Save Energy Now LEADER Web Conference
Project Implementation Seminar Series

8 - Preparing for Project Implementation

Announcing “the PRIZE”

Fred Schoeneborn, CEM, CEA
July 14, 2010

Agenda

- Seminar **Series Overview**
- **Recap Seminar # 7 –** "**Motivating** Employees to Implement Projects"
- **Announcing "the PRIZE"**
  Fred Schoeneborn - ORNL team
  Walt Brockway - Alcoa
- **Questions**/Future Seminars

Project Implementation Series

- **12** One-hour seminars assisting *Save Energy Now* LEADER Companies
- Conducted every **second Wednesday** of the month
- Focus on **real world** examples and solutions
- Practical **tools** made available
- **Peer** *Save Energy Now* LEADER participants

Motivating Employees

- Provide **recognition** to generate motivation
- Use **give-aways**, logos, contests, & events
- **Publish** updates and use a "**thermometer graph**"
- Solicit **Management Assistance**
- Conduct **Events**
- Establish an Energy **Network**

Sharing by CalPortland

- Nurture **corporate commitment**
- Establish an active & extensive Energy **Organization**
- **Engage employees**
- Conduct **events**
- Establish an energy **Website**
- Manage **project**-related issues
- **Institutionalize** initiatives**/**improvements
- **Promote** your energy program externally
- **Recognize** good performance

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Announcing the PRIZE

- Address **WII-FM**
- Talk in “**business language**”
- Note **Public Relations** benefits
- Highlight **Environmental** benefits
- List **Non-Energy** benefits

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Calculating the PRIZE

The "PRIZE"

To get senior management's attention, you should identify the "**PRIZE**".

- This will answer the question "**what's in it for me?**" (WII-FM: management's favorite radio station)
- The following describes a method to identify the "**PRIZE**". Use the space in the appropriate box to plug in the values for your company and calculate your **"PRIZE"**.

STEPS:	EXAMPLE:
1. Determine the **annual energy expense**.	Assume energy expenses total $100,000,000/yr.
2. Set a long term energy expense **reduction goal**.	3%/yr usage reduction for 5 years means usage will be 15% lower in year 5 than if there was no program.
3. Multiply the annual expense by the cumulative goal to get the **$ savings** in the last year.	$100,000,000 * 15% = $15,000,000
4. Determine the company's **annual revenue** or sales $.	Assume $5,000,000,000.
5. Determine the company's **net profit**.	Assume $250,000,000
6. Determine the company's **margin** on sales $ by dividing the profit (step 5) by the revenue (step 4).	$250,000,000 / $5,000,000,000 = 5%
7. Divide the savings (step 3) by the margin (step 6) to identify **equivalent sales $** required to provide the same impact on the "bottom line".	$15,000,000 / 5% = $300,000,000
Optional (equivalent units of sales)	
8. Determine **price per unit**	Assume $0.50 per unit
9. Divide equivalent sales $ (step 7) by unit price (step 8) to identify **equivalent unit sales**.	$300,000,000 / $.50 = 600,000,000 units

The PRIZE Worksheet Process

1) Determine the **annual energy expense**
2) Set a long term energy expense **reduction goal**
3) Multiply annual expense by **cumulative goal**(savings)
4) Determine the company's **annual revenue** (sales $)
5) Determine the company's **net profit**
6) Determine the company's **margin** on sales
7) Divide the savings (step 3) by the margin (step 6) to identify **equivalent sales $** required to provide the same impact on the "bottom line"

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Public Relations Benefits

- Notify **employees** of the PRIZE
- Advise **customers** of your energy efforts
- Include **suppliers** in an extended effort
- Inform **plant neighbors** & other **stakeholders**
- Update **government** agencies

Environmental Benefits

- Demonstrate **environmental stewardship**
- Convert savings to "**carbon avoided**"
- Use environmental **equivalents**
- Associate with **environmental organizations**

Non-Energy Benefits

- Emphasize **safety**
- Enhance **Procurement** approaches
- Include in **Shareholder Meetings**
- Improve **Government Relations**

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Publish the PRIZE

- Utilize **company** communication opportunities
- Display **posters**
- Educate **management**
- Conduct a **contest**

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Replication Vehicle

Replicate Best Practices throughout the company by associating them with the

PRIZE

Champion of Implementation

- **Walt** Brockway, PE, CEM
- Manager, Global Energy Efficiency
- **Alcoa**
- Focus is on Implementation

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Alcoa can’t wait for tomorrow

2010 Company Overview

Alcoa at a Glance

- Founded in 1888
- 200+ locations
- 31 countries
- $18.4 billion revenue in 2009
- 59,000 employees
- 10 times safer workplace than US average
- Award-winning sustainability leadership
- 120 years of patents, including the original aluminum process

Number of Employees (2009)	
U.S.	23,000
Other Americas	19,000
Europe	10,000
Pacific	7,000
	59,000

Energy Spend & EE Program Launch

The Energy Spend is significant. Alcoa spent ~ $2.8Billion on Energy in 2009, a year where Energy prices had decreased.

