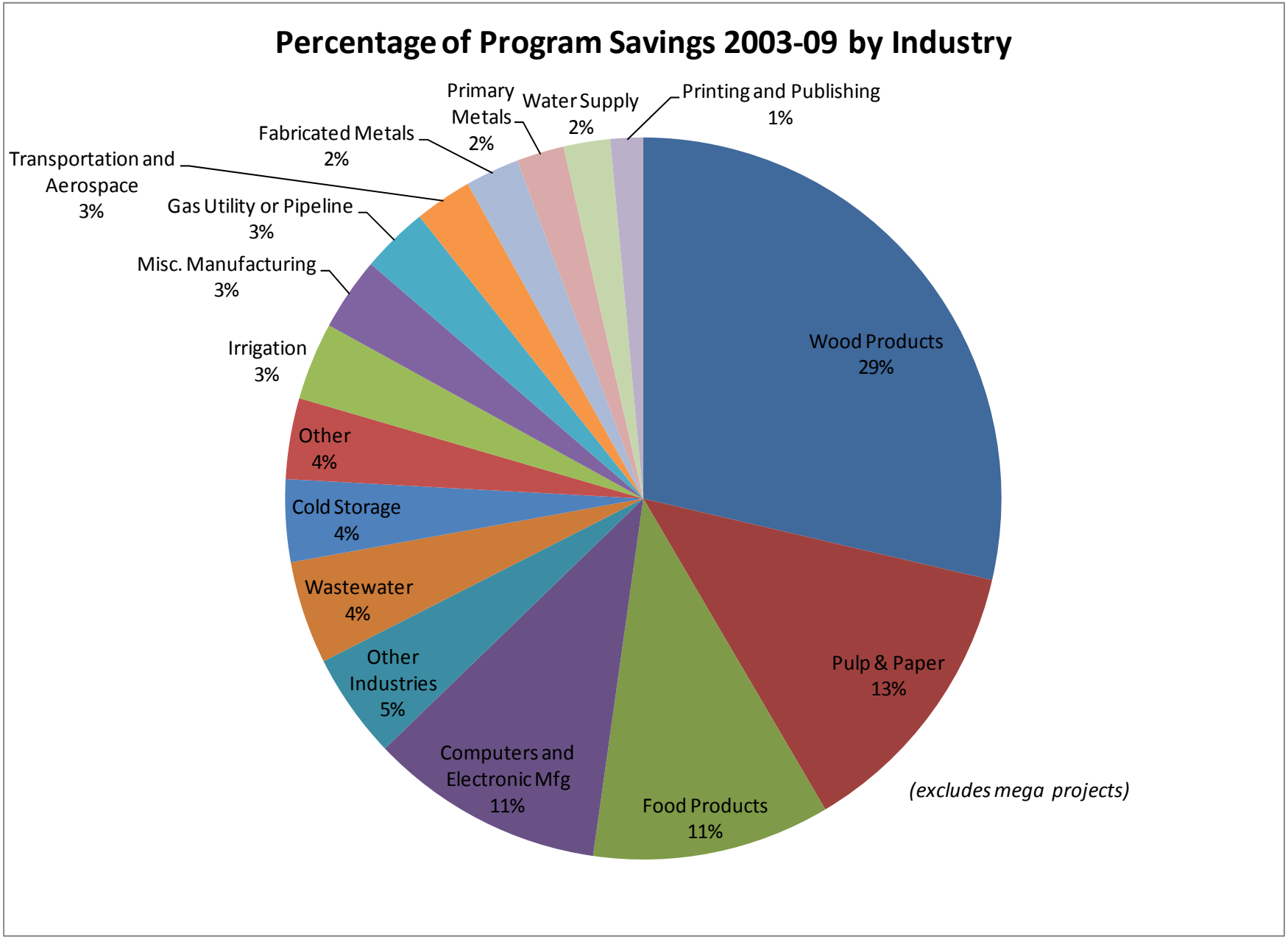
Percentage of Program Savings 2003-09 by Industry
Wood Products 29%
Pulp & Paper 13%
Food Products 11%
Computers and Electronic Mfg 11%
Other Industries 5%
Wastewater 4%
Cold Storage 4%
Other 4%
Irrigation 3%
Misc. Manufacturing 3%
Gas Utility or Pipeline 3%
Transportation and Aerospace 3%
Fabricated Metals 2%
Primary Metals 2%
Water Supply 2%
Printing and Publishing 1%
(excludes mega projects)

