



Successful Energy Assessments

August 8, 2007

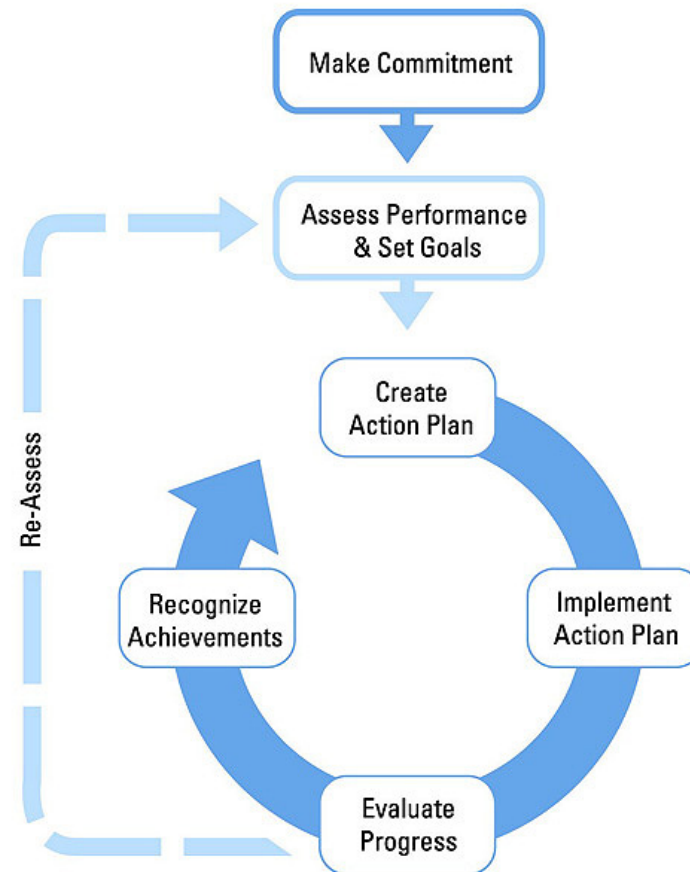
Call-in Number: 1-866-299-3188

Conference Code: 202 343 9965

About The Web Conferences



- **Monthly**
- **Topics are structured on a strategic approach to energy management**
- **Opportunity to share ideas with others**
- **Slides are a starting point for discussion**
- **Open & Interactive**



Web Conference Tips



- Mute phone when listening! Improves sound quality for everyone.
Use * 6 – to mute and # 6 to un-mute
- Hold & Music – If your phone system has music-on-hold, please don't put the web conference on hold!
- Presentation slides will be sent by email to all participants following the web conference.

Today's Web Conference



- Welcome
- Dan Fonner – Heinz North America
- Dan Mull – Carolina Consulting Group
- Announcements



Heinz North America

Utility Optimization Process (UOP)



Introduction

Dan Fonner

Utility Services Manager

Heinz North America



Introduction

Heinz North America

- **28 Factories in the United States and Canada**
- **Primary Energy Consumers:**
 - **Product Cooking / Baking**
 - **Freezing**
 - **Product Distribution / Packaging**
 - **Lighting**
 - **Comfort Heating / Cooling**

