

Titan America
ENERGY STAR Communications
Appendix X

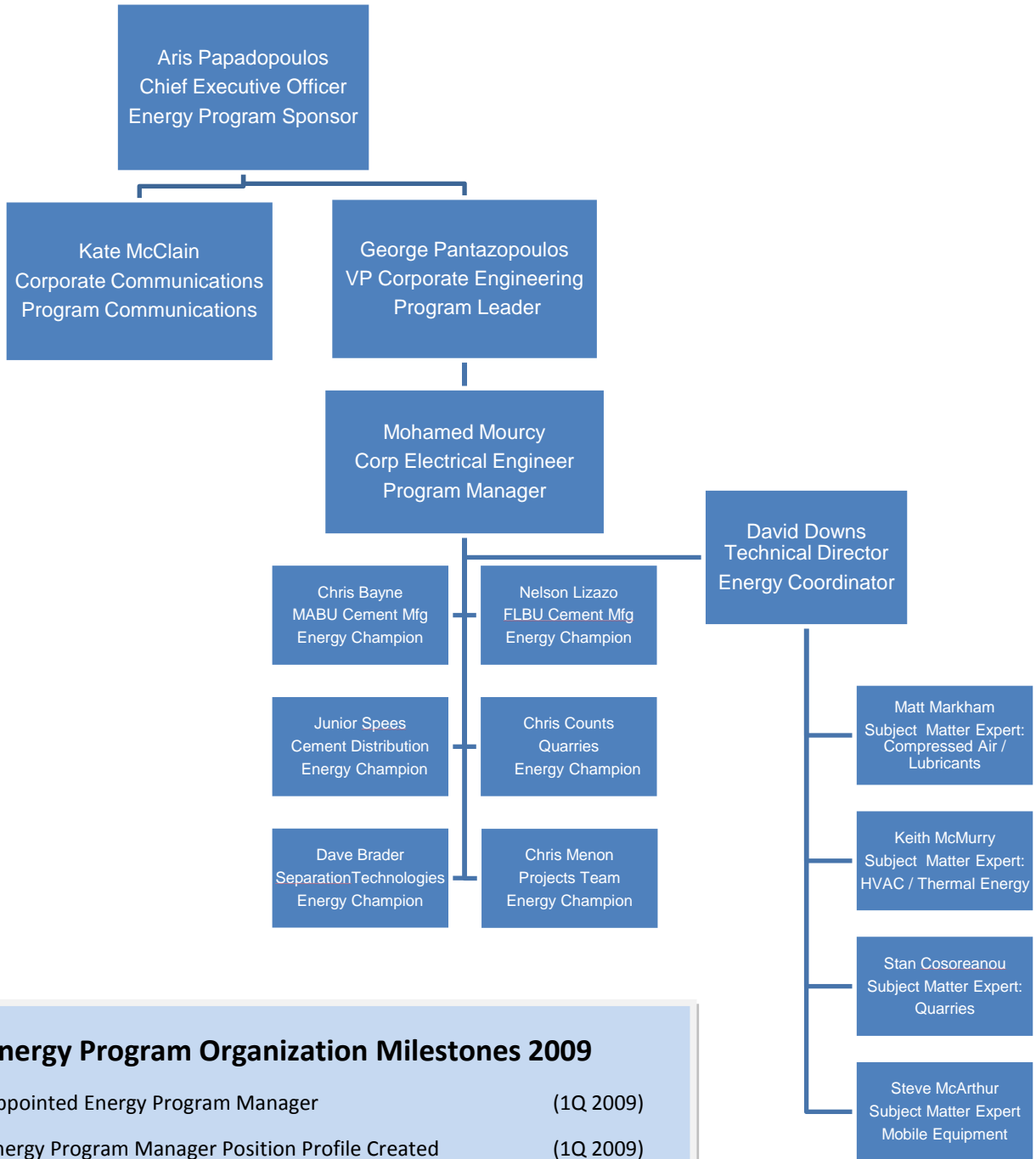
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Internal Communications

