

ADA-ES INC  
Form 10-K  
March 15, 2012  
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**United States**  
**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**FORM 10-K**

x **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**For the fiscal year ended December 31, 2011**

or

.. **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

**Commission File Number: 000-50216**

**ADA-ES, Inc.**

(Name of registrant as specified in its charter)

**Colorado**  
(State of incorporation)

**84-1457385**  
(IRS Employer

Identification No.)

**9135 South Ridgeline Boulevard, Suite 200, Highlands Ranch, Colorado 80129**

(Address of principal executive offices) (Zip Code)

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(Registrant's telephone number, including area code): (303) 734-1727

Securities registered under Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, no par value	NASDAQ Capital Market

Securities registered under Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.  Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act.  Yes  No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.  Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).  Yes  No

Indicate by check mark if disclosure of delinquent filers in response to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definition of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act.

Large accelerated filer  Accelerated filer

Non-accelerated filer  Smaller Reporting Company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act.)  Yes  No

The aggregate market value of the voting common stock held by non-affiliates as of June 30, 2011 was \$106,666,000.

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date.

Class	Outstanding at March 9, 2012
Common Stock, no par value	10,001,809

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the Definitive Proxy Statement to be filed pursuant to Regulation 14A for ADA-ES, Inc.'s annual shareholder meeting for 2012 are incorporated by reference into Part III of this Form 10-K.



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**PART I**

**Item 1. Business**

**Abbreviations We Use in this Report**

ADA, the Company, we, us, or our refer to ADA-ES, Inc., a Colorado corporation, and its consolidated subsidiaries.

**Business Purpose and Strategy**

Incorporated in Colorado in 1997, ADA develops, offers, and implements proprietary environmental technologies and provides equipment and specialty chemicals that enable coal-fueled power plants to meet emissions regulations by enhancing existing air pollution control equipment, maximizing capacity and improving operating efficiencies. ADA became a stand-alone public company through a spin-off from its parent company, Earth Sciences, Inc. in September 2003. We have three wholly-owned subsidiaries, which include Advanced Emissions Solutions, Inc., a Delaware corporation ( ADES ), ADA Intellectual Property, LLC, a Colorado limited liability company ( ADA IP ), and ADA Environmental Solutions, LLC, a Colorado limited liability company ( ADA-ES ). ADA holds a 42.5% controlling interest in Clean Coal Solutions, LLC, a Colorado limited liability company ( Clean Coal ).

Our approach to technology development, implementation and commercialization involves taking technology to full-scale as quickly as we can, and testing and improving the technology under actual power plant operating conditions. The most significant benefit of this method is that we begin working early and closely with power companies to optimize the technology to meet their specific needs. For example, while some other companies develop mercury control in the isolation of a laboratory without feedback from users, we work on slip stream and full scale systems that are installed on plants, including several operated by the largest power companies in the United States and Canada. We assist electric power generating companies to remain competitive while meeting environmental regulations. Additionally, many of our proprietary patented technologies and services provide a continual revenue stream for the Company.

Our major activities include:

Development and marketing of our refined coal ( RC ) technologies, including leasing of RC facilities for control of nitrous oxides ( NOx ) and mercury, which also qualifies for certain tax credits, through our Clean Coal joint venture with NexGen Refined Coal, LLC, an affiliate of NexGen Resources Corporation ( NexGen ), and GSFS Investments I Corp. ( GSFS ), an affiliate of The Goldman Sachs Group, Inc. ( GS ),

Development and sale of systems, field testing, chemicals and services primarily related to control of emissions of mercury, acid gases, sulfur dioxide ( SO<sub>2</sub> ) and particulate matter for coal and solid fuel fired boilers used in electric generation,

Research and development of carbon dioxide ( CO<sub>2</sub> ) capture technology through contracts supported by the Department of Energy ( DOE ) and industry participants, and

Development of a technology that allows coal to be burned with lower mercury emissions. This technology has been licensed to Arch Coal, Inc. ( Arch Coal ) to enhance coal ( Enhanced Coal ) mined by Arch Coal at mines and sites located in the Powder River Basin ( PRB ).

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### **Financial Information for Industry Segments**

We have three reportable segments:

Refined coal or RC,

Emission control, or EC, and

CO<sub>2</sub> capture or CC.

Financial information concerning these reportable segments can be found in the Financial Statements filed as a part of this Report, in Footnotes 1 Summary of Nature of Operations and Significant Accounting Policies and 14 Business Segment Information and that information is incorporated by reference here.

### **Our Business in Detail**

#### **Market for Our Products and Services**

The primary drivers for many of our products and services are environmental laws and regulations impacting the electric power generation industry. Environmental regulations, such as the 1990 Clean Air Act Amendments, the recent Mercury and Air Toxics Standards ( MATS ) regulations, various state regulations and permitting requirements for new coal-fired power plants are requiring electric power generators to reduce emissions of pollutants, such as particulate matter, SO<sub>2</sub>, NO<sub>x</sub>, mercury, and acid gases. We are a key supplier of mercury control equipment and services to the EC market whose commercial equipment component first began in 2005 when individual states began to require limits on mercury emissions. We also offer dry sorbent injection systems ( DSI ) to control SO<sub>2</sub> and acid gases. Through Clean Coal, we have constructed and leased two RC facilities and have constructed 26 additional RC facilities in 2011, for which we are working on obtaining permits for full-time operation, securing and negotiating necessary approvals from the various state Public Utility Commissions and negotiating necessary contracts with power plants and financing partners for permanent placement and operation.

Our business is based upon providing technology for the approximately 1,200 coal-burning plants that produce roughly 45% of electricity in the U.S. in addition to steam for industrial processes and heating. A 2007 National Coal Council report estimated that United States coal reserves will be capable of serving demand for the next 250 years. Currently, the nation's existing coal-fired power plants emit approximately 48 tons of mercury per year, or approximately 50% of all human-caused mercury emissions in the U.S. Mercury, which is one of the most toxic substances known to humans, eventually finds its way into the water supply and into fish which, when ingested by humans, can cause severe neurological damage and even death, particularly in young children and developing fetuses. With enactment of the MATS rule described in more detail below, regulations now exist that will require all of the existing fleet and all new coal-fired plants to control mercury emissions.

Whether operating in a regulated or unregulated environment, power generating companies face competitive challenges requiring constant control of capital spending and operating costs. These cost control drivers increase the need for cost-effective retrofit technologies that can be used to enhance existing plant equipment to meet the more stringent emission limits while burning less expensive coals.

We participate in the emissions control market for coal-fired boilers with:

Low CAPEX (capital expenditure) mercury control technologies that effectively reduce mercury emissions over a broad range of plant configurations and coal types,

Our proprietary flue gas chemical conditioner that improves the capture of particulate matter emissions by new or existing equipment and offers both technical and economic advantages over the hazardous chemicals that have been and continue to be in use,

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Products, such as our CyClean™ and M-45™ technologies, our proprietary pre-combustion coal treatment processes that provide electric power generators mercury emission control and flexibility in choosing the grade of fuel they can burn,

Licenses of proprietary technology, such as with Arch Coal, which we expect to enhance certain coals mined by Arch Coal to allow them to burn with reduced emissions,

Dry sorbent injection systems to reduce emissions of SO<sub>2</sub> and acid gases such as sulfur trioxide ( SO<sub>3</sub> ) and hydrogen chloride ( HCl ), and

Research and development of technologies such as those aimed at the capture of CO<sub>2</sub> emissions.

We have established ourselves as a leader in the mercury control market for electric power generators. Our systems and technologies have been demonstrated to be effective in mercury emissions control, even in difficult applications, and have also been shown to be cost effective and in many cases, actually reduce the costs associated with such control.

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The coal-fired power industry has been under increased scrutiny over environmental issues during the last several years, especially related to NO<sub>x</sub>, SO<sub>x</sub>, particulate matter, and mercury emissions, as well as the impact of CO<sub>2</sub> emissions on climate change. In response to concerns expressed by environmental groups and others, various state officials rejected a number of permits for new coal-fired plants in the past few years. These actions slowed the progress of new coal-fired plants. With new portfolio standards for increased use of renewable energy sources and potential requirements for reduction of greenhouse gases limiting the permitting of new coal-based plants, we believe the dependence on the existing fleet for base load power increases. To continue operating as environmental regulations become more stringent, these older plants will likely require the use of retrofit technologies to address conventional pollutants (such as SO<sub>2</sub>, NO<sub>x</sub>, and particulate matter and now for pollutants such as mercury, acid gases, and emissions such as CO<sub>2</sub>) or face closure. Therefore, the current trend toward cleaner energy has created a growing market for ADA's existing and developing innovative technologies.

### **History of Relevant Environmental Legislation and Regulations**

Mercury has been identified as a toxic substance and, pursuant to a court order, the U.S. Environmental Protection Agency (EPA) issued regulations for its control from power plants in March 2005, which was known as the Clean Air Mercury Rule or CAMR. CAMR was subject to significant challenges and was ultimately declared invalid. In April 2010, the U.S. District Court of Appeals of the District of Columbia approved the consent agreement reached between the EPA and a coalition of public health and environmental groups that sued in 2008 to force the agency to set tighter emission limits. That settlement required the EPA to issue a draft rule in March 2011 and a final rule requiring strict plant-specific controls for power plants' toxic air pollutants no later than November 16, 2011. On March 16, 2011, the EPA issued the draft of the proposed MATS rule, a Maximum Achievable Control Technology (MACT)-based hazardous pollutant regulation applicable to coal and oil fired electric utility steam generating units, which provides for among other provisions, control of mercury and volatile metals such as arsenic, selenium and acid gases such as HCl and other Hazardous Air Pollutants (HAPs). On October 28, 2011, the EPA, with approval of the environmental groups who were parties to the Court of Appeals consent, extended the deadline and the final rule was issued on December 16, 2011, and is expected to take effect on April 16, 2012, which is 60 days after February 16, 2012, when the final rule was officially published in the Federal Register.

The final rule establishes standards for all HAPs emitted by coal and oil fired electric utility steam generating units (EGU) with a capacity of 25 megawatts or greater. The standards are based upon the average of the best performing 12% of existing applicable power plants. The MATS provides the option to use facility-wide averaging of 90 days to meet the limits for mercury. The MATS limits mercury emissions to 1.2 pounds per Trillion BTU (1.0 pound per Trillion BTU if 90 day averaging is used) and requires capture of up to 80-90% of the mercury in the coal burned in electric power generation boilers as measured at the exhaust stack outlet for most coals. The EPA estimates that there are approximately 1,200 coal-fired units and 300 oil-fired units affected by this action at about 600 power plants. Existing sources must comply to the standards within three years from the April 16, 2012 date to comply with the MATS. An authorized permitting authority has the ability to grant sources up to a one year extension, on a case by case basis, if such additional time is necessary for the installation of controls.

In addition to the electric power generators, the EPA has developed a MACT-based mercury emissions regulation for the Portland Cement Industry through amendments to the National Emission Standards for HAPs for the Portland Cement Manufacturing Industry (the Cement MACT). The Cement MACT regulation was finalized on August 6, 2010. On May 11, 2011, the EPA denied requests to issue an administrative stay on the Cement MACT and denied in part and granted in part various petitions to reconsider the final revised Cement MACT. We believe the EPA is not delaying the implementation of the Cement MACT and is only reconsidering various technical standards and issues contained in the final regulation, which we do not believe will have a material impact on the regulation and its eventual implementation. The standards for new kilns apply to facilities where construction, modification, or reconstruction commenced after May 6, 2009.

The Cement MACT requires cement plants to reduce HAPs by 2013 including 92% of mercury and 83% of hydrocarbons. This regulation could require activated carbon injection (ACI) systems on up to 90 cement kilns in the U.S., which are owned by approximately 15 companies. We have been engaged in several testing programs for cement companies to define their emissions and evaluate how ACI equipment and sorbents will work in that industry. The tests were designed to evaluate the effectiveness of collecting mercury and organics from cement kiln exhaust gas streams. While we have seen limited actual inquiries to date for ACI systems from cement companies, we believe the Cement MACT has the potential to increase the market for ACI systems once additional clarity is in place on the technical requirements of those rules.

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The EPA also issued a new MACT regulation for coal-fired boilers that provide mostly steam and/or electricity for small industrial and institutional power needs with no more than 25 MW of electricity sold to the grid (the Industrial Boiler MACT). The final regulation was released on February 23, 2011 and issued on March 21, 2011, with compliance deadlines originally scheduled for early 2014. On December 2, 2011, the EPA issued proposed reconsiderations of certain aspects of the Industrial Boiler MACT, including clarification of applicability and implementation issues. We believe the EPA intends to finalize these reconsiderations in May 2012.

The Industrial Boiler MACT could impact over 600 existing coal-fired industrial boilers. The final emission limit of 3.1 pounds of mercury per Trillion BTU for existing and .86 pounds per Trillion BTU for new coal-fired industrial boilers will on average require greater than 50% capture of mercury from coal-fired boilers burning various coals. We believe the final Industrial Boiler MACT could significantly increase the market for ACI systems when considering the requirement to control mercury emissions under this final rule that can be controlled by use of activated carbon injection.

The Clean Air Act requires that all emission control related regulations be met within three years from the final date the new rule is posted in the Federal Register, with the potential extension of one year granted by individual states on a case by case basis. We believe that substantial long-term growth of the EC market for the electric power generation industry will most likely depend on how industry chooses to respond to the pending and new federal regulations. In general, all three of these regulations are less stringent than originally expected, meaning more flexibility for subject units in choosing low capital expense control technologies and likely fewer forced retirements from having to install large capital emission control equipment, such as scrubbers and baghouses. We believe the final MATS will create a large market for our emission control and refined coal products beyond 2011. We expect that as many as 1,200 existing coal-fired boilers will be affected by such regulations, if and when they are fully implemented.

CSAPR, formerly known as the Transport Rule, was finalized by the EPA on July 6, 2011. CSAPR is intended to replace the EPA's 2005 Clean Air Interstate Rule and requires 27 states in the Midwest and eastern half of the United States and the District of Columbia to significantly improve air quality by reducing power plant SO<sub>2</sub> and nitrogen oxide emissions that contribute to ozone and fine particle pollution in other states. On December 30, 2011, the D.C. Circuit Court of Appeals issued a stay against implementation of the CSAPR in one of more than three dozen lawsuits challenging the CSAPR in order to hold a hearing on the issue of irreparable harm. Oral arguments in the case have been scheduled for April 13, 2012, and briefs were due on March 12, 2012. Although the court did not spell out its reasoning or address the underlying merits of the case, the plaintiffs had argued that the EPA's six-month compliance timeline imposes a substantial and imminent injury. Absent the stay, the rule would have become effective on January 1, 2012 for SO<sub>2</sub> and annual nitrogen oxide reductions and May 1, 2012 for ozone season nitrogen oxide reductions.

Many power companies recognize the urgency of these issued and pending regulations, and as a result are contracting with us to evaluate mercury and acid gas control options at a number of their plants. Utilities need to know as soon as possible whether their existing EC components are sufficient to meet the new emissions standards with the installation of low CAPEX systems such as ACI and DSI systems. If utilities need to upgrade their equipment with new large capital equipment such as fabric filters or SO<sub>2</sub> scrubbers, they need to quickly begin procurement of these systems due to long required lead times. As a result we expect additional near-term ACI and DSI demonstration revenue and further bidding on related ACI and DSI equipment.

### **Refined Coal**

In 2006, we established Clean Coal with an affiliate of NexGen to commercialize our patented RC technology that reduces emissions of NO<sub>x</sub> and mercury from certain coals in cyclone boilers. We licensed the technology, including the claims contained in certain patents, to Clean Coal upon formation of this joint venture. Clean Coal supplies chemicals, additives, equipment and technical services to cyclone-fired boiler users, but its primary purpose is to qualify RC for tax credits that are available under Section 45 of the Internal Revenue Code (Section 45 tax credits), which amounts to an annually escalating \$6.33 per ton (in 2011) of RC for a period of ten years.

Clean Coal placed two RC facilities in service prior to the initial placed in service deadline of January 1, 2010 and demonstrated the required emission reductions for their RC product to qualify for the Section 45 tax credits. Clean Coal signed agreements with a subsidiary of a large financial institution in June 2010 to lease these two RC facilities with initial two and one half year terms and annual renewals that were set to expire in 2019. In November and December 2011, Clean Coal and its related subsidiaries entered into transactions to exchange the leased RC facilities with newly constructed, redesigned RC facilities. We expect these new facilities will be eligible for the Section 45 tax credits for ten years from the new installation dates, rather than the initial installation dates. The two facilities are installed at two different power plants in the Midwest each of which operates two cyclone boilers burning PRB coal from Wyoming.





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In December 2010, the Tax Relief and Job Creation Act of 2010 extended the placed in service deadline for the Section 45 tax credits to January 1, 2012. In consideration of the extension, Clean Coal built and qualified an additional 26 RC facilities using a combination of the CyClean and M-45 technologies, which met the extended placed in service date. ADA expects several of these RC facilities to begin routine operations in 2012. Once the final utility site and financing partner have been determined, it takes an average of approximately six months to obtain environmental permits for full-time operation, secure necessary approvals from state Public Utility Commissions, negotiate and complete all necessary contracts and obtain private letter rulings ( PLRs ) from the IRS in some instances where plants blend different types of coal. Since the IRS did not provide explicit guidance on blending of coal to qualify for Section 45 tax credits, some of these facilities will likely require PLRs, which may take two to three months to obtain after formal contracts are completed. We have received \$14.9 million from our first monetizer as initial deposits on 15 million tons of RC, which reserves its right to negotiate for specific RC facilities. We are currently in discussions with a number of other major financial institutions and corporate investors to reserve the right to negotiate on a number of the remaining facilities.

We expect that the transactions for the new leases of the new RC facilities over the next year will be structured similarly to the lease transactions previously entered into for the two initial RC facilities placed in service in June of 2010. As was the case in those transactions, generally the lease of the RC facilities and the monetization of the Section 45 tax credits involve a relationship between the utility, a financial institution and Clean Coal. By leasing the RC facility and producing RC, the financial institution receives the benefit of the annually escalating per ton Section 45 tax credit (\$6.33 per ton in 2011) and is able to deduct depreciation. In return it pays, and may also deduct, a fee to the utility for land use to site the RC facility and operational costs. In addition, the financial institution pays a combination of fixed and contingent rents to Clean Coal for the lease of the RC facility. In addition to the site payment, the utility receives the benefit of the resulting mercury reductions which have an estimated value of between \$1.00- \$4.00 per ton. In some transactions, Clean Coal may choose to operate the facility in order to directly receive the benefit of the Section 45 tax credit.

In May 2011, ADA and NexGen entered into a transaction in which Clean Coal sold an effective 15% interest of its equity to an affiliate of GS for \$60 million in cash pursuant to a Class B Unit Purchase Agreement (the Purchase Agreement ). GS s interest in Clean Coal has certain preferences over ADA and NexGen as to liquidation and profit distribution. GS has no further capital call requirements and does not have a voting interest, but has veto power of certain corporate transactions. In conjunction with the closing of the Purchase Agreement, ADA, NexGen and GS entered into a Second Amended and Restated Operating Agreement (the Operating Agreement) and an Exclusive Right to Lease Agreement pursuant to which Clean Coal granted GS the exclusive right (but not the obligation) to lease facilities that will produce up to approximately 12 million tons of refined coal per year on pre-established lease terms similar to those currently in effect for Clean Coal s two existing facilities. ADA and NexGen each received \$30 million as a result of the sale.

In September 2011, we successfully demonstrated a new patent-pending technology for producing RC for use at coal-fired power plants. ADA s new technology, called M-45 , complements and expands ADA s market for RC beyond its patented CyClean technology licensed to Clean Coal, which is limited to cyclone boilers. During full-scale tests the M-45 technology achieved greater than 20% reduction in emissions of NOx and greater than 40% reduction in mercury emissions, thus demonstrating that this new technology also meets the standards necessary to qualify for the Section 45 tax credits.