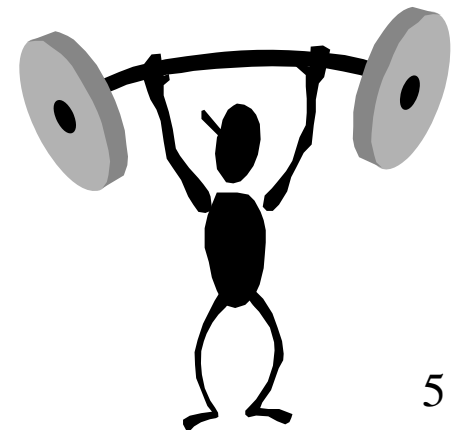


HNA - U.S. & Canadian Manufacturing Locations



UOP - OBJECTIVE

- **REDUCE ENERGY CONSUMPTION**
- **REDUCE EMISSIONS**
- **REDUCE LANDFILL APPLICATION**
- **REDUCE OPERATING COSTS**



Items Measured

- **Electric Power**

kWh

- **Natural Gas**

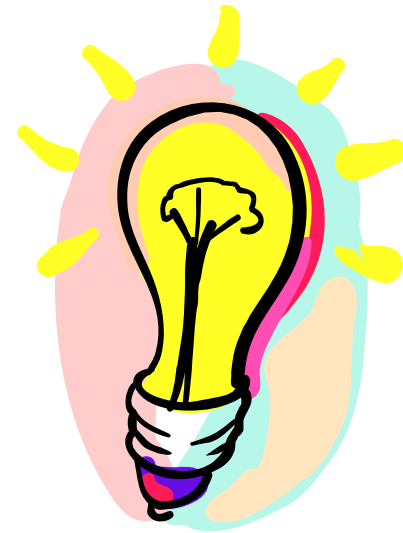
MMBtu's

- **Water**

Mgal

- **Solid Waste**

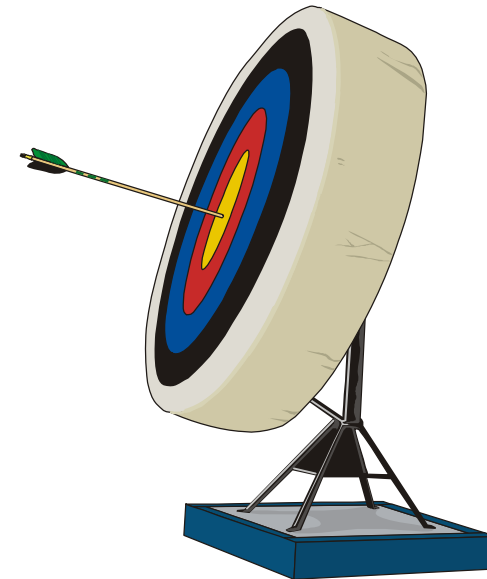
Pounds



HNA Fiscal Energy Reduction Goals

- **Meets**
2.5% Utility/Energy Consumption Reduction
- **Exceeds**
3.5%
- **Far Exceeds**
4.5%

Based on Production Pounds



UOP - Team

- **Senior Management**
- **Continuous Improvement**
- **Engineering – Corporate / Factory**
- **Environmental**
- **ESCO's / Contractor's**



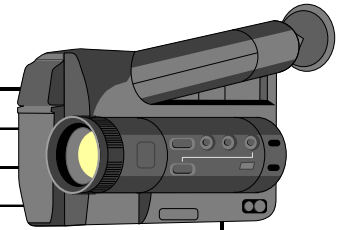
UOP - Game Plan

- **Survey & Record**
- **Assess & Audit**
- **Evaluate & Execute**
- **Measure & Monitor**
- **Sustain**





Survey & Record



Operating Hours

Hours / Day	Days / Week	Weeks / Year

Steam Generation

Boilers #:	1	2	3	4
Manufacturer:				
Type (WT/FT):				
Rated Capacity:				
Rated Pressure / Temp:				
Operating Pressure:				
Main Fuel Used:				
Back-up Fuel:				
% Back-up Fuel Used:				
Economizer (Y / N):				
Air Preheater (Y / N):				
D/A Pressure:		D/A Capacity:		

Production Data

Annual Production:	
Products:	

Utility Cost Information

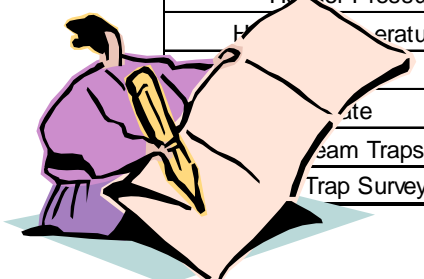
Utility	Cost		Annual	
	\$/unit	Units	Consume	Cost, \$\$
Electricity:				
Natural Gas:				
Back-up Fuel:				
Water:				
Waste Water				
Steam (import):				