2010 Goals and Budget

Production Efficiency 2010 budget = $25 million

2010 Stretch Goals: 11.9 aMW and 900,000 therms

Progress towards stretch as of 9/1/10:

- Strong 2010 pipeline, in excess of stretch goals by >10%
- Common fall off, push out to 2011 due to project delays in last Qtr

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The Program Structure

- PE: Production Efficiency program, developed & managed in house by Energy Trust Industry and Ag Sector (I&A) staff

- PDC: Program Delivery Contractors are industrial efficiency experts (6 PDCs in 2009 – 2011)
  - bring the program to market in assigned territories, meet savings goals
  - work directly with industrial energy users or through Trade Allies

- Custom Technical Services (assigned by PE Tech Mgr)
  - ATAC: Allied Technical Assistance Contractors are engineering consultants, perform technical studies, savings verification
  - ITSP: Industrial Technical Service Providers are consultants who provide Strategic Energy Management services or other similar direct technical services – (New!)

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Source of Savings

Custom Track projects

- Includes major retrofits, unique process changes, O&M measures
- Includes Strategic Energy Management such as IEI, Kaizen Blitz
- PDCs provide support and facilitate services and incentives for medium to large industries to drive deep and persistent savings
- ATACs and ITSPs provide technical studies and other technical services at no cost to participants

Calculated Savings measures

- The Small Industrial Initiative and Lighting Trade Ally Network
- Provides Trade Allies with calculation tools, collateral, simplified incentive process.

Prescriptive measures

- Deemed measures are technically difficult to develop due to unique operating conditions of plants & so are limited in industrial.

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Effect of Small Industry, Ag, Lighting on Program Volume

Table 2: Number of Completed and Pipeline Projects by Track

Project Track	2004	2005	2006	2007	2008	2009	2010*	Total # Projects
Custom	111	182	146	85	119	96	144	
Calculated	0	34	40	67	186	256	205	
Prescriptive	0	28	53	58	95	277	171	
O&M	0	0	0	0	1	4	40	
Total by Year	111	244	239	210	401	633	560	2,398

**Completed To Date + Pipeline*

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Diversification of Sources of Savings

Table 1: Reportable Savings by Project Track and Year

Project Track	2004	2005	2006	2007	2008	2009	2010*
Custom	60,227,215	65,727,121	54,505,721	29,530,071	46,662,463	38,275,336	55,533,763
Calculated	0	9,853,987	9,274,225	12,477,885	13,941,905	23,299,069	27,992,863
Prescriptive	0	509,946	1,006,571	1,860,869	1,397,202	1,976,004	1,136,940
O&M(includes IEI & KB)	0	0	0	0	1,564,770	5,917,939	27,725,738
Totals	**60,227,215**	**76,091,054**	**64,786,517**	**43,868,825**	**63,566,340**	**69,468,348**	**112,389,304**

Excludes mega-projects

**Completed as of 7/10 + Pipeline*

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Strategic Energy Management

- SEM: An umbrella term referring to a variety of management practices that can increase production efficiency, including
  - Using energy and production data to tune operations, reduce energy intensity & reduce energy costs
  - Continuous improvement approaches and tools for engaging employees, equipping champions and enabling sponsors

- IEI: Industrial Efficiency Improvement, one of Energy Trust's 2 year old SEM pilots

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90 by 90 Custom O&M Special Offer

- 2010 Short term special incentive offer – 90% of costs for O&M measures with persistence strategies completed within 90 days

- Preliminary results: savings estimates and customer response very dramatic
  - 54 projects in pipeline, 80% compressed air O&M
  - 25 million kWh working savings estimated
  - Average ~460,000 kWh/ project
  - Avg. < $20k total project cost, < $15k incentive/ project.

