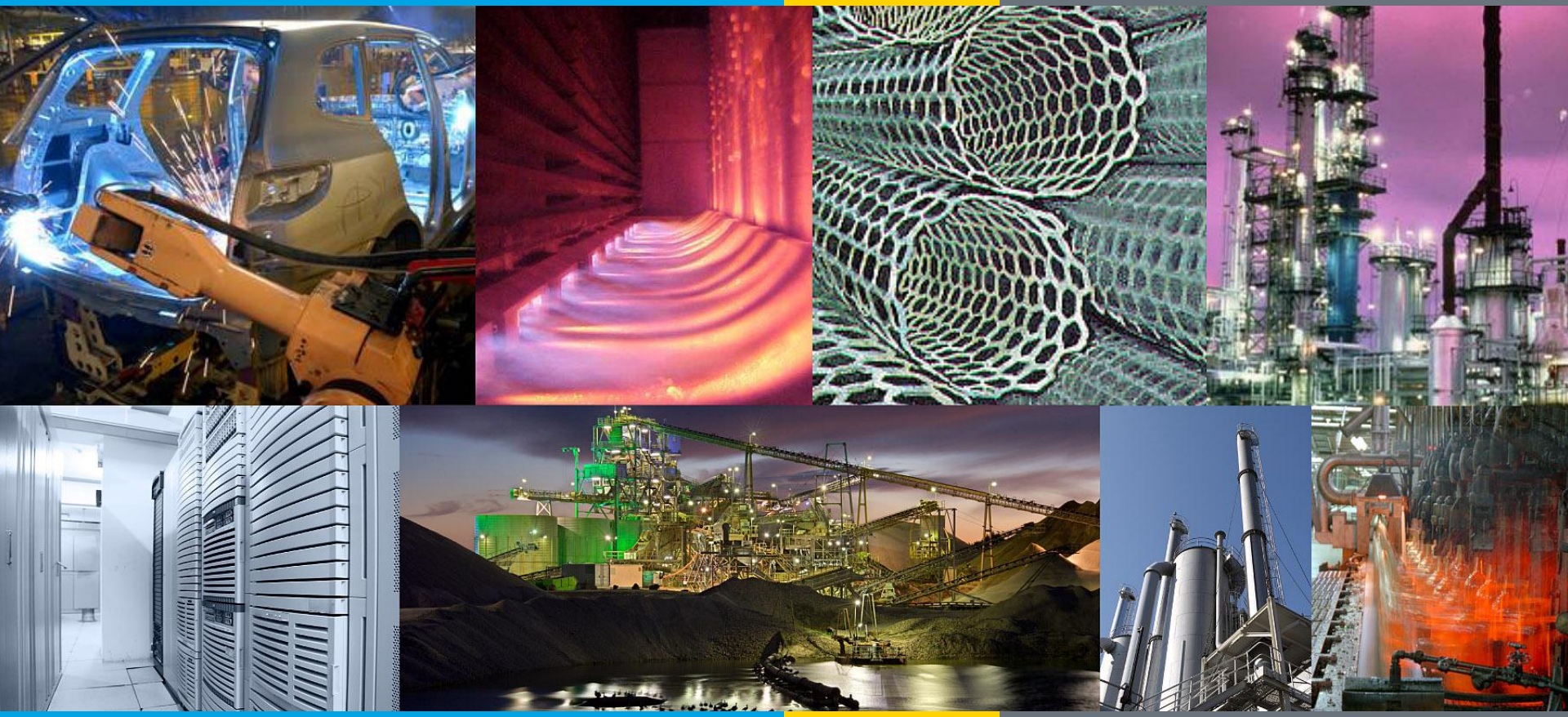
ADVANCED MANUFACTURING OFFICE

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy



Tuesday Webcasts for Industry: Tax Rebates/Credits Available for Energy Efficiency Actions

May 8, 2012

Industry Sector Incentives for Energy-Efficient Investments

Jeffrey Harris

Alliance to Save Energy

USDOE/AMO Tuesday Webcasts for Industry

May 8 2012

35 years ALLIANCE TO SAVE ENERGY

Using less. Doing more.