- $1.3B on smelting energy & $1.5B on non-smelting energy
- Even small improvements yield big savings – a 1% improvement equals $28M p.a.

Global Summit on Energy Efficiency (EE) in 2009

- Kicked off the identification of EE projects across all BUs
- Began coordination process to raise awareness level across Alcoa

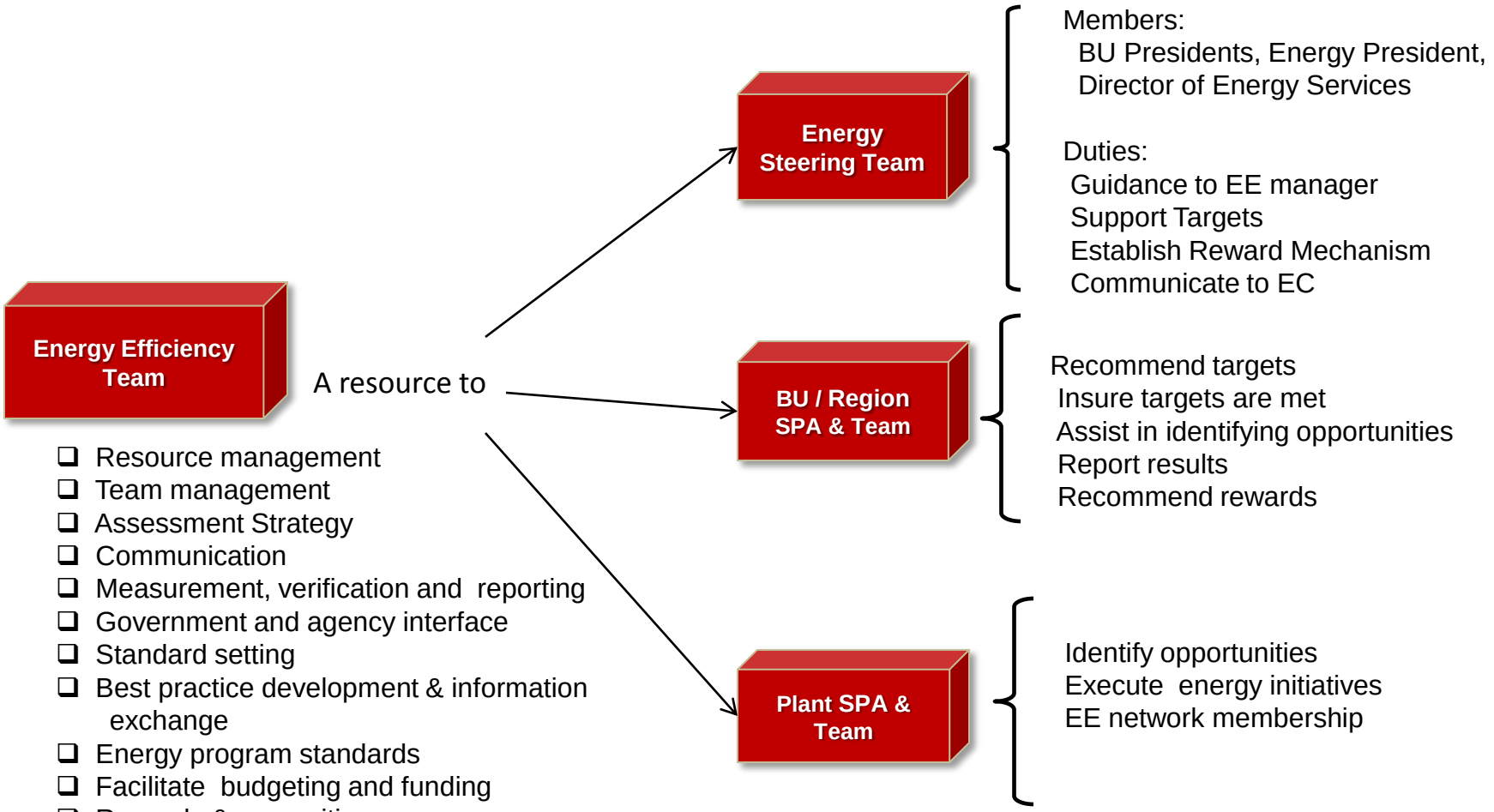
Key elements of EE program

- Small capital items: efficient lighting, auto-shutoff mechanisms
- Larger capital items: cogeneration, efficient furnaces, waste heat recovery

But…

…being 'non-core', Energy Efficiency (EE) projects often take backseat to other projects

