

Fly Ash_- Sustainable Solutions at Risk

Office of Management and Budget

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Separation Technologies LLC

A Titan America Business



Overview

- To introduce Separation Technologies LLC (ST), a fly ash solution provider, and its entrepreneurial mission, technology, successes, and barriers (current and potential) within the utility and concrete industries.
- To proffer the potential far reaching and negative impact of a hazardous waste designation for fly ash in any form.
- To recommend that rather than designating fly ash as a hazardous material, address surface impoundments and dry landfill standards under EPA RCRA imminent and substantial endangerment authority.

Reviewed Public Positions and Testimony...

- America Association of State Highway and Transportation Officials (AASHTO) November 23, 2009
- American Concrete Institute (ACI) September 4, 2009
- American Society for Testing and Materials (ASTM) December 23, 2009
- American Concrete Pavement Association (ACPA) August 21, 2009
- National Ready-Mix Concrete Association (NRMCA) July 21, 2009
- Portland Cement Association & American Concrete Pavement Association Letter to DOT November 2, 2009
- American Coal Ash Association March 25, 2009
- Drinking Water and Public Health Impacts of Coal Combustion Waste Disposal; Hearings Subcommittee on Energy and the Environment December 10, 2009

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- Founded in 1989 on Electrostatic Particle Separation
- 1994 Focused on Carbon Separation from Fly Ash for Concrete Applications instead of Landfills
- Became Part of Titan America in 2002
- Today we Replace Coal in Utilities and Portland Cement in Concrete Producers from 18 Separators in 5 States and 4 Countries

Mission and Values...

- To provide environmentally and financially sustainable solutions for our customers, with the most advanced proprietary technology in the world, in-depth technical expertise, and focused business and marketing know-how.

The **ProAsh** Platform

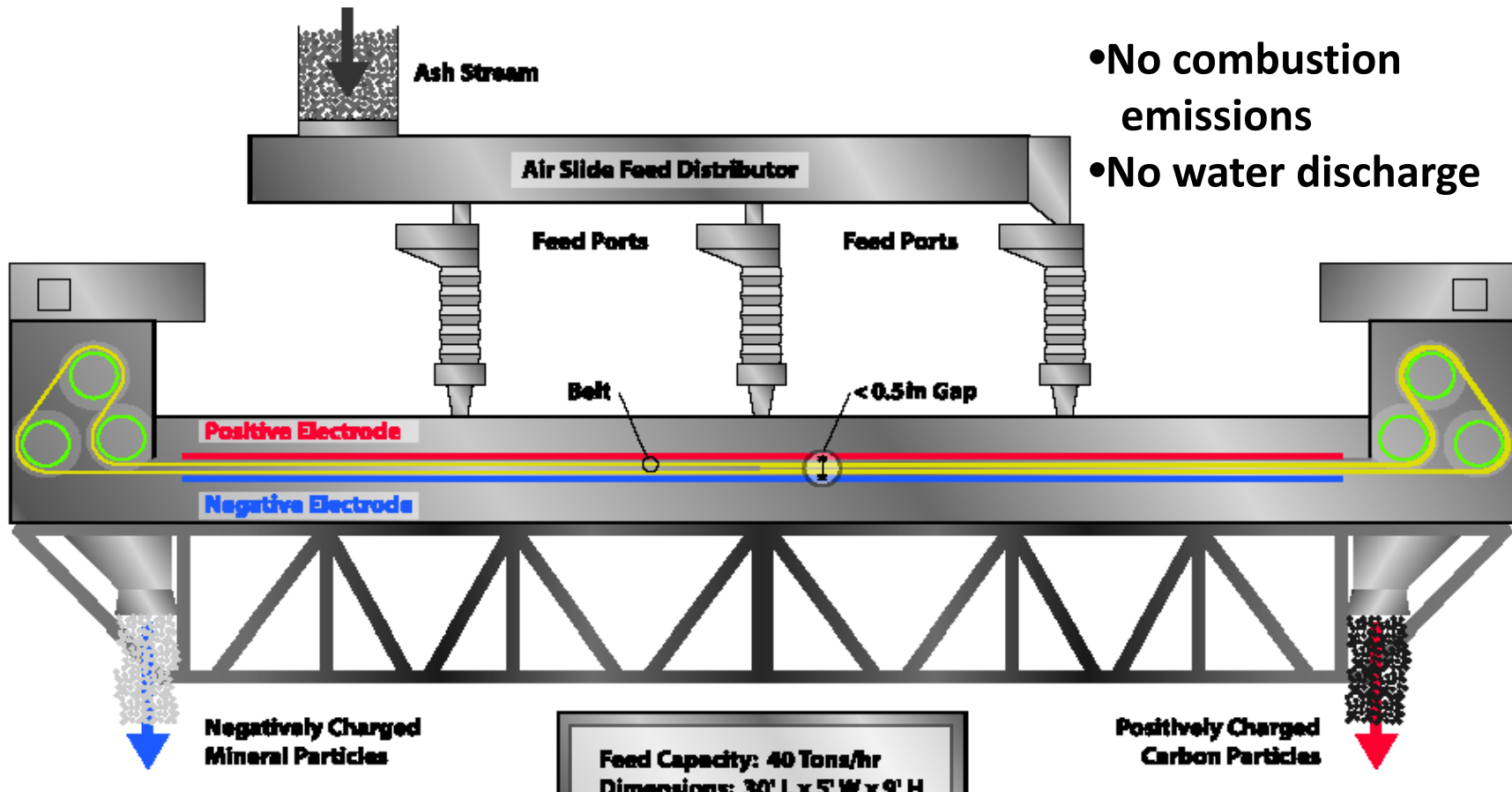
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ST Ash Beneficiation Technologies