Steam Distribution System

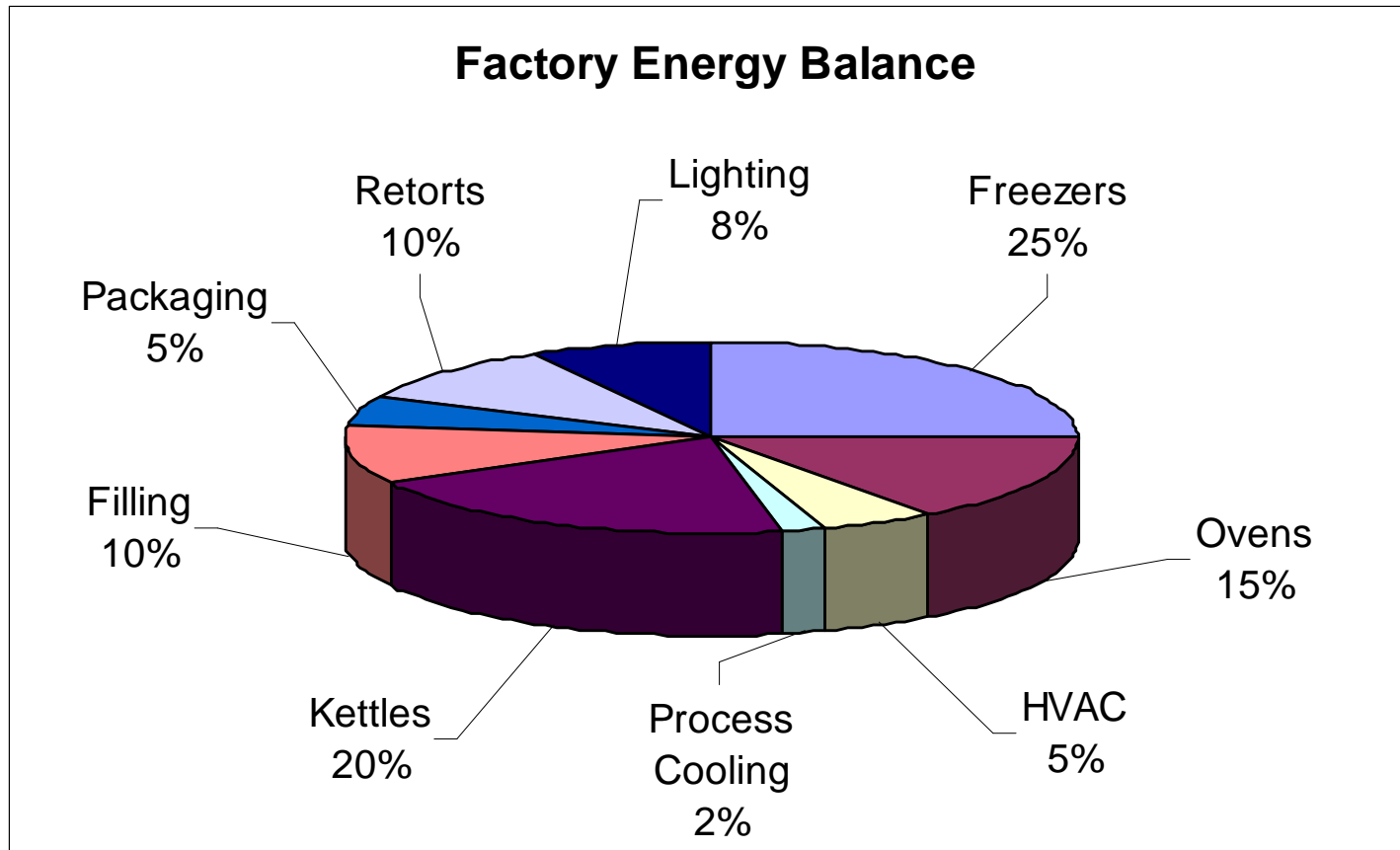
Distribution Header	1	2	3	4
Header Pressure				
Header Temperature				
	Average:		Peak:	
	Average:		Peak:	
Steam Traps	Est. % failure			
Trap Survey	Have Trap Program			