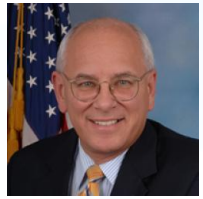
About the Alliance to Save Energy

35 years ALLIANCE TO SAVE ENERGY

Using less. Doing more.

We promote energy efficiency worldwide to achieve a healthier economy, a cleaner environment and greater energy security.

- Non-profit; headquartered in Washington DC; operations world-wide
- 14 Members of Congress – Bi-Cameral; Bi-Partisan
- Leaders of environmental, consumer, and trade associations
- State and local policy makers, corporate executives
- Led by **Senator Mark Warner (D-Va.)** and **Tom King, Chairman of the Board, and President, National Grid USA**



Overview

- Role of incentives
- Types of incentives
- Information sources & steps to follow
- Policy issues for the future

Why Do Incentives Matter?

Improve project economics (higher IRR, shorter payback)

Reduce risk (perceived risk)

Get attention from senior management

Tax Incentives May Get More C-Suite Attention

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Creating an Energy-Efficient World

Federal Tax Incentives

- Business Equipment Expensing (Sec. 179)
- Tax Deduction for Commercial Buildings (179D)
  - including industrial buildings (non-process)
- Renewable Energy Production Credit - Sec. 45
- Advanced Energy Credit for Manufacturers (48C)
  - Renewables and fuel cells (30%), CHP (10%)
  - Sec. 1603 - grants in lieu of RE credit
- Credits for Manufacturers of Efficient Appliances
- Bonus Accelerated Depreciation
- “MADE” Act (proposed) - Rep. Murphy

Example Using Sec. 179 Business Equip. Expense

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2012 Section 179

example calculation

Equipment Purchases:	**$ 150,000**
First Year Write Off: $139,000 = maximum in 2012	$ 139,000
50% Bonus First Year Depreciation: $150k - $139k = $11,000 x 50%	$ 5,500
Normal First Year Depreciation: 20% in each of 5yrs on remaining amount	$ 1,100
Total First Year Deduction: $139,000 + $5,500 + $1,100	$ 145,600
Tax Savings: $145,600 x 36% tax rate	**$ 50,960**
Equipment cost after Tax: $150,000 less all tax deductions	**$ 99,040**

Compliments of www.CrestCapital.com

State/Local Tax Incentives

- Investment tax credits
- Production incentives
- Accelerated depreciation
- Property tax abatement
- Tax exempt interest financing
- Workforce training
- (Others…??)

Utility Incentives

- Prescriptive rebates (energy assessments, equipment/system/control upgrades)
- Performance incentives
  - "Standard offers"
  - Forward capacity markets, "all-source bidding"
- Continuous Efficiency Improvement (CEI)
- Tariffs (time of use, demand-response, etc.)
- On-bill loan repayment

Innovative Financing

- Conventional loans (buy-down; loan-loss reserves)
- ESCO/shared savings
- PACE
- Utility on-bill repayment
- Leasing
- USDA and SBA Loans
- Conventional loans and internal funding
  - Look beyond the payback horizon

