

# Creating a Future with Cleaner Coal



**ADA**  
*ENVIRONMENTAL SOLUTIONS*

**NASDAQ:ADES**

Investor Presentation  
January 2012

# 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 amount of refined coal capable of being produced from refined coal 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, 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; our inability to ramp up operations to effectively address expected growth in our target markets; additional risks related to Clean Coal Solutions, LLC ("Clean Coal") 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 monetize new CyClean and M45 facilities; issues arising out of Clean Coal's due diligence review of the M45 technology and our inability to address those concerns or negotiate, execute and close on definitive agreements; availability of raw materials and equipment for our businesses; loss of key personnel; intellectual property infringement claims from third parties; 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.

# Investment Highlights

- ADA provides low-CAPEX technologies to reduce emissions from coal-fired power plants
- Rapid expansion expected in 2012 from Refined Coal (RC) revenues
  - First two RC facilities are generating \$20 mm in annual revenue and > \$7 mm in EBIT for ADA
  - 26 new RC facilities expected to come on line throughout 2012
  - ADA expects to generate pre-tax income (EBIT) of up to \$50 mm by the end of 2012 for the next 10 years
- In December EPA signed the Mercury and Air Toxics Standard (MATS)
  - Requires 1200 power plants to reduce emissions of mercury and acid gases
  - EPA predicts that this will create a >\$9 billion per year market for emissions control
- ADA is the market leader in mercury control technologies
  - Activated Carbon Injection (ACI) systems
  - RC
  - Enhanced Coal (licensed to Arch Coal)
- 10 million 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 needed to justify large equipment costs
- Low CAPEX alternatives trade variable operating expenses for fixed capital costs
  - Allows continued operation of the plants that may otherwise be considered for closure
- Examples for a 250 MW Plant:
  - High CAPEX: Wet Scrubber \$100+ mm
  - ADA Low CAPEX alternatives
    - ACI: \$1 mm
    - DSI: \$3 mm
    - RC: 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



# ADA Segment Overview

## Refined Coal

- Two RC technologies reduce mercury and NOx emissions and qualify for Section 45 Tax Credits
- 42.5% stake in Clean Coal Solutions JV with NexGen & Goldman Sachs
  - 2 CyClean facilities produced \$20 MM in revenue, \$9MM in operating income for ADA in first year of operation
  - 26 new RC systems placed in service in 2011
  - Total RC activities capable of producing \$50 MM in EBIT for ADA for 10 years



## Emissions Control Systems

- ACI systems addressing mercury emissions for coal-fired power plants
- ACI systems installed on 55 boilers to date—in a ~ 35% market share
- MATS expected to create \$500-600 mm market for ACI
- MATS also creating demand for DSI systems for control of acid gases
- Option for 49.9% participation in Activated Carbon Plant capacity additions



## Technology

- License agreement with Arch Coal for enhanced coal technology to reduce mercury emissions
- Developing solid sorbent capture technology to capture CO<sub>2</sub> from flue gas in coal-fired boilers