- **Electrostatic Carbon Separation**
 - Driven by Low NOx Burners

- **Ammonia Removal Process**
 - Driven by Selective NOx Reduction Technologies and SO₃ emissions

ST Fly Ash Carbon Separator



- No combustion emissions
- No water discharge



Separation Technologies LLC
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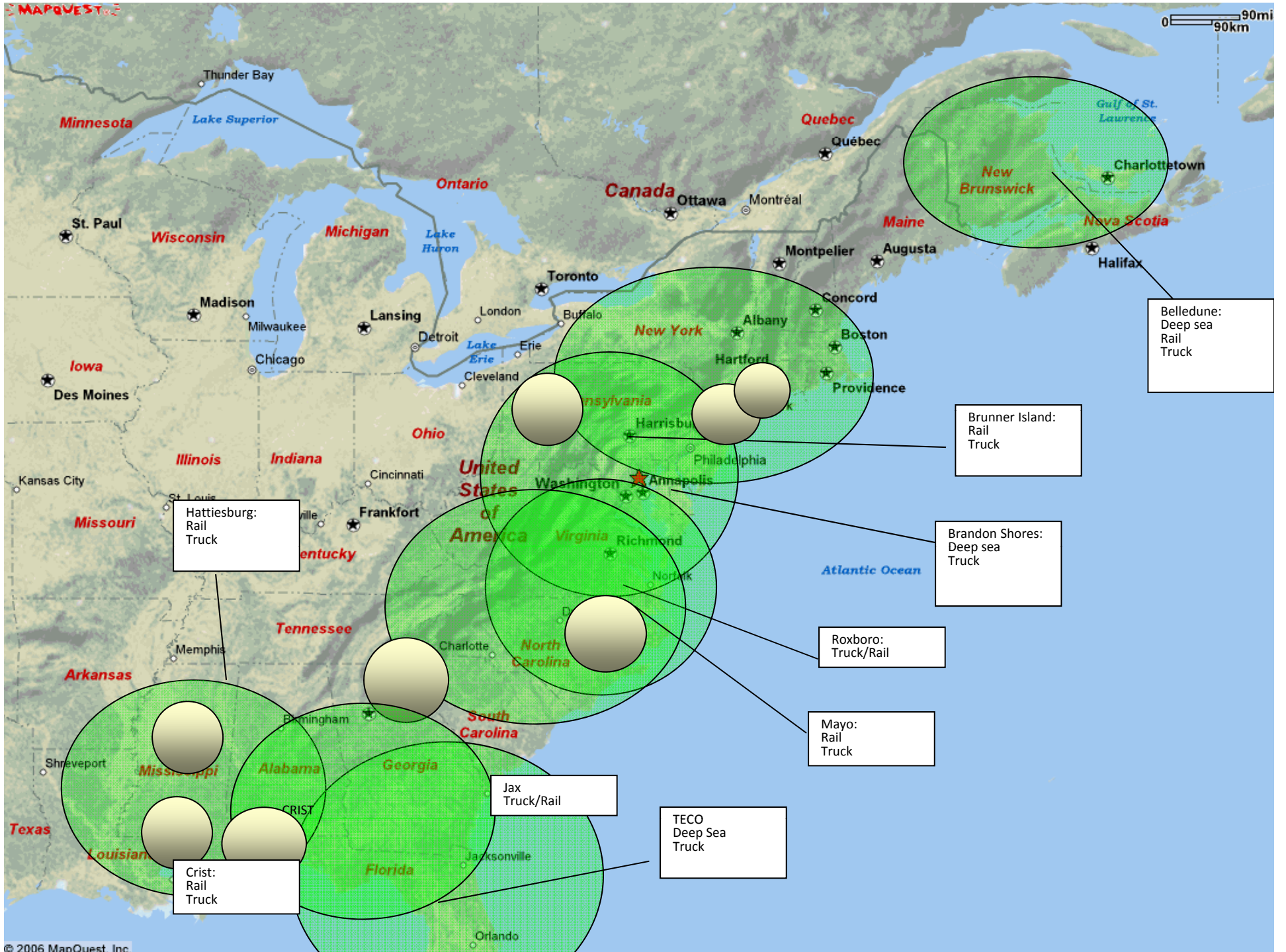
TECHNOLOGY PRODUCTION LOCATIONS