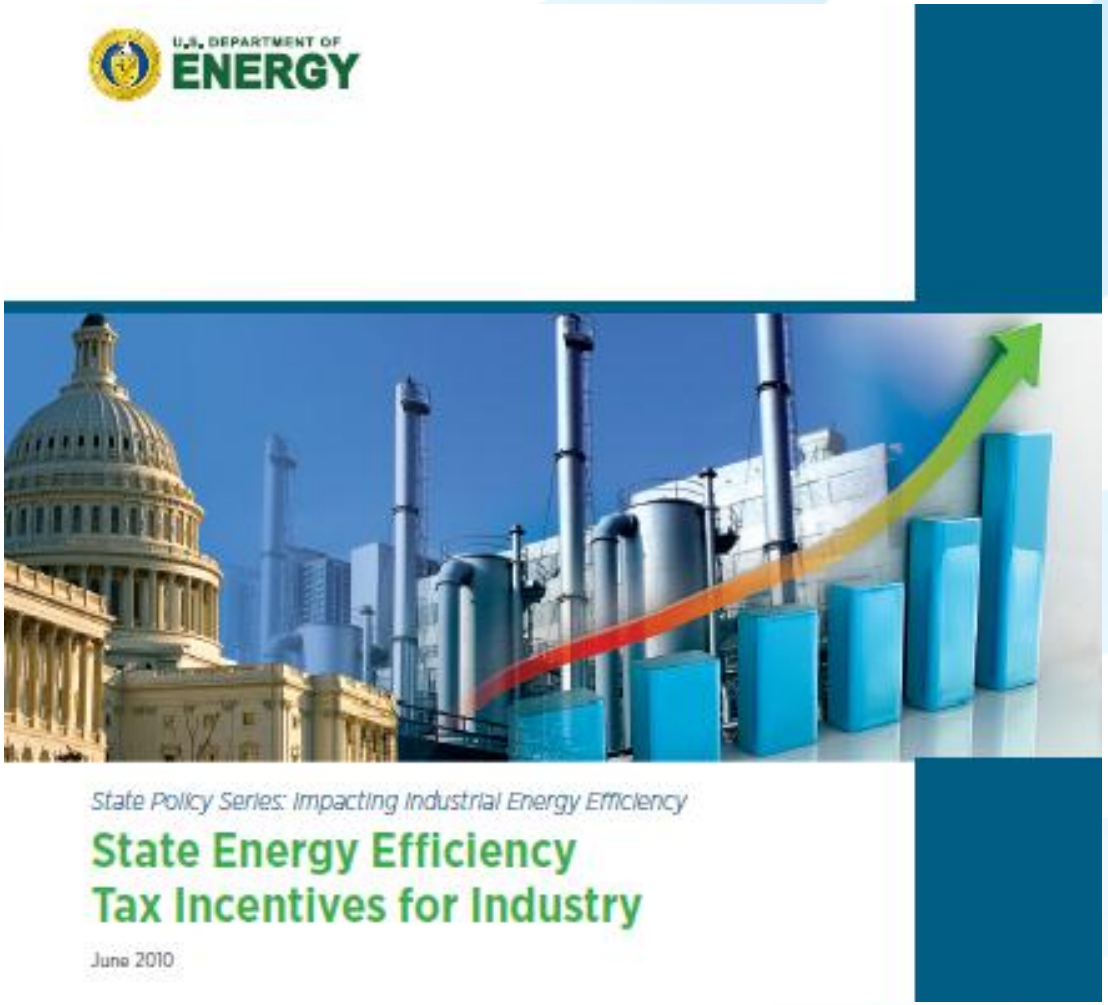
Key Steps

- *Step 1*: Energy analysis
  - Baseline conditions & energy performance
  - Potential upgrades (savings and costs)
- *Step 2*: Search for available incentives
- *Step 3:* Revise cost-effectiveness calculations (priorities) including incentives
- Consider full range of opportunities:
  - Process equipment/systems
  - Building and “housekeeping”
  - Vehicles
  - Products

Where to Look

http://www1.eere.energy.gov/manufacturing/states/
Click on “State Incentives and Resource Database”

Also
http://www.dsireusa.org/
Database of State Incentives for Renewables & Efficiency



Policy Issues and Gaps

1) Continuity of incentives
2) Level playing field; results-oriented
3) Assistance for start-ups and SMEs
4) Support for energy management practices & workforce development

Investment Timing *vs* Tax Season *vs* DSM Offerings

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"I don't suppose you remembered the tax-deduction forms that I asked you to bring last year, did you?"