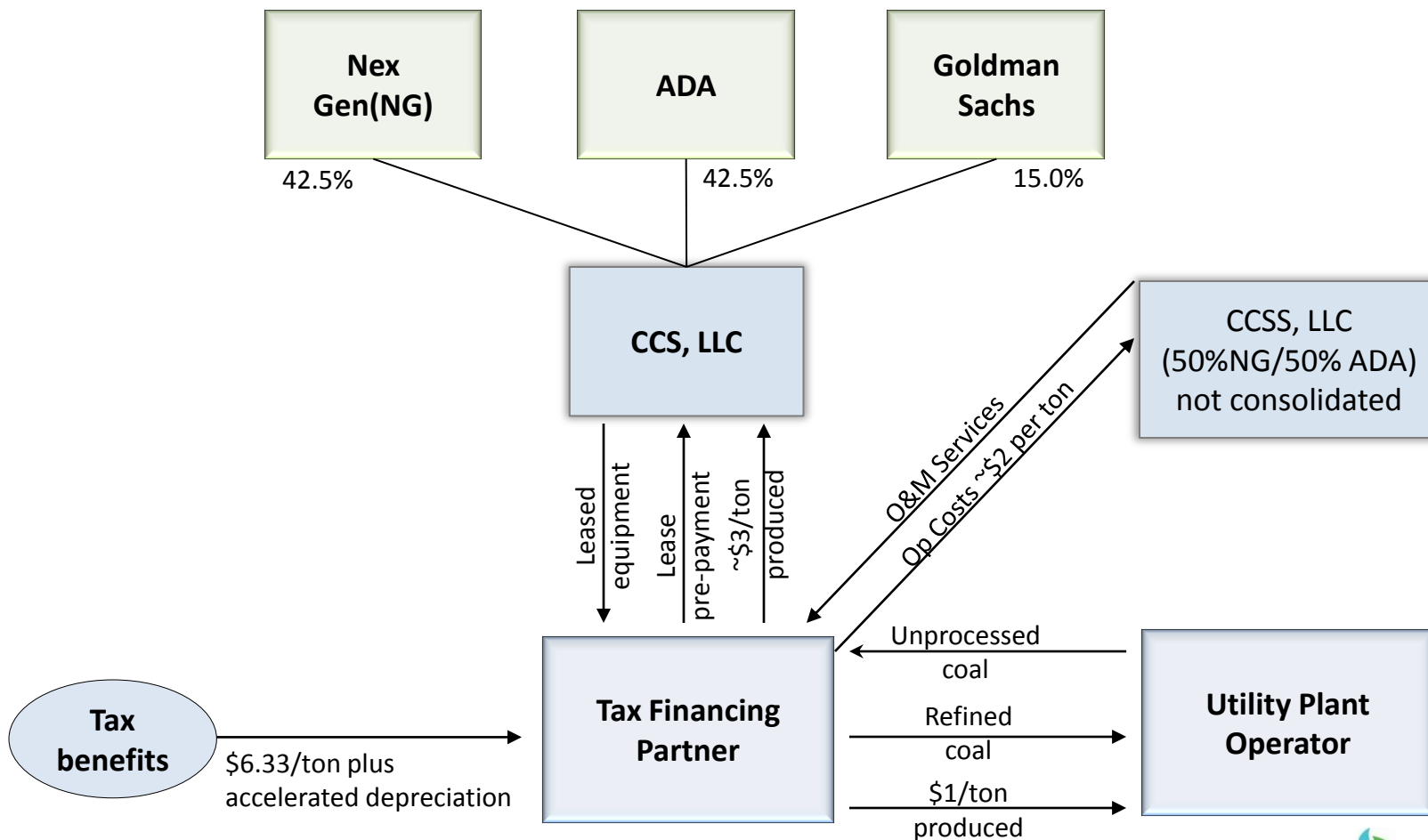
## *Clean Coal Solutions, LLC*

# Clean Coal Solutions (CCS)

- Clean Coal Solutions (CCS) : ADA JV with NexGen Refined Coal LLC
  - 15% equity interest in CCS sold to a Goldman Sachs affiliate in May 2011 for \$60 mm
- CCS markets two coal pre-combustion technologies developed by ADA that qualify for IRS Section 45 RC tax credits of \$6.33 per ton of RC for ten years
  - Reduces mercury emissions by >40% and NOx emissions by >20%
- Third-party monetizers lease RC facilities from CCS converting tax credits to revenues



# CCS Project Monetization Overview



# 2009 Refined Coal Facilities

- Two systems placed-in-service in 2009 and commenced operations at two power plants in 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
  - RC sales to these plants expected to generate approximately \$20 mm in revenue and \$7 mm in pretax earnings for ADA in 2012



