

# Creating a Future with Cleaner Coal



**ADA**  
*ENVIRONMENTAL SOLUTIONS*

**NASDAQ:ADES**

Investor Presentation  
September 2011

# Disclaimer

Please note that this presentation contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, which provides a "safe harbor" for such statements in certain circumstances. The forward-looking statements include, but will not necessarily be limited to, statements or expectations regarding the growth in markets for our products and services; amount and timing of revenues, earnings, operating income, cash flows and other financial measures; timelines for our projects; scope, timing and impact of current and anticipated regulations and legislation; future supply and demand; the number of refined coal facilities to be installed by year end and the amount of refined coal capable of being produced from such facilities; and related matters. These statements are based on current expectations, estimates, projections, beliefs and assumptions of our management. Such statements involve significant risks and uncertainties. Actual events or results could differ materially from those discussed in the forward-looking statements as a result of various factors, including but not limited to, our inability to satisfactorily resolve outstanding indemnity obligations relating to the recently settled Norit arbitration; adverse outcomes in future legal proceedings; lack of working capital to timely fulfill our obligations; changes in laws and regulations, government funding, prices, economic conditions and market demand; timing of regulations and any legal challenges to them; impact of competition; availability, cost of and demand for alternative energy sources and other technologies; technical, start-up and operational difficulties; inability to commercialize our technologies on favorable terms; additional risks related to Clean Coal Solutions, LLC including failure of its leased facilities to continue to produce coal which qualifies for IRS Section 45 tax credits, termination of the leases for such facilities, decreases in the production of refined coal by the lessee, seasonality and failure to build or monetize new facilities to meet the Section 45 tax credit placed-in-service date; availability of raw materials and equipment for our businesses; loss of key personnel; and other factors discussed in greater detail in our filings with the Securities and Exchange Commission (SEC). You are cautioned not to place undue reliance on such statements and to consult our SEC filings for additional risks and uncertainties that may apply to our business and the ownership of our securities. Our forward-looking statements are presented as of the date made, and we disclaim any duty to update such statements unless required by law to do so.

# Leader in Clean Coal Technology Investment Overview

Leader in developing and implementing environmental solutions to reduce mercury and other toxic pollutants

- **Primary Market:** 1,100+ coal-fired utility boilers in the U.S.
  - Coal provides 50% of electricity in the U.S.
- **Mercury:** Technology capable of 80-90% reduction
  - Refined Coal through JV Clean Coal Solutions
  - Enhanced Coal, licensed for production to Arch Coal (NYSE: ACI)
  - Activated Carbon Injection (“ACI”) Equipment
- **Acid Gases:** Dry Sorbent Injection (“DSI”) systems
- **Market Drivers:** New EPA Regulations on Emissions
  - Cross-State Air Pollution Control Rule finalized in July creates markets for DSI for SO<sub>2</sub> control as early as January, 2012.
  - Mercury and Air Toxics Standards expected to become final in November 2011 limits emissions of mercury and acid gases from all coal-fired power plants.
- Legal Disputes with Activated Carbon producers Calgon and Norit settled
- 7.7 mm shares outstanding

# ADA's Emissions Solutions for the Existing Fleet

- Supply emission control technologies based upon minimal capital cost for new equipment
  - Doesn't require 10-20 years of extended plant life to justify large equipment costs
- Low CAPEX alternatives trade variable operating expenses for fixed capital costs
  - Allows continued operation of the plants to take advantage of additional economic life
  - Provides continuous revenues for ADA vs. one time equipment sales
- Examples for a 250 MW Plant:
  - High CAPEX: Wet Scrubber \$100+ mm
  - Low CAPEX
    - ACI: \$1 mm
    - DSI: \$3 mm
    - Refined Coal: Controls mercury at no cost to utility
    - Enhanced Coal: No capital equipment; \$2-\$4 mm per year in increased fuel costs to the power producer

# ADA's Low CAPEX Approach to Emissions Control Technology

Emission Control Equipment  
(NO<sub>x</sub>, SO<sub>2</sub>, Particulate)



ACI System  
for Mercury



# Refined Coal Reduces Mercury

- Clean Coal Solutions (CCS): ADA JV with NexGen Refined Coal LLC
  - 15% interest in CCS sold to a Goldman Sachs affiliate in May for \$60 mm
- CyClean – patented technology enhances combustion of PRB coals in cyclone boilers and reduces mercury and NOx emissions
- Two systems have been operating at two power plants since June, 2010
  - Received \$9 mm in prepaid rent from monetizer (GS)
  - Generated >\$20 mm in revenues and \$9 mm in operating income to ADA in first full year of operation
  - Expected to generate approximately \$7 mm ( $\approx$ \$1/ton of RC) in pretax earnings per year for ADA for the next eight years