Take-Away Points

- Incentives and innovative finance can be significant to the bottom line, BUT…
- Incentives/loans won't make a bad project good
- Potential to distort sound energy management decisions (some project elements are essential even without incentives)
- Keep informed – tax incentives, utility DSM, loans are complex & change often

THANK YOU – Questions?

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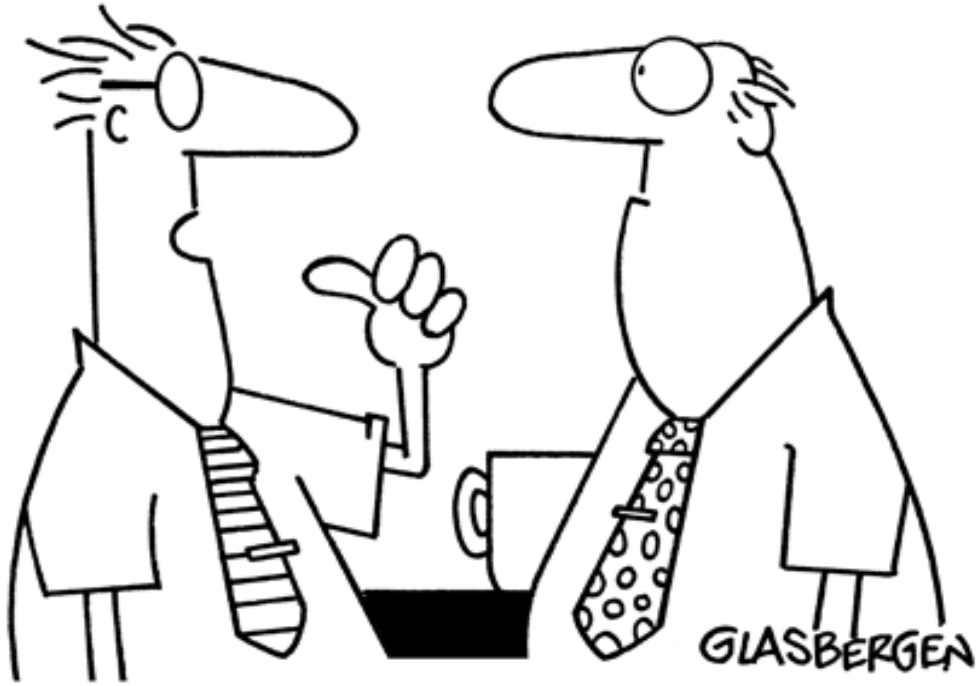
Creating an Energy-Efficient World

Jeffrey Harris, Senior VP – Programs

www.ase.org



"There's some yogurt in the break room fridge that's going green. I think we can get a tax credit for that!"

focus on energy℠

Partnering with Wisconsin utilities

Focus on Energy Emerging Technology (ET) Finance Model

Tim Konicek, Ph.D.

May 8, 2012

What is Focus on Energy?

Wisconsin utilities' statewide program for energy efficiency and renewable energy.

What is Focus on Energy?

- A partnership of all of Wisconsin's investor- and municipally-owned utilities, as well as nearly half of the state's electric cooperatives.

- A single statewide energy efficiency and renewable energy program, rather than multiple separate programs.

What does Focus on Energy do?

- Assists Wisconsin residents and businesses in implementing energy-saving projects.
- Offers unbiased information and technical assistance to participating utilities' electric and/or natural gas customers.
- Provides financial incentives for energy-saving projects that would not occur otherwise.

Why Focus on Energy?

- Focus on Energy has saved Wisconsin residents and businesses $2.30 for every dollar spent.
- Annually, Wisconsin residents and businesses save over $319 million in energy costs.
- More than 91,000 businesses and 1.7 million residents have participated since its inception.
- More than 3,000 trade allies partner with Focus on Energy.