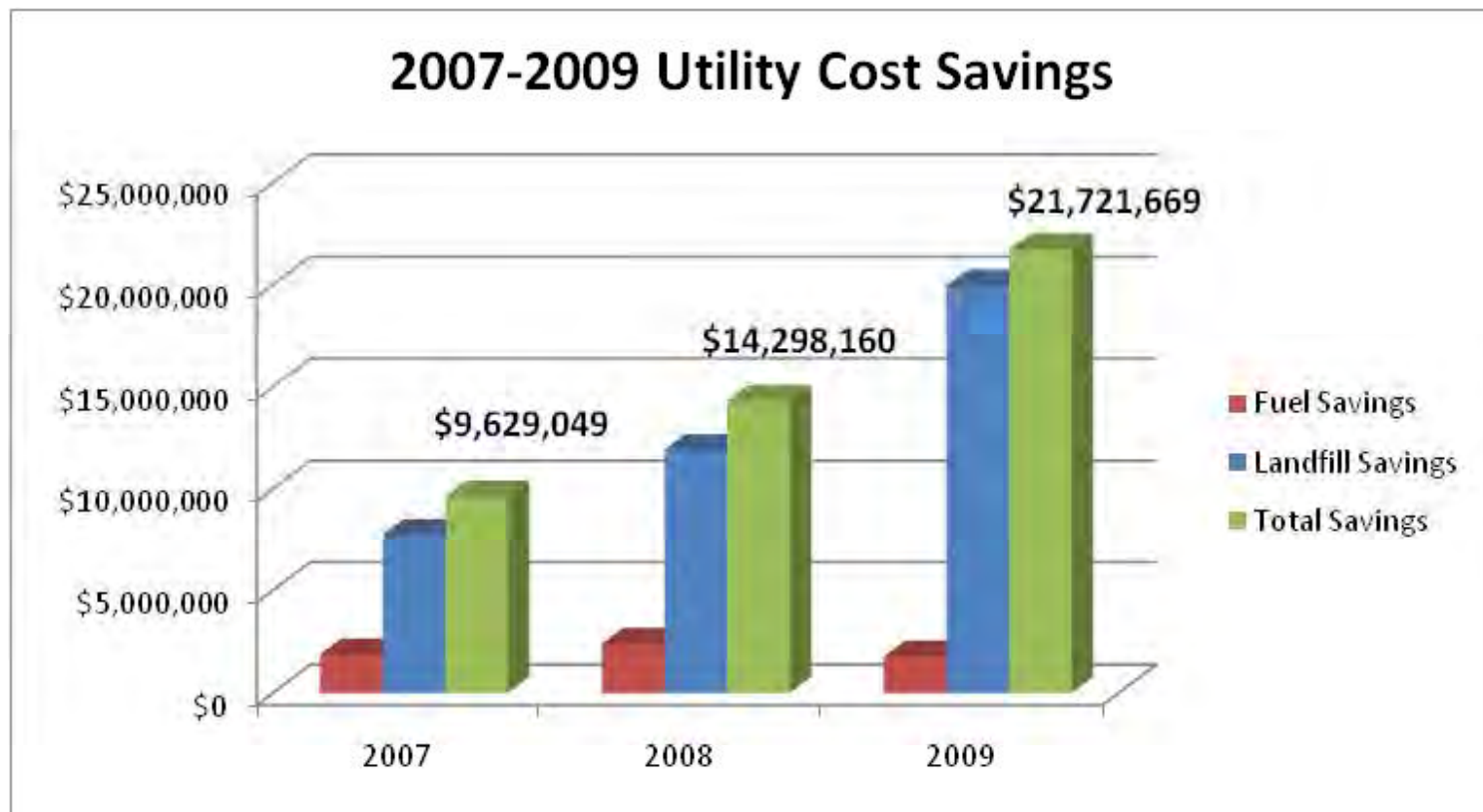
United States & Canada

United Kingdom



COMING SOON: POLAND & ITALY

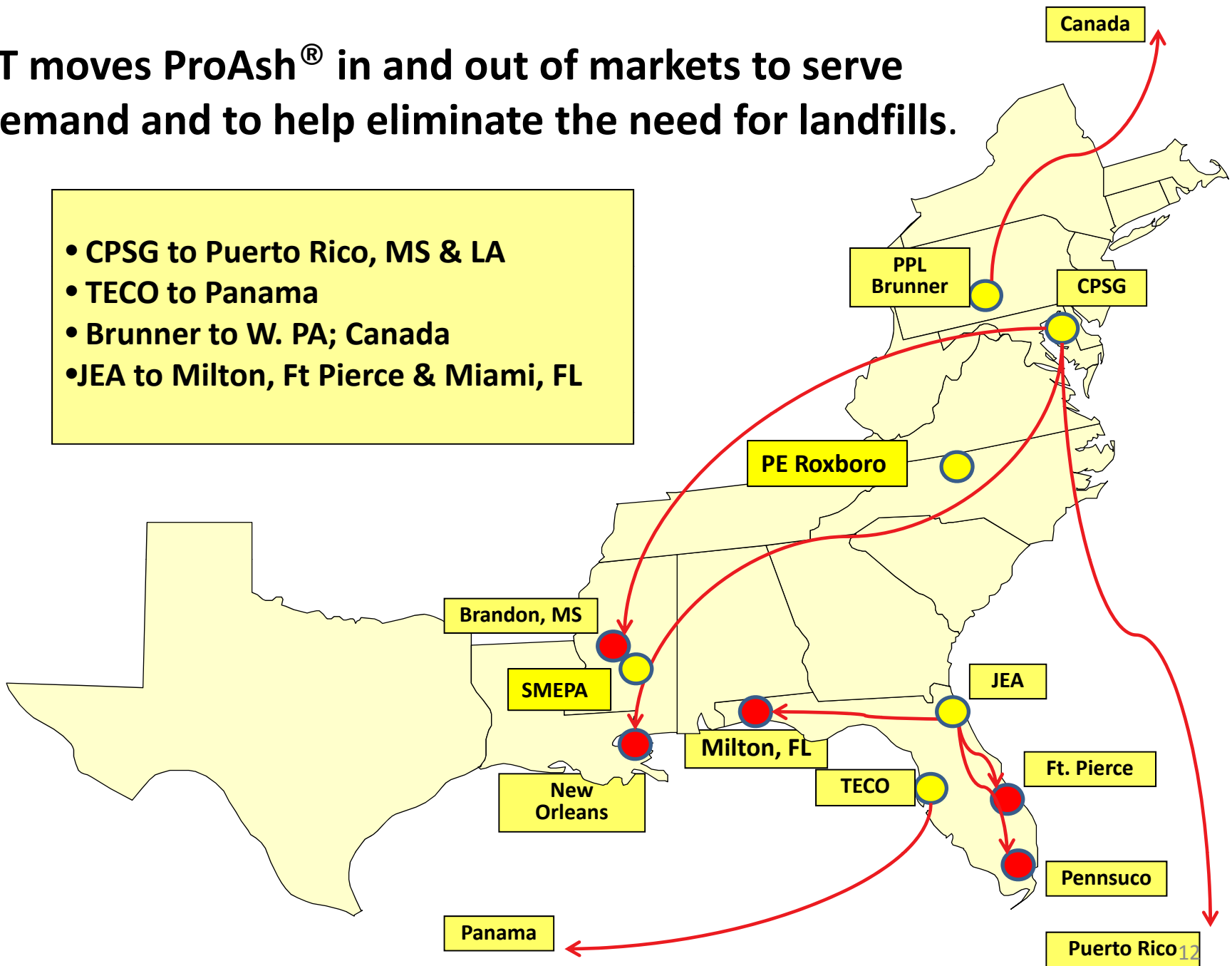




ST technology currently processes well over 1 million tons of fly ash per year used in portland cement products.

ST moves ProAsh[®] in and out of markets to serve demand and to help eliminate the need for landfills.