Major Steam Users

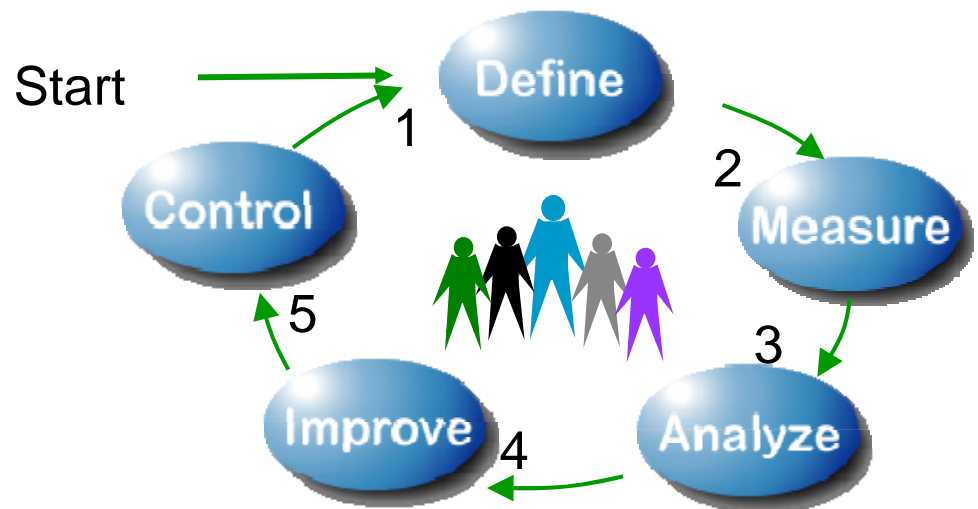
Description	Steam Used		Process Cont./ Batch
	Pressure	Lbs/hr	