Support Team is a Critical Resource



- ❑ Resource management
- ❑ Team management
- ❑ Assessment Strategy
- ❑ Communication
- ❑ Measurement, verification and reporting
- ❑ Government and agency interface
- ❑ Standard setting
- ❑ Best practice development & information exchange
- ❑ Energy program standards
- ❑ Facilitate budgeting and funding
- ❑ Rewards & recognition
- ❑ Employee energy awareness

We Need EC Decisions to Support Our EE Program

Alcoa Energy Efficiency: Program Needs

		Proposed next steps
SPONSORSHIP	**Demonstrated sponsorship from top level management**	**An announcement broadcasting our renewed and organized focus**
ACCOUNTABILTY	**Clear lines of responsibility for each BU**	**Approve proposed organization** ▪ Steering Committee ▪ Designated BU SPAs & Plant SPAs
FUNDING	**Financial support to pursue selected energy projects**	**Approve a capital fund for use by Alcoa Energy to advance selected EE projects**

What We Hear

- Opportunities are known by location and BU people?
- How can we learn what others at Alcoa are doing?
- Can we get governmental funding?
- Is there technical advice available?
- How can we get capital?
- What are other industries doing?
- Is there training available?
- Where can we go to get information?
- Do we have a standard way to ……?
- What is the best system for ….?

We are the GLUE for Energy Efficiency

WE ARE NOT:

- Asset Owners
- Police
- Bank
- Manufacturing Process Experts

WE ARE:

- Global Coordinators
- Structure Creators
- Linkage Drivers
- Cultural Change Agents
- Education and resource providers
- Accountable for EE Process

Our role: Get the right processes, resources and training to the right people to bring Energy Efficiency to the next level to raise ROC, reduce energy intensity and GHG footprint.

What is Energy Efficiency? - Focus is on Execution

The 5 pillars of Energy Efficiency:

- **Awareness: To engage Alcoans on the cost of energy**
- **Alignment: To be consistent with current processes and resources**
- **Defining Opportunities: To execute savings through DI**
- **Sharing Best Practices: To accelerate gains across the enterprise**
- **Strategic improvements: To make meaningful changes**

Results are improved sustainability:

- **New discipline**
- **New skill set**
- **Reduced Cost**
- **Reduced energy intensity**
- **Reduced Carbon footprint.**

Approach to Capture Opportunities

Establish a Global Energy Efficiency Team

- Drive and coordinate a comprehensive Energy Efficiency program across all BU and regions leveraging ongoing activities and resources
- **Rapidly share best practices in energy**
- Provide resources
- Explore creative methods to accomplish energy projects

Best Practice Tracking

contribution in sharing Energy Efficiency Technology by communicating BEEPs

Best practices	Alcoa-Köfém Hungary					Amorebieta-Esp					Sabinanigo-Esp					Alicante-Esp					Fusina-It				
	Applicable		Applied			Applicable		Applied			Applicable		Applied			Applicable		Applied			Applicable		Applied		
	Yes	No	Yes	No	under application	Yes	No	Yes	No	under application	Yes	No	Yes	No	under application	Yes	No	Yes	No	under application	Yes	No	Yes	No	under application
Sub-Metering Energy Intensive Systems	☑	☐	☑	☐	☑	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☑	☐
AWA Refining Energy Project Implementation Approach	☐	☑	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☑	☐	☐	☑	☐	☐	☑	☐
Compressed Air Induction Nozzles	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☐	☑	☐
Regional EE Organization	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐
EEN and European Resources	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐
Heat Exchanger Cleaning	☐	☑	☐	☑	☐	☐	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☑	☐	☑	☐
New Lighting Technologies	☑	☐	☑	☐	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐
Fan Control Methodologies	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐
Furnace Combustion System Mgmt	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐
Pumping System Reliability - Predictive Maintenance	☑	☐	☑	☐	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☑	☐	☐	☑	☐	☐	☑	☐
Bonu$ BEEP Save Energy Now - 2007 Program	☐	☑	☐	☑	☐	☐	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☑	☐	☐	☐	☐	☑	☐	☑	☐
Asset Ownership & Expense Allocation	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☑	☐	☑	☐	☐	☐	☑	☐	☑	☐

The Real Keys to Execution

- Sponsorship from the top
  - Linked to personal objectives
- Sharing of best practices
- A system to measure progress (usually in $$)
- Communication communication communication

Questions?

Feedback

- **Welcome** comments regarding Seminar Series
- Seminars are **your sessions**
- Make seminars **meaningful** for you
- Feedback aids **continuous improvement**
- Send **comments to** Lindsay Bixby at: lbixby@bcs-hq.com

Next Seminar in the Series

- **August 11**, 2010
- **2:00 p.m.** Eastern
- **Financing** Project Implementation
- Guest Speakers from **General Motors**
- Please **register**

Your Implementation Case Studies

- Let DOE help you **CELEBRATE**
- Highlight **Accomplishments in Implementation**
- **Recognize** your team's efforts