In November 2011, we signed a non-binding term sheet for an exclusive license of the new M-45 RC technology to Clean Coal in order to leverage Clean Coal s operating expertise, to place as many facilities in service before the year-end placed in service deadline and to take advantage of the other synergies that can be obtained by Clean Coal having the ability to provide and use either the CyClean or M-45 technology. With this license, Clean Coal could provide customers with both the patent-pending M-45 technology and ADA s patented CyClean technology to produce RC that qualifies for Section 45 tax credits. This allows Clean Coal to potentially use some facilities placed in service using CyClean technology to treat larger annual volumes of coal if applied at a different plant using the M-45 technology.

We expect the license, which is subject to due diligence and negotiation and closing of definitive agreements, will provide ADA with a royalty based on a percent of operating income from future production of RC produced with the M-45 technology and prepaid royalties that included an initial refundable payment of \$2 million paid to ADA upon signing of the term sheet with additional refundable payments of up to \$8 million upon meeting certain milestones. The prepaid royalty payments are refundable via a withholding from 50% of future distributions or payments to ADA from Clean Coal if certain conditions are not satisfied.

To date, Clean Coal has installed and operated a total of 26 additional RC systems using a combination of the CyClean and M-45 technologies. We expect that each of these RC facilities satisfies the placed in service requirements from initial operations. If all planned RC systems become fully operational, after obtaining environmental permits for full-time operation and completing all necessary contracts, they could produce a total of more than 60 million tons of RC per year.



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Of the 26 new RC facilities, 15 are currently located at the plants that we anticipate will be their final homes where they will maintain full time operations. For 3 additional units, we believe we know where they will eventually be located. For the remaining 8 RC facilities, we are in discussions with 10 to 20 possible permanent location sites. Of the 15 new RC facilities located at their likely final homes:

Two facilities began operating last October and November as replacement facilities at our existing RC sites and the older facilities that they replaced will likely be moved to new (lower priority) locations.

One facility has been in operation by Clean Coal since the end of last year at a plant where we intend to utilize the Section 45 tax credits ourselves.

We have completed contracts on two facilities, one of which is expected to begin operation in the next couple weeks and the second is waiting for the environmental permit, Public Utility Commission approval and a PLR.

Two other facilities have had the environmental permits approved before the contracts were completed. Clean Coal intends to begin operating these two facilities as soon as spring outages are over and to keep the Section 45 tax credits created by their operations for ourselves until the contracts with monetizers are completed.

We are also finalizing contracts for another facility where we expect to utilize the Section 45 tax credits and that facility should, start up operations in the next few months.

For the remaining 7 facilities, we are in various stages of contract negotiations and permitting.

Based upon the progress with these first 15 facilities, we expect several to be in full time operation by the end of the second quarter of 2012. We expect to permanently place the remaining facilities in 2013. For these facilities, there are a number of possible locations all with different sizes and characteristics. As a result, it is difficult to provide explicit guidance at this point for their permanent placement. For example, we are holding five facilities in reserve for placement at five very large potential RC production sites. Each of these sites has its own unique set of circumstances and issues that will likely require some change in operation at the utility or in the agreements such as technology improvements, switch in coal rank, or PLR, in order for those facilities to begin full time operation.

Our RC business opportunities do not depend upon any new environmental or tax regulations. The current ten year Section 45 tax credits do not require any additional approval by Congress, which provides us with a high degree of confidence that Clean Coal and the M-45 technologies will generate long-term cash flows.

## **Emission Control**

### *Activated Carbon Injection Systems*

ACI systems are currently the dominant control technology to address mercury emissions and have been actively deployed to meet the previously existing state and new plant regulations and this demand will significantly increase to meet the new MATS rules. ACI controls have historically been extensively evaluated by the DOE National Energy Technology Laboratory over the course of its three-phase mercury control field testing program and have been demonstrated to reduce mercury emissions by up to 90% in many coal-fired power plants.

To date, we have obtained contracts for or are in the process of installing 50 ACI systems intended to control mercury emissions from 55 coal-fired EGU boilers. Bid activity picked up in the second half of 2011 on individual and fleet wide projects due to the anticipated release of the final MATS in December. We are responding to over 60 bids and requests for proposals for ACI and DSI systems with a combined value in excess of \$90 million which represents an initial indication of increased activity in response to the final MATS rule. We anticipate the need for 400 to 600 ACI systems to be supplied between 2012 and 2015, which would be an overall market of approximately \$500 to \$600 million and would require rapid scale-up of our production capabilities to maintain our target and present 35% market share. For an average size EGU, the

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ACI equipment costs are between \$600,000 and \$1 million. We expect to continue to expand our sales staff as well as our pre-contract and post-contract engineering design group and fabrication alliances to meet this anticipated market. We are currently in discussions with several utilities about potential fleet-wide sales of ACI and DSI systems, for which a single fleet contract for ACI alone could exceed \$10 million depending upon the final number and type of systems required. We believe several contracts for ACI and DSI systems will be awarded as early as the second quarter of this year and that MATS will generate up to \$300 million in sales of both ACI and DSI systems for the Company.

### *Dry Sorbent Injection Systems*

In addition to the mercury control applications described above for ACI systems, we have also developed and are offering commercial DSI systems to inject dry alkali sorbents for control of acid gases such as  $\text{SO}_3$  and HCl as well as for control of the criteria pollutant  $\text{SO}_2$ . These acid gas emissions are often the unintended result of the retrofit and operation of  $\text{NO}_x$  control technology on medium to high sulfur coal-fired boilers. DSI systems, which cost approximately \$2

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million to \$3 million for an average size EGU, provide a low-capital CAPEX alternative to scrubbers for meeting certain provisions of the MATS and CSAPR. The EPA predicts the market opportunity to approximate 200 DSI systems. We conducted full-scale tests of the DSI equipment in 2010 and 2011 for the control of HCl, SO<sub>2</sub> and SO<sub>3</sub> on plants burning bituminous, PRB, and lignite coals. In early February, we were notified that our bid for a DSI system for a power generator was selected and we recently finalized the \$2 million contract for this first commercial DSI system.

### *Enhanced Coal*

Since 2004, we have been working with Arch Coal to explore certain unique characteristics of some types of coals mined by Arch Coal that allow them to be burned with lower emissions. We believe a technical breakthrough that involves the application of proprietary chemicals to coal mined by Arch Coal in the PRB likely reduces the combustion emissions of mercury and other metals when this enhanced PRB coal ( Enhanced Coal ) is eventually burned at power plants. On June 25, 2010, we entered into a Development and License Agreement (the License Agreement ) with Arch Coal. Pursuant to the License Agreement, we provided Arch Coal with an exclusive, non-transferable license to use certain technology to produce Enhanced Coal by the application of ADA's proprietary coal treatment technology to Arch Coal's PRB mined coal. We expect that use of this Enhanced Coal will help utilities meet the mercury emissions requirements in the MATS. Pursuant to the License Agreement, we are providing development services to Arch Coal aimed at applying the technology to the PRB coal. In addition, if we develop improvements to the technology that are related to the reduction of certain emissions from the burning of PRB coal, that technology will either be included in the license at no additional cost, or, under certain circumstances, we will negotiate with Arch Coal to determine if Arch Coal wants to use the additional improvements. We retain all right, title and interest, including all intellectual property rights, in and to any technology we license to Arch Coal. The initial demonstration of coal treated at the mine and shipped by rail to a power plant produced promising results.

In consideration for the development work and the license to Arch Coal, Arch Coal paid us an initial, non-refundable license and development fee in cash totaling \$2 million in June 2010 and we have recognized this as revenue in 2010 and 2011. Under the License Agreement, we are entitled to royalties of as much as \$1 per ton of a portion of the premium for Enhanced Coal sold by Arch Coal, depending upon the successful implementation of the technology and the premium Arch Coal is able to charge on future sales of the Enhanced Coal product. Arch Coal currently produces more than 100 million tons of PRB coal per year. Any royalty ultimately payable under the License Agreement will first be subject to credit to Arch Coal of an amount equal to the initial license fee, other development and operational costs paid by Arch Coal plus a rate of return on such payments.

We believe the Enhanced Coal product may provide a \$1 to \$4 per ton of coal benefit to power plants. The MATS will likely create a market for reduction in mercury emissions for a significant percentage of the greater than 100 million tons per year of PRB coal mined by Arch Coal. Because of our focus on placing in service additional RC facilities prior to the end of 2011, we decided to delay additional demonstrations of our Enhanced Coal product. We expect to resume these tests in 2012, which is expected to provide sufficient time to further develop the technology and grow this business as the national mercury control market expands through 2015.

As a part of entering into the License Agreement we agreed to negotiate and enter into a Supply Agreement under which Arch Coal will purchase the chemicals described in the License Agreement exclusively from us. We expect to finalize the terms of the Supply Agreement in 2012.

### *Flue Gas Chemicals and Services*

We have developed and deployed technologies for conditioning flue gas streams from coal-fired combustion sources that allow existing air pollution control devices to operate more efficiently. Through various suppliers and contractors, we manufacture engineered units for each individual application. The units mix, pump and monitor the feed of proprietary chemical blends. The chemical blends are applied to the flue gas streams by a pressurized system of specially designed lances and nozzles. Such treatment of the flue gas stream allows for more effective collection of fly ash particles that would otherwise escape into the atmosphere.

### *Other Consulting Services*

We also offer consulting services to assist electric power generators in planning and implementing strategies to meet the new and increasing government emission standards requiring reductions in SO<sub>2</sub>, NO<sub>x</sub>, particulates, acid gases and mercury. This includes demonstrations of our commercial products. We receive funding for consulting and a portion of our development and testing activities from industry partners that have a strategic interest in the technology.



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### **CO<sub>2</sub> Capture**

#### *Government and Industry-Supported Contracts*

The DOE issues solicitations periodically for various research, development and demonstration ( R&D ) projects. DOE solicitations range in subject matter, and we submit proposals for those solicitations that fit our mission, strategic plan and capabilities. The bids include a proposed statement of work and cost estimates, and DOE then negotiates a final contract with the successful bidder to perform the specified work. The contracts with the DOE can be Grants or Cooperative Agreements and are considered financial assistance awards. Generally, the agreements cover the development and/or demonstration of air pollution control technologies for coal-fired power generating plants. The work may involve designing and fabricating equipment, installing the equipment at power plants, testing the equipment, preparing economic studies, and preparing various reports. The deliverables required by the agreements include various technical and financial reports that we submit on a prescribed schedule. The agreements require us to perform the negotiated scope of work in agreed phases, which includes testing/demonstrating various air pollution control technologies. The agreements with the DOE provide that any inventions we create as a result of the work become our property and we retain the rights to commercialize any products we develop under the contracts.

We participated in two such agreements in 2011 pursuant to which we are researching and developing a novel process to capture CO<sub>2</sub> from coal-fired power plants. We completed one project in 2011 and have completed the first phase of the second project. If, based on the result of the completed first phase, the DOE and our industry partners decide to continue with the remaining phases of the second project, we would expect it to be completed by the end of 2014. We expect the DOE to make their decision about continuation within the next few months.

Agreements with the DOE generally require industry cost share, which may take the form of cash contributions and/or in-kind contributions of material and services. The industry cost share percentages on the mercury control projects in which we have participated in the past have ranged from 25% to 50% of the total project costs. Typically, the electric power generator host site for the demonstration project provides a considerable amount of the cost share with other interested industry partners also providing funding, either individually or through the Electric Power Research Institute ( EPRI ). We expect that for 2012, contributions from the DOE, industry partners and EPRI will not fully cover the required project costs. As a result and to the extent that the required cost share is not provided by industry partners or EPRI, we would expect to provide the balance as a development investment by providing some cost sharing on our own in one form or another, which will negatively impact our margins on these projects.

### **Carbon Solutions and AC Production**

On October 1, 2008, we entered into a Joint Development Agreement (the JDA ) and formed a joint venture with Energy Capital Partners I, LP and its affiliates (together, ECP ) known as ADA Carbon Solutions, LLC ( Carbon Solutions ). Carbon Solutions is principally engaged in the marketing and sale of activated carbon ( AC ) produced at an AC facility constructed in Red River Louisiana through a wholly owned subsidiary and development activities related to its AC business. ADA has included its share of Carbon Solutions' losses under the equity method of accounting.

On November 28, 2011, ADA entered into an Indemnity Settlement Agreement with ECP and Carbon Solutions and certain of Carbon Solutions affiliates (together the AC JV Entities ) pursuant to which the parties agreed to settle certain indemnity claims arising out of the litigation between Norit Americas, Inc. and Norit International N.V. f/k/a Norit N.V. (collectively Norit ), ECP and the AC JV Entities in Texas and New Jersey and the related arbitration (collectively, the Norit Litigation ) based on ADA's indemnity obligations under the JDA. The primary litigation took place before an arbitration panel, which rendered its Final Award in October 2011, confirming the prior settlement agreements reached with Norit.

Pursuant to the Indemnity Settlement Agreement, ADA agreed to settle certain indemnity claims asserted against the Company for legal fees, costs and expenses arising out of the Norit Litigation in the amount of approximately \$33 million and certain other losses. To settle the claims, ADA paid certain AC JV Entities a cash payment of \$2.1 million on November 28, 2011, agreed to \$1.5 million in additional monthly payments of \$100,000 beginning in December 2011, agreed to secure the payment of future royalty amounts due to Norit under the Final Award and settlement agreements with Norit through letters of credit and relinquished all of its equity interests in the AC JV Entities.

In the fourth quarter of 2011, ADA relinquished all of its equity interests in Carbon Solutions and recorded a gain of \$20 million, and liabilities of \$1.5 million as a result of the Indemnity Settlement Agreement.

As part of the Indemnity Settlement Agreement, ADA preserves the right for a 49.9% participation, on a passive basis, in certain AC production lines that Carbon Solutions may build in the future.





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### **Common Stock Offering**

On October 28, 2011, ADA closed on a confidentially marketed underwritten public offering selling 2 million shares of common stock for \$15.25 per share generating \$28.4 million in net proceeds to ADA. In November 2011, the underwriters exercised their over-allotment option to purchase an additional 300,000 shares, generating an additional \$4.3 million in net proceeds to ADA.

### **Formation of Advanced Emissions Solutions, Inc. and Proposed Reorganization**

On March 14, 2011, we, ADES, and ADA Merger Corp., a Colorado corporation and wholly owned subsidiary of ADES ( MergerCo ), entered into an Agreement and Plan of Merger (the Reorganization Agreement ), that provides for the merger (the Merger ) of ADA with MergerCo, with ADA surviving the Merger as a wholly owned subsidiary of ADES, and the conversion of each share of common stock, no par value per share ( ADA Common Stock ), of ADA, issued and outstanding immediately prior to the effective time of the Merger (other than shares held in treasury, which will be cancelled), into one duly issued, fully paid and nonassessable share of common stock, par value \$0.001 per share ( ADES Common Stock ), of ADES (the Reorganization ). In addition, each outstanding option to purchase or other right to acquire shares of ADA Common Stock would automatically convert into an option to purchase or right to acquire, upon the same terms and conditions, an identical number of shares of ADES Common Stock. ADA terminated the Reorganization Agreement in April 2011 due to complexities arising out of the adverse ruling in the arbitration with Norit. ADA, MergerCo and ADES are planning to proceed with the Reorganization, subject to entering into and finalizing the related agreements including re-entering into the Reorganization Agreement.

Upon completion of the Reorganization, ADES will, in effect, replace ADA as the publicly held corporation. ADES and its subsidiaries, including ADA, will conduct all of the operations we currently conduct. We believe that implementing the holding company structure will provide us with strategic, operational and financing flexibility and incorporating the new holding company in Delaware will allow us to take advantage of the flexibility, predictability and responsiveness that Delaware corporate law provides. We expect that the ADES Common Stock will be traded on the NASDAQ Capital Market under the symbol ADES. Upon consummation of the Reorganization, the ADES board of directors will be the same as the directors elected by our shareholders at the Annual Meeting. ADES expects that its executive officers following the Reorganization will be the same as those of ADA immediately prior to the Reorganization.

The boards of directors of ADA, ADES and MergerCo unanimously approved and adopted the Reorganization Agreement and the transactions contemplated thereby. The Reorganization is subject to specified conditions, including approval by our shareholders at our 2012 Annual Meeting of Shareholders (the Annual Meeting ), which is currently scheduled for June 6, 2012. If approved by ADA s shareholders at the Annual Meeting and the other conditions are satisfied, it is currently expected that the Reorganization would be completed on or about July 1, 2012.

The Reorganization may be terminated and the transactions contemplated thereby may be abandoned at any time prior to the effective time of the merger by action of our board of directors if it should determine that for any reason the completion of the transactions provided for therein would be inadvisable or not in the best interest of ADA or its shareholders. The Reorganization is intended to be tax-free for ADA and our shareholders for U.S. federal income tax purposes.

The foregoing description of the Reorganization is not complete and is qualified in its entirety by reference to the Reorganization as described in the preliminary joint proxy statement/prospectus to be filed with the U.S. Securities and Exchange Commission ( SEC ) (subject to completion) as part of ADES Registration Statement on Form S-4 relating to the Reorganization Agreement and by any future filings ADES or the Company may make regarding the Reorganization. The preliminary joint proxy statement/prospectus and other filings related to the Reorganization will be available at the SEC s website (<http://www.sec.gov/>). Among other things, the filing will state that the information in the preliminary joint proxy statement/prospectus is not complete and may be changed. **Neither the SEC nor any state securities commission has approved or disapproved of the securities to be issued under the proxy statement/prospectus or determined if the proxy statement/prospectus is accurate or adequate. Any representation to the contrary is a criminal offense.**

### **Competition**

Through 2011, mercury control using ACI has been demonstrated at full scale at over 50 plants and we have contracts for ACI systems to control mercury emissions on 55 boilers to date, generally yielding up to 90% mercury control on many applications. This approach to mercury control is quite cost effective compared to competing technologies that require capital intensive equipment. We add significant value to our base offerings by having complementary products and

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services. Our expertise in conducting full-scale emissions control demonstrations reflects our understanding of the application of the control technologies that customers find invaluable. Our practice of providing users with performance guaranties on equipment, comprehensive testing services and overall compliance strategies enhances our competitive position in this market. The capital equipment we provide for the larger utility coal-boilers generally ranges from approximately \$600,000 to \$1 million per coal-fired boiler unit. We believe companies such as Norit Americas, Inc. ( Norit ), United Conveyor Corporation ( UCC ), The Babcock & Wilcox Company and Clyde Bergemann, Inc. have responded to requests for commercial bids for ACI systems, and are some of our principal competitors in the ACI market. Competition for ACI systems is based primarily on price, quality, performance and the ability to meet the requested schedule. Based on the contracts we were awarded since 2005, we believe we are one of the market leaders and that we currently have approximately 35% of the existing ACI market. As the MATS driven EC market matures, we expect competition to continue to increase. In addition, we believe companies such as Nol-Tec Systems, Inc., UCC, Nalco Mobotec and SPE AMEREX have responded to requests for commercial bids for DSI systems, and are some of our principal competitors in the emerging DSI market. Similar to ACI systems, competition for DSI systems is based primarily on price, quality, performance and the ability to meet the requested schedule.

With respect to our RC technology, the window is closed for new entrants as no new RC facilities can be built without a future extension of the placed in service requirement by Congress. One other company that has a limited number of RC facilities for sale is ChemMod, a subsidiary of Arthur J. Gallagher. We compete for capital with others who either produce tax credits or are involved in tax-leveraged transactions. The list of those who provide such investment opportunities is wide and varied among industries.

### **Patents**

We have received 13 patents and have an additional 18 patent applications pending or filed relating to different aspects of our technology. Our existing patents have terms of 17 years measured from the application date, the earliest of which was in 1998. Although important as protection for certain aspects of our continuing business, we do not consider any of our patents or pending patents to be critical to the ongoing conduct of our business, with the exception of the patents and intellectual property rights licensed to Clean Coal and Arch Coal, as noted above.

### **Supply of Chemicals for Our Customers**

We typically negotiate blending contracts that include secrecy agreements with chemical suppliers located near major customers. These arrangements minimize transportation costs while assuring continuous supply of our proprietary chemical blends. We have operated under these arrangements since the spring of 1999. They are generally renewed on an annual basis.