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Custom measures, incentives, cost

Table 3: Custom Track Measure Comparison

Measure type	Avg Measure Life (yrs)	Cash Incentive $/annual kWh	Project cost cap %	Avg. acquisition cost $/kWh	Levelized cost $/kWh
Custom capital - non-lighting	10	$0.25	50%	$0.150	$0.015
Capital < 1 yr payback	10	$0.02	50%	$0.025	$0.003
Custom O&M	3	$0.08	50%	$0.038	$0.013
Custom O&M - 90 by 90 special	3	$0.08	90%	$0.043	$0.014
Custom O&M - SEM	3	$0.08	50%	$0.041	$0.014
O&M/ SEM < 1 yr payback	3	$0.02	50%	$0.020	$0.007

notes: 1. avg. acquisition cost includes both cash and technical service incentives

2. levelized is incentives only, does not include program mgmt or delivery

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Sources of Savings: Gas

- Gas efficiency services have limited eligibility – most large industrials exempted from public purpose charge for gas. No gas in PE until:
  - Small Industrial Initiative, especially ag / nurseries, source of gas savings starting in 2008
  - Savings in CNG territory began when PDC assigned to Central Oregon in 2009 found eligible sites with viable projects. Only 2 projects completed in 2009, but over 50,000 therms of savings.
  - NWN Industrial DSM pilot for Firm and Interruptible customers began 6/09, major expansion.

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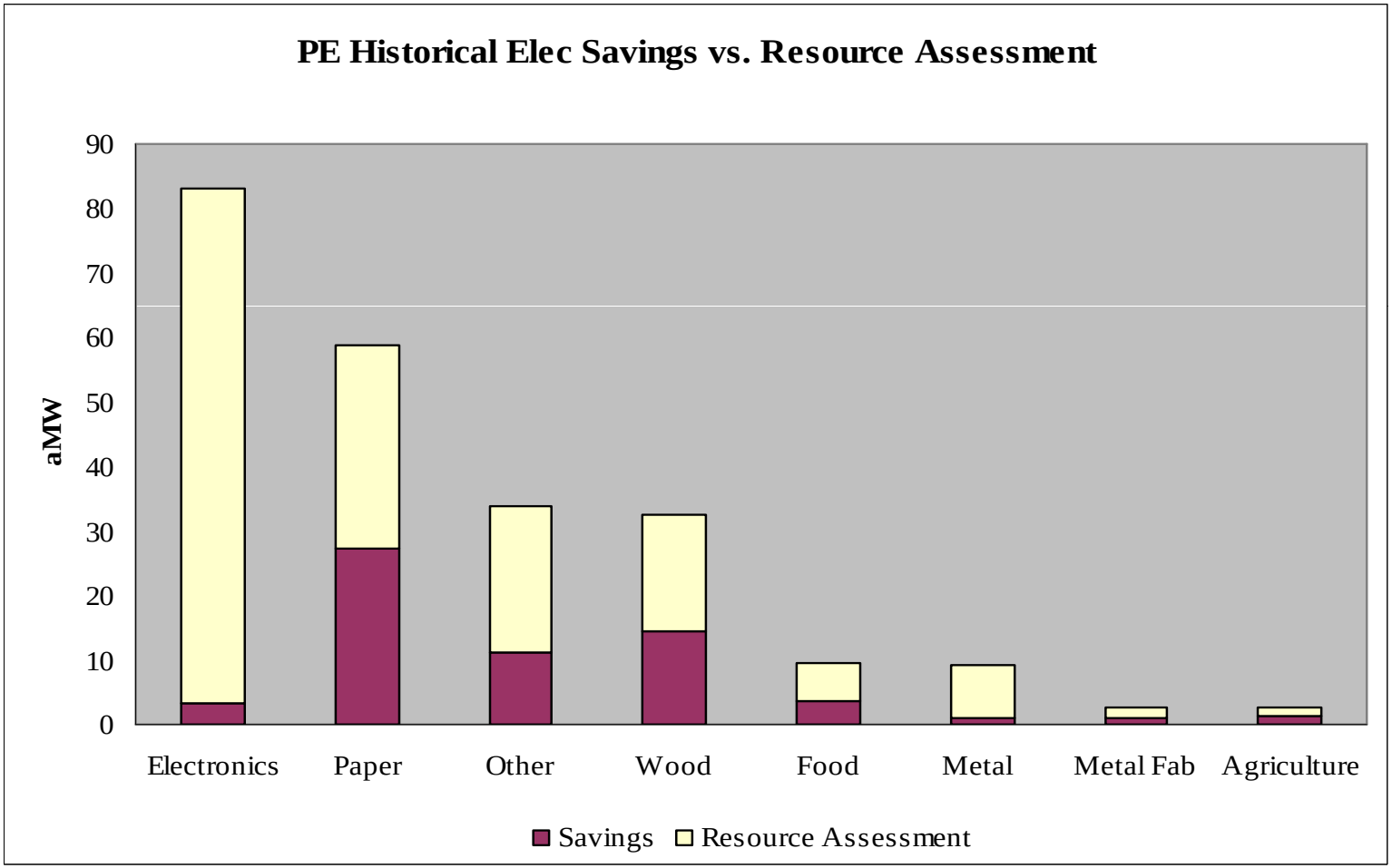
Resource Potential