Executive Charter & Energy Management Organization

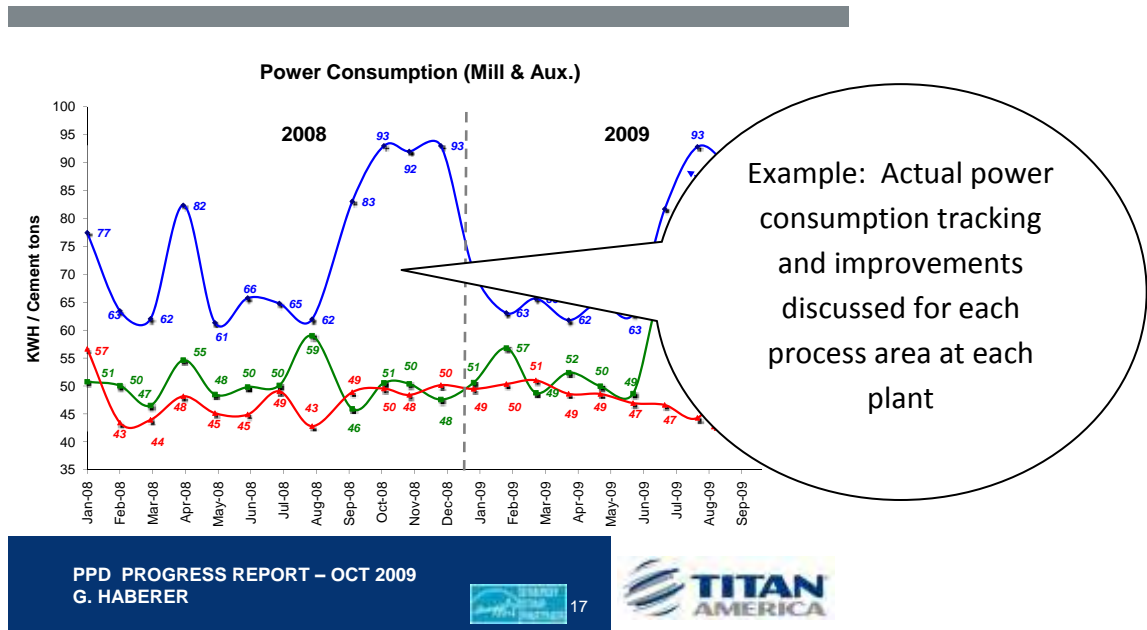




Energy Program Organization Milestones 2009	
Appointed Energy Program Manager	(1Q 2009)
Energy Program Manager Position Profile Created	(1Q 2009)
Corporate Engineers assigned SME Areas/Goals	(1Q 2009)
CEO charters Energy Program for all Titan Business Units	(2Q 2009)
Program Manager recruits Operations Energy Champions	(3Q 2009)

Annual “Plant Performance Days 2009”

In 2009 each of the two Titan America cement plants held (2) one-day meetings to review operations with Senior Executive Management. Presentations were made by plant engineering and management personnel and focused on continuous improvement and technical excellence. Reviewing the current performance on Energy Program initiatives was a focus of this meeting. Examples of Cement Plant Performance Day review, discussion and follow-up are shown in the following slides from the presentations. Approximately twenty managers and technical professionals convened at each site twice in 2009.



Reduce Consumption Water Use

- Finish Mill non-contact cooling water
 - Partially used now for road watering
- Best use of all Finish Mill process water is for aggregates plant use
- Circulating use of Aggregates water possible if cyclone processing is feasible
- Reporting consumptive water use Cement/Aggregates (KPI)
 - Upgrading all water meter due to accuracy and reliability
- Feasibility study of using PenK5 non-contact cooling water



2010

- Prove out design concept for hydro-cyclone for fines recovery
- If possible this opens the door for aggregates recycling

Example: Water consumption was measured and ongoing targets to recycle and reduce fresh water use were discussed












PPD NO.19 PROGRESS REPORT – OCT 2009
D. CROWLEY

TITAN AMERICA

SharePoint

Titan America’s Corporate Engineering Energy Subject Matter Experts utilize “SharePoint” for initiative tracking solutions. SharePoint development and use for Energy initiatives provides a central location for data collection and analysis that is available by all employees involved with those initiatives. Examples are found on the next few pages. This site is frequented by Corporate Engineering and Site employees involved with specific initiatives. Approximately 50 employees total.