Focus on Energy Services

- Technical Assistance:
  - Unbiased advice from experts
  - Industry expertise
  - Energy evaluations
  - Education and training sessions
  - Network of vendors and market providers

- Financial Incentives

Emerging Technology Program - Goals

- Find, evaluate, and accelerate the deployment and commercialization of emerging energy efficiency technologies in Wisconsin
- Develop future “Best Practice” technologies
- Save energy by deploying emerging technologies
- Target major Wisconsin industry clusters with high energy use
- Employ flexible financing as a key tool

Emerging Technology Program - Financing

- $5.5 MM of investment funds managed by CleanTech Partners
  - ~ $4.5 MM currently committed
  - 30 investments since inception
  - The fund has risen in value from its inception.
- Funding up to $550,000 per client/project
- Maximum financing term = 5 years
- Interest rate typically 5%
- Filling gaps not served by the private sector:
  - Technology not ready for commercial investors
  - Projects too small for institutions

Emerging Technology Program - Financing

- Flexible model that aligns the needs of all key parties – tech developer, customer, Focus on Energy
- Debt, project financing or hybrid structures
- Recent investments have often been metered shared savings used as payment on capital leases
  - *Can execute projects where the customer installs the technology with no cash out of pocket;*
  - *pays with ~50% of real, metered savings;*
  - *retains 50% of savings then 100% after payoff;*
  - *owns equipment at the end*

Process

- A technology is identified and vetted.
- Focus on Energy works with customers to find a suitable project.
- Focus on Energy works with the tech supplier and customer to fully develop and determine the costs, benefits and risks.
- If financing is needed, an acceptable structure is developed and negotiated.
- All finance proposals are reviewed by an Investment Board and subject to a Policy & Procedures Manual.
- The project is installed – required metering is often part of the plan.
- The energy savings are determined, monetized, and become part of the payment structure (if required).

Finance Model Benefits

- Investment funds are returned to recycle into new projects and technologies
- Focus on Energy makes projects happen that wouldn't happen without the investment
  - High attribution
  - Happy customers
- The model requires that technologies have an economic benefit to the market and are screened with a commercial eye
- Tech developers and customers have an incentive to make projects work – they have money at risk

Emerging Technology Program - Learning

- Deployment, Deployment, Deployment
- Financing often targets an end user rather than a developer
- Focus on Energy finds and promotes technologies that are farther along in the development cycle.
- We cannot assume that the technology supplier will be an effective seller of their technology.
- Creative project financing can be the trigger for effective technology deployment by overcoming corporate financial limitations, barriers, or policies.

Financing Case Studies

Term Loan at a Wisconsin paper company

- Technology – Bio-Oil Combustion – Wood oil waste product used to supplant natural gas
- Installation Cost – $375,000 complete
- Energy Savings – 900,000 Therms
- Money Savings – $450,000/yr @ $0.50/Therm
- Simple Payback – 10 months
- Financing Structure – 18 month term loan at 5% interest. Terms set to insure the customer is cash flow positive.

Financing Case Studies

<u>True shared savings capital lease at a Wisconsin ethanol producer</u>

- Technology – Fermenter Cooling Loop Control System – Employs VFD technology, controls and control algorithms to manage the fermenter pump based on measured process variables.
- Installation Cost – $130,000 complete
- Energy Savings – 295 kW demand; 2,850,000 kWh/yr
- Money Savings – $200,000/yr @ $0.07/kWh
- Simple Payback – 8 months
- Financing Structure – Focus on Energy covered all installation costs and is paid pack with 50% of the actual measured savings. Interest rate of 5% included in the payback amount. In less than 2 years ownership of the equipment transfers to the customer.