# 2011 Refined Coal Facilities

- In December 2010 Congress extended deadline to install new RC facilities until the end of 2011
- CCS installed and operated 26 new RC facilities ahead of the year-end deadline
- New facilities are expected to begin operating full time in 2012 after:
  - Operating permits obtained from the state
  - Contracts negotiated and signed between monetizer and power company
  - Contracts approved by Public Utility Commission if necessary
- By the end of 2012, the 26 new and 2 existing facilities are expected to:
  - Generate >\$70 mm in prepaid rent for CCS in 2012
  - Create >\$100 mm in revenue per year for ADA through 2021
  - Produce >\$50 mm in EBIT per year for ADA through 2021



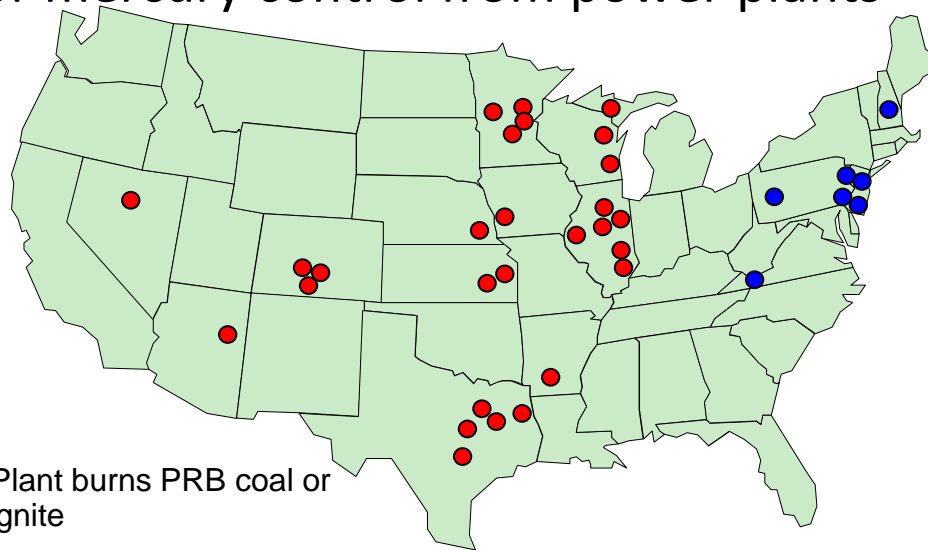


## *Emissions Control Systems*

# ADA Commercial ACI Systems

## > 20 GW Sold for Mercury Control

- Installed/installing ACI systems on 55 boilers at coal-fired power plants
  - Over 35% market share of 159 boilers served for mercury control from power plants