Assess & Audit



Evaluate & Execute





Measure & Monitor

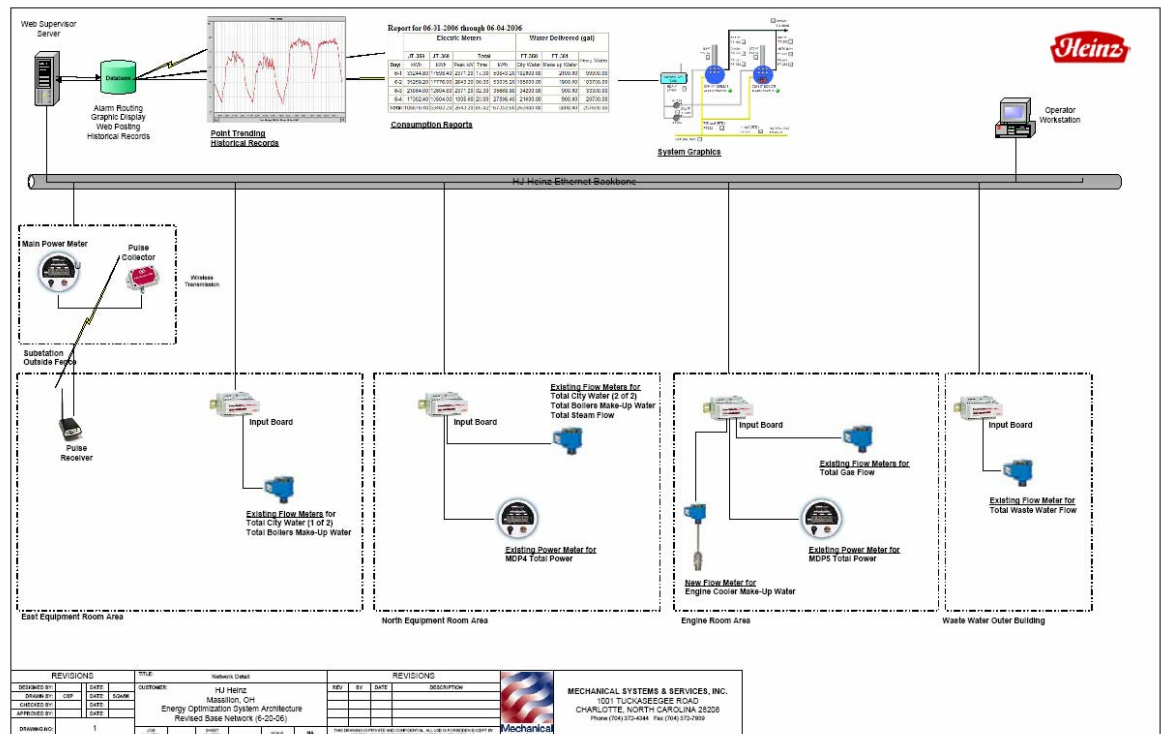
Heinz Energy Usage Summary
Fremont, OH

Energy Consumption Month-To-Date

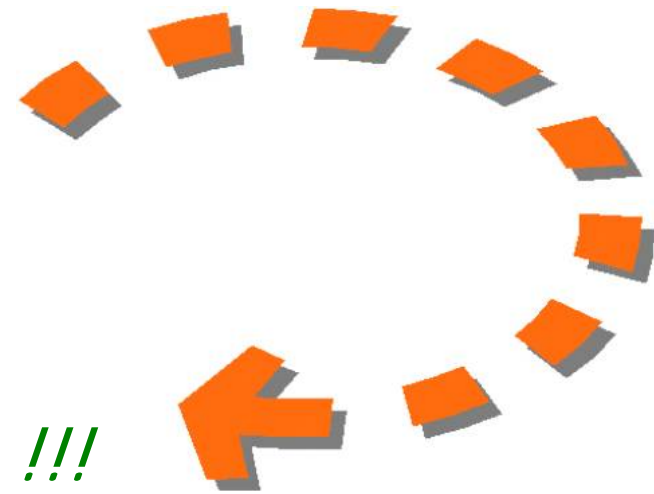
Power:		Compressed Air:		Steam:	
Factory Main (JT-211)	539590 kwh	Single Serve (FT-202)	23939058 cu ft	Boiler 4 (FT-401)	6014770 M lbs
Dist Center (JT-212)	68150 kwh	Boiler House (FT-226)	658101 cu ft	Boiler 5 (FT-501)	352181 M lbs
Boiler House (JT-213)	25303 kwh	TOTAL	24597158 cu ft	Boiler 6 (FT-601)	5037 M lbs
Vinegar Plant (JT-214)	36860 kwh			TOTAL	6371987 M lbs
TOTAL	669902 kwh				

Natural Gas:		Sewer:		Water:	
South Line 1 (FT-207)	0 mcf	Waste Effluent (FT-101)	2660325 gal	Rig Room (FT-102)	616289 gal
South Line 2 (FT-208)	6279 mcf	Single Serve (FT-103)	4937 gal	Pump House (FT-104)	0 gal
Factory (FT-209)	75 mcf	Sewer (FT-105)	0 gal	TOTAL	3281551 gal
Dist Center (FT-210)	27 mcf				
TOTAL	6381 mcf				

Condensate:		Softener:	
Condensate (FT-302)	17592 gal	South (FT-1101)	189326 gal
		North (FT-1102)	189501 gal
		TOTAL	378828 gal



Sustain



*Culture
Change !!!*



UOP – Results (FY07)

- (9) Factory Lighting Upgrades
- (8) Boiler / Steam Optimization projects
- (1) Air Compressor System Upgrades
- (3) Refrigeration Controls System Upgrade
- (1) Cogeneration Project

Electric Power *Saved* = 19,500,000 kWh

Natural Gas *Saved* = 54,000 MMbtu

Water *Saved* = 30,000 Mgal



Utility Optimization – Going Forward

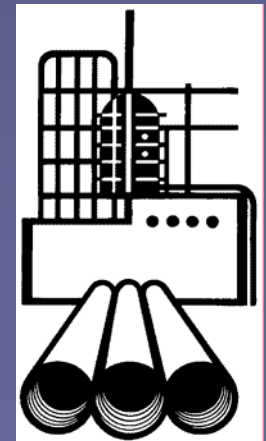
- **Continue Utility Optimization Assessments**
Capital Projects
- **Install Metering and Monitoring System in all HNA Factories**
Track Progress on Heinz Global Data Warehouse
- **Awareness Campaign**
Hands-on Site Assessments and Training

Anatomy of an Assessment

Presented by:

*Thomas D. "Dan" Mull PE, CEM
Carolina Consulting Group, Inc.*

Garner, North Carolina



The following assessment process is based upon a proven approach to effective energy management. This model has been employed by a number of major corporations with excellent results.



It is designed to identify energy opportunities and compliment efforts already underway, i.e., to work along side facility personnel, not find fault. In addition, it identifies Best Operating Practices, so they can be replicated at other locations.

This approach also provides opportunities for training to upgrade the energy management skills of site personnel.