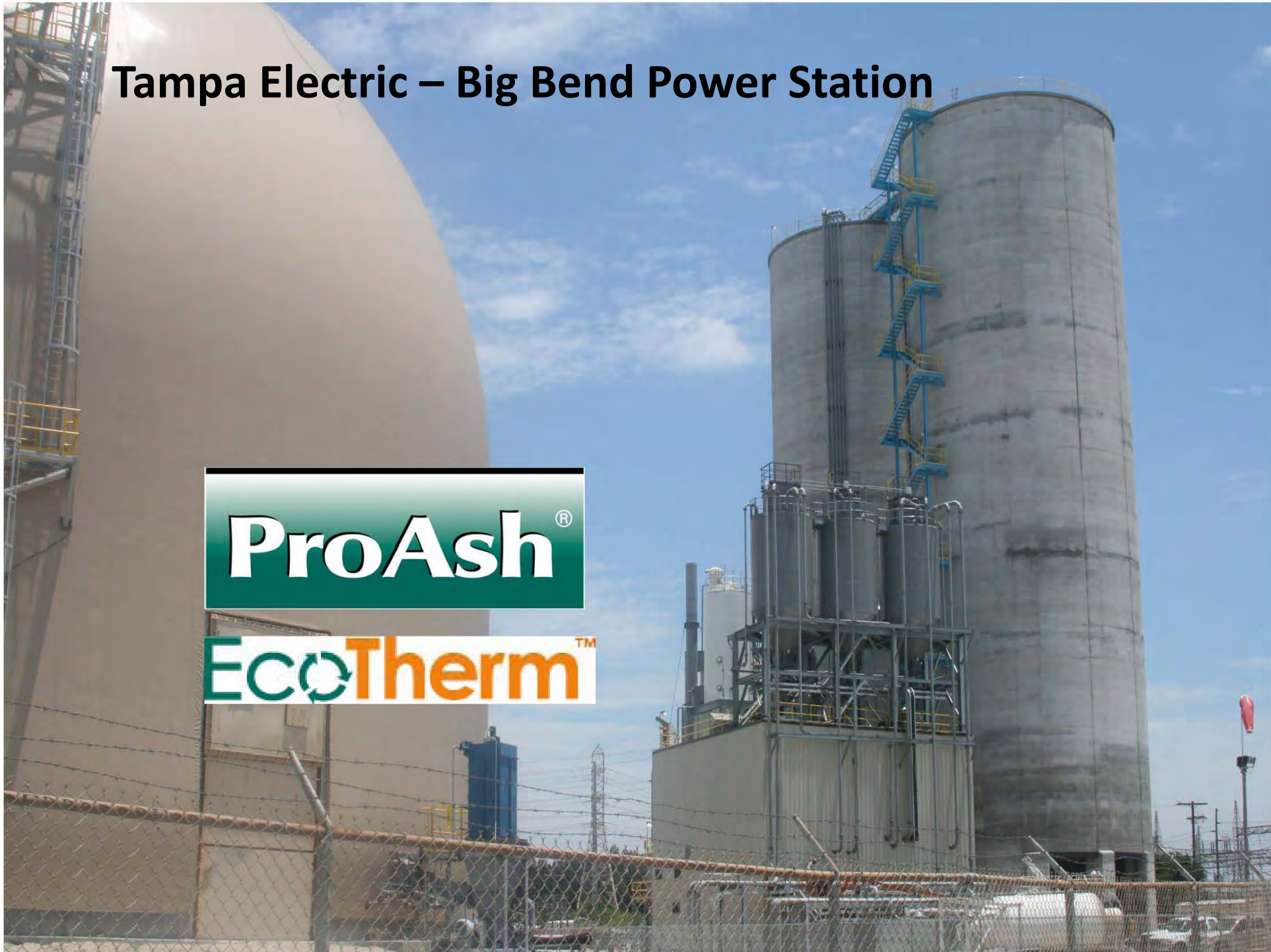
- CPSG to Puerto Rico, MS & LA
- TECO to Panama
- Brunner to W. PA; Canada
- JEA to Milton, Ft Pierce & Miami, FL



Tampa Electric – Big Bend Power Station

ProAsh[®]

EcoTherm[™]



Hazardous Waste Designation Impact on ST Utilities

- Constellation – Baltimore
 - While at the leading edge of caring action still needed 10 years to put all components in place
- Belledune – Total Systems needs no landfill except in far northeast Canadian winter
- SMEPA – Mississippi Total Systems innovator seldom needs any landfill
- Crist – Southern Companies Total Systems has ceased discussions until.....

Crist...

- Met with Southern Companies in November to resume contract talks and was told Southern would not proceed under any circumstances until the EPA designations were made known. “If a hazardous designation were made, even C/D hybrid, Southern would get out of all beneficial use of ash”.
 - Dennis Naramore, CCP Coordinator
 - Hollis Walker, Director of CCP

ST firmly believes after discussion with our U.S. utility partners that the potential for legal liability will become so high that utilities will opt to absorb the known cost of landfill rather than accrue for the unknown exceedingly high potential cost of litigation.