Financing Case Studies

<u>True shared savings capital lease at a Wisconsin foundry</u>

- Technology – Advanced Oxidation – Sand treatment technology used to reduce scrap rates, mold-bond materials, and VOC emissions
- Installation Cost – $175,000 complete
- Energy Savings – 120 kW demand; 700,000 kWh/yr
- Money Savings – $100,000/yr – energy @ $0.07/kWh + bond savings
- Simple Payback – 1 year 9 months
- Financing Structure – Focus on Energy covered all installation costs and is paid pack with 50% of the actual measured savings. Interest rate of 5% included in the payback amount. In about 4 years ownership of the equipment transfers to the customer.

Financing Case Studies

<u>True shared savings capital lease at a Wisconsin plastics converter</u>

- Technology – Radiant Heater Bands – Plastics equipment heater band that uses ceramic insulation and radiant heat
- Installation Cost – $100,000 complete
- Energy Savings – 85 kW demand; 600,000 kWh/yr
- Money Savings – $50,000/yr @ $0.08/kWh
- Simple Payback – 2 years
- Financing Structure – Focus on Energy covered all installation costs and is paid pack with 50% of the actual measured savings. Interest rate of 5% included in the payback amount. In less than 5 years ownership of the equipment transfers to the customer.

Contact Information

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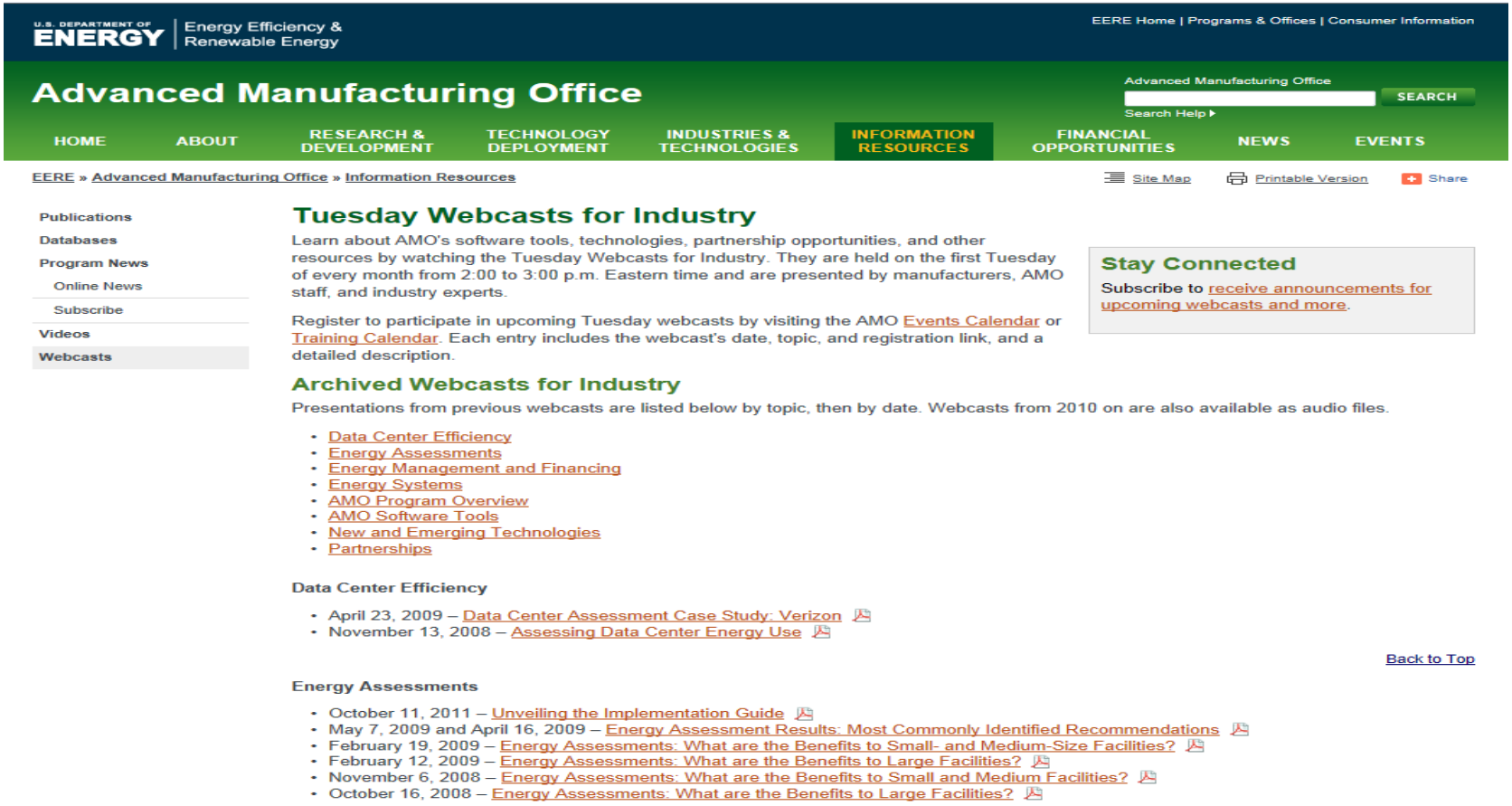
Focus on Energy