Assessment Formats:

- *Targeted* – 1 to 3 days in length focusing on a single system
- *Comprehensive* – 4 to 5 days in length encompassing all systems and training

Assessment Phases:

- *Assignment of site host*
- *Pre-Assessment Meeting*
- *Site Assessment*
- *Post-Assessment Work*

Assignment of Site Host :

Identification of single point of contact for the assessment

- *Coordination*
- *Scheduling*
- *Logistics*
- *Site personnel*
- *Data*



Pre-Assessment Meeting:

- *Review operations and systems*
- *Determine assessment type and time required on site*
- *Identify necessary resources*
- *Review assessment logistics*

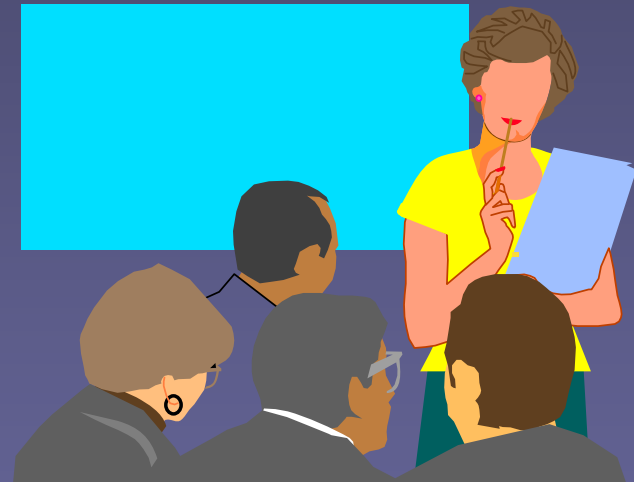
Site Assessment:

- *Assessment Team - Who should participate in the assessment?*
- *Comprehensive Assessment Agenda*
- *Assessment focus*



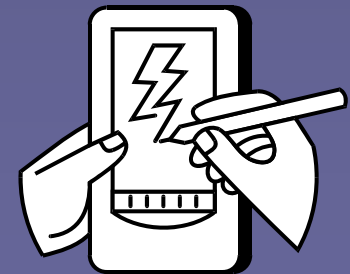
Site Assessment: The Assessment Team -

- *All levels of staff personnel*
- *Facility managers*
- *Representatives from similar facilities or operations*
- *Other (outside) participants*



Comprehensive Assessment Agenda

- *Kick-Off Meeting with management and participants*
- *Daily work sessions with group lunches*
- *Status reviews at the conclusion of each workday*
- *Group Dinner - Optional*



Comprehensive Assessment Agenda

- *Mid-week review of progress*
- *Training for site personnel*
- *Close-Out Meeting with management to review preliminary findings*



Assessment Focus:

Initial assessment focus should be on low/no-cost initiatives

- Minimal implementation required*
- Low or no capital requirement*
- Demonstrate savings potential*
- Establish program credibility*



Areas of Potential Savings:

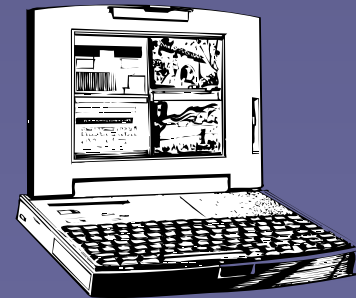
The areas of greatest potential savings vary, based upon the specific systems/processes. However, the following areas often provide significant savings:

- *Controls – Lighting, HVAC, etc.*
- *System Maintenance*
- *Equipment upgrades*



Post-Assessment Work:

- *Review additional data and information*
- *Develop draft recommendations/report*
- *Review draft recommendations (site)*
- *Obtain management concurrence and feedback (site)*
- *Finalize report*



Site Follow-up:

- *Evaluate projects*
- *Obtain funding*
- *Implement projects*
- *Report progress*
- *Contact consultants for assistance as needed*



Sustainability:

- *Benchmark*
- *Educate/Inform*
- *Publicize Results*
- *Reward Success*



***A proven effective
approach to energy
management***



Thank You

Dan

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Questions & Discussion

Upcoming Meetings



- World Energy Engineering Congress
Atlanta GA August 15 – 17
Multiple ENERGY STAR Tracks
www.energycongress.com
- IEEE Industrial Energy Workshop
Baltimore MD October 22 – 23
<http://ieew2007.googlepages.com>

Upcoming Web Conferences



September 19 – Retro-commissioning

October 17 – Energy and Greenhouse Gas Management

November 14 – Energy Strategy for the Road Ahead

Download past web conference presentations at:
www.energystar.gov/index.cfm?c=networking.bus_networking

Questions or comments? Contact: tunnessen.walt@epa.gov



Thank You!