- Compressed Air Optimization tracking tool on SharePoint – Leaks repair and other recommendation actions are noted following audits. SharePoint provides central location for task completion tracking.

Task Status	Title		Assigned To	Progress
	Sterling - Move the compressor / dryer from the sauna		Brenemen Leonard	0%
	CAC-PFM_11 Airlance Nozzles		Yanes Michael	0%
	CAC-PK5_17 Air Lance @ additive silos		Yanes Michael	0%
	CAC-PK5_11 Lock damper on 341		Yanes Michael	0%
	CAC-PFM_18 Fix Leaks		Yanes Michael	0%
	CAC-PFM_12 Silo Aeration - HP air		Yanes Michael	100%
	CAC-PFM_10 Replace FM4 HP air with blower		Yanes Michael	0%
	CAC-PFM_9 Drains on FM 1 Sampling		Yanes Michael	100%
	CAC-PFM_8 Blower Air for DC Pressurization?		Yanes Michael	0%
	CAC-PFM_7 Silo Roof Collectors - DP Control		Yanes Michael	0%

- Dust Collector Optimization tracking tool on SharePoint – All Dust collectors in Titan were documented here along with name plate data. As plants complete conversion to more energy efficient Differential Pressure control and Regulate incoming compressed air lines to the lowest possible setting – the changes are recorded to show Titan America progress and help estimate initiative savings for management progress reports. This communication drives performance.

Description	DP Controller	Regulator	Filter Elements	Facility	Contact
#10 FM O-SEPA PRODUCT DUST COLLECTOR	✓	✓	2,304	Roanoke Cement Co.	Bayne Chris
#11 FM PRODUCT DUST COLLECTOR	✓	✓	1,984	Roanoke Cement Co.	Bayne Chris
#10 FM VENT DUST COLLECTOR	✓	✓	768	Roanoke Cement Co.	Bayne Chris
#11 FM VENT DUST COLLECTOR	✓	✓	560	Roanoke Cement Co.	Bayne Chris
KILN BURNER COAL MILL DUST COLLECTOR	✓	✓	400	Roanoke Cement Co.	Bayne Chris
CALCINER COAL MILL DUST COLLECTOR	✓	✓	400	Roanoke Cement Co.	Bayne Chris
KILN FEED FK LINE DUST COLLECTOR (air lift dust collector)	✓	✓	392	Roanoke Cement Co.	Bayne Chris
F-3 Mill Sweep	✓	✓	390	Pennsuco Cement	Yanes Michael
#10 SWITCHGEAR ROOM DUST COLLECTOR	✗	✗	304	Roanoke Cement Co.	Bayne Chris
Octopus	✓	✗	304	Pennsuco Cement	Yanes Michael
Silo 27	✓	✗	304	Pennsuco Cement	Yanes Michael
#1 RAW MILL FEED (308) DUST COLLECTOR	✓	✓	240	Roanoke Cement Co.	Bayne Chris
#2 RAW MILL FEED (408) DUST COLLECTOR	✓	✓	240	Roanoke Cement Co.	Bayne Chris

Inserted from

<http://usmarccmoss001/init/PlantAir/default.aspx>>

➤ SharePoint Completion Dashboards (Example)

Show Only Problems				
Indicator		Goal	Value	Status
RCC Regulators		90%	35.53%	
RCC DP Control		80%	64.47%	
TVRM Regulators		90%	0%	
TVRM DP Control		90%	0%	
Pennsuco CAC Action Items		90 %	53 %	
RCC CAC Action Items		90 %	95 %	
PNS Regulators		90%	74%	
PNS DP Control		80%	72%	
Savings		\$225,000	\$58,413	
Block - HP		100	10,055	
Block - Avg. System Pressure		90	101	

➤ Example of “tips and information” found on SharePoint to help drive initiatives....