### **Raw Materials and Working Capital Practices**

We purchase equipment from a variety of vendors for the engineered ACI and DSI systems, components and other equipment we manufacture or provide. Such equipment is available from numerous sources; however based on the system requested by the customer, we may determine that some sources are not suitable. We typically subcontract the major portion of the work associated with installation of such equipment from a variety of vendors, usually located near the work site. We purchase our proprietary chemicals through negotiated blending contracts with chemical suppliers generally located near each major customer. The chemicals used are readily available, and there are several chemical suppliers that can provide us with our requirements. We enhance coal through a propriety process and components of the enhancement are readily available. We do not provide any extended payment terms to our customers. We typically provide equipment warranties and performance guaranties related to our EC systems. (See Risk Factors and Footnote 9 Commitments and Contingencies in the Consolidated Financial Statements filed as a part of this Report).

### **Seasonality of Activities**

The sale of chemicals and RC facility operations depend on the operations of the electric power generators to which the applicable equipment and products are provided. These customers routinely schedule maintenance outages in the spring or fall depending upon the operation of the boilers. During the period in which an outage may occur, which may range from one week to over a month, no chemicals are used or RC produced and purchases from us and related revenues are correspondingly reduced. The other aspects of our business are not seasonal in any material way.

### **Dependence on Major Customers**

In 2011, we performed work on ACI systems to 8 customers. In 2011, through Clean Coal, we recognized 38% of our total revenue from GS RC Investments, LLC ( GS Investments ). In addition, we recognized 6% of our revenue from



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services provided under a contract with the DOE. (See Note 5 to the Consolidated Financial Statements included elsewhere in this Report). Our own sales staff markets our technology through trade shows, mailings and direct contact with potential customers.

### **Backlog Orders**

As of December 31, 2011, we had contracts in progress for work related to our EC segment totaling approximately \$736,000 which we expect to recognize in 2012. Our current DOE and industry funded R&D contract in progress, assuming no changes in funding, are expected to result in future revenues of \$15.7 million, of which we expect to recognize approximately \$5.6 million in 2012.

### **Research and Development Activities**

In 2011, we were involved in several R&D contracts funded by DOE, industry groups and ourselves, primarily directed toward the control of mercury emissions, DSI, RC activities, Enhanced Coal activities and CO<sub>2</sub> capture. We participate in cost share arrangements in a few of those contracts. Our direct cost share for R&D under DOE related contracts in 2011 was \$343,000. We spent \$418,000 and \$100,000 on our own behalf on research and development activities related to further development of our technologies during 2011 and 2010, respectively, exclusive of CO<sub>2</sub> capture related efforts.

### **Employees**

As of December 31, 2011, we employed 83 full-time and part-time personnel, including eight Company executive officers. Seventy-seven people are employed at our offices in Colorado, and one each in Maryland, Alabama, Pennsylvania, Georgia, Utah and Illinois.

### **Copies of Reports**

Our periodic and current reports are filed with the SEC pursuant to Section 13(a) of the Securities Exchange Act of 1934 and are available free of charge within 24 hours after they are filed with or furnished to the SEC at the Company's website at [www.adaes.com](http://www.adaes.com).

### **Copies of Corporate Governance Documents**

The following Company corporate governance documents are available free of charge at the Company's website at [www.adaes.com](http://www.adaes.com) and such information is available in print to any shareholder who requests it by contacting the Secretary of the Company at 9135 South Ridgeline Boulevard, Suite 200, Highlands Ranch, Colorado 80129.

Audit Committee Charter

Compensation Committee Charter

Nominating and Governance Committee Charter

Code of Conduct

### **Forward-Looking Statements Found in this Report**

This Annual Report contains forward-looking statements within the meaning of Sections 21E of the Securities Exchange Act of 1934 and 27A of the Securities Act of 1933 that involve risks and uncertainties. In particular such forward-looking statements are found in this Part I and under the heading Management's Discussion and Analysis of Financial Condition and Results of Operation. Words or phrases such as anticipates, believes, hopes, expects, intends, plans, the negative expressions of such words, or similar expressions are used in this Report to identify forward-looking statements, and such forward-looking statements include, but are not limited to, statements or expectations regarding:

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- (a) when mercury and other regulations or pollution control requirements will become effective and the scope and impact of such regulations and implementation of the final MATS;
- (b) expected growth in our target markets;
- (c) who are potential competitors are and who they will be in the future, expected levels of competition in our target markets and whether we have direct competition for our technology;
- (d) expected supply and demand for our products and services;
- (e) continued funding by Congress of our DOE CO<sub>2</sub> projects, including industry cost share of such projects;
- (f) the effectiveness of our technologies and the benefits they provide;
- (g) expected timing of conducting additional demonstrations of our technology and completing a supply agreement with Arch Coal;

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- (h) the timing of awards of, and work under, our contracts and agreements and their value and their availability;
  - (i) expected production levels at our RC facilities and expected use of the Section 45 tax credits generated by the RC facilities;
  - (j) our ability to develop and generate Section 45 tax credits and profitably sell, lease and/or operate additional RC facilities;
  - (k) timing and amounts of or changes in future revenues, funding for our business and projects, margins, expenses, earnings, dividends, tax rate, cash flow, working capital, liquidity and other financial and accounting measures;
  - (l) the materiality of any future adjustments to previously recorded revenue as a result of DOE audits; and
  - (m) the costs, benefits and results related to the Reorganization including the holding company structure and the impact of Delaware law; timing and completion of the Reorganization; the trading symbol of ADES' s stock and on what exchange it will trade after the Reorganization; the effect of anti-takeover provisions in AES' s organizational and governing documents; who the directors and executive officers of ADES and ADA will be after the Reorganization; and the tax implications of the Reorganization.
- Our expectations are based on certain assumptions, including without limitation, that:

- (a) coal will continue to be a major source of fuel for electrical generation in the United States;
- (b) we will continue as a key supplier of equipment and services to the coal-fired power generation industry as it seeks to implement reduction of mercury emissions;
- (c) contracts we have with the DOE will continue to be funded at expected levels and we will be chosen to participate in additional contracts of a similar nature;
- (d) current environmental laws and regulations requiring reduction of mercury from coal-fired boiler flue gases will be expanded and strengthened as a result of the MACT process, and such laws and regulations will not be materially weakened or repealed by courts or legislation in the future;
- (e) we will be able to meet any performance guaranties we make and continue meet our other obligations under contracts;
- (f) we will be able to obtain adequate capital and personnel resources to meet our operating needs and to fund anticipated growth and our indemnity obligations;
- (g) we will be able to establish and retain key business relationships with other companies;
- (h) orders we anticipate receiving will in fact be received;

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- (i) governmental audits of our cost incurred under DOE contracts will not result in material adjustments to amounts we have previously received under those contracts;
- (j) we will be able to formulate new chemicals and blends, including those for Enhanced Coal, that will be useful to, and accepted by, the coal-fired boiler power generation business;
- (k) we will be able effectively to compete against others;
- (l) we will be able to meet any technical requirements of projects we undertake;
- (m) Clean Coal will be able to monetize new RC facilities or use the Section 45 tax credits generated by their operation, and
- (n) our Annual Meeting will occur on June 6, 2012, shareholders will approve the Reorganization and we will be able to obtain the expected benefits of the Reorganization.

The forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from the anticipated results we discuss in this Report. Although forward-looking statements provide additional information about us, investors should keep in mind that forward-looking statements are only predictions, at a point in time, and are inherently less reliable than historical information. We do not guarantee future results, levels of activity, performance or achievements and we do not assume responsibility for the accuracy and completeness of these statements. You are cautioned not to place undue reliance on the forward-looking statements made in this Annual Report, and to consult any later filings we may make with the Securities and Exchange Commission for additional risks and uncertainties that may apply to our business and the ownership of our securities. The forward-looking statements contained in this Annual Report on Form 10-K are made and based on information as of the date of this Report. We assume no obligation to update any of these statements based on information after the date of this Report. In evaluating these statements, you should specifically consider the risks discussed in greater detail under the caption **Risk Factors** in Item 1A below. These risk factors may cause our actual results to differ materially from any forward-looking statement.

### **Item 1A. Risk Factors.**

#### **RISKS RELATING TO OUR BUSINESS**

**The following risks relate to our business as of the date of this Report. This list of risks is not intended to be exhaustive, but reflects what we believe are the material risks inherent in our business and the ownership of our securities as of the date of this Report. A statement to the effect that the happening of a specified event may have a**



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**negative impact on our business, results of operations, profitability, financial condition, or the like, is intended to reflect the fact that such an event would be likely to have a negative impact on your investment in the Company, but should not imply the likelihood of the occurrence of such specified event. The order in which the following risk factors are presented is not intended as an indication of the relative seriousness of any given risk.**

**DEMAND FOR OUR PRODUCTS AND SERVICES DEPENDS SIGNIFICANTLY ON ENVIRONMENTAL LAWS AND REGULATIONS; UNCERTAINTY AS TO THE FUTURE OF SUCH LAWS AND REGULATIONS, AS WELL AS CHANGES TO SUCH LAWS AND REGULATIONS, HAS HAD AND WILL LIKELY CONTINUE TO HAVE A MATERIAL EFFECT ON OUR BUSINESS.**

A significant market driver for our existing products and services, and those planned in the future, are present and expected environmental laws and regulations that limit mercury emissions from coal-fired power plants and other environmental laws. If such laws and regulations were rescinded or substantially changed to increase acceptable emission limits, our business would be adversely affected by declining demand for such products and services. For example:

The invalidation of CAMR in February 2008 resulted in a wait and see approach by our customers, which we saw in delays in orders and deliveries of previously placed orders, cancellations or delays in planned product demonstrations and decreased sales to coal-fired electric generating utilities. Such uncertainty also caused delays in purchasing decisions for EC equipment, especially for those utilities who were considering multi-pollution control solutions.

Although the MATS regulation was published in the Federal Register and is expected to become effective on April 16, 2012, the implementation of other environmental regulations such as the CSAPR and the Industrial Boiler MACT continues to be delayed. The lack of final comprehensive emission regulations until then will likely continue the uncertainty among independent power producers and utilities as to what will be required of them. This uncertainty is and will likely continue to negatively impact our business, results of operations and financial condition until the federal regulations are finalized, which will then mandate how industry must respond to the new federal regulations or state laws, including those that are presently in various stages of enactment, for pollution control and permitting requirements for new coal-fired plants.

Rescission of Canadian or U.S. state mercury control legislation or permitting requirements would likely cause an adverse effect on our business and financial condition.

To the extent federal, state and local legislation mandating that electric power generating companies serving a state or region purchase a minimum amount of power from renewable energy sources such as wind, hydroelectric, solar and geothermal, and such amount lessens demand for electricity from coal-fired plants, those mandates would likely reduce demand for our products and services.

Enactment of laws or passage of regulations regarding emissions from the combustion of coal by the U.S. or some of its states or by other countries, or other actions to limit such emissions including public opposition to new coal power plants, has caused and could continue to cause electricity generators to transition from coal to other fuel and power sources, such as natural gas, wind, hydroelectric and solar. The potential financial impact on us of future laws or regulations or public pressure will depend upon the degree to which electricity generators diminish their reliance on coal as a fuel source. That, in turn, will depend on a number of factors, including the specific requirements imposed by any such laws or regulations, the periods over which those laws or regulations would be phased in, amount of public opposition and the state of commercial development and cost of related technologies and processes. In addition, Public Utility Commissions may not allow utilities to charge consumers for and pass on the cost of emission control technologies without federal or state mandate. In view of the significant uncertainty surrounding each of these factors, we cannot reasonably predict the impact that any such laws or regulations or public opposition may have on our results of operations, financial condition or cash flows.

**THE ABILITY OF CLEAN COAL TO MONETIZE SECTION 45 TAX CREDITS FROM THE SALE OR LEASE OF ADDITIONAL RC FACILITIES IS NOT ASSURED, AND THE INABILITY TO SELL AND OPERATE RC FACILITIES TO GENERATE SECTION 45 TAX CREDITS COULD ADVERSELY AFFECT OUR FUTURE GROWTH AND PROFITABILITY.**

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As a result of the extension of the placed in service deadlines for facilities eligible for Section 45 tax credits to January 1, 2012, Clean Coal placed 26 additional RC facilities in service and is attempting to sell or lease these additional facilities and monetize the Section 45 tax credits resulting from the sale of refined coal from these facilities, but has not yet finalized any agreements with any third parties to do so. The inability of Clean Coal to successfully sell additional facilities and monetize the Section 45 tax credits that it expects to generate from those facilities would likely have an adverse effect on future growth and profitability.

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Furthermore, if in the future electric power generators decide to limit generation from their facilities for economic reasons and/or not to burn and use RC and instead switch to another power or fuel source, Clean Coal would likely be unable to fully monetize the Section 45 tax credits potentially available from RC facilities over the anticipated term of the Section 45 tax credits. In addition, pursuant to Clean Coal's Operating Agreement, if Clean Coal is unable to generate enough revenue through the monetization of RC facilities over the next ten years to return GS's initial investment of \$60 million, plus a 15% return thereon, then GS may require Clean Coal to redeem its interest in Clean Coal for any deficit of such amount not distributed to GS.

**WE ARE PRESENTLY RELIANT UPON ONE CUSTOMER AT CLEAN COAL'S EXISTING RC FACILITIES FOR A SUBSTANTIAL PORTION OF OUR REVENUES AND ANY LOSS OF THIS CUSTOMER OR ANY FAILURE TO CONTINUE TO PRODUCE RC AT THESE FACILITIES COULD HAVE A MATERIAL ADVERSE EFFECT ON OUR BUSINESS.**

Clean Coal placed two RC facilities into operation prior to January 1, 2010, the initial required date for doing so under Internal Revenue Code provisions for Section 45 tax credits for RC to be produced by the facilities, and has leased the facilities to GS Investments in exchange for rent payments based on the availability of Section 45 tax credits to the lessee. In 2011, through Clean Coal, we recognized 38% of our total revenue from GS Investments for the lease of these two RC facilities in the mid-west. If GS Investments terminated the agreements for these two RC facilities or if the utility customer reduces its use of RC at the four furnaces that these RC facilities feed, this could have a material adverse effect on our business, results of operations or financial condition.

**TECHNICAL OR OPERATIONAL PROBLEMS WITH LONG-TERM OPERATION OF OUR RC FACILITIES COULD RESULT IN ADDITIONAL COSTS AND DELAYS THAT ADVERSELY AFFECT OUR FINANCIAL CONDITION.**

Clean Coal placed its first two RC facilities into operation in June 2010 and is attempting to sell or lease additional facilities. Clean Coal is continuing to evaluate the likelihood for technical or operational problems with its RC facilities from long-term operations, but cannot be certain that such problems will not arise. Any such problems could result in decreased production of RC at such facilities and delays in, or postponement or cancellation of, expected installations at potential facilities and would likely have a material adverse effect on our business and financial condition.

**OUR DEPENDENCE ON THIRD PARTIES FOR MANUFACTURING KEY COMPONENTS OF OUR SYSTEMS MAY CAUSE DELAYS IN ASSEMBLY AND INCREASED COSTS TO US.**

We do not have our own manufacturing or assembly facility for our ACI systems, our DSI systems or other components that we sell in our business. Like most of our competitors, we rely upon third parties for the manufacture, assembly and some of the testing of key components and facilities. Delays and difficulties in the manufacturing or assembly of our products and facilities could substantially harm our business and financial condition.

There may be limited sources of acceptable supply for some key ACI and DSI system components. Business disruptions, financial difficulties of the manufacturers or suppliers of these components and facilities or raw material shortages could increase the cost of our goods sold or reduce the availability of these components. If orders of ACI and DSI systems accelerate as we anticipate, we will likely experience a rapid and substantial increase in our need for components and facilities. If we are unable to obtain a sufficient supply of required components, we could experience significant delays in manufacturing, which could result in the loss of orders and customers or liability for liquidated damages under delivery contracts. This could materially and adversely affect our business, financial condition and results of operations.

Although we may purchase inventories of strategic components, some parts of the ACI systems (such as silos), and DSI systems may require custom fabrication and may not be amenable to being stocked as part of standard inventory. Alternative sources may be difficult to locate if we experience delays in obtaining them from our usual suppliers. If the cost of components increases, we may not be able to pass on price increases to our customers if we are to remain competitive. The occurrence of any of these difficulties would likely have an adverse effect on our business and financial condition.

**FAILURE TO PROTECT OUR INTELLECTUAL PROPERTY OR INFRINGEMENT OF OUR INTELLECTUAL PROPERTY BY A THIRD PARTY COULD HAVE AN ADVERSE IMPACT ON OUR FINANCIAL CONDITION.**

We rely on a combination of patent, copyright and trademark laws, trade secrets, confidentiality procedures and contractual provisions to protect our proprietary rights. Such means of protecting our proprietary rights may not be adequate because they provide only limited protection. We also enter into confidentiality and non-disclosure of



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intellectual property agreements with our employees, consultants and many of our vendors and generally control access to and distribution of our proprietary information. Notwithstanding these precautions, a third party could copy or otherwise obtain and use our proprietary information without authorization. We cannot assure you that the steps taken by us will prevent misappropriation of our technology and intellectual property, which could result in injury to our business and financial condition. In addition, such actions would divert the attention of our management from the operation of our business.

**WE MAY BE SUBJECT TO INTELLECTUAL PROPERTY INFRINGEMENT CLAIMS FROM THIRD PARTIES THAT ARE COSTLY TO DEFEND AND THAT MAY LIMIT OUR ABILITY TO USE THE DISPUTED TECHNOLOGIES.**

Companies in the business of developing technology face the risk of being subject to intellectual property infringement claims that are costly to defend. As a clean-tech company developing new technologies, we may be subject to intellectual property infringement claims from third parties, the defense of which would likely be costly in terms of monetary expenses and management demands. If our technologies infringe the intellectual property rights of others, we may be prevented from continuing sales of existing products or services and from pursuing research, development or commercialization of new products or services. Further, we may be required to obtain licenses to third party intellectual property, or be forced to develop or obtain alternative technologies. Our failure to obtain a license to any technology that we may require or to develop or obtain alternative technologies could significantly and negatively affect our business.

**THE USE OF ALTERNATIVE ENERGY SOURCES FOR POWER GENERATION COULD REDUCE COAL CONSUMPTION BY U.S. ELECTRIC POWER GENERATORS, WHICH COULD RESULT IN LESS DEMAND FOR OUR PRODUCTS AND SERVICES. IF UTILITIES SWITCH TO NATURAL GAS OR OTHER FUEL SOURCES THIS COULD REDUCE OUR REVENUES AND MATERIALLY AND ADVERSELY AFFECT OUR BUSINESS AND RESULTS OF OPERATIONS.**

The amount of coal consumed for U.S. electric power generation is affected by, among other things (1) the location, availability, quality and price of alternative energy sources for power generation, such as natural gas, fuel oil, nuclear, hydroelectric, wind, biomass and solar power; and (2) technological developments, including those related to alternative energy sources.

Gas-fueled generation has the potential to displace coal-fueled generation, particularly from older, less efficient coal-powered generators. We expect that many of the new power plants needed to meet increasing demand for electricity generation will be fueled by natural gas because the price of natural gas has been declining, gas-fired plants are cheaper to construct and permits to construct these plants are easier to obtain as natural gas is seen as having a lower environmental impact than coal-fueled generators. Possible advances in technologies and incentives, such as tax credits, to enhance the economics of renewable energy sources could make these sources more competitive with coal. Any reduction in the amount of coal consumed by domestic electric power generators could reduce the demand for our products and services, thereby reducing our revenues and materially and adversely affecting our business and results of operations.

**IF WE ARE UNABLE TO COMPETE WITH OTHER INDUSTRY PARTICIPANTS, WE WOULD SUFFER ADVERSE EFFECTS TO OUR BUSINESS AND FINANCIAL CONDITION.**

We face competition in all aspects of our operations, including competition from both domestic and foreign suppliers. In North America, our competitors consist of large national and international companies and local and regional companies of varying sizes and financial resources. Certain of our competitors have advantages over us, including substantially greater financial and other resources. We may not be able to successfully compete with them. In some past years, we have seen our market share for ACI systems decline due to pricing pressures from increased competition. If we are unable to maintain a significant market share for our systems, our financial prospects would be adversely affected. In addition, competitors may reduce their prices to attract or retain customers, which may result in an adverse impact to our market share, margins, revenues and business.