Hazardous Waste and Cement & Concrete

- Fly Ash is Encapsulated in the Concrete Composite
- Fly Ash Improves Concrete
- Fly Ash is One of Last Tools a Concrete Producer has to Reduce Variable Cost
- Fly Ash Reduces the Carbon Footprint of the Most Important and Versatile Building Material in the World

ASTM Standards

- Purchasers and Sellers incorporate them in contracts to protect from liability
- Architects and Designers use them in specifications

ASTM C618 – Specification for Fly Ash for Use in Concrete

“Should the EPA decide that fly ash will be regulated as a ‘hazardous waste’, Committee C09 will need to modify ASTM C311 and ASTM C618 to properly reflect this classification, even if the EPA specifies that fly ash used in concrete would not be considered a hazardous waste. We anticipate that changes in ASTM C618 to reflect the EPA action will result in the standard being removed from construction specifications due to liability concerns and the ‘hazardous waste ‘ connotation. Specifiers and end users will simply reject the use of fly ash.”

Committee C09 on Concrete and Aggregates letter to Lisa P. Jackson, EPA Administrator, December 22, 2009

Hazardous Waste and Concrete Producers

While the opinions of our concrete customers are varied with their understanding of the impact of the designation they share two common thoughts:

They need to reduce their variable and capital costs in a market that will not support increased volumes or prices,

and

They cannot afford the long term liability of using a material designated as hazardous even if they have used it for decades prior.

Hazardous Waste and CO2

- The Portland Cement Association said it best:
 - The use of fly ash in place of some cement in the concrete mixture reduces the carbon footprint of the cement industry. In 2002 an estimated 12.6 million tons of fly ash were used as a replacement for portland cement in the United States alone. The coal ash industry set a goal to increase this replacement level to 20 million tons by 2010. The EPA estimated that there would be a direct reduction of 6.5 million tons of greenhouse gases if this fly ash replacement were realized*.

*EPA-FHWA-ACAA-USWAG, Using Coal Ash in Highway Construction: A Guide to Benefits and Impacts” EPA-530-K-05-002, April 2005.

Impact on ST of Hybrid Hazardous Waste Designation...

- Fly Ash supplied by Utilities will be cut off ***due to potential liabilities***
- Concrete customers will reject Fly Ash ***due to potential liabilities***
- ST's U.S. Fly Ash processing and marketing business will die

Impact on ST of Hybrid Hazardous Waste Designation...

- ST and its parent organization have invested over \$100 million in technology solutions that benefit everyone in the chain of use ***and*** can greatly limit or actually eliminate new landfills.
- ST has invested heavily in the marketing expertise that promotes increased fly ash utilization in each cubic yard of concrete.
- If fly ash becomes hazardous, even if hybrid, ST will be forced to focus only on machinery and equipment, and mostly outside of the U.S.



This Innovative Dream, if it doesn't just die, will be forced overseas.

ST at Risk

- 1 million tons ProAsh[®] per year
- 100 K tons Coal Savings per year
- 1.1 million tons Landfill avoided per year
- 950 K tons CO₂ emissions avoided per year
- 110 high paying jobs
- \$100 million invested

Our Recommendation

- Allow truly sustainable innovative technologies, like ST's, to continue to provide solutions that actually benefit every member of the chain of use.
- Address CCP surface impoundments and dry ash landfill standards under EPA RCRA imminent and substantial endangerment authority.