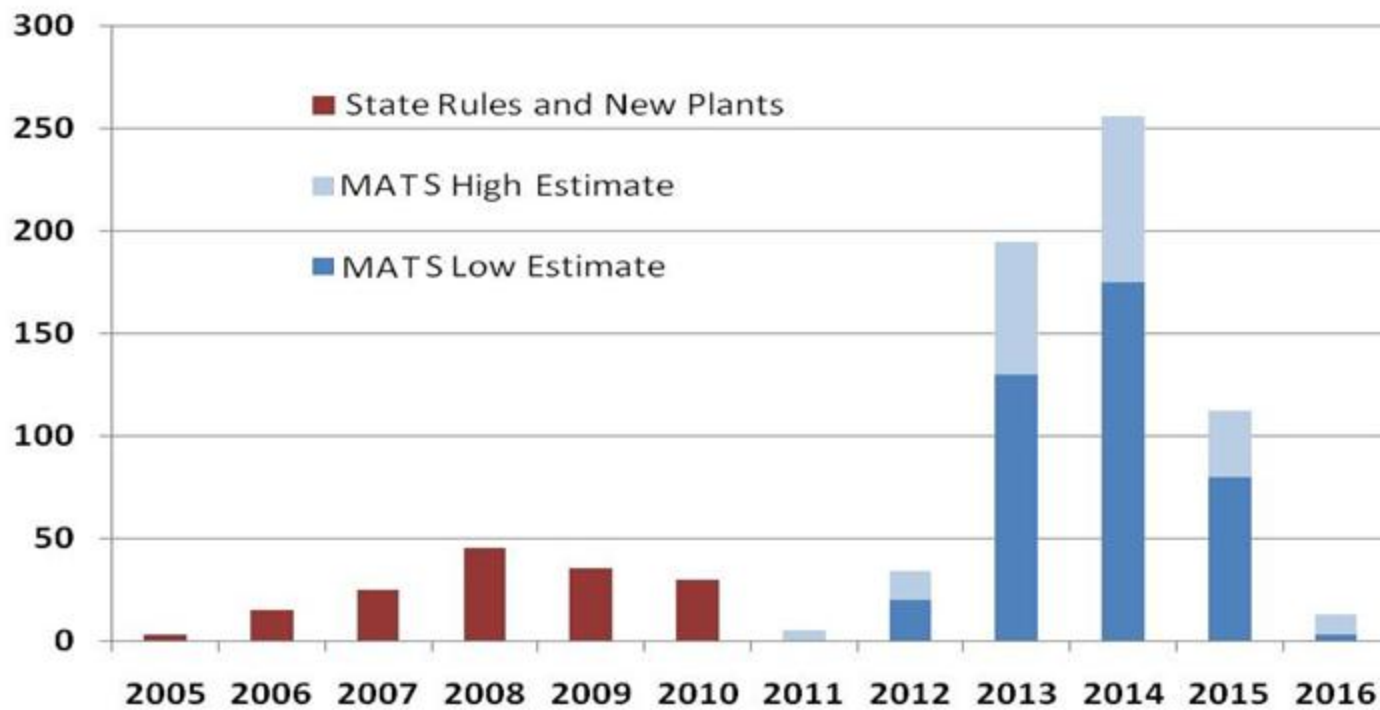


- Plant burns PRB coal or lignite
- Plant burns bituminous



# Emission Control: Growth Expected in ACI Equipment

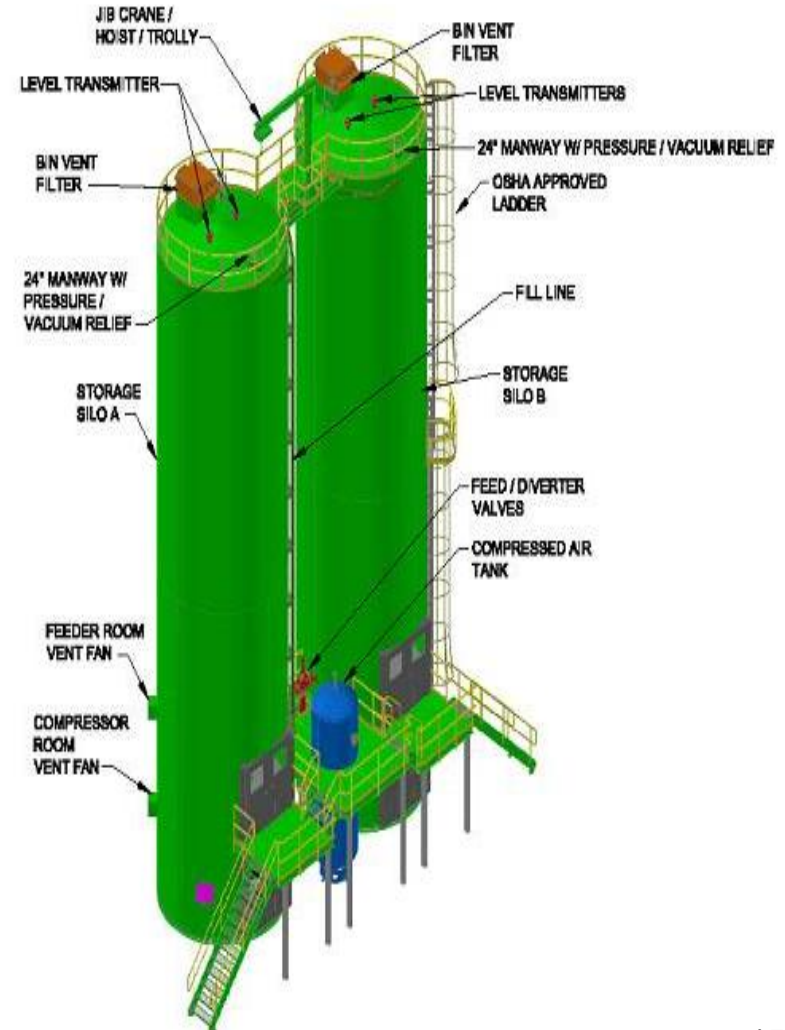
- MATS is expected to create \$500+ MM market for ACI
- Procurement activities have commenced and ADA is responding to several fleet bids