20 yr Savings Potential by Market



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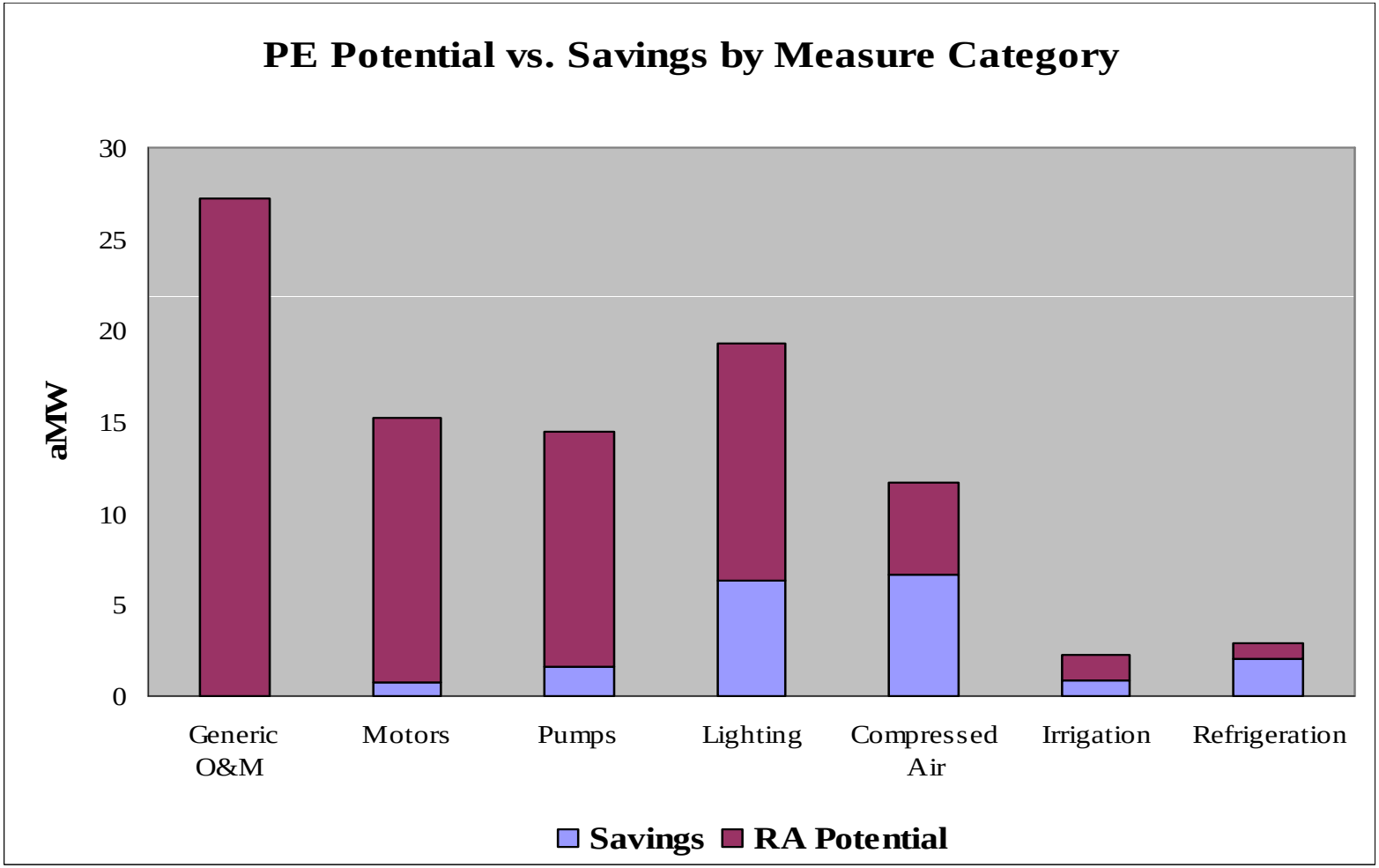
20 Yr Savings Potential by Measure