Opposition Letters to Proposed Changes



Environmental Regulatory Agencies

- ASTSWMO Letter to EPA
- ASTSWMO Phase II Survey Report, November 5, 2009
- ECOS October 15, 2009 Letter to EPA
- ECOS Resolution 08-16
- ECOS 2008 Letter to EPA
- Arizona Department of Environmental Quality
- Arkansas Department of Environmental Quality
- Colorado Department of Public Health and Environment
- Florida Department of Environmental Protection
- Hawaii Department of Land and Natural Resources
- Illinois EPA
- Indiana Department of Environmental Management
- Indiana Department of Natural Resources
- Iowa Department of Natural Resources
- Kansas Department of Health and Environment (03/09)
- Kansas Department of Health and Environment (09/09)
- Louisiana Department of Environmental Quality
- Maryland Department of the Environment
- Michigan Department of Environmental Quality
- Minnesota Pollution Control Agency
- Missouri Department of Natural Resources
- Mississippi Department of Environmental Quality
- New Jersey Department of Environmental Protection
- North Dakota Department of Health
- Ohio EPA
- Oklahoma Department of Environmental Quality
- Pennsylvania Department of Environmental Protection
- South Carolina Department of Health and Environmental Control
- South Dakota Department of Environment and Natural Resources
- Tennessee Department of Environment and Conservation
- Texas Commission on Environmental Quality
- Virginia Department of Environmental Quality (3/31/09)
- Virginia Department of Environmental Quality (9/30/09)
- West Virginia Department of Environmental Protection
- West Virginia Department of Environmental Protection (10/14/09)
- Wisconsin Department of Natural Resources
- Interstate Mining Compact Commission (IMCC) Letter to OMB
- IMCC Letter to EPA

Governors

- National Governors Association
- North Dakota Governor Hoeven
Chambers of Commerce
- MI Chamber of Commerce –MI Manufacturing Association Joint Letter
- North Carolina Department of Commerce
- South Carolina Department of Commerce
- US Chamber of Commerce

State Public Utility Commissions

- Indiana Office of Utility Consumer Counselor
- Indiana Utility Regulatory Commission
- Louisiana Public Service Commission
- New Mexico Public Regulation Commission
- North Dakota Public Service Commission
- North Carolina Public Utility Commission
- North Carolina Utilities Commission, Public Staff, Consumer Advocate
- Ohio Public Utilities Commission
- Pennsylvania Public Utility Commission
- South Carolina State Office of Regulatory Staff
- Miscellaneous
- Kentucky Attorney General
- National Conference of State Legislators

Labor

- Unions for Jobs And the Environment

State DOT/Highway Administration

- Arizona Department of Transportation
- American Association of State Highway and Transportation Officials
- Colorado Department of Transportation
- Florida Department of Transportation
- Indiana Department of Transportation
- New Hampshire Department of Transportation
- North Carolina Department of Transportation
- Texas Department of Transportation
- Utah Department of Transportation

Tribal Government

- Salt River Pima-Maricopa Indian Community

Municipal Governments

- US Conference of Mayors
- Colorado Springs, Colorado
- Grand Island, Nebraska
- Hastings, Nebraska
- Rock Falls, Illinois
- Springfield, Illinois
- Texas Municipal Power Agency
- Wyandotte, Michigan

Industry Letters

- American Coal Ash Association
- American Concrete Institute
- American Concrete Pavement Association
- American Society of Concrete Contractors
- Arizona Rock Products Association
- Boral Materials Technologies
- Separation Technologies LLC
- Burlington Northern & Santa Fe Railroad
- Byram Concrete & Supply
- Colorado Ready Mixed Concrete Association
- Concrete Paving Association of Minnesota
- Florida Coordinating Group
- Freight Pipeline Company
- Gypsum Association
- Headwaters Resources
- Intermountain Power
- Iowa Concrete Paving Association
- Iowa Ready Mixed Concrete Association
- Lafarge
- Lattimore Materials Company
- Michigan Manufacturing Association and the Michigan Chamber of Commerce Joint Letter
- Midwest Coal Ash Association
- Mississippi Concrete Industries Association
- National Association of Manufacturers
- National Ready-Mix Concrete Association
- Oregon Concrete & Aggregate Producers Association
- Pink Hill Acres Landfill
- Portland Cement Association & American Concrete Pavement Association
- Schmitz Ready Mix
- Southern Company (David Ratcliffe, CEO)
- Texas Coal Ash Utilization Group
- USC Technologies
- USWAG Letter to EPA | EPA Response to USWAG
- Washington Aggregate and Concrete Association
- West Virginia Builders Supply Association
- WilleBrothers



Thank You

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