# Refined Coal Growth Opportunity

- In December 2010 Congress extended deadline to install new Refined Coal facilities until the end of 2011.
  - New Air Toxics Rule creating additional demand for Refined Coal.
- Currently fabricating 20 additional Refined Coal facilities
- Installation and operation scheduled to be completed this year



# September 1<sup>st</sup> Update on Refined Coal Expansion

- 20 New Refined Coal facilities are planned
  - 7 have been installed at power plants with 3 more installations planned in September
  - 4 of the installed units have satisfied “placed-in-service” requirements under temporary operating permits
  - Remaining 10 facilities expected to be installed & operations demonstrated in the Fall
- JV has expanded line of credit to \$15 mm to finance additional units
- Advance payments for pre-paid rent are expected once the facilities are operational
- After “placed in service” the process takes approximately 6 months to achieve operational status
  - Application for permanent operating permit filed after demonstration
  - Contracts must be negotiated between monetizer and power generating company
- If all planned facilities become fully operational, CCS could be generating >30 mm tons of RC

# Mercury Control: License to Arch Coal

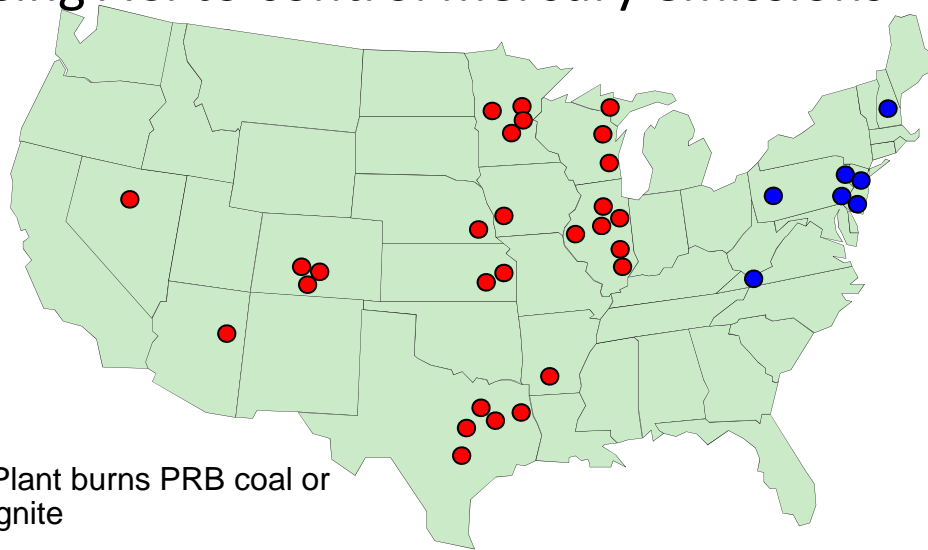
- Designed to enable Arch's PRB coals to burn with lower emissions of mercury and other metals
- \$1.00-4.00/ton in benefits to customer
- Royalty agreement – payments to ADA of up to \$1.00/ton based on premium of Enhanced Coal sales
- Air Toxics Rule could create a market for Enhanced PRB Coal through 2015
- Full-scale tests proving effectiveness, planning additional demonstrations



# ADA Commercial ACI Systems

## > 20 GW Sold for Mercury Control

- Installed/installing ACI systems on 55 coal-fired boilers
  - Over 35% market share of the 159 boilers using ACI to control mercury emissions