**IF THE QUALITY AND EFFECTIVENESS OF OUR ACI AND DSI SYSTEMS AND RELATED TECHNOLOGIES AND PRODUCTS DOES NOT MEET OUR CUSTOMERS' EXPECTATIONS, THEN OUR SALES AND OPERATING EARNINGS, AND ULTIMATELY OUR REPUTATION, COULD BE NEGATIVELY IMPACTED.**

If flaws in the design, production, assembly or testing of our ACI and DSI systems and related technologies and products (by us or our suppliers) were to occur, we could experience substantial repair, replacement or service costs and potential damage to our reputation. In addition, we have issued mercury control performance guarantees for ACI systems and are responsible for any repair or replacement costs if those systems do not perform as promised. Continued improvement in



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manufacturing capabilities, technological development, control of material and manufacturing quality and costs and testing are critical factors in our future growth and meeting our customers' expectations. Our efforts to monitor, develop, modify and implement appropriate test and manufacturing processes for our EC systems and processes may not be sufficient to avoid failures in our EC systems and related technologies that result in significant repair or replacement costs or potential damage to our reputation, any of which could have a material adverse effect on our business, results of operations or financial condition.

**WE HAVE AGREEMENTS TO INDEMNIFY THIRD PARTIES AGAINST INTELLECTUAL PROPERTY CLAIMS CONCERNING LICENSED TECHNOLOGY THAT COULD BE SIGNIFICANT.**

We have agreed to indemnify Clean Coal, NexGen, GS, Clean Coal's sublicensees and Arch Coal, and may enter into additional license agreements with others under which we agree to indemnify and hold the licensee harmless from and against losses it may incur as a result of the infringement of third party rights by use of our patents or other intellectual property. Infringement claims, which are at the very least expensive and time-consuming to defend, could have a material adverse effect on our business, operating results and financial condition, even if we are successful in defending ourselves (and indemnified parties) against them.

**WE ARE UNABLE TO PREDICT THE IMPACT OF RECENT (AND CONTINUING) ECONOMIC FACTORS ON OUR BUSINESS.**

The United States and global economies are currently experiencing a period of substantial economic uncertainty with wide-ranging effects, including:

Disruption in global financial markets that has reduced the liquidity available to us, our customers and suppliers;

a substantially weakened banking and financial system with increasing risk and exposure to the impact of non-performance by banks committed to provide financing, hedging counterparties, insurers, customers and suppliers;

Extreme volatility in commodity prices;

Increasing risk, uncertainty and costs related to possible periods of significant or prolonged inflation or deflation;

Increasing risk that customers and suppliers may liquidate or seek protection under federal bankruptcy laws and reject existing contractual commitments; and

The inability to predict with any certainty the effectiveness and long-term impact of economic stimulus plans and any cessation thereof. We are unable to predict the impact, severity and duration of these events, any of which could have a material adverse impact on our financial position, results of operations and cash flows.

**OUR SUCCESS DEPENDS IN PART ON OUR ONGOING DEVELOPMENT OF INTELLECTUAL PROPERTY AND THE INTRODUCTION OF NEW PRODUCTS AND TECHNOLOGIES TO SERVICE OUR DIFFERENT BUSINESS SEGMENTS AND OUR RESULTS CAN BE IMPACTED BY THE EFFECTIVENESS OF OUR SIGNIFICANT INVESTMENTS IN NEW PRODUCTS AND TECHNOLOGIES.**

The process of developing and enhancing products, systems, services and solutions for our different customers in the RC, EC and carbon capture markets is complex, costly and uncertain, and any failure by us to anticipate customers' changing needs, emerging trends and new regulations accurately could significantly harm our future market share and results of operations. Our approach to technology development, implementation and commercialization involves taking technology to full-scale as quickly as we can, and testing and improving the technology under actual power plant operating conditions. We may focus our resources on technologies that eventually do not become widely accepted or are not

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commercially viable. This involves a significant up-front investment of our resources. Our results are subject to risks related to our significant investment in developing and introducing new technologies and EC systems and products. If we are unable to develop and scale up new technologies, systems and services to meet the needs of our customers, our financial results could be adversely affected.

**WE MANAGE SOME OF OUR BUSINESS VIA JOINT VENTURE OPERATING AGREEMENTS AND HAVE IMPLEMENTED SIGNIFICANT OVERSIGHT PROCEDURES WITH REGARD TO THEM BUT THE NATURE OF JOINT MANAGEMENT IS THAT WE DO NOT CONTROL THE DECISION MAKING PROCESS SO WE CANNOT MANDATE DECISIONS OR ENSURE OUTCOMES.**

ADA oversees its joint ventures via operating agreements and by participating in the following activities: (1) representation on the Board, (2) design and implementation of financial and operational controls and reporting (3) hiring,



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(4) design, construction and operation of RC facilities, and (5) other regular and routine involvement with our joint venture partners. Notwithstanding this regular participation and oversight, our joint venture partners also participate in the management of these businesses and they may have business or economic interests that divert their attention from the joint venture or they may prefer to invest resources in a manner that is contrary to ADA's preferences. Since business decisions must be made jointly with our joint venture partners, ADA cannot mandate decisions or ensure outcomes.

**ANY DISRUPTIONS IN OUR INFORMATION TECHNOLOGY SYSTEMS COULD NEGATIVELY IMPACT OUR ABILITY TO CONDUCT NORMAL BUSINESS OPERATIONS.**

We rely on our information technology systems to coordinate and execute our business operations and communicate with our customers. Any disruption or failure of our information technology system could cause delays in providing services or performing other critical functions to service our customers. If we are unable to effectively and efficiently communicate internally with our employees and externally with our customers this could result in a failure to meet project deadlines or customer expectations and negatively impact our reputation and the results of our operations, all of which could have a material adverse impact on ADA.

**AN INJURY OR DEATH TO ONE OF OUR EMPLOYEES COULD RESULT IN MATERIAL LIABILITIES TO THE COMPANY.**

The industrial activities conducted at our and our customer's facilities present significant risk of serious injury or death to our employees, customers or other visitors to our operations, notwithstanding our safety precautions, including our material compliance with Federal, state and local employee health and safety regulations. While we have in place policies and procedures to minimize those risks, we may be unable to avoid material liabilities for an injury or death. Even though we maintain workers' compensation insurance to address the risk of incurring material liabilities for injury or death, the insurance coverage may not be adequate or may not continue to be available on the terms acceptable to us, or at all, which could result in material liabilities to us for an injury or death.

**OUR EXPECTED PROFITABILITY COULD BE ADVERSELY AFFECTED BY INCREASES IN THE COST OF RAW MATERIALS AND FREIGHT.**

The prices of commodities that we require in our operations, including steel for silos, iron waste products and other chemicals, are subject to price fluctuations, and the timing of changes in the market prices for these commodities is largely unpredictable. We may not be able to pass on all cost increases to our customers or offset fully the effects of higher costs for raw materials or freight through the use of surcharges and other measures, which may negatively impact profitability. There is also the possibility of potential time lag between increases in prices for raw materials under our purchase contracts and the point when we can implement corresponding increase in price under our sales contracts with customers. As a result, we may be exposed to fluctuations in raw material prices, including steel, since during the time lag we may have to bear the additional cost of the price increase under our purchase contracts. If these events were to occur, beyond the price validity time period we have obtained from our suppliers, they could have a material adverse effect on our financial position, results of operations and cash flows.

**THE EFFECT OF ISSUING PERFORMANCE GUARANTIES FOR COMMERCIAL ACI AND DSI SYSTEMS AND ISSUING PAYMENT AND PERFORMANCE GUARANTIES FOR CLEAN COAL'S RC FACILITIES IS UNKNOWN AND COULD ADVERSELY AFFECT OUR FINANCIAL CONDITION.**

Performance and payment guaranties have been and may likely continue to be an integral part of successful sales of our products and services. Guaranties with respect to our ACI systems typically require levels of mercury removal efficiency based on stated injection rates of a specified or approved AC given other operating parameters, including the nature of the coal burned. Provisions of such guaranties generally require us to spend amounts up to the value of the sales contract to make right the performance of the ACI or DSI system if the guaranteed level of performance is not achieved. In addition, we, NexGen and two entities affiliated with NexGen have provided Clean Coal's sublessee with joint and several guaranties guaranteeing any payments and performance that might be due the lessee under the various agreements Clean Coal executed. Any substantial payments under such guaranties would have a material adverse effect on our financial position, results of operations and cash flows.

**WE DEPEND ON KEY PERSONNEL.**

We depend on the performance of our senior management team and their direct reports and other key employees, particularly highly skilled engineers. Our success depends on our ability to attract, retain and motivate these individuals. We do not have any binding agreements with any of our employees that prevent them from leaving our Company at any time without any restrictions on their competing against us after their employment terminates. We compete heavily for



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these types of personnel. In addition, although we maintain key person life insurance on certain of our executives, the loss of the services of any of our key employees or our failure to attract, retain and motivate key employees could harm our business.

**WE DEPEND SUBSTANTIALLY ON EMPLOYEES OF CLEAN COAL FOR OUR CLEAN COAL BUSINESS, AND THE LOSS OF THEIR SERVICES COULD HAVE AN ADVERSE EFFECT ON THAT BUSINESS.**

Clean Coal depends on several key employees to operate the RC business. If Clean Coal were to lose the services of these key employees, especially to a competitor, this could have a material adverse effect on the business of Clean Coal and our results of operation. It might be difficult to timely replace such key employees on reasonable terms, and our business could be harmed if any those employees were to engage in activities competitive with one of our businesses or areas of interest.

**MATERIAL ADJUSTMENTS PURSUANT TO DOE AUDITS OF OUR PAST PERFORMANCE COULD HAVE A DETRIMENTAL IMPACT ON OUR BUSINESS.**

Fourteen of our completed and current contracts awarded by the DOE and related industry participants remain subject to adjustments as a result of future government audits. Our historical experience with these audits has not resulted in significant adverse adjustments to amounts previously received; however the audits for the years 2004 and later have not been finalized. Revenues recognized from 2004 through 2011 that are subject to government audit totaled \$32 million. In addition, we had \$15.7 million of remaining unearned amounts under contracts subject to audit as of December 31, 2011. If audits for open years were to require us to repay material amounts, our results of operations and business would likely suffer material adverse impacts.

**CHANGES IN TAXATION RULES OR FINANCIAL ACCOUNTING STANDARDS COULD ADVERSELY AFFECT OUR RESULTS OF OPERATIONS OR FINANCIAL CONDITION.**

Changes in taxation rules and accounting pronouncements (and changes in interpretations of accounting pronouncements) have occurred and may occur in the future. A change in existing taxation rules or accounting standards could have an adverse effect on our reported or future results of operations or financial condition.

**THE FAILURE OF ANY BANK IN WHICH WE DEPOSIT OUR FUNDS COULD REDUCE THE AMOUNT OF CASH WE HAVE AVAILABLE FOR OPERATIONS AND ADDITIONAL INVESTMENTS IN OUR BUSINESSES.**

The Federal Deposit Insurance Corporation, or FDIC, only insures amounts up to \$250,000 per depositor per insured bank. We currently have cash and cash equivalents and restricted cash deposited in certain financial institutions significantly in excess of federally insured levels. If any of the banking institutions in which we have deposited funds ultimately fails, we may lose our deposits over \$250,000. The loss of our deposits would reduce the amount of cash we have available for operations and would have a material adverse effect on our financial condition.

**RISKS RELATED TO PROPOSED REORGANIZATION INTO A DELAWARE HOLDING COMPANY**

**OUR BOARD OF DIRECTORS MAY CHOOSE TO DEFER OR ABANDON THE REORGANIZATION.**

Completion of the Reorganization may be deferred or abandoned, at any time, by action of our board of directors, whether before or after the Annual Meeting. While we currently expect the Reorganization to take place on or about July 1, 2012, assuming that the Reorganization proposal is approved at the Annual Meeting, ADA's board may defer completion or may abandon the Reorganization because of any determination by our board of directors that the Reorganization would not be in the best interests of ADA or its shareholders or that the Reorganization would have material adverse consequences to ADA or its shareholders.

**WE MAY NOT OBTAIN THE EXPECTED BENEFITS OF OUR REORGANIZATION INTO A HOLDING COMPANY.**

We believe our Reorganization into a holding company will provide us with benefits in the future. These expected benefits may not be obtained if market conditions or other circumstances prevent us from taking advantage of the strategic, business and financing flexibility that we believe it will afford us. As a result, we may incur the costs of creating the holding company without realizing the possible benefits.

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**AS A HOLDING COMPANY, ADES WILL DEPEND IN LARGE PART ON DIVIDENDS FROM ITS OPERATING SUBSIDIARIES TO SATISFY ITS OBLIGATIONS.**

After the completion of the Reorganization, ADES will be a holding company with no business operations of its own. Its only significant assets will be the outstanding capital stock of its subsidiaries, which will initially be ADA and its subsidiaries. As a result, ADES will rely on funds from ADA and any subsidiaries that it may form in the future to meet its obligations.

**THE MARKET FOR ADES SHARES MAY DIFFER FROM THE MARKET FOR ADA SHARES.**

Although it is anticipated that the ADES common shares will be authorized for listing on the NASDAQ Capital Market, the market prices, trading volume and volatility of the ADES shares could be different from those of the ADA shares.

**ANTI-TAKEOVER PROVISIONS IN ADES' S CERTIFICATE OF INCORPORATION AND BYLAWS MAY DELAY OR PREVENT A THIRD PARTY ACQUISITION OF ADES, WHICH COULD DECREASE THE VALUE OF ADES' S COMMON STOCK.**

The certificate of incorporation and bylaws of ADES contain provisions that could make it more difficult for a third party to acquire it without the consent of its board of directors. These provisions, the first three of which are currently in effect with respect to ADA, will:

Limit the business at special meetings to the purpose stated in the notice of the meeting;

authorize the issuance of blank check preferred stock, which is preferred stock with voting or other rights or preferences that could impede a takeover attempt and that the board of directors can create and issue without prior stockholder approval;

Establish advance notice requirements for submitting nominations for election to the board of directors and for proposing matters that can be acted upon by stockholders at a meeting; and

Require the affirmative vote of the disinterested holders of a majority of our common stock to approve certain business combinations involving an interested stockholder or its affiliates, unless either minimum price criteria or procedural requirements are met, or the transaction is approved by a majority of our continuing directors (known as fair price provisions ).

Although we believe all of these provisions will make a higher third-party bid more likely by requiring potential acquirors to negotiate with the board of directors, these provisions will apply even if an initial offer may be considered beneficial by some stockholders and therefore could delay and/or prevent a deemed beneficial offer from being considered.

**RIGHTS AFTER THE REORGANIZATION WILL BE DIFFERENT FROM, AND MAY BE LESS FAVORABLE THAN, ADA' S SHAREHOLDERS CURRENT RIGHTS AS A SHAREHOLDER OF A COLORADO CORPORATION.**

After the completion of the Reorganization, each ADA shareholder will become a stockholder of a public company incorporated in Delaware instead of Colorado. As a result, each ADA' s shareholder' s rights as a stockholder will be governed by Delaware corporate law as opposed to Colorado corporate law. Because they are separate bodies of law, Delaware corporate law will be different from Colorado corporate law. Although many of these differences will not have a significant impact on the rights of stockholders, some of these differences may be more or less favorable to stockholders. Some of the differences between Delaware and Colorado corporate law that may be less favorable to stockholders after the completion of the reorganization include the following:

Under Delaware corporate law, fewer corporate transactions give rise to dissenters' rights than under Colorado corporate law; and

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Under Delaware corporate law and ADES's bylaws, holders of 20% of the voting shares of ADES will have the right to call a special meeting of stockholders, as opposed to Colorado corporate law, which gives holders of 10% of the voting shares the right to call a special meeting.

These differences may limit the significance of an ADA shareholder's rights as a stockholder in these contexts.

**THE PROPOSED REORGANIZATION INTO A HOLDING COMPANY MAY RESULT IN SUBSTANTIAL ADDITIONAL DIRECT AND INDIRECT COSTS WHETHER OR NOT COMPLETED.**

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The Reorganization resulted in substantial direct costs when it was first proposed last year. As a result, a substantial portion of the costs associated with the Reorganization, including the related SEC filing fees, were already incurred last year before ADA terminated the Reorganization Agreement in April 2011 due to the adverse ruling in the arbitration with Norit. However, to complete the Reorganization this year, ADA will continue to incur additional costs and expenses, which are expected to consist primarily of attorneys' fees, accountants' fees, and financial printing expenses and which will be substantially incurred prior to the vote of our shareholders at the Annual Meeting. The Reorganization may also result in certain indirect costs by diverting the attention of our management and employees from our business and by increasing our administrative costs and expenses. These administrative costs and expenses will include keeping separate records and in some cases making separate regulatory filings for each of ADES and ADA. The Reorganization may also result in certain state sales taxes and other transfer taxes.

### **RISKS RELATING TO OUR COMMON STOCK**

#### **A SIGNIFICANT PORTION OF OUR OUTSTANDING SHARES OF COMMON STOCK MAY BE SOLD IN THE PUBLIC MARKET, WHICH COULD LOWER THE MARKET PRICE OF OUR STOCK.**

As of March 9, 2012, we had 10,001,809 shares of common stock issued and outstanding. Sales of our common stock, or the perception that such sales might occur, have had and may continue to have a material adverse effect on our stock price.

#### **THE ISSUANCE OF ADDITIONAL SECURITIES COULD DECREASE THE VALUE OF THE OUTSTANDING SHARES OF OUR COMMON STOCK.**

On January 28, 2011, we filed a shelf registration to raise \$140 million in connection with our fundraising efforts by which we may issue additional shares of common stock or convertible securities with preferences and priorities over those of our common stock. The issuance of any additional securities could dilute the percentage interests and per share book value of existing shareholders and have a detrimental impact on the market for our common stock. For example, in connection with the public offering conducted in October and November of 2011, ADA issued a total of 2.3 million shares of common stock in connection with this public offering, generating total net proceeds of approximately \$32.7 million.

#### **THE VOLATILITY OF OUR STOCK PRICE COULD SUBJECT US TO SECURITIES CLASS ACTION LITIGATION.**

The market price of our common stock fluctuates significantly. The market price of our common stock may be affected by numerous factors, including:

Actual or anticipated fluctuations in our operating results and financial condition;

Changes in laws or regulations and court rulings;

Our ability to permanently place and monetize our RC facilities;

Changes in government funding and industry cost share of our projects;

Announcements of sales awards;

Conditions and trends in our industry;

Changes in supply and demand of key equipment and raw materials;

Adoption of new accounting standards affecting our industry;

Changes in financial estimates by securities analysts;

Perceptions of the value of corporate transactions; and

The degree of trading liquidity in our common stock and general market conditions.

From December 31, 2010 to December 31, 2011, the closing price of our common stock ranged from \$7.58 to 24.92 per share. Significant declines in the price of our common stock could impede our ability to obtain additional capital, attract and retain qualified employees and reduce the liquidity of our common stock.

In addition, the stock market has from time to time experienced significant price and volume fluctuations that have particularly affected the market prices for the common stock of similarly staged companies. These broad market fluctuations may adversely affect the market price of our common stock. In the past, following periods of volatility in the market price of a particular company's securities, shareholders have often brought class action securities litigation against that company. If class action securities litigation were brought against the Company, such litigation could result in substantial costs and a diversion of management's attention and resources.