# Control of Acid Gases

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

- New environmental regulations creating demand for control of acid gases such as HCl, SO<sub>3</sub>, and SO<sub>2</sub>
- 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





## *Technology*

# 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
- Initial market will be in states with mercury regulations already in place
- Expanded market expected to develop by 2015 as a result of the MATS



# 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



## *Financial*

# Summary of Recent Financial Results

	Nine Months ended 09/30/11 <sup>(1)</sup>	Nine Months ended 09/30/10 <sup>(2)</sup>	Year Ended 12/31/10
Total Revenues	\$28.7 MM	\$13.3 MM	\$22.3 MM
Gross Margin	69%	54%	61%
Operating Income (Loss)	\$3.1 MM	(\$15.5) MM	(\$21.0) MM
Net Loss (per share)	(\$33.6) MM (\$4.41)	(\$12.4) MM (\$1.68)	(\$15.5) MM (\$2.09)

(1) 2011 nine-month period included \$41.7 MM in arbitration expenses, \$4.2 MM in non-routine litigation-related legal expenses, and \$0.9 MM in interest expense .

(2) 2010 nine-month period included \$16.1 MM in non-routine litigation-related legal expenses.

# Balance Sheet Highlights

	As of 9/30/11 <sup>(1)</sup>	As of 12/31/10
Cash & Cash Equivalents	\$9.6 MM	\$9.7 MM
Working Capital (Deficit)	(\$12.0) MM	\$10.1 MM
Shareholders' Equity	\$1.9 MM	\$13.4 MM
Shares Outstanding <sup>(2)</sup>	7.7 MM	7.5 MM

(1) Working capital decreased primarily as a result of payments and obligations in the Norit Settlement, partially offset by proceeds from the sale of a 15% interest in CCS to an affiliate of Goldman Sachs.

(2) Shares outstanding at December 31, 2011 were ~10 MM, reflecting completion of public offering in October 2011 and exercise of the underwriters over-allotment option in November 2011.



# 4<sup>th</sup> Quarter Financial Transactions

- Capital Raise, managed by Lazard, Baird, and JMP
  - \$28.4 Million on the sale of 2 million common shares with no warrants
  - \$4.3 Million in exercise of over-allotment option on 300k shares
- Settled Indemnity Claim with Energy Capital Partners
  - Eliminated \$33 Million in long-term liability
  - Will recognize ~ \$19 Million gain in Q4 2011
  - Relinquished all of its ~ 21% ownership in AC plant
    - No longer recording losses from JV
    - Retained option to invest up to 49.9% in new capacity additions
- \$5 Million in prepaid royalties expected to be recorded on M-45 technology
- Current consolidated cash at 12/31/11 ~ \$40 Million



**NASDAQ:ADES**

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