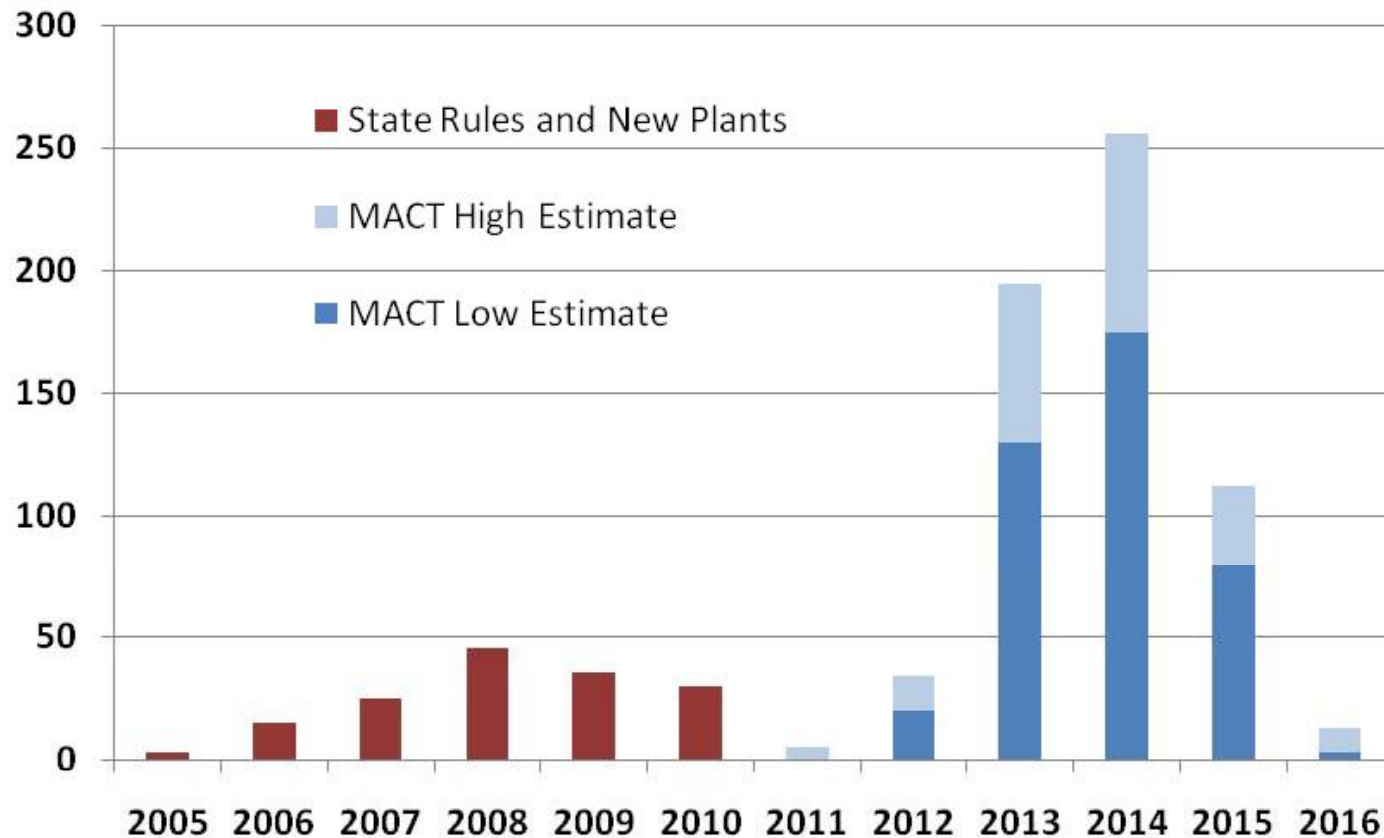


- Plant burns PRB coal or lignite
- Plant burns bituminous



# Emission Control: Growth Expected in ACI Equipment

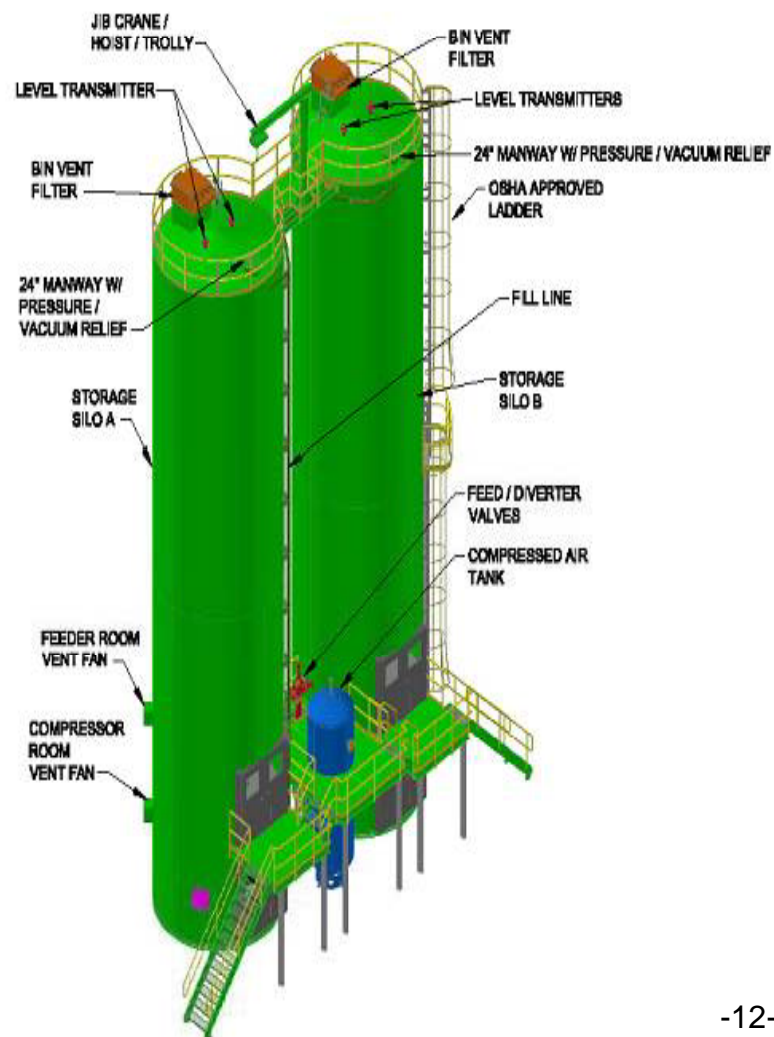
- Expect contracts to begin once the Air Toxics Rule is finalized in November 2011