**OUR ARTICLES OF INCORPORATION AND BYLAWS CONTAIN PROVISIONS THAT MAY DELAY OR PREVENT AN OTHERWISE BENEFICIAL TAKEOVER ATTEMPT OF OUR COMPANY.**

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Certain provisions of our articles of incorporation and bylaws could make it more difficult for a third party to acquire us, even if doing so would be beneficial to our shareholders. These include provisions:

Establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at shareholders' meetings; and

Allowing our board of directors to issue shares of preferred stock without shareholder approval. These provisions, alone or in combination with each other, may discourage transactions involving actual or potential changes of control, including transactions that otherwise could involve payment of a premium over prevailing market prices to holders of our common stock, or could limit the ability of our shareholders to approve transactions that they may deem to be in their best interest.

### **LACK OF DIVIDENDS MAY MAKE OUR STOCK LESS ATTRACTIVE AS AN INVESTMENT.**

We intend to retain all future earnings for our businesses and do not anticipate paying any cash dividends on our common stock for the foreseeable future. Generally, stocks that pay regular dividends command higher market trading prices, and our stock price may therefore be lower as a result of our dividend policy.

### **WE ARE EXPOSED TO RISKS RELATING TO EVALUATIONS OF CONTROLS REQUIRED BY SECTION 404 OF THE SARBANES-OXLEY ACT OF 2002.**

We are required to comply with Section 404 of the Sarbanes-Oxley Act of 2002. While we concluded that at December 31, 2011, we had no material weaknesses in our internal controls over financial reporting, we cannot assure you that we will not have a material weakness in the future. A material weakness is a control deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected. If we fail to maintain a system of internal controls over financial reporting that meets the requirements of Section 404, we might be subject to sanctions or investigation by regulatory authorities such as the Securities and Exchange Commission or by the NASDAQ Stock Market. Additionally, failure to comply with Section 404 or the report by us of a material weakness may cause investors to lose confidence in our financial statements and our stock price may be adversely affected. If we fail to remedy any material weakness, our financial statements may be inaccurate, we may be subject to shareholder litigation and increases in insurance costs, we may not have access to the capital markets, and our stock price may be adversely affected.

### **Item 1B. Unresolved Staff Comments.**

None.

### **Item 2. Properties.**

#### *Office Leases*

ADA currently leases its office facilities and warehouse space in Littleton, Colorado, a suburb of Denver and the term of certain leases runs through August 31, 2012. In October 2011, ADA entered into an Office Building Lease Agreement (the "Lease Agreement") with Ridgeline Technology Center, LLC for our lease of approximately 30,000 square feet in the Ridgeline Technology Center B in Highlands Ranch, Colorado. We intend to move our office facilities to this new location in April 2012 and let the other leases described above expire in August 2012.

The term of the Lease Agreement is for 84 months commencing on March 1, 2012. We have two options to extend the term of the Lease Agreement for an additional 60 months each at prevailing fair market rental rates at the times of the extensions. Initial rent will be approximately \$27,000 per month, with annual escalations of 2.5% per year. The Lease Agreement is a triple net lease, meaning we will pay our pro rata share of property expenses, taxes, insurance and other costs. The landlord has agreed to provide us with a one-time tenant improvement allowance in an amount up to \$478,000 and certain rent abatements as incentives to lease. In the near-term, we believe that sufficient space is available at reasonable rates in areas where we do business.



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In February 2012, ADA entered into a new lease agreement covering approximately 15,000 square feet of warehouse space in Highlands Ranch, Colorado, near the new offices. The lease covers five suites in the building with rent for the first two suites beginning in April 2012, an additional two suites beginning in May 2012, and the last suite beginning in September 2012. The lease expires in February 2019 and includes the option to renew for two additional five-year periods. The lease is a triple net lease and also includes a one-time tenant improvement allowance of \$150,000. Initial rent will be approximately \$9,000 per month once all five suites are occupied.

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### *Clean Coal Leases*

Clean Coal leased two RC Facilities in June 2010 to an independent third party with initial two and one half year terms and annual renewals that were set to expire in 2019. In November and December 2011, Clean Coal entered into transactions to exchange the leased RC facilities with newly constructed, redesigned RC facilities. The leases have initial terms that run through December 31, 2012 and automatically renew for annual terms through 2021, subject to a number of termination clauses. Clean Coal receives fixed and contingent rent payments as defined in the lease agreements. Future minimum fixed rent payments through 2021 total \$161 million and do not include contingent rental payments which are based on the production of RC. Clean Coal intends to take possession of the RC facilities upon termination of the leases.

### **Item 3. Legal Proceedings.**

#### *Settlement of Litigation with Norit Americas, Inc. and Norit International N.V. f/k/a Norit N.V. ( Norit International ) and Issuance of Stipulated Final Awards*

As we have previously reported in our Annual Reports on Form 10-K for the years ended December 31, 2010 and 2009, our Quarterly Reports on Form 10-Q filed in 2011 and on Form 8-K filed on August 30, 2011, on August 29, 2011, we and Norit Americas, Inc. and Norit International (collectively Norit ) entered into a Settlement Agreement (the ADA Settlement Agreement ) pursuant to which we settled all ongoing litigation with Norit to which we and Norit were parties (the Norit Litigation ), and Norit entered into a separate settlement agreement (the ECP Settlement Agreement, and together with the ADA Settlement Agreement, the Settlement Agreements ) with ECP, Carbon Solutions and certain other subsidiaries of Carbon Solutions (collectively the AC JV Entities ) as to the Norit Litigation and other litigation and claims among Norit, ECP and the AC JV Entities.

On October 18, 2011, the panel of three arbitrators overseeing the related arbitration among the parties endorsed and confirmed the terms of the Settlement Agreements and issued confidential, final, confirmable awards (the Stipulated Final Awards ) resolving the Norit Litigation.

### **Background**

As previously reported, Norit, which is an AC manufacturer with whom we have previously done business, filed a lawsuit against us, ADA Environmental Solutions LLC, certain AC JV Entities and two employees of Carbon Solutions (who were former employees of Norit) (collectively the ADA Defendants ) on August 4, 2008, asserting that the ADA Defendants misappropriated Norit 's trade secrets related to AC manufacturing, and other claims. The original case, captioned Norit Americas, Inc. v. ADA-ES, Inc., ADA Environmental Solutions, LLC, John Rectenwald, Stephen D. Young, Crowfoot Development, LLC, Red River Environmental Products, LLC, Underwood Environmental Products, LLC, Morton Environmental Products, LLC f/k/a Bowman Environmental Products, LLC, Cause No. 08-0673, was filed in the 71st Judicial District Court for Harrison County, Texas. Norit was seeking monetary damages under various legal theories, attorneys ' fees, and injunctive relief to prevent us or any related entity or third party from using Norit 's alleged trade secrets or other Norit intellectual property related to AC manufacturing. As previously reported, after more than a year of litigation in Texas and the filing of cross motions to compel arbitration of all or some of the claims pending between the parties, the parties agreed to resolve all claims between them in an arbitration in Atlanta, Georgia before a panel of three arbitrators (the Panel ) under the rules of the American Arbitration Association. In the course of the arbitration, the ADA Defendants and Norit filed statements of claims which added additional claims against each other arising out of their former business relationship including a claim by Norit against ADA for breach of a non-solicitation provision in a Market Development Agreement ( MDA ), to which ADA and Norit were parties from 2001 until 2006.

On April 8, 2011, the Panel issued an interim award holding ADA liable for approximately \$37.9 million in damages for breach of the non-solicitation provision of the MDA (the Non-Solicitation Award ), and further holding ADA jointly and severally liable together with other ADA Defendants for payment of a royalty of 10.5% of Gross Revenues (as defined) for the three years beginning in mid-2010, and then 7% of Gross Revenues (as defined) for the following five years (the Running Royalty Award ) on certain sales of AC from the production facility owned by Red River. The Running Royalty Award does not require payment of royalties on the sales of AC described in the Non-Solicitation Award. Norit and the ADA Defendants had disputed whether the Running Royalty Award set forth in the Interim Award would apply to AC treated, but not manufactured, using certain of Norit 's trade secrets (the Treated AC ).

Following issuance of the interim award, Norit submitted a claim to the Panel to recover approximately \$13 million in attorneys ' fees and costs allegedly incurred on claims on which Norit had prevailed ( Norit 's Cost Claims ). Norit also requested that the Panel impose restrictions on the use and disclosure of its alleged trade secrets, as well as restraints on the disposition of the ADA Defendants ' assets both to secure the payment of obligations imposed by a final award, and to



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restrain the disposition of the ADA Defendants' and ECP's interests in the AC production facilities incorporating Norit's trade secrets. The ADA Defendants contested Norit's Cost Claims and the additional restrictions and restraints sought by Norit.

In addition, in December 2009, Norit International, the Dutch parent of Norit, filed a petition with the Almelo District Court in the Netherlands requesting that the court conduct preliminary witness examinations into possible breaches of a confidentiality agreement we signed with Norit International in 2005 as part of due diligence for a potential acquisition of Norit's AC business (the Netherlands Action). These alleged breaches of the 2005 confidentiality agreement were also the subject of the arbitration.

Norit also had claims pending against ECP in a lawsuit filed in New Jersey Superior Court arising out of ECP's involvement and ownership in the AC JV Entities (the New Jersey Action).

**Settlement Terms**

The Settlement Agreements settled the Norit Litigation, including the Non-Solicitation Award, administrative aspects of the Running Royalty Award, Norit's Cost Claims, the New Jersey Action and the Netherlands Action. The ADA Settlement Agreement provides for the following payments:

A lump-sum payment of \$33 million to Norit which ADA made on August 30, 2011 (the Initial Settlement Payment); and

Payment to Norit by ADA of the sum of \$7.5 million (the Final Damage Award) over the three-year period commencing on August 29, 2012, payable in three installments without interest of \$2.5 million. To secure our obligation to pay this sum, Norit obtained a stipulated judgment in Colorado District Court, and we and Norit entered into a Forbearance Agreement pursuant to which Norit agreed to forbear from collecting on the judgment so long as we timely make the payments on the Final Damage Award.

Pursuant to the Settlement Agreements, the parties have resolved their dispute regarding royalties payable on Treated AC voluntarily and asked the Panel to amend the Running Royalty Award to require ADA and other ADA Defendants to pay a royalty of 7% for the first three years and 5% for the following five years on Gross Revenues (as defined) for such Treated AC, in addition to the Running Royalty Award percentages described above. The obligation to pay Norit the running royalties pursuant to the Running Royalty Award is a joint and several obligation among ADA and certain AC JV Entities. ADA recorded \$1.5 million for royalties with respect to all sales of AC from commencement of operations through December 31, 2011. Amounts due under the Running Royalty Award for each quarter are payable three months after such quarter ends.

The Settlement Agreements include full and complete mutual releases and bars to any claims and potential claims, past, present or future, known or unknown, that the parties or any related person, employee or agent brought or could have brought as part of the Norit Litigation, other than claims that may occur in the future for breach of the Settlement Agreements or the Stipulated Final Awards and claims between ADA, on the one hand, and the AC JV Entities and ECP, on the other hand.

The Stipulated Final Awards issued by the Panel on October 18, 2011 endorse and affirm the Settlement Agreements as outlined above. The appropriate parties filed papers with each court or body in which actions comprising the Norit Litigation were ongoing, and the court has entered stipulations and orders of dismissal.

**Item 4. Mine Safety Disclosures**

Not applicable.

**Table of Contents****PART II****Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.****Market Information**

Our common stock currently trades on the NASDAQ Capital Market under the symbol ADES. The table below sets forth the price range of our common stock for each quarter of 2011 and 2010:

	2011		2010	
	High	Low	High	Low
1st Quarter	\$ 24.92	\$ 10.53	\$ 9.50	\$ 4.72
2nd Quarter	\$ 24.75	\$ 7.58	\$ 8.31	\$ 5.00
3rd Quarter	\$ 19.37	\$ 13.26	\$ 7.17	\$ 4.72
4th Quarter	\$ 23.41	\$ 13.52	\$ 11.70	\$ 4.54

 **Holders**

The number of record holders of our common stock as of March 9, 2012 was approximately 1,500. The approximate number of beneficial shareholders is estimated at 3,300.

**Dividends**

We have not paid dividends since inception. We currently have no plans to pay dividends in the foreseeable future.

**Securities authorized for issuance under equity compensation plans**

The disclosure required by this Item is included under Item 12 of this Report.

**Purchases of Equity Securities by the Company and Affiliated Purchasers**

Neither we nor any affiliated purchaser, as defined in SEC Rule 10b-18(a)(3), purchased any of our equity securities during the quarter ended December 31, 2011.

**Item 6. Selected Financial Data.****FIVE-YEAR SUMMARY OF SELECTED FINANCIAL DATA**

	00000000	00000000	00000000	00000000	00000000
	Years Ended December 31,				
	2011	2010	2009	2008	2007
<i>(Amounts in thousands, except per share data)</i>					
<b>Income Statement Data</b>					
Revenues	\$ 53,316	\$ 22,281	\$ 20,061	\$ 16,193	\$ 19,248
Net income (loss)	\$ (19,851)	\$ (15,470)	\$ (8,771)	\$ (4,106)	\$ 247
Net income (loss), per common share, basic and diluted	\$ (2.48)	\$ (2.09)	\$ (1.26)	\$ (0.67)	\$ 0.05
Dividends declared per common share	\$	\$	\$	\$	\$
<b>Balance Sheet Data</b>					
	As of December 31,				
	2011	2010	2009	2008	2007
Total assets	\$ 106,099	\$ 56,668	\$ 40,967	\$ 75,142	\$ 34,906
Long-term debt	\$ 3,624	\$	\$	\$	\$
Stockholders' equity	\$ 49,179	\$ 13,444	\$ 24,351	\$ 56,987	\$ 28,552

See the audited financial statements attached hereto under Item 8 for additional information.



**Table of Contents****QUARTERLY FINANCIAL DATA UNAUDITED**

	2011				2010			
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
	<i>(Amounts in thousands, except per share data)</i>							
Revenues	\$ 8,467	\$ 7,026	\$ 13,232	\$ 24,591	\$ 3,867	\$ 1,937	\$ 7,509	\$ 8,968
Gross margin	\$ 7,173	\$ 5,369	\$ 7,154	\$ 4,656	\$ 1,355	\$ 8	\$ 5,826	\$ 6,479
Net income (loss)	\$ (27,542)	\$ (2,251)	\$ (3,811)	\$ 13,753	\$ (2,820)	\$ (3,710)	\$ (5,823)	\$ (3,117)
<b>Common Stock Data</b>								
Basic net income (loss) per share	\$ (3.63)	\$ (0.30)	\$ (0.50)	\$ 1.56	\$ (0.39)	\$ (0.50)	\$ (0.78)	\$ (0.42)
Diluted net income (loss) per share	\$ (3.63)	\$ (0.30)	\$ (0.50)	\$ 1.53	\$ (0.39)	\$ (0.50)	\$ (0.78)	\$ (0.42)

**Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operation.****Overview**

We develop, offer and implement proprietary environmental technology and market equipment and specialty chemicals to the coal-burning electric power generating industry, to the Portland cement industry and to industrial boiler operators. We have three operating segments: RC (refined coal), EC (emission control) and CC (CO<sub>2</sub> capture). The RC segment includes revenues from the leasing of two RC facilities and coal sales which approximates the cost of coal acquired to demonstrate new RC facilities placed in service. The EC segment includes revenue from the supply of emissions control systems including powdered activated carbon injection systems ( ACI ), dry sorbent injection systems ( DSI ) to control SO<sub>2</sub> and other acid gases and the sale of specialty chemicals, equipment and services for flue gas conditioning projects, the licensing of certain technology, consulting services related to such matters and other applications. The CC segment includes revenue from projects relating to the CO<sub>2</sub> capture and control market, including projects co-funded by government agencies, such as the Department of Energy ( DOE ) and industry supported contracts.

We conduct research and development efforts in CO<sub>2</sub> capture and control from coal-fired boilers. In September 2010, we signed our second significant contract related to CO<sub>2</sub> capture with the DOE, which is scheduled to continue through the end of 2014. We are marketing our RC facilities through our interest in our Clean Coal joint venture with NexGen, an affiliate of NexGen Resources Corporation.

**Refined Coal***Environmental Legislation and Regulations*

Clean Coal's primary opportunity is based on certain tax credits that are available under Section 45 of the Internal Revenue Code ( Section 45 tax credits ), as it was amended by the American Jobs Creation Act of 2004, the Emergency Economic Stabilization Act of 2008, the American Recovery and Reinvestment Act of 2009 for qualifying RC and the Tax Relief and Job Creation Act of 2010. In December 2009, the IRS issued the anticipated guidance as to the specifics concerning how the emissions reductions are to be measured and certified to demonstrate compliance necessary to qualify for the Section 45 tax credits. Clean Coal placed two RC facilities in service prior to January 1, 2010 and demonstrated the required emission reductions for their RC product to qualify for the Section 45 tax credits. In December 2010, the Tax Relief and Job Creation Act of 2010 extended the placed in service deadline for the Section 45 tax credits to January 1, 2012. The tax credits amount to an annually escalating \$6.33 per ton (in 2011) of RC for a period of ten years.

*Clean Coal*

On June 29, 2010, Clean Coal executed contracts in which the two RC facilities were leased by Clean Coal's wholly owned subsidiaries AEC-TH, LLC and AEC-NM, LLC (the Lessors ) to GS RC Investment, LLC (the Lessee ), with initial two and one half year terms and annual renewals that were set to expire in 2019. The two facilities are installed at two different power plants in the Midwest each of which operates two cyclone boilers burning PRB coal from Wyoming.

On November 21 and December 15, 2011, Clean Coal, the Lessors and the Lessee entered into two Exchange Agreements (each agreement related to the facility owned by each Lessor) pursuant to which the parties agreed to exchange the leased RC facilities at each power plant with newly constructed, redesigned RC facilities which resulted in termination of the





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original leases and issuance of new lease agreements (the Exchange Transactions ). The new leases carry over many of the substantive terms and conditions of the initial leases, have initial terms that run through December 31, 2012 (the Initial Term ) and automatically renew for annual terms through 2021.

Each lease may be terminated by the Lessee for various reasons, the most significant of which are:

For any reason as of the end of the Initial Term by giving notice by no later than July 1, 2012.

If the Total Operating Expenses (as defined in each lease) paid by the Lessee for two consecutive quarters exceed 140% of the projected operating costs for the RC facility.

If any of Lessors representations or warranties were breached as of the date made and such breach is not cured within 30 days after notice.

If a change of law, or certain other specified events affecting the availability of the Section 45 tax credits, occurs.

Upon the occurrence of a governmental regulatory event that would make the contemplated transaction impermissible. In June 2010, the Lessee entered into supply agreements for each RC facility pursuant to which it continues to supply RC to the applicable power plant owner. Clean Coal Solution Services ( CCSS ), a Colorado limited liability company owned 50% by us and 50% by NexGen, will (subject to oversight by the Lessee) continue to operate and maintain the RC facilities under two Operating and Maintenance Agreements entered into with the Lessee in June 2010. CCSS also arranges for the purchase and delivery of certain chemical additives necessary for Lessee s production of RC under two supply agreements entered into with the Lessee as part of the original transaction. The term of each supply agreement runs coincident with the leases.

We control and consolidate the results of Clean Coal in our financial statements, but do not consolidate the results of CCSS because NexGen controls the entity pursuant to the operating agreement of the entity. Historically, the utilities at which the facilities operate have used over six million tons of coal per year, which amount can vary based on several factors. The total annual contribution to our operating income will ultimately depend on the utilities use of coal in the generation of electricity, which use will likely fluctuate over the term of the Section 45 tax credits. In order to maintain our interest in Clean Coal, we are obligated to fund half of its operating costs and capital expenditures.

We, Clean Coal and the Lessee also entered into a technology sublicense, as amended pursuant to two amendments entered into as part of the Exchange Transactions (the Technology Sublicense ). Pursuant to the Technology Sublicense, we licensed and Clean Coal sublicensed to the Lessee certain technology required to operate each RC facility and to produce RC. The Technology Sublicense parallels the license previously granted by us to Clean Coal and requires that we stand behind Clean Coal if it fails to perform its obligations under the sublicense, other than as a result of a default by Lessee. The Technology Sublicense contains representations and warranties customary for such agreements regarding intellectual property, and, subject to certain liability limits, requires us to indemnify the Lessee in the event of certain infringement claims by a third party. We are also obligated to actively prosecute infringement of the technology by third parties, or to cooperate with the Lessee if it does so, in which case any award would go to the Lessee and any other sublicensee who prosecutes the infringement. The annual license fee payable to Clean Coal for the sublicense is \$10,000 per year, but this amount is deductible from the amount the Lessee pays in rent under the leases.