Many thanks to CE Electrical Engineer Mohamed Mourcy for passing along this article. Compressed Air Best Practices writer Chris Schmeltzer of Martin Engineering talks about several new technologies available from Martin for air cannons that may increase effectiveness while reducing the amount of compressed air required.. Chhri talks about the benefits of the new Hurricane cannons, which is supposed to deliver twice the shock force of the traditional XHV cannon, while only requiring one half of the air volume: Areal-world example involves two of Martin Engineering’s air cannon models: the BIG BLASTER HURRICANE Air Cannon, which was brought to market in 2007 and uses Martin Engineering’s newest valve design, produces roughly **twice the blast force output while using about half the volume of compressed air as the BIG BLASTER XHV design**, which was introduced over a decade ago. if the two designs were set to deliver the same blast force output, the BIG BLASTER HURRICANE design would operate at roughly half the air pressure, further reducing the compressed air consumption to about one-quarter of what the BIG BLASTIIR9 XHV Air Cannon uses.



"Titanet" Newsletter

- This international newsletter was used to communicate Titan Americas energy conservation successes to our Titan technical professionals around the globe. Articles in 2009 included the Energy Star Award (see below); Strive for Five; TCR Quarry Energy Reductions and Want to save some money?
- This publication reaches approximately 500- 1,000 Titan Technical Employees.

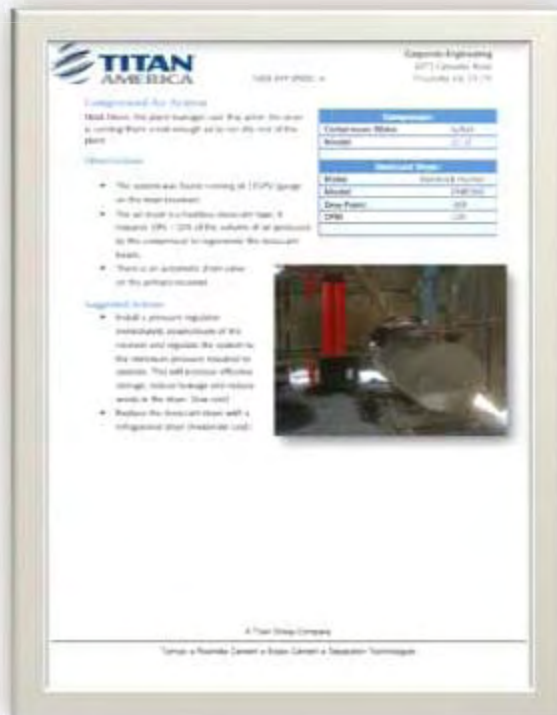


Energy Audit Activity Communications

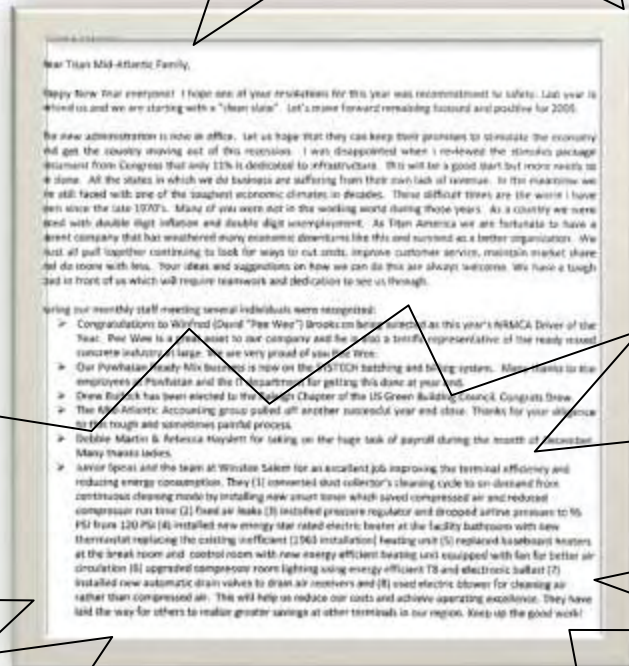
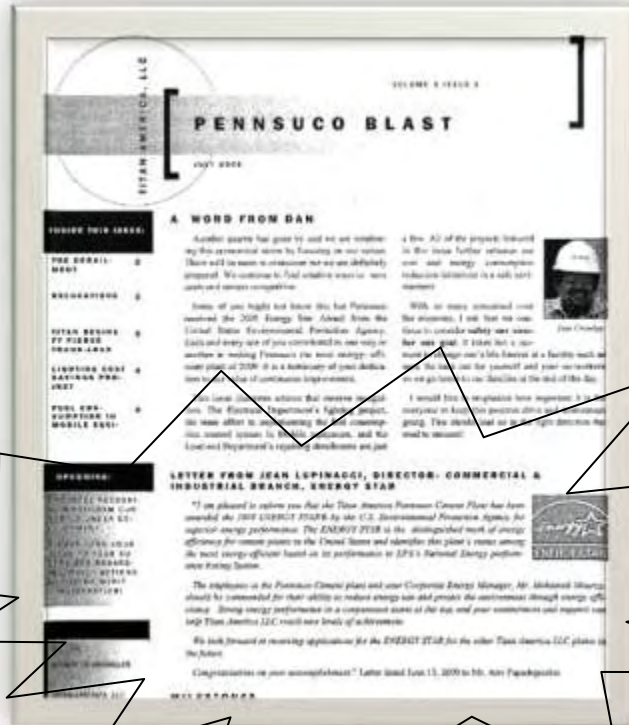
- Site Specific Energy Audits are now conducted periodically. These field audits combine the forces of site operations personnel and management, corporate engineers and the energy program manager to assess benchmark and identify energy saving areas. The map below shows many of Titan America locations and indicates the 12 sites that were audited in 2009.