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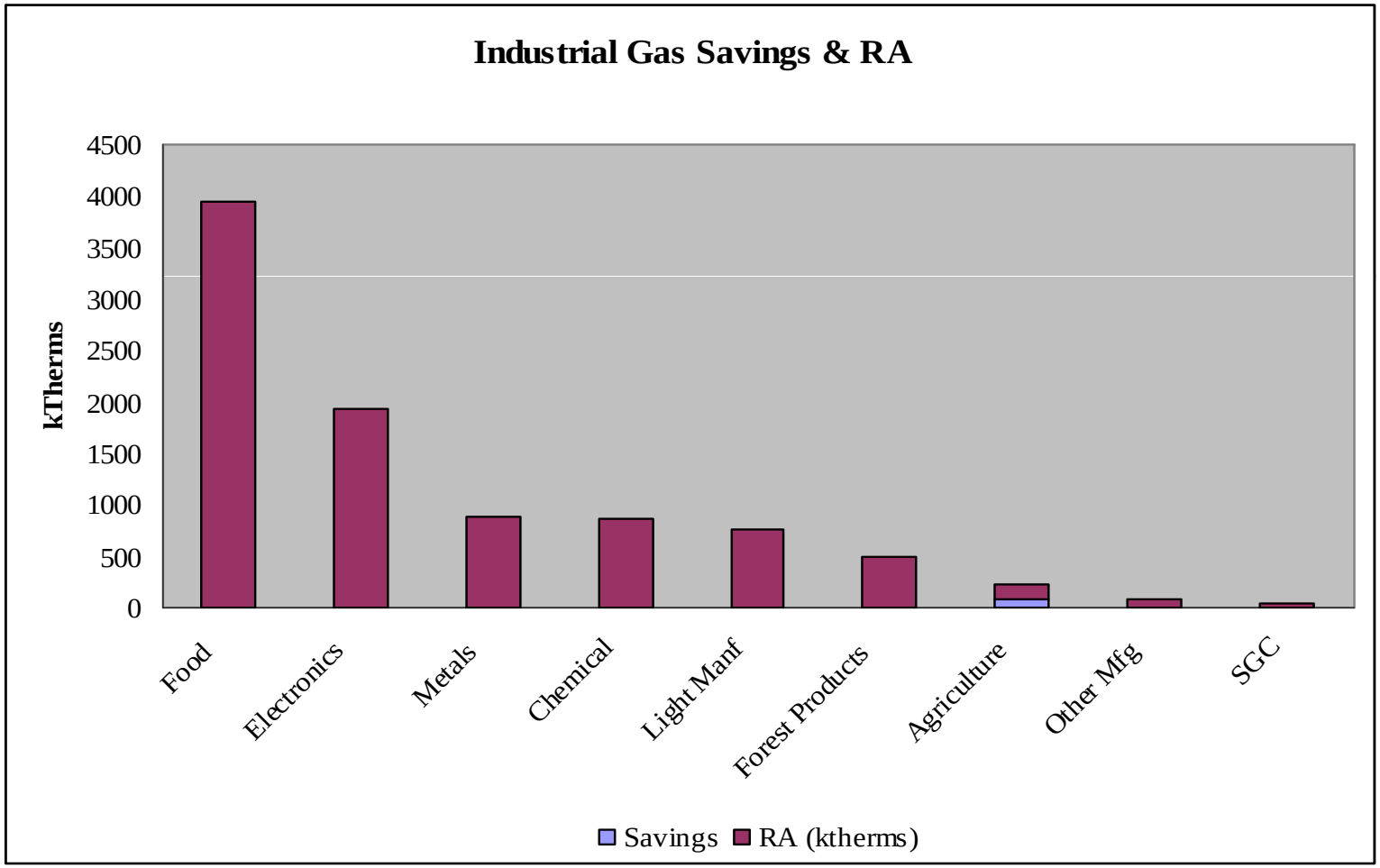
Gas Savings Potential by Market