In addition, pursuant to the Exchange Transactions, we, NexGen and two entities affiliated with NexGen have provided the Lessee with new joint and several guaranties (the CCS Guaranties ) guaranteeing all payments and performance due under the agreements described above. We also entered into a contribution agreement (the Contribution Agreement ) with NexGen under which any party called upon to pay on a CCS Guaranty is entitled to receive contribution from the other party equal to 50% of the amount paid. The parent of Lessee provided Clean Coal with a guaranty as to the payment only of all fixed rent payments under the leases, which, although terminable at any time, cannot be terminated without the substitution of such guaranty with another guaranty on similar terms from a creditworthy guarantor

In December 2010, the Tax Relief and Job Creation Act of 2010 extended the placed in service deadline for the Section 45 tax credits to January 1, 2012. In consideration of the extension, Clean Coal built and qualified an additional 26 RC facilities using a combination of the

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CyClean and M-45 technologies, which met the extended placed in service date. ADA expects several of these RC facilities to begin routine operations in 2012. Once the final utility site and financing partner have been determined, it takes an average of approximately six months to obtain environmental permits for full-time operation, secure necessary approvals from state Public Utility Commissions, negotiate and complete all necessary contracts and obtain private letter rulings ( PLRs ) from the IRS in some instances where plants blend different types of coal. Since the IRS did not provide explicit guidance on blending of coal to qualify for Section 45 tax credits, some of these facilities will likely require PLRs, which may take two to three months to obtain after formal contracts are completed. Clean Coal has received \$14.9 million from our first monetizer as initial deposits on 15 million tons of RC, which reserves its right to negotiate for specific RC facilities. We are currently in discussions with a number of other major financial institutions and corporate investors to reserve the right to negotiate on a number of the remaining facilities.

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We expect that the transactions for the new leases of the new RC facilities over the next year will be structured similarly to the lease transactions previously entered into for the two initial RC facilities placed in service in June of 2010. As was the case in those transactions, generally the lease of the RC facilities and the monetization of the Section 45 tax credits involve a relationship between the utility, a financial institution and Clean Coal. By leasing the RC facility and producing RC, the financial institution receives the benefit of the annually escalating per ton Section 45 tax credit (\$6.33 per ton in 2011) and is able to deduct depreciation. In return it pays, and may also deduct, a fee to the utility for land use to site the RC facility and operational costs. In addition, the financial institution pays a combination of fixed and contingent rents to Clean Coal for the lease of the RC facility. In addition to the site payment, the utility receives the benefit of the resulting mercury reductions which have an estimated value of between \$1.00- \$4.00 per ton. In some transactions, Clean Coal may choose to operate the facility in order to directly receive the benefit of the Section 45 tax credit.

In May 2011, ADA and NexGen entered into a transaction in which Clean Coal sold an effective 15% interest of its equity, equal to approximately 15.8 units of non-voting Class B membership interests, to an affiliate of GS for \$60 million in cash (the Purchase Price) pursuant to a Class B Unit Purchase Agreement (the Purchase Agreement). In conjunction with the closing of the Purchase Agreement, we, NexGen and GS entered into a Second Amended and Restated Operating Agreement for Clean Coal (the Restated Operating Agreement) and an Exclusive Right to Lease Agreement (the Lease Agreement). Pursuant to the Restated Operating Agreement, we and NexGen each exchanged 50 units of membership interests in Clean Coal for approximately 42.1 voting Class A Units in Clean Coal, representing a total of approximately 84.2% of the equity interests in Clean Coal following the transaction. ADA and NexGen each received \$30 million as a result of the sale, and subsequent to the transaction with GS, NexGen paid the Company the remaining balance due of \$1.8 million as payment in full of the amount owing by NexGen to maintain its interest in Clean Coal, including payment in full of all other amounts owing to us totaling \$480,000 under certain previously issued tonnage notes.

Pursuant to the transaction with GS, we and NexGen provided GS with joint and several guarantees (the Limited Guarantees) guaranteeing the performance by Clean Coal of its obligation to indemnify GS against certain losses it may suffer as a result of inaccuracies or breaches of the representations and warranties made by Clean Coal in the Purchase Agreement or the Lease Agreement, or if Clean Coal breaches its covenants in the Purchase Agreement or the Lease Agreement. Clean Coal's indemnification obligations for breaches of representations, warranties and covenants, other than for breaches of the representations involving organization, subsidiaries, capitalization and voting rights, authority and non-contravention and valid issuance, are subject to a non-recoverable deductible of \$500,000 and a cap of the Purchase Price. We also entered into a contribution agreement with NexGen under which any party called upon to pay on a Limited Guaranty is entitled to receive contribution from the other party equal to 50% of the amount paid.

The rights and obligations of the parties are set forth in detail in the Restated Operating Agreement, which provides, among other related terms and conditions, that prior to April 1, 2012, Distributable Cash (as defined in the Restated Operating Agreement) will be distributable approximately 84.2% to us and NexGen as holders of the Class A Units and approximately 15.8% to GS as the holder of the Class B Units. Given the 2.5% direct interest both we and NexGen retain in subsidiaries of Clean Coal previously formed to operate any RC facilities, the effective sharing ratio of net cash generated by all expected refined coal operations is 15% to GS and 85% to us and NexGen. Beginning with distributions made after December 31, 2012, Clean Coal must distribute no less than 70% of Distributable Cash, at least annually. Within 10 days of April 1, 2012, Clean Coal must calculate a Projected Distributable Value, which is defined in the Restated Operating Agreement as an estimated amount equal to the net present value, using a 15% discount rate, that Clean Coal projects it will receive through the end of the term of all effective (i.e., contractually committed) RC facilities. For distributions occurring after April 1, 2012, if 15.8% of the Projected Distributable Value is equal to or greater than GS Unrecovered Investment Balance (which is the dollar amount necessary, at any given time, to return GS at least its \$60 million investment, plus a 15% return thereon, taking into account all prior distributions to GS), GS is entitled to receive 15.8% of each distribution. If the Projected Investment Value (which is 15.8% of the Projected Distributable Value) is less than the Unrecovered Investment Balance as of the time for any given distribution, then an adjustment will be made to the distribution ratios to compensate GS for this deficiency. This adjustment is to be updated from time to time over the life of the investment, and at any time when Projected Investment Value becomes equal to or greater than GS Unrecovered Investment Balance, the amount payable to GS again becomes 15.8% of the distribution (or a lesser amount if amounts previously distributed have resulted in overpayments to GS). Clean Coal may make greater distributions to GS than required at any given time in order to shorten the time in which the Unrecovered Investment Balance will be reduced to \$0.

In addition, the Restated Operating Agreement provides that upon the occurrence of a Liquidation Event (as defined in the Restated Operating Agreement), GS will be entitled to receive the greater of (A) a liquidation preference in an amount equal to the Unrecovered Investment Balance as of the date of such Liquidation Event (the Liquidation Preference) or (B) GS pro rata share of the proceeds from such Liquidation Event.

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Furthermore, the Restated Operating Agreement states that on or after the earlier of (i) a breach of any material provision of the Purchase Agreement or Clean Coal's organizational documents that is not cured in accordance with the Restated Operating Agreement and that results in damages to GS of at least \$10 million or (ii) the ten year anniversary of the date the last refined coal facility owned by Clean Coal or one of its subsidiaries is placed in service (but in no event later than December 31, 2021), and if the Unrecovered Investment Balance has not been reduced to zero, GS may require its Class B Units to be redeemed by Clean Coal for an amount equal to its Unrecovered Investment Balance, payable within 180 days of the notice of redemption. In addition, the Restated Operating Agreement contains provisions in regard to GS's right to a board observer, each parties' rights and obligations with respect to capital calls, preemptive rights, approval of certain transactions, drag-along and tag-along rights, a covenant not to compete, an obligation for us to present certain related business opportunities to Clean Coal for its consideration and related matters.

Pursuant to the Lease Agreement, Clean Coal granted GS the exclusive right (but not the obligation) to lease facilities that will produce up to approximately 12 million tons (+/- 10%) (the Target Tons) of refined coal per year on pre-established lease terms similar to those currently in effect for Clean Coal's two existing facilities, but which are more economically favorable to Clean Coal than the rates in the present leases for the existing refined coal facilities that Clean Coal leased to another GS affiliate in June 2010. Clean Coal is required to submit a package to GS with respect to each RC facility it proposes that GS consider for leasing (being all RC facilities developed by Clean Coal until the Target Tons are met), and upon certification and acceptance of the certification for a given RC facility by GS, GS is required to pay Clean Coal, as a deposit, an agreed amount for each 1 million tons of projected annual refined coal production. Upon closing of a lease of a RC facility from Clean Coal, GS is required to pay Clean Coal an additional amount per 1 million tons of projected annual refined coal production. These payments are paid as advance rent, and actual amounts due under the leases (with true-ups) will be paid in accordance with the operative lease and related agreements, which will be based on the forms of documents that were used in the transactions for the existing RC facilities leased to the Lessee and will include guaranties by us and NexGen. The initial lease terms will be five years, with annual renewals for five successive one-year periods. If GS determines that it wishes not to lease a RC facility after it has paid the deposit, it can demand the return of the deposit paid for that RC facility, and the deposit must be paid within 30 days of the end of the quarter in which the demand is made. The amount of any deposit will earn interest from the date of demand until the deposit is paid.

In connection with the transaction, including the entry into the Lease Agreement, Clean Coal and the Lessee agreed to cancel the existing first right of refusal that was previously granted to the Lessee under the existing agreement to lease in connection with the leasing by the Lessee of two existing RC facilities. Under the cancelled first right of refusal the Lessee had the first right to lease RC facilities with up to 14 million tons of refined coal production per year.

In September 2011, ADA, NexGen, and GS entered into a First Amendment to the Restated Operating Agreement pursuant to which we and NexGen each transferred our 2.5% member interests in each of Clean Coal's subsidiaries back to Clean Coal in return for an increase in our interest in Clean Coal to 42.5% from 42.1%. This restructuring of ownership interests did not change the financial relationships of the parties.

In September 2011, we successfully demonstrated a new patent-pending technology for producing RC for use at coal-fired power plants. ADA's new technology, called M-45, complements and expands ADA's market for RC beyond its patented CyClean technology licensed to Clean Coal, which is limited to cyclone boilers. During full-scale tests the M-45 technology achieved greater than 20% reduction in emissions of NOx and greater than 40% reduction in mercury emissions, thus demonstrating that this new technology also meets the standards necessary to qualify for IRS Section 45 tax credits.

In November 2011, we signed a non-binding term sheet for an exclusive license of the new M-45 RC technology to Clean Coal in order to leverage Clean Coal's operating expertise, to place as many facilities in service before the year-end placed in service deadline and to take advantage of the other synergies that can be obtained by Clean Coal having the ability to provide and use either the CyClean or M-45 technology. With this license, Clean Coal could provide customers with both the patent-pending M-45 technology and ADA's patented CyClean technology to produce RC that qualifies for Section 45 tax credits. This allows Clean Coal to potentially use some facilities placed in service using CyClean technology to treat larger annual volumes of coal if applied at a different plant using the M-45 technology.

We expect the license, which is subject to due diligence and negotiation and closing of definitive agreements, will provide ADA with a royalty based on a percent of operating income from future production of RC produced with the M-45 technology and prepaid royalties that included an initial refundable payment of \$2 million, which was eliminated in the consolidation, paid to ADA upon signing of the term sheet with additional refundable payments of up to \$8 million upon meeting certain milestones. The prepaid royalty payments are refundable via a withholding from 50% of future distributions or payments to ADA from Clean Coal if certain conditions are not satisfied.

To date, Clean Coal has installed and operated a total of 26 additional RC systems using a combination of the CyClean and M-45 technologies. We expect that each of these RC facilities satisfies the placed in service requirements from initial operations. If all planned RC systems become fully operational, after obtaining environmental permits for full-time operation and completing all necessary contracts, they could produce a total of more than 60 million tons of RC per year.



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Our RC business opportunities do not depend upon any new environmental or tax regulations. The current ten year tax credits do not require any additional approval by Congress, which provides us with a high degree of confidence that Clean Coal and the M-45 technologies will generate long-term cash flows.

ADA expects to generate pre-tax income of greater than \$1.00 per ton of RC produced per year for facilities leased to others after payments to its joint venture partners of Clean Coal for the ten year life of the tax credits. From RC facilities leased to others, ADA expects revenue and earnings before interest and taxes ( EBIT ) of approximately \$100 million and \$50 million per year, respectively, by the end of 2012, with the potential to double the revenue and EBIT figures by the end of 2013. During 2012, new facilities are also expected to generate greater than \$70 million in cash receipts from prepaid rent for Clean Coal. Clean Coal is also evaluating plans to keep as much as 20% of the RC volume to offset federal tax obligations. For the RC production that Clean Coal retains, in addition to operating costs, Clean Coal will record coal sales and costs of coal that may be significant, which will result in increased revenues (over and above the revenue increases from the monetized RC facilities) and expenses, and will likely keep margin dollars similar to levels as if the RC was not retained. As a result, we expect that ADA's corporate tax rate will decrease to approximately 10%.

**Emission Control**

Many power companies recognize the urgency of the issued and pending environmental regulations, and as a result are contracting with us to evaluate mercury and acid gas control options at a number of their plants. Utilities need to know as soon as possible whether their existing EC components are sufficient to meet the new emissions standards with the installation of low capital systems such as ACI and DSI systems. If utilities need to upgrade their equipment with new large capital equipment such as fabric filters or SO<sub>2</sub> scrubbers, they need to quickly begin procurement of these systems due to long required lead times. As a result we expect additional near-term ACI and DSI demonstration revenue and further bidding on related ACI and DSI equipment.

*Activated Carbon Injection and Dry Sorbent Injection Systems*

To date, we have obtained contracts for or are in the process of installing 50 ACI systems intended to control mercury emissions from 55 coal-fired EGU boilers. Some market demand continues in 19 states and six Canadian provinces that either have passed their own mercury control regulations or have entered agreements with power plants to reduce mercury emissions for new power plants. We remain active in the bid and proposal process and bid activity picked up in the second half of 2011 on individual and fleet wide projects due to the anticipated release of the final MATS that occurred in December. We anticipate the need for 400 to 600 ACI systems to be supplied between 2012 and 2015, which would require rapid scale-up of our production capabilities to maintain our target and present 35% market share. For an average size EGU, the ACI equipment costs are between \$600,000 and \$ 1 million.

In addition to the mercury control applications for ACI systems, we have also developed and are offering commercial DSI systems to inject dry alkali sorbents for control of acid gases such as SO<sub>3</sub> and HCl as well as for control of the criteria pollutant SO<sub>2</sub>. DSI systems, which cost approximately \$2 million to \$3 million for an average size EGU, provide a low CAPEX alternative to scrubbers for meeting certain provisions of the MATS and CSAPR. We conducted full-scale tests of the DSI equipment in 2010 and 2011 for the control of HCl, SO<sub>2</sub> and SO<sub>3</sub> on plants burning bituminous, PRB, and lignite coals. We believe several contracts for ACI and DSI systems will be awarded this year and that MATS will generate up to \$300 million in sales of both ACI and DSI systems for the Company.

*Enhanced Coal*

Since 2004, we have been working with Arch Coal to explore certain unique characteristics of some types of coals mined by Arch Coal that allow them to be burned with lower emissions. We believe a technical breakthrough that involves the application of proprietary chemicals to coal mined by Arch Coal in the PRB likely reduces emissions of mercury and other metals when this enhanced PRB coal ( Enhanced Coal ) is eventually burned at power plants. As a result, on June 25, 2010, we entered into a Development and License Agreement (the License Agreement ) with Arch Coal. Pursuant to the License Agreement, we provided Arch Coal with an exclusive, non-transferable license to use certain technology to produce Enhanced Coal by the application of ADA's proprietary coal treatment technology to Arch Coal's PRB mined coal. We expect that use of this Enhanced Coal will help utilities meet the mercury emissions requirements in the MATS. Pursuant to the License Agreement, we are providing development services to Arch Coal aimed at applying the technology to the PRB coal. In addition, if we develop improvements to the technology that are related to the reduction of certain emissions from the burning of PRB coal, that technology will either be included in the license at no additional cost, or, under certain circumstances, we will negotiate with Arch Coal to determine if Arch Coal wants to



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use the additional improvements. We retain all right, title and interest, including all intellectual property rights, in and to any technology we license to Arch Coal. The initial demonstration of coal treated at the mine and shipped by rail to a power plant produced promising results.

In consideration for the development work and the license to Arch Coal, Arch Coal paid us an initial, non-refundable license and development fee in cash totaling \$2 million in June 2010 and we recognized \$1.3 million as revenue in 2011 and \$.7 million in 2010. Under the License Agreement, we are entitled to royalties of as much as \$1 per ton of a portion of the premium for Enhanced Coal sold by Arch Coal, depending upon the successful implementation of the technology and the premium Arch Coal is able to charge on future sales of the Enhanced Coal product. Any royalty ultimately payable under the License Agreement will first be subject to credit to Arch Coal of an amount equal to the initial license fee, other development and operational costs paid by Arch Coal plus a rate of return on such payments.

We believe the Enhanced Coal product may provide a \$1 to \$4 per ton of coal benefit to power plants. The MATS will likely create a market for reduction in mercury emissions for a significant percentage of the greater than 100 million tons per year of PRB coal mined by Arch Coal. Because of our focus on placing in service additional RC facilities prior to the end of 2011, we decided to delay additional demonstrations of our Enhanced Coal product. We expect to resume these tests in 2012, which is expected to provide sufficient time to further develop the technology and grow this business as the national mercury control market expands through 2015.

As a part of entering into the License Agreement we agreed to negotiate and enter into a Supply Agreement under which Arch Coal will purchase the additives described in the License Agreement exclusively from us, and we will supply Arch Coal with the additives it needs. We expect to finalize the terms of the Supply Agreement in 2012.

## **CO<sub>2</sub> Capture**

In addition to our two key growth areas, RC and emission control, we continue to demonstrate our position as a premier developer of innovative clean energy technologies. We expect that CO<sub>2</sub> capture technologies will be required to control CO<sub>2</sub> emissions from coal-fired power plants in the future as a result of the impact of CO<sub>2</sub> emissions on climate change. A number of permits for new coal-fired plants were rejected by various state officials in response to protests by environmental groups. We see this as an opportunity and continue to develop technologies to address the long-term needs of our customers to reduce CO<sub>2</sub> from their existing and new plants.

On December 15, 2009, EPA issued an endangerment finding that triggered a Clean Air Act requirement that the agency regulate CO<sub>2</sub> emissions from stationary sources such as power plants. Industry and states have filed an extensive consolidated litigation before the U.S. Court of Appeals for the District of Columbia Circuit challenging numerous aspects of EPA's Greenhouse Gas ( GHG ) rules. The U.S. Court of Appeals for the D.C. Circuit is considering arguments regarding EPA's guidance memo on the timing of GHG regulations, such as when GHGs become a regulated pollutant under the Clean Air Act and thus New Source Review ( NSR ) and Prevention of Significant Deterioration ( PSD ) regulations apply.

EPA anticipates proposing its first new source performance standards ( NSPS ) for CO<sub>2</sub> emissions from new power plants within the next few months as a result of a separate settlement with states and environmental groups in 2010.

DOE is funding CO<sub>2</sub> control projects and in September 2010, we signed a contract with DOE to continue development of clean coal technology to capture CO<sub>2</sub> from coal-fired power plants and other industrial sources of CO<sub>2</sub> emissions. The agreements with the DOE provide that any inventions we create as a result of the work become our property and we retain the rights to commercialize any products we develop under the contracts. We participated in two such agreements in 2011 pursuant to which we are researching and developing a novel process to capture CO<sub>2</sub> from coal-fired power plants.