- Site Specific Energy Audit Reports are then generated and used to communicate results and document baselines throughout the organization. Below are sample pages from one of the Ready Mix Concrete Field Audit Reports generated in 2009. As the year progressed the scope of these reports were increased based on each previous experience.



- In 2009, several business unit leaders used their monthly newsletters sent to employee home addresses, to recognize accomplishments related to our Energy Program. Below you see examples of letters highlighting Energy Star achievements sent to all employees in the Pennsuco Plant and another to all Mid Atlantic business unit employees.



Employee Town Hall Meetings

- ENERGY STAR at-home-spot-light. More than 150 employees were contacted at employee safety meetings with a twenty minute presentation. Employees were offered a CFL bulb to try at home at the close of the meetings. Below is an example of one of the meetings that was conducted along with selected slides from the presentation used.



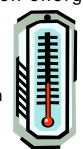
Do you know your bill? TITAN AMERICA

- The average household spends ~~\$800~~ per year on water heating
- Second largest energy expenditure behind heating and cooling.
- Regulate Temperature and Insulate to R
- Save 5 to 10 % = \$20 to \$60 per year



IDEA 3- Hot Water Heater TITAN AMERICA

- The average household spends ~~\$800~~ a year on energy
- Nearly 50% of that goes to heating and cooling
- Homeowners can save a ~~\$800~~ a year with programmable thermostats
- ENERGY STAR qualified programmable thermostats are intended to deliver savings without sacrificing comfort



IDEA 1- Thermostat TITAN AMERICA

- Would buy a new refrigerator for \$900 if the store promised to send you money every month until it was paid off
- If your refrigerator is +10 years old.....
- Save \$140 in electrical costs per year.....with a new model.



IDEA 4 - Refrigerator TITAN AMERICA

“InSight” Corporate Intranet use

- Titan America uses corporate wide Intranet site, InSight, to promote ENERGY STAR to all employees Networked within Titan. InSight’s main homepage periodically produces announcements and tips that link the reader back to this location.

[Energy Star](#)

What Is Energy Star?



"Change the World, Start with ENERGY STAR" is a national campaign encouraging all Americans to join with millions of others and take small, individual steps that make a big difference in the fight against global warming. *Click on the icon to go directly to their website.*

Energy Star is the national symbol of energy efficiency and environmental excellence recognized by more than 65 percent of the American public.

Through the Energy Star Program, the US Environmental Protection Agency (EPA) identifies and establishes the benchmarks for superior energy performance. Energy Star works with industrial companies to identify and deploy robust energy strategies for the future and guild superior corporate energy management programs.