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The Plan:
Near-term Strategies
Managing Risks

Areas of Focus: Building on Strengths

- Maintain strong and strategic relationships with participants, collaborating organizations

- Deliver site/ industry-specific services to create deep and persistent savings in medium to large industrial sectors through capital and O&M measures and energy management practices.

- Develop additional cost-effective services and calculated or prescriptive measures to bring benefit of efficiency to small industrial and agricultural businesses.

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Key Activities

1. Tune custom track services and incentives to continue to provide PDCs with compelling offerings to deliver to market.

2. Expand SEM and O&M services and offerings, build ATAC and ITSP pools.

3. Grow impacts in ag and small industrial by increasing number and type of measures, engaging new trade allies and providing new targeted market outreach

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Key Activities

4. Embed continuous improvement culture in internal program administration to manage complexity, reduce wasted effort, increase project throughput and maintain quality

5. Share info, leads and joint initiatives related to planned activities with other key I&A EE organizations – NEEA, ODOE, BPA, Business Oregon, OMEP, HPEC, NW FPA, US EPA, USDA and US DOE.

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O&M/ SEM Savings: Benefits & Risks

- Benefits
  - Low/no investment cost. Offsets lack of capital as a barrier
  - Highly cost-effective savings in less than 1 yr cycle
  - Drives additional capital projects by removing organizational barriers & creating low cost savings to be re-invested
- Addressing risks
  - Technical – evaluation and persistence of savings.
    - Managed: persistence requirements in O&M incentive design, high quality technical review.
  - Complexity of offerings – keep program procedures and messages simple & efficient while integrating complex emerging practices.
    - Management requires analysis, synthesis and ongoing training of contractors etc.

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Custom Capital projects: Benefits & Risks

- Benefits
  - Largest potential source of savings, very cost-effective
  - Contractor expertise, reputation, historical success
  - Custom analysis of similar measures may lead to development of deemed or calculated savings measures
- Addressing risks
  - Stability of Production – measures may fail due to process changes or plant closure. Managed through low 10 yr avg. measure life, 50% cost share requirement for incentives.
  - Availability of capital/ willingness to invest – industry not inclined to finance retrofits. O&M, lighting, motors are low cost alternatives. SEM may help.

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Key Policy Challenges and Barriers

- SB838 spending limitation for sites > 1 aMW
- BETC sunset, BETC uncertainty
- Limited eligibility for gas incentives

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Market Transformation by 2015

- Attitudes of industry towards energy shifted, understood as a manageable, variable cost
- Energy information systems deployed broadly as an enabler for energy management
- Emergence of standards and supply-chain market pull for certification
- Growth of clean tech industry in Oregon, and their local suppliers, as potential market force for all of the above

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Recap: Major Focuses of the Plan

- Current approaches to working with industry in Custom and calculated tracks are effective. Continue.
- Recent years have been a period of innovation. Continue development and integration of SEM, SII.
- Balancing the complexity of a highly customized, customer-centered program with transparency, simplicity, efficiency of program administration.
- Understand risks, continue to gather info, prepare to re-design as needed.

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