In 2010 we began the first field tests of our CO<sub>2</sub> control technology on a \$3.8 million program co-funded by DOE, as well as several major forward-thinking utility companies. The initial results at a plant confirmed the promising performance we had demonstrated in our laboratory. The pilot plant was moved to another plant for additional testing. Once captured, the CO<sub>2</sub> could be either stored underground (sequestration) or beneficially used in processes such as enhanced oil recovery. This technology appears to offer potential cost and energy advantages over competing liquid-solvent-based technologies.

In October 2010, we began work on a second major CO<sub>2</sub> project, which is expected to run for a total of 51 months to scale-up the technology to the one-megawatt level, which is a key step in the technology development process. We are the prime contractor for the approximately \$19 million project administered by DOE's National Energy Technology Laboratory which is providing \$15 million of the funding. The project provides funding to advance our commercialization plan for regenerable solid-sorbent technology, which is designed to capture CO<sub>2</sub> generated by coal-fired power plants.





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We have completed the first budget period of the 51-month DOE project. Continued project funding is dependent on approval of the DOE and our industry partners. We anticipate the DOE will make a positive decision about continuation within the next few months.

We anticipate that DOE funded CO<sub>2</sub> programs will continue to represent an important component of the revenue stream of the Company over the next several years as we position ourselves for the market growth for ACI systems, enhanced coal additives and related technology with Arch Coal and other technologies for emissions control.

### **Results of Operations 2011 versus 2010**

Revenues totaled \$53.3 million for 2011 versus \$22.3 million in 2010, representing an increase of 139%. The change is due primarily to revenues from operations at the RC facilities we leased to a third party and coal sales for new RC placed in service facilities plus a 49% increase in our CC segment revenues. We expect overall revenues for 2012 to be significantly higher than those reported for 2011.

Cost of revenues increased by \$20.3 million or 236% in 2011 from 2010 primarily as a result of costs of coal incurred related to demonstration and testing by Clean Coal of new RC facilities. In addition, costs increased in the CC segment due to the increased activity in this segment and in the EC segment due to the hiring of additional staff required to meet expected growth in this segment. Gross margins were 46% for the year compared to 61% in 2010. The decrease primarily reflects such increased costs. For the near term, we expect the RC segment to represent an increasing source of revenues, for which the anticipated gross margins are higher than our EC and CC segments. As a result, we expect the gross margin for fiscal year 2012 to be higher than the overall margin realized in 2011.

#### *Refined Coal*

Revenues in our RC segment totaled \$40.3 million in 2011 compared to \$10.4 million in 2010, representing an increase of 288%. The two operating RC facilities were placed into routine operations during the second quarter of 2010 and were in operation throughout 2011. In addition to recognition of rental income totaling \$20.1 million from the two operating facilities, the current year includes sales of RC totaling \$20 million as a result of demonstrating and placing additional RC facilities into service. We expect our quarterly revenues to continue to fluctuate based on seasonal variations in electricity demand as well as planned and unplanned outages required by the power plants for equipment repair and maintenance. On an ongoing basis, we expect the two RC facilities to process approximately 6 million tons of RC annually, qualifying for the present \$6.33 per ton Section 45 tax credit through 2021.

Cost of revenues for the RC segment increased by \$18.8 million or 1303% for 2011 from 2010. Costs increased in 2011 due primarily to the cost of coal acquired to test new RC facilities which costs approximate the revenues realized on its sale noted above, due to the RC facilities being in operation for a full year, and an increase in activities undertaken to place additional facilities into service. We expect future RC margins irrespective of coal purchases and sales to be at a level near 90%.

RC segment profits increased by \$10.1 million or 129% for 2011 compared to 2010 as the two facilities were leased for the full year in 2011 and placed in routine operation in the middle of 2010. These amounts are prior to the allocation of such profits to the non-controlling interest of Clean Coal.

#### *Emission Control*

Revenues in our EC segment totaled \$10 million in 2011 compared to \$9.8 million in 2010, representing an increase of 1%. The amounts reported for 2011 and 2010 excludes the work ADA has conducted for Clean Coal, as further described below, which was eliminated in our consolidation. Revenues from the EC segment for the year ended December 31, 2011 were comprised of sales of ACI systems and services (42%), flue gas chemicals and services (9%) and other services (49%), compared to 56%, 6%, and 38%, respectively, in 2010. For the near term, we expect the consulting services in our EC segment to increase as a percentage of EC revenues as the industry seeks to analyze and evaluate the MATS. We expect our EC segment revenues related to ACI systems to start growing in 2012 when we expect utilities, cement plants and industrial boilers to start reacting to the MATS and other MACT regulations. We expect overall gross margin dollars for the EC segment for 2012 to be higher than amounts achieved in 2011 due to increased equipment sales and consulting activity.

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Our consulting revenues increased \$1.3 million during 2011 compared to 2010 as a result of continued demonstrations and other work related to recent changes with the MATS and included revenues totaling \$1.3 million from our Arch Coal non-refundable license. Our consulting revenues contributed \$4.9 million during 2011 and we expect our consulting revenue to increase for the next year as several customers are seeking advice on how best to comply with the MATS.

As of December 31, 2011, we had contracts in progress for work related to our EC segment totaling \$736,000 which we expect to recognize as revenue in 2012. Our ACI systems revenues totaled \$4.1 million for 2011, representing a decrease of 25% compared to 2010. In the EC segment, we performed work related to RC systems provided to Clean Coal valued at \$8.3 million and \$3.7 million for the years ended December 31, 2011 and 2010, respectively, which would otherwise be recognized as revenue but was eliminated in the consolidation of Clean Coal. The amounts for 2010 include our participation in the construction and installation of the initial RC facilities. In 2011, Clean Coal utilized a number of third-party resources to construct and install the new RC facilities. However, we provided services toward the construction and installation of 26 facilities in 2011 as compared to 2 facilities in 2010.

Cost of revenues for the EC segment increased by \$732,000 or 12% in 2011 from 2010, primarily as a result of increased costs related to our ACI systems activities including hiring additional staff required for expected growth. Gross margin for the EC segment was 31% for 2011 compared to 38% for 2010. The decrease in gross margin from the prior year is primarily a result of the increase in costs related to our ACI systems.

EC segment profits decreased by \$764,000 or 36% for 2011 compared to 2010. The decrease was primarily a result of costs associated with hiring additional staff required for expected growth in future ACI systems sales.

*CO<sub>2</sub> Capture*

Revenues in our CC segment totaled \$3.1 million in 2011 compared to \$2.1 million in 2010 representing an increase of 49%. We had outstanding DOE contracts, including anticipated industry cost share in progress totaling \$15.7 million as of December 31, 2011. We expect to recognize approximately \$5.6 million from these contracts in 2012 including participation by other industry partners. As discussed above, back on September 30, 2010 we signed a contract on a DOE project totaling approximately \$19 million (including expected contributions by other industry partners).

Cost of revenues for the CC segment increased by \$858,000 or 80% for 2011 from 2010, primarily from increased activities related to our development of CO<sub>2</sub> capture technology. Gross margin for this segment was 38% in 2011 compared to 49% in 2010. The decrease in gross margin from 2011 to 2010 is due primarily to greater use of subcontractors for which our margins are lower under these projects. Lower cost share participation from third parties also contributed to higher costs and lower margins. We expect overall gross margins for the CC segment for 2012 to be lower than the levels achieved in 2011, due to our likely share of costs and the mixture of direct costs (labor versus equipment) associated with this segment.

CC segment profits decreased by \$654,000 or 73% for 2011 compared to 2010. As discussed above, the decrease was primarily the result of greater use of subcontractors and lower cost share participation by others.

Our contracts with the government are subject to audit by the federal government, which could result in adjustments to previously recognized revenue. Our historical experience with these audits has not resulted in significant adverse adjustments to amounts previously received; however the audits for the years 2004 and later have not been finalized. Revenues recognized from 2005 through 2011 that are subject to government audit totaled approximately \$32 million. In addition, we had \$15.7 million of remaining unearned amounts under contracts subject to audit as of December 31, 2011. We believe, however, that we have complied with all requirements of the contracts and future adjustments, if any, will likely not be material. In addition, the federal government must appropriate funds on an annual basis to support DOE contracts, and funding is always subject to unknown and uncontrollable contingencies.

*Other Items*

General and administrative expenses decreased by \$15.3 million or 47% to \$17.5 million in 2011. Legal costs decreased \$20.4 million or 83% in 2011 primarily due to a decrease in non-routine expenses associated with litigation and settlements which totaled \$24.5 million in 2010. We believe our legal expenses have now returned to more routine levels. This decrease was offset by increases in compensation costs and other general and administrative costs totaling \$1.5 million and \$3.6 million, respectively, from 2010 which are primarily due to a 46% increase in staff in anticipation of increased business. We expect general and administrative expenses to increase as we continue to add additional resources to prepare for increased business opportunities over that time. We expect general and administrative expenses to be approximately \$4 million per quarter for ADA and as much as \$1 million per quarter for CCS in 2012.



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We incur research and development ( R&D ) expenses not only on direct activities that we conduct but also by sharing a portion of the costs in the government and industry programs in which we participate. Total R&D expense increased by \$1.4 million or 151% in 2011 compared to 2010 as a result of increases in RC and CC activities. We incurred \$343,000 for direct cost share for R&D under DOE related contracts in 2011. We had no significant direct cost share for R&D under DOE related contracts in 2010. The increase in total R&D is related to preparing for growth in the delivery of our ACI systems, as well as our RC activities. Future consolidated research and development expenses, except for those anticipated to be funded by the DOE contracts and others that may be awarded, are expected to be higher in 2012 compared to 2011. We continue to anticipate that our future R&D expenses will grow in direct proportion to DOE funded CO<sub>2</sub> work we perform for the next several years and other technology development we choose to pursue.

We had net other income including interest of \$2.2 million in 2011 compared to \$2.5 million in 2010 related primarily to interest on notes receivable and other amounts received from NexGen. We had interest expense of \$1.6 million in 2011 related to the line of credit and deferred gain for income tax purposes on the Clean Coal lease transactions. There was \$16,000 in interest expense in 2010. We recognized \$42 million in expenses in 2011 related to the Norit matter, and a \$20 million gain from the settlement with Carbon Solutions/ECP as discussed below. We recognized a net \$6.1 million gain in 2010 related to the settlement with our damage claim against Calgon Carbon Corporation ( Calgon ) also as discussed below.

In November 2011, an Indemnity Settlement Agreement was entered into whereby ADA agreed to settle certain indemnity obligations asserted against ADA and relinquished all of its interest in the Carbon Solutions joint venture with ECP. The interest in Carbon Solutions was accounted for under the equity method of accounting and considerable losses had been recorded since its inception in 2008. We recorded the transactions resulting from the Indemnity Settlement Agreement for the satisfaction of the indemnity obligations and the relinquishment of ADA's interest which resulted in a gain of \$20 million which is included other income (loss) in the consolidated statements of operations.

ADA's equity in the net loss of Carbon Solutions for 2011 and 2010 totaled \$7.2 million and \$8.2 million, respectively and is included in other income (expense) in the consolidated statement of operations. The amount is reported net of our equity in the net income of CCSS which amounted to \$189,000 and \$118,000 for 2011 and 2010, respectively.

The income tax provisions for 2011 and 2010 represent an effective tax benefit rate of approximately 53% and 42%, respectively, for the years ended December 31, 2011 and 2010. No unrecognized tax benefits were recorded as of December 31, 2011. The primary jurisdictions in which we file income tax returns are the U.S. federal government and State of Colorado. We are no longer subject to U.S. federal examinations by tax authorities for years before 2008 and Colorado state examinations for years before 2007. Our income tax rate does not include any material amount of Section 45 tax credits from Clean Coal as those tax benefits will primarily be realized by the Lessee under the RC facilities' leases.

The net operating loss from continuing operations before income tax benefit and non-controlling interest was \$25.2 million in 2011 compared to a net operating loss of \$20.4 million in 2010. The net operating loss is due in large part to the costs associated with our settlement of litigation involving Norit and our equity in the losses incurred by Carbon Solutions.

### **Results of Operations 2010 versus 2009**

Revenues totaled \$22.3 million for 2010 versus \$20.1 million in 2009, representing an increase of 11%. The change is due primarily to initiation of revenues from operations at the RC facilities we leased to a third party offset by the decrease in our EC segment revenues.

Cost of revenues decreased by \$5.3 million or 38% in 2010 from 2009 primarily as a result of decreased revenues in our EC segment and lower RC segment costs described below. Gross margin was 61% for the year compared to 31% in 2009. The increase primarily reflects the increased RC margins and revenues as described below.

#### *Refined Coal*

Revenues in our RC segment totaled \$10.4 million in 2010 versus \$2.6 million in 2009, representing an increase of 301%, as the leased RC facilities initiated routine operations. As discussed above, in June 2010 we leased the two RC facilities and earn related rent revenues, which began in July 2010.

Cost of revenues for the RC segment decreased by \$1.9 million or 57% for 2010 from 2009, primarily due to the two RC facilities ramping up production levels in the fourth quarter of 2010. In 2009, we recorded the sales of RC which were made essentially on a cost basis with no margin.



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RC segment profits increased by \$9.2 million or 697% for 2010 compared to 2009 as the two facilities were leased and placed in routine operation in the middle of 2010.

### *Emission Control*

Revenues in our EC segment totaled \$9.8 million in 2010 versus \$15.9 million in 2009, representing a decrease of 38%. The amounts reported for 2010 and 2009 excludes the work ADA conducted for Clean Coal, as further described below, which was eliminated in our consolidation. Revenues from the EC segment for the year ended December 31, 2010 were comprised of sales of ACI systems and services (56%), flue gas chemicals and services (6%) and other services (38%), compared to 66%, 2%, and 32%, respectively, in 2009.

Our consulting revenues decreased \$1.3 million during 2010 compared to 2009 as we completed nearly all of our mercury control demonstrations and analysis. Such decline is offset by our Arch Coal non-refundable license revenue. Our consulting revenues contributed \$3.6 million during 2010.

As of December 31, 2010, we had contracts in progress for work related to our EC segment totaling approximately \$2.9 million. Our ACI systems revenues totaled \$5.5 million for 2010, representing a decrease of 48% compared to 2009. In the EC segment, we performed work related to RC systems provided to Clean Coal valued at \$3.7 million and \$1.3 million for the years ended December 31, 2010 and 2009, respectively, which would otherwise be recognized as revenue but was eliminated in the consolidation of Clean Coal.

Cost of revenues for the EC segment decreased by \$3.4 million or 36% in 2010 from 2009, primarily as a result of the decreased revenue-generating activities from our ACI system sales. Gross margins for this segment were 38% in 2010 compared to 40% for 2009. The decrease in gross margins from the prior year is primarily a result of the impact of our consulting and ACI system margins.

EC segment profits decreased by \$3.2 million or 60% for 2010 compared to 2009. The decrease was primarily a result of decreased ACI systems sales.

### *CO<sub>2</sub> Capture*

Revenues in our CC segment totaled \$2.1 million versus \$1.5 million for 2009 representing an increase of 36%. As discussed above, on September 30, 2010 we signed a contract on a DOE project totaling approximately \$19 million (including expected contributions by other industry partners) with work ramping up in the fourth quarter of 2010.

Cost of revenues for the CC segment increased by \$97,000 or 10% for 2010 from 2009, primarily from increased activities related to our development of CO<sub>2</sub> capture technology. Gross margins for this segment were 49% for 2010 compared to 37% for 2009. The increase in gross margins from 2010 to 2009 is due primarily to the increased work being performed under these projects.

CC segment profits increased by \$546,000 or 156% for 2010 compared to 2009. The increase was primarily the result of increased activities related to our development of CO<sub>2</sub> capture technology, which ramped up significantly in 2010.

### *Other Items*

General and administrative expenses increased by \$16 million or 96% to \$32.8 million in 2010. The dollar increase for 2010 resulted primarily from legal costs related to our legal proceedings with Norit and Calgon, which comprised approximately 75% of the overall general and administrative expense for 2010.

We incur R&D expenses not only on direct activities we conduct but also by sharing a portion of the costs in the government and industry programs in which we participate. Total R&D expense increased by \$202,000 or 28% in 2010 compared to 2009 as a result of increases in RC and CC activities. We had no significant direct cost share for R&D under DOE related contracts in either 2010 or 2009. The increase in total R&D is related to preparing for growth in the delivery of our ACI systems, as well as our RC activities.

We had net interest and other income of \$8.6 million in 2010 compared to \$34,000 for 2009. In December 2010, we accepted a \$7.2 million payment (recognized a net of \$6.1 million after payment of certain contingent legal fees) and recognized income related to the settlement of our damage claim against Calgon. In addition, during the second quarter of 2010, we recognized approximately \$1.8 million related to the notes payable delivered by NexGen, by which NexGen paid us as a portion of the amounts required to maintain its interest in Clean Coal. Such payments were recorded as other income. During the second half of 2010, we recognized approximately \$200,000 in interest and other income

related to the notes receivable and other amounts due from NexGen.



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The income tax provisions for 2010 and 2009 represent an effective tax rate benefit of approximately 42% and 37%, respectively, for the years ended December 31, 2010 and 2009. No unrecognized tax benefits were recorded as of December 31, 2010. Our income tax rate does not include any material amount of Section 45 tax credits from Clean Coal as those tax benefits will primarily be realized by the Lessee under the RC facilities leases.

In June 2009, our partner in the Carbon Solutions joint venture, ECP, converted a portion of its preferred equity contributions in Carbon Solutions to ordinary capital contributions thereby reducing our ownership interest below 50%. Accordingly, we deconsolidated Carbon Solutions in June 2009 as we no longer held a controlling interest and began to account for our investment in Carbon Solutions under the equity method of accounting. Additional preferred equity contributions were converted and common equity contributions were made by ECP since that time and our interest in Carbon Solutions decreased to 25.9% as of December 31, 2010. Our net investment of \$13.6 million as of December 31, 2010 in Carbon Solutions was accounted for under the equity method of accounting. Accordingly, our equity in the net loss of Carbon Solutions for the year ended December 31, 2010 is recognized in other income (expense) in the consolidated statement of operations and our investment in Carbon Solutions was reduced by our respective share of such loss. For 2010, we recorded a loss of \$8.0 million, which represents our share of Carbon Solutions net loss for the year. The amount is reported net of our equity in the net income of CCSS which amounted to \$118,000 for the year.

The net operating loss from continuing operations attributable to ADA was \$20.4 million in 2010 compared to a net operating loss of \$15 million in 2009. The net operating loss is due in large part to the costs associated with our litigation matters involving Norit and Calgon and the losses incurred by Carbon Solutions. We would have a net income after tax of approximately \$5.1 million or \$0.69 per share for the year excluding the non-routine legal expenses related to the Calgon and Norit matters and disregarding the non-cash loss from Carbon Solutions.

## **Liquidity and Capital Resources**

Our principal sources of liquidity are our anticipated cash flows from RC activities and other operations and net proceeds of \$32.7 million from the sale of 2.3 million shares of our common stock that occurred in October and November of 2011. We had consolidated cash and cash equivalents totaling \$40.9 million at December 31, 2011 compared to consolidated cash and cash equivalents of \$9.7 million at December 31, 2010.

At December 31, 2011, we had working capital of \$3.8 million compared to \$10.1 million at December 31, 2010. We have recorded long-term liabilities of \$5 million related to the final settlement obligations related to the Norit matter, and \$200,000 related to the Carbon Solutions/ECP settlement as of December 31, 2011. We have additional long-term liabilities of \$3.6 million for the long-term portion of the CCS line of credit, and \$632,000 for accrued warranty and other liabilities as of December 31, 2011.