Through Energy Star, these companies are reducing their energy costs and risks by:

- Identifying robust energy strategies for the future
- Mastering the fundamentals of energy management
- Benchmarking energy performance
- Benchmarking best management practices
- Demonstrating leadership

Titan America has joined partnership with EnergyStar. We have made a fundamental commitment to protect the environment through the continuous improvement of our energy performance. We believe that an organization-wide energy management approach will help us enhance our financial health, increase our value, and aid in preserving the environment for future generations.

In the News - Roanoke Cement

ENERGY STAR Plant Profile

Cement Industry Honors Roanoke Cement Company for Environmental Excellence



April 29, 2009 was a day of celebration for Roanoke Cement Company, the only cement manufacturing facility in the Commonwealth of Virginia, as it took the top honor winning the Overall Environmental Excellence Award in the Portland Cement Association's 2008 Cement Industry Energy & Environment Awards. State and local dignitaries including Jerry Burgess, Botetourt County Administrator and Steve Clinton, Amsterdam District Representative, local residents, customers and friends were on-hand to congratulate plant manager, Kevin Baird, Titan America LLC and Roanoke Cement Company management and employees on the major accomplishment and to enjoy a picnic featuring classic barbecue fare.

"The awards honor individual cement facilities that demonstrate the spirit of continuous environmental improvement and support this spirit with action," said Robert Sells, President of Titan's Mid-Atlantic Business Unit. "Our plant exceeds the requirements of government regulations and local laws to ensure our processes and policies contribute to making our community a better place to live and work. We have practiced these fundamentals for nearly two decades and will strive to do even better in the future."

Roanoke Cement Company was proclaimed this year's winner based on accomplishments within the following key areas: Environmental Performance, Land Stewardship, Outreach, Innovation and Energy Efficiency. The judges found that Roanoke Cement Company delivered exemplary sustainability and land stewardship leadership through programs

Communication

Survey Polls [View](#)

Focus on Energy Efficiency in Cement Manufacturing

What is the Cement Manufacturing Focus?

The Focus is a partnership between US EPA's ENERGY STAR program and cement companies to improve energy efficiency.

EPA can assist our industry overcome barriers to using energy efficiently and provides energy management resources unique to the cement industry. Click on the EPA icon to learn more about what we can do.



Bring your Green to Work

Make some of the same green choices at work that you make at home to save energy and fight global warming with help from EPA's ENERGY STAR program

Give it a rest. Use ENERGY STAR power management settings on your computer and monitor so they go into power save mode when not in use. Also, use a power strip as a central "turn off" point when you are using equipment to completely disconnect the power supply.

Unplug it. Unplug electronics such as cell phones and laptops once they are charged. Adapters plugged into outlets use energy even if they are not charging.

Light up your work life. Replace the light bulb in your desk lamp with an ENERGY STAR qualified bulb. It will last up to 10 times longer and use about 75 percent less energy. Turn off the lights when you leave, especially at the end of the day.

Let it flow. Keep air vents clear of paper, files and office supplies. It takes as much as 25 percent more energy to pump air into the workspace if the vents are blocked.

Team up. Create a Green Team with your co-workers, help build support for energy efficiency in your workplace, and reduce office waste. Set a goal to make your building an ENERGY STAR qualified building.

“Stars” Recognition Program

- This recognition program periodically highlights Titan employees at the grass roots level who are embracing or promoting certain conservation minded initiatives. Below you find an example of an “Stars” announcement sent to all employees on “Insight”. Immediately after this first announcement hit the site, calls came into our Corporate Engineering offices asking how “Stars” could be nominated for recognition. We are now formalizing that process.



External Communications

Trade Publications

- Titan will be featured in a December full length article of *World Cement* that details the current workings of the Titan Energy Management Program. This trade publication is one of the two most widely read in the cement industry.

Safety is a Constant State of Mind

Energy Program



Our TA Energy Management Program to appear in December 2009 issue of **World Cement Magazine**

Energy Management: A success story from Titan America.

Dr. George Pantazopoulos, VP Corporate Engineering, Daniel Crowley, VP Operations, Kemsusa Cement, and Kevin Bernd, Plant Manager, Rosetta Cement.