# Control of Acid Gases

## HCl, SO<sub>2</sub>, SO<sub>3</sub>

- Cross-State Air Pollution Rule (CSAPR) creates a market for SO<sub>2</sub> control starting in January 2012
- Air Toxics Rule identifies HCl and SO<sub>2</sub> as surrogates for acid gases
- ADA provides dry sorbent injection (DSI) systems as a low-cost option to wet scrubbers
- Equipment costs \$2-3 mm for average size plants
- EPA predicts over 200 systems will be needed by 2015



# CO<sub>2</sub> Capture

- Developing solid sorbent capture technology to capture CO<sub>2</sub> from flue gas in conventional coal-fired boilers
- DOE and industry funding:
  - Phase I - \$3.8 mm R&D program awarded in Nov. 2008 to develop technology; successful field tests at 1 KW pilot plant
  - Phase II - \$19 mm, 51-month contract awarded October 2010 to scale-up technology to 1 MW; key step toward commercialization
- Advantages over competing technologies:
  - For customer: lower cost and less parasitic energy
  - For ADA: continuous revenues from sale of proprietary chemical sorbents

# Summary of Recent Financial Results

	Six Months ended 06/30/11	Six Months ended 06/30/10	Year Ended 12/31/10
Total Revenues	\$15.5 mm	\$5.8 mm	\$22.3 mm
Gross Margin	80%	23%	61%
Operating Loss	(\$404,000)	(\$10.3) mm	(\$21.0) mm
Net Loss (per share)	(\$29.8) mm (\$3.91)	(\$6.5) mm (\$0.89)	(\$15.5) mm (\$2.09)

# Balance Sheet Highlights

	As of 6/30/11 <sup>(1)</sup>	As of 12/31/10
Cash & Cash Equivalents	\$41.0 mm	\$9.7 mm
Working Capital (Deficit)	(\$588,000)	\$10.1 mm
Shareholders' Equity	\$2.8 mm	\$13.4 mm
Shares Outstanding	7.6 mm	7.5 mm

(1) As a result of the Interim Award to Norit, ADA reclassified \$32.6 mm from long-term to current liabilities. Amounts shown are prior to the recent settlement and payment to Norit of \$33 million.

# Catalysts for Company

## ■ Past 6 Months

- March: Began fabrication of new Refined Coal facilities
- May: EPA publishes draft of Mercury and Air Toxics Standard
- May: GS pays \$60 mm for 15% interest in Clean Coal Solutions
- July: EPA finalizes Cross-States Air Pollution Rule
- August: Settlement of Norit Arbitration

## ■ Next 6 Months

- 20 Refined Coal facilities expected to be installed by year end
  - Capable of producing >30 mm tons of RC per year for 10 years
- November: EPA scheduled to finalize Mercury and Air Toxics Standard
  - Contracts for ACI
  - Contracts for DSI
  - Create market for Enhanced Coal

# Other Data

- As of 09/01/11:
  - Market cap: \$116 mm
  - 7.7 mm shares outstanding
  - 50%+ held by institutions
  - ~11% held by insiders and employees
  - Analyst coverage: Johnson Rice, Lazard Capital Markets, Pritchard Capital Partners, Wedbush Securities

## Investor Contact:

ADA-ES, Inc.  
Michael D. Durham, Ph.D., MBA, President & CEO  
Mark H. McKinnies, CFO  
(303) 734-1727  
[www.adaes.com](http://www.adaes.com)

Investor Relations Counsel  
The Equity Group, Inc.  
Melissa Dixon  
(212) 836-9613  
[Mdixon@equityny.com](mailto:Mdixon@equityny.com)





**NASDAQ:ADES**

***A Leader in Clean Coal Technology***