Focus on Energy works with eligible Wisconsin residents and businesses to install cost-effective energy efficiency and renewable energy projects. Focus information, resources, and financial incentives help to implement projects that otherwise would not be completed, or to complete projects sooner than scheduled. Its efforts help Wisconsin residents and businesses manage rising energy costs, promote in-state economic development, protect our environment, and control the state's growing demand for electricity and natural gas. For more information, call **800.762.7077** or visit **focusonenergy.com**.

This document is funded by Focus on Energy, and is property of the Wisconsin Public Service Commission.

Slides from Previous Webcasts



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Tuesday Webcasts for Industry

Learn about AMO's software tools, technologies, partnership opportunities, and other resources by watching the Tuesday Webcasts for Industry. They are held on the first Tuesday of every month from 2:00 to 3:00 p.m. Eastern time and are presented by manufacturers, AMO staff, and industry experts.

Register to participate in upcoming Tuesday webcasts by visiting the AMO Events Calendar or Training Calendar. Each entry includes the webcast's date, topic, and registration link, and a detailed description.

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Archived Webcasts for Industry

Presentations from previous webcasts are listed below by topic, then by date. Webcasts from 2010 on are also available as audio files.

- Data Center Efficiency
- Energy Assessments
- Energy Management and Financing
- Energy Systems
- AMO Program Overview
- AMO Software Tools
- New and Emerging Technologies
- Partnerships

Data Center Efficiency

- April 23, 2009 – Data Center Assessment Case Study: Verizon
- November 13, 2008 – Assessing Data Center Energy Use

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Energy Assessments

- October 11, 2011 – Unveiling the Implementation Guide
- May 7, 2009 and April 16, 2009 – Energy Assessment Results: Most Commonly Identified Recommendations
- February 19, 2009 – Energy Assessments: What are the Benefits to Small- and Medium-Size Facilities?
- February 12, 2009 – Energy Assessments: What are the Benefits to Large Facilities?
- November 6, 2008 – Energy Assessments: What are the Benefits to Small and Medium Facilities?
- October 16, 2008 – Energy Assessments: What are the Benefits to Large Facilities?

To access the slides from this and previous Webcasts, please visit:
http://www1.eere.energy.gov/manufacturing/resources/tuesday_webcasts.html

Next Month's Webcast

Please join us for our next webcast.

Topic: Making Energy Efficiency a Part of Corporate Culture

Date and Time: Tuesday, June 12 at 11:00 a.m. PDT/2:00 p.m. EDT

Presenters: Mike Clemmer and Ken Roden of Nissan North America

To Register:
https://www1.gotomeeting.com/register/393745809