Introduction

Titan America (TA) corporate values include Continuous Improvement and Corporate Social Responsibility. These values govern our efforts to achieve operating excellence throughout the organization, improve our overall performance and "do more with less". Such efforts have been recognized in recent years by awards received from industry associations, as well as Federal and State authorities in the areas of Environmental Excellence, Health & Safety and Energy Efficiency. The TA cement plants are Energy Star® certified facilities with Rosetta, VA receiving their first in 2007 and Kemsusa, FL in 2008. Our fundamental commitment to protect the investment through continuous improvement of our energy performance was demonstrated last October by becoming an Energy Star® Partner joining over 1,000 organizations nationwide (Fig. 1).



Figure 1: Energy Star Partner Logo

This partnership with Energy Star® enabled us to (i) baseline, track and benchmark our organization's energy performance using available tools and methods, (ii) develop and implement an energy management program to reduce energy intensity across our facilities and operations, and (iii) raise awareness, educate our staff and the public and communicate our achievements with recognition offered through Energy Star®.

This article summarizes these programs and initiatives which are presented in the following sections.

Program Development & Administration

There are two basic requirements for a successful energy management program: (i) Senior Management commitment and support, and (ii) a dedicated Energy Management Team consisting of corporate and plant personnel. The TA executive team has certainly demonstrated their commitment and support to continuously improve our energy efficiency. In fact the company's CEO, Aris Papadopoulos, is the Energy Program Sponsor and the VP of Corporate Engineering, George Pantazopoulos, is the Energy Program Leader. Also, TA has formed

Plant Tours

- During plant tours at each of Titan's two certified cement plants the Energy Star program is prominently discussed. Energy saving projects and practices are highlighted. More than 500 interested visitors received a short ENERGY STAR message in 2009 during tours in Roanoke, VA and Medley, FL. These groups included.....

- Troutville Boy Scouts
- University of Miami students
- Florida International University students
- William Turner Tech High School Students
- Daleville Cub Scouts
- American Society of Mechanical Engineers – local chapter
- Wilmington Leadership Contingent
- Mead Westvaco's Covington Plant Management
- Castle Hayne Committee
- Customers from Bermuda
- Costumers from Ron Kendall Masonry & Tarmac employees
- Costumers brought by HAVER Vendor
- Students from Coral Spring School
- Titan Sales employees
- ARGOS Cement Colombian visitors
- Procurement Employees (Greece, Virginia)
- Titan HR Manager Tom Murphy
- Titan Dispatching Employees



Plant Signage

- Signage is now being utilized in prominent places outside our two Energy Star Award winning cement plants to help remind the local communities that Titan is conservation minded and employs the ENERGY STAR brand.



Likenesses of the Energy Star Award Plaques are prominently listed below this signage so that each year of achievement can be celebrated for years to come.



Cool Cities Award Recognition



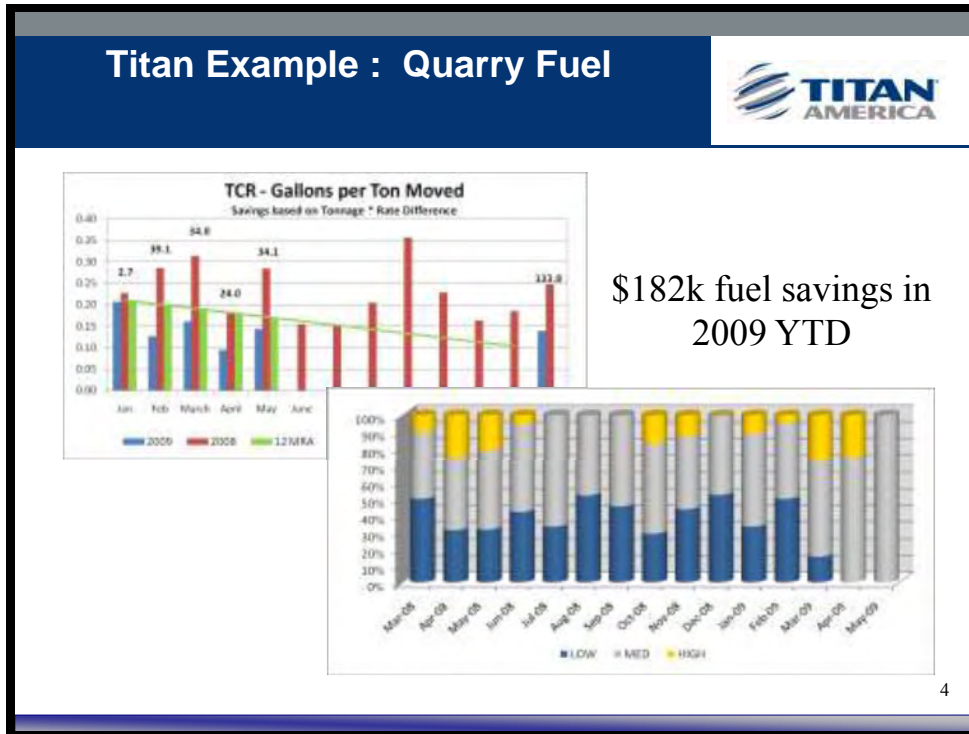
Don Ingerson, Vice President Sales and Marketing, Titan America's Mid-Atlantic Businesses accepts the Roanoke business award at the "Roanoke Valley Cool Cities Coalitions" first annual event and largely credits Titan's ENERGY STAR partnership.

"At its annual All-Affiliates Conference held May 16 at Western Virginia Water Authority's Spring Hollow Water Treatment Facility, Roanoke Valley Cool Cities Coalition announced the winners of its new "Cool Citizen Awards". These awards recognize individuals, organizations, and companies that have had the greatest impact toward reducing the greenhouse gas emissions that are recognized to be a principal cause of global climate change. This year's awards recognize work that has been done since the inception of the Coalition (2006) through the present, and the Coalition plans to make awards each year in the future for work done in succeeding years. Nominations for the awards were submitted by Coalition members, who number over 160. An awards committee made the final selections."


“Plant a STAR” Program

- ❖ The “Plant a STAR” initiative truly is a work-in-progress. The origins of this program are tied to meeting the requirements for the Partner of the Year application. Initially it was determined that executive level contact would be made with key customers to illustrate how the ENERGY STAR program has helped Titan America and encourage our business partners to participate as well. However, this has now evolved into a program where the technical assistance offered in helping key customers develop a company-wide energy management program is coveted. It is clear that many of our downstream customers (typically Ready Mix concrete businesses) have significant opportunities to reduce energy consumption. These customers are eager to learn the Energy Star methodology and employ conservation initiatives that impact the bottom line.
 - The following customers were contacted in face-to-face meetings at the executive level in 2009. Two of the four contacted have requested follow-up activities by our Energy Management Team that will enable them to further evaluate a company-wide Energy Management Program and the benefits of ENERGY STAR PARTNER status.
 - Boxley <http://www.boxley.com/>
 - Concrete Products of NC <http://www.concretesupplyco.com/>
 - Allied Concrete <http://www.alliedconcrete.com/>
 - SunRock <http://www.thesunrockgroup.com/>
 - The following slides are taken from these presentations and represent key messages that were communicated to each customer in these custom built presentations.






Titan Example : Ready Mix Truck Idle Time Reduction



In-Yard Idle Time per Load


	August	2009 YTD
NOVA		
Centreville	28.8	35.2
Clear Brook	41.7	37.9
Dumfries	32.5	
Fredricksburg	33.2	
Front Royal	39.3	
Leesburg	36.9	
Sterling	37.0	
AVE NOVA	35.7	
SOVA		
Campostella	39.9	41.3
Hampton	37.9	33.4
Oceana	45.0	44.4
Port Norfolk	55.2	50.2
Skiffes Creek	36.3	40.7
Suffolk	36.7	20.0
AVE SOVA	41.1	40.9
AVE MA	38.1	41.7
AVE TITAN AMERICA	46.6	43.8

Strive for Five!



August Top Five Trucks		
TVRM		
Truck #	Plant	Mins/Load
575	Centreville	2.97
692	Sterling	8.51
611	Sterling	8.97
651	Port Norfolk	9.68
652	Port Norfolk	10.64

Our goal is to reduce this to an average of 20 minutes per load to save \$400k in fuel waste!



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