Decreases in working capital during 2011 resulted primarily from:

\$33 million payment and \$2.5 million accrual related to the Norit matter,

\$2.2 million in payments and \$1.4 million accrual related to the Carbon Solutions/ECP settlement, and

\$33.7 million in capital expenditures including amounts to construct, install and place in service 26 additional RC facilities. The above were offset by increases in cash and cash equivalents which included:

\$32.7 million from the public sale of 2.3 million shares of our common stock,

\$30 million from the sale of an effective 15% interest in the equity of Clean Coal to GS,

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\$3 million from NexGen on notes receivable and other payments to maintain its interest in Clean Coal,

\$14.5 million for net borrowings under the Clean Coal line of credit, and

Prepaid deposits for new systems placed in service and rents received related to the lease of Clean Coal's RC facilities, net of current deferred revenues.

Our stockholders' equity was \$49.2 million as of December 31, 2011 compared to \$13.4 million as of December 31, 2010. The increase is primarily due to the sale of equity in Clean Coal to GS, net of taxes, the sale of common stock in November and December of 2011 and the gain from the Carbon Solutions/ECP settlement offset by the settlement payment and expenses related to the Norit matter.

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Our ability to maintain the financial liquidity required to meet ongoing operational needs will likely depend upon several factors, including our ability to maintain a significant share of the market for emissions control equipment, Clean Coal's continued operation of the two RC facilities placed in service and success in monetizing Section 45 tax credits through the sale or lease a portion of the additional 26 facilities placed in service in 2011 to third party investors.

*Clean Coal Related Items*

Clean Coal, our joint venture with NexGen, placed two RC production facilities into service in 2010 (which were exchanged for two newly constructed, redesigned RC facilities in November and December 2011), which are leased to a third party. Based on the amount of RC that we expect will be produced from these RC facilities, we expect to recognize pre-tax tax cash flows between \$7 to \$10 million per year through 2021, the expected period for which Section 45 tax credits are available for these facilities.

NexGen elected to retain its interest in Clean Coal by paying us \$4 million plus interest. In addition, we, NexGen and two entities affiliated with NexGen have provided Clean Coal's sublessee with joint and several guaranties guaranteeing any payments and performance due the lessee under the various agreements Clean Coal executed in the lease of the RC facilities.

*Other Liquidity and Capital Resource Items*

Our trade receivables balance is comprised of both amounts billed to customers as well as unbilled revenues that have been recognized. As of December 31, 2011 our trade receivables balance was \$5.9 million, which was offset by billings in excess of recognized income of \$173,000 or a net of \$5.7 million compared to \$8.6 million at December 31, 2010. Our trade receivables balance was lower at December 31, 2011 compared to 2010 primarily due to the nature and timing of our billing milestones for our ACI systems contracts and the significant level of work performed for Clean Coal in the fourth quarter of 2011, the receivables for which are eliminated in consolidation.

Under our defined contribution and 401(k) retirement plan, in 2011 and 2010 we matched up to 7% of limited salary amounts deferred by employees in the Plan. During 2011 and 2010, we recognized \$349,000 and \$282,000, respectively, of matching expense which payment was made with our stock. In 2011, we made a discretionary contribution in the form of our stock and recorded \$220,000 of expense related thereto. We did not make any such discretionary contributions in 2010. Our matching expense is expected to amount to \$460,000 for 2012 depending on employee participation in the plan.

We had recorded net current deferred tax assets of \$2.4 million and long-term deferred tax assets of \$16.2 million as of December 31, 2011 compared to net current deferred tax asset of \$188,000 and net long-term deferred tax assets of \$15.4 million as of December 31, 2010. We believe that it is more likely than not that our deferred tax assets will be realized in the future. The change is largely a result of our loss and tax credits generated in 2011.

Cash flows used in operations totaled \$8 million for 2011 compared to cash provided by operations of \$11.7 million in 2010. The decrease in operating cash flows primarily resulted from increases in prepaid and other assets of \$1.3 million, accounts payable and other liabilities of \$7.1 million, deposits of \$14.9 million and obligations related to Norit and the Carbon Solutions/ECP settlement of \$8.3 million. These increases were offset by decreases in our accounts receivable of \$3.2 million and deferred revenue and other liabilities of \$4.6 million. These changes in our operating assets and liabilities correspond to the nature and timing of our procurement and billing cycle and development activities. In addition, adjustments related to our net loss of \$19.9 million for non-cash operating activities, which included expenses paid with stock and restricted stock of \$1.1 million, depreciation and amortization of \$1.6 million, non-controlling interest in Clean Coal of \$8 million and our net equity in the net income/loss of unconsolidated entities of \$7 million, offset by the gain on relinquishment of our interest in Carbon Solutions of \$20 million, all of which increased our cash flow during 2011, and were partially offset by an increase in recorded deferred tax benefits of \$13.4 million.

Net cash used by investing activities was \$2.2 million for 2011 compared to \$3.1 million for 2010. The cash used consisted primarily of purchases of equipment and costs to build the 26 additional RC facilities of \$33.8 million. Offsetting cash provided by investing activities were payments received from NexGen related to their note receivable of \$1.6 million and cash received from GS for purchase of their interest in Clean Coal of \$30 million.

Cash provided by financing activities was \$41.4 million in 2011 compared to cash used in financing activities of \$356,000 in 2010. Cash provided during 2011 consisted of advances on the line of credit of \$14.5 million, \$250,000 in capital contributions by the non-controlling interest in Clean Coal and the sale of stock for proceeds totaling \$35.1 million and the exercise of stock options totaling \$106,000. Uses of cash consisted of the distribution by Clean Coal to the non-controlling interest of \$6.2 million and stock issuance and registration costs of \$2.4 million.



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We had the following contractual commitments as of December 31, 2011:

	Total	Payment Due by Period			2017 and Beyond
		2012	2013 and 2014	2015 and 2016	
			<i>(in thousands)</i>		
Purchase obligations	\$ 410	\$ 410	\$	\$	\$
Operating lease obligations	3,044	214	690	999	1,141
<b>Total</b>	<b>\$ 3,044</b>	<b>\$ 214</b>	<b>\$ 690</b>	<b>\$ 999</b>	<b>\$ 1,141</b>

**Off-Balance Sheet Arrangements**

We do not have any significant off-balance sheet arrangements except for the operating leases disclosed above and the commitments and contingencies disclosed in Note 9 of our consolidated financial statements contained in Item 8 of this Annual Report.

**Critical Accounting Policies and Estimates**

**Revenue Recognition** We follow the percentage of completion method of accounting for all significant contracts excluding RC leases, government contracts, coal and chemical sales and technology license royalties. The percentage of completion method of reporting income takes into account the estimated costs to complete and estimated gross margin for contracts in progress. RC base rents, which are fixed, are recognized over the life of the lease. RC contingent rents are recognized as they are earned. We recognize revenue on government contracts generally based on the time and expenses incurred to date. Royalties from technology licenses are recognized when earned.

Significant estimates are used in preparation of our financial statements and include:

our allowance for doubtful accounts, which is based on historical experience;

our warranty costs;

our expectation that it is more likely than not that our deferred tax assets will be realized in the future;

our percentage of completion method of accounting for significant long-term contracts, which is based on estimates of gross margins and of the costs to complete such contracts; and

the period over which we estimate we will earn up-front license payments.

In addition, amounts invoiced for government contracts are subject to change based on the results of future audits by the federal government. We have not experienced significant adjustments in the past, and we do not expect significant adjustments will be required in the future. We also use our judgment to support the current net book value of goodwill and other intangible assets of \$789,000 on the consolidated balance sheets. Management believes the value of other recorded intangibles is not impaired, although market demand for our products and services could change in the future, which would require a write-down in recorded values. As with all estimates, the amounts described above are subject to change as additional information becomes available, although we are not aware of anything that would cause us to believe that any material changes will be required in the near term.

Under certain contracts we may grant performance guaranties or equipment warranties for a specified period and the achievement of certain plant operating conditions. In the event the equipment fails to perform as specified, we are obligated to correct or replace the equipment.

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Estimated warranty costs are recorded at the time of sale based on current industry factors. The amount of the warranty liability accrued reflects our best estimate of expected future costs of honoring our obligations under the warranty section of each contract. We believe the accounting estimate related to warranty costs is a critical accounting estimate because changes in it can materially affect net income, it requires us to forecast the amount of equipment that might fail to perform in the future, and it requires a large degree of judgment.

Income taxes are accounted for under the asset and liability approach. Under this method, deferred tax assets and liabilities are recognized for the expected future tax consequences of differences between the carrying amounts of assets and liabilities and their respective tax bases using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period when the change is enacted. Deferred tax assets may be reduced by a valuation allowance if and when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized. The change in laws can have a material effect on the amount of income tax we are subject to. We are not aware of anything that would cause us to believe that any material changes will be required in the near term.

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We recognize all share-based payments, including grants of stock options, restricted stock units and employee stock purchase rights in our financial statements based upon their respective grant date fair values. Under this standard, the fair value of each employee stock option and employee stock purchase right is estimated on the date of grant using an option pricing model that meets certain requirements. We currently use the Black-Scholes option pricing model to estimate the fair value of our stock options and stock purchase rights. The Black-Scholes model meets the requirements of FASB Topic 718 but the fair values generated by the model may not be indicative of the actual fair values of our equity awards, as it does not consider certain factors important to those awards to employees, such as continued employment and periodic vesting requirements. The determination of the fair value of share-based payment awards utilizing the Black-Scholes model is affected by our stock price and a number of assumptions, including expected volatility, expected life and risk-free interest rate. We use a historical volatility rate on our stock options. The fair value of our restricted stock is based on the closing market price of our Common Stock on the date of grant. If there are any modifications or cancellations of the underlying securities, we may be required to accelerate, increase or cancel any remaining unearned stock-based compensation expense. To the extent that we grant additional equity securities to employees or we assume unvested securities in connection with any acquisitions, our stock-based compensation expense will be increased by the additional unearned compensation resulting from those additional grants or acquisitions.

**Consolidation of Subsidiaries** Our equity partner in Clean Coal, NexGen, paid us \$4 million to maintain its interest in Clean Coal. We believe our 42.5% interest and other elements of our participation constitutes control of Clean Coal and, therefore, have consolidated its accounts with ours.

We hold a 50% interest in CCSS. However, we control only two of the five seats on the board of managers and our equity partner controls the other three seats. Therefore, we believe our 50% interest does not constitute control of CCSS and we have recorded our interest under the equity method.

### **Recently Issued Accounting Policies**

In September 2011, the Financial Accounting Standards Board issued updated guidance allowing the use of a qualitative approach to test goodwill for impairment. The updated guidance would permit the Company to first perform a qualitative assessment to determine whether it is more likely than not that the fair value of one of its reporting units is less than its carrying value. If the Company concluded that this is the case, it is then necessary for the Company to perform the currently prescribed two-step goodwill impairment test. Otherwise, the two-step goodwill impairment test is not required. The updated guidance is effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011 with early adoption permitted. The Company is currently evaluating the impact of our pending adoption of this update.

### **Item 7A. Quantitative and Qualitative Disclosures About Market Risk.**

#### **Commodity Price Risk**

In the normal course of our business, we are exposed to market risk or price fluctuations related to the goods and services we procure related to our revenue-producing activities. Components of ACI and DSI systems and consulting services, which are or may be significant to such revenue producing activities, have market prices that fluctuate regularly, but not widely. In most cases we can pass such price fluctuations on to our customers. Based on the 2011 procurement of ACI and DSI components and consulting services, a hypothetical 10% increase (or decrease) in the price of such components and consulting services, if such fluctuations could not be passed on to our customers, would result in a pretax loss or gain of \$235,000.

#### **Interest Rate Risk**

As of December 31, 2011, approximately \$31 million of the cash and cash equivalents and investments in certificates of deposit were invested in interest-bearing accounts. Clean Coal has a line of credit of approximately \$14.5 million as of December 31, 2011 that bears interest at the higher of the prime rate (as defined in the credit agreement) or 5% per annum. The effective interest rate was 5% as of December 31, 2011. A hypothetical change of 10% in the Company's effective interest rate from the year end 2011 rate would not have materially affected our financial statements.

**Table of Contents****Item 8. Financial Statements and Supplementary Data.**

**Our Financial Statements can be found at pages F-1 through F-26 of this report.**

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<u>Notes to Consolidated Financial Statements</u>	F-8
<b>Item 9. Changes In and Disagreements With Accountants on Accounting and Financial Disclosure.</b>	

None.

**Item 9A. Controls and Procedures.**

We conducted an evaluation under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by the company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the Securities and Exchange Commission's rules and forms. Disclosure controls and procedures also include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded as of December 31, 2011 that our disclosure controls and procedures are effective.

**Management's Report on Internal Control Over Financial Reporting**

Our management is responsible for establishing and maintaining effective internal control over financial reporting. Internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15(d)-15(f)) is defined as a process designed by, or under the supervision of, a company's principal executive and financial officers, or persons performing similar functions, and effected by a company's board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with generally acceptable accounting principles and includes those policies and procedures that: (a) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (b) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (c) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

A material weakness is a control deficiency, or combination of control deficiencies, that result in more than a remote likelihood that a material misstatement of annual or interim financial statements will not be prevented or detected. Our management assessed our internal control over financial reporting as of December 31, 2011. Management based its assessment on criteria set forth in the framework in *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our assessments, we believe that, as of December 31, 2011, our internal control over financial reporting is effective based on those criteria.

Ehrhardt Keefe Steiner & Hottman PC, an independent registered public accounting firm, has audited our Consolidated Financial Statements included in this Form 10-K, and as part of the audit, has issued a report, included herein, on the effectiveness of our internal control over financial reporting as of December 31, 2011.





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**Changes in Internal Control over Financial Reporting**

There have been no changes in our internal control over financial reporting during the most recently completed fiscal quarter that have materially affected, or are likely to materially affect, our internal control over financial reporting.

**Item 9B. Other Information.**

None

**PART III**

**Item 10. Directors, Executive Officers, and Corporate Governance.**

The information required by this item is incorporated by reference from the information contained under the captions Election of Directors, Experience and Qualifications of Director Nominees, Corporate Governance Director Independence, Corporate Governance Board Meetings and Committees, Corporate Governance Audit Committee, Corporate Governance Nominating and Governance Committee, Executive Officers, Corporate Governance Code of Ethics and Executive Compensation Section 16(a) Beneficial Ownership Reporting Compliance in our definitive Proxy Statement for the 2012 Annual Meeting of Shareholders ( 2012 Proxy Statement ) to be filed within 120 days after the end of our fiscal year ended December 31, 2011.

**Item 11. Executive Compensation.**

The information required by this item is incorporated by reference from the information contained under the captions Corporate Governance Compensation Committee, Executive Compensation, Director Compensation and Stock Incentive Plans in our 2012 Proxy Statement.

**Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.**

The information required by this item is incorporated by reference from the information contained under the caption Security Ownership of Principal Shareholders and Management and Related Stockholder Matters and Equity Compensation Plan Information in our 2012 Proxy Statement.

**Item 13. Certain Relationships and Related Transactions and Director Independence.**

The information required by this item is incorporated by reference from the information contained under the captions Certain Relationships and Related Transactions, Election of Directors and Director Independence in our 2012 Proxy Statement.

**Item 14. Principal Accountant Fees and Services.**

The information required by this item is incorporated by reference from the information contained under the captions Relationship with Independent Certified Public Accountants and Audit Committee Approval of Services in our 2012 Proxy Statement.

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**PART IV**

**Item 15. Exhibits and Financial Statement Schedules.**

(a) The following documents are filed as part of this Annual Report on Form 10-K:

(1) Financial Statements see Part II, Item 8, which is incorporated herein by this reference;

(2) Financial Statement Schedules None required or applicable; and

(3) Exhibits as described in the following index.

**Index to Exhibits**

No.	Description
3.1	Amended and Restated Articles of Incorporation of ADA-ES (1)
3.2	Second Amended and Restated Bylaws of ADA-ES (2)
4.1	Form of Specimen Common Stock Certificate (3)
4.2	Registration Rights Agreement dated October 21, 2005 (4)
4.3	Standstill and Registration Rights Agreement between ADA-ES, Inc. and Arch Coal, Inc. dated September 19, 2003 (5)
4.4	Standstill and Registration Rights Agreements dated August 3-6, 2004 (6)
4.5	Registration Rights Agreement among ADA-ES, Inc., Perella Weinberg Partners Oasis Master Fund L.P., Black River Commodity Select Fund and Black River Small Capitalization Fund Ltd. dated August 26, 2008 (7)
4.6	ADA-ES, Inc. Profit Sharing Retirement Plan Adoption Agreement (8)
4.7	American Funds Distributors, Inc. Nonstandardized 401(K) Plan (9)
4.8	American Funds Distributors, Inc. Defined Contribution Prototype Plan and Trust (10)
4.9	Amended ADA-ES, Inc. Plan Policy Document (11)
4.10	Employer Stock Addendum to Trust Agreement (12)
4.11	Registration Rights Agreement between ADA-ES, Inc. and Arch Coal, Inc. dated March 23, 2010 (13)
4.12	Stockholder Agreement dated July 7, 2003, between ADA-ES, Inc. and Arch Coal, Inc. (14)
4.13	Credit Agreement by and between Clean Coal Solutions, LLC and CoBiz Bank (Colorado Business Bank in the State of Colorado) dated March 30, 2011 (15)
10.1	2003 ADA-ES, Inc. Stock Option Plan** (16)
10.2	2003 Stock Compensation Plan #1** (17)
10.3	2003 Stock Compensation Plan #2** (18)
10.4	ADA-ES, Inc. 2004 Executive Stock Option Plan** (19)
10.5	Employment Agreement dated May 1, 1997 between C. Jean Bustard and ADA Environmental Solutions, LLC (assigned to ADA-ES, Inc.) ** (20)

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- 10.6 Employment Agreement dated May 1, 1997 between Michael D. Durham and ADA Environmental Solutions, LLC (assigned to ADA-ES, Inc.) \*\* (21)
- 10.7 Employment Agreement dated January 2, 2000 between Mark H. McKinnies and ADA Environmental Solutions, LLC (assigned to ADA-ES, Inc.) \*\* (22)
- 10.8 Employment Agreement dated January 1, 2000 between Richard J. Schlager and ADA Environmental Solutions, LLC (assigned to ADA-ES, Inc.) \*\* (23)
- 10.9 2004 Stock Compensation Plan #2 and model stock option agreements\*\* (19)
- 10.10 2004 Directors Stock Compensation Plan #1\*\* (24)
- 10.11 2005 Directors Compensation Plan\*\* (25)
- 10.12 Chemicals, Equipment, and Technical Engineering Services Supply Agreement dated as of November 3, 2006 by and between ADA-ES, Inc. and Clean Coal Solutions, LLC (f/ka ADA-NexCoal, LLC). (26)
- 10.13 Purchase and Sale Agreement dated as of November 3, 2006 by and among ADA-ES, Inc., NexGen Refined Coal, LLC and Clean Coal Solutions, LLC (f/ka ADA-NexCoal, LLC). (27)
- 10.14 Second Amended and Restated Operating Agreement of Clean Coal Solutions, LLC dated May 27, 2011, by and among Clean Coal Solutions, LLC, ADA-ES, Inc., GSFS Investments I Corp. and NexGen Refined Coal, LLC\*\*\* (28)
- 10.15 Employment Agreement dated March 1, 2003 between Sharon M. Sjostrom and ADA Environmental Solutions, LLC (assigned to ADA-ES, Inc.)\*\* (29)
- 10.16 Executive Compensation Plan dated November 4, 2004\*\* (30)
- 10.17 Amended and Restated 2007 Equity Incentive Plan, dated August 31, 2010\*\* (31)
- 10.18 Employment Agreement dated November 28, 2005 between Richard Miller and ADA-ES, Inc.\*\* (32)
- 10.19 Employment Agreement dated January 1, 2008 between Cameron E. Martin and ADA-ES, Inc.\*\* (33)

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10.20 Intellectual Property License Agreement between ADA-ES, Inc. and Crowfoot Development, LLC dated October 1, 2008\*\*\* (34)

10.21 First Amendment to Purchase and Sale Agreement dated as of October 26, 2009 by and among ADA-ES, Inc., NexGen Refined Coal, LLC and Clean Coal Solutions, LLC (f/ka ADA-NexCoal, LLC) (35)

10.22 First Amendment to Chemicals, Equipment, and Technical Engineering Services Supply Agreement dated as of October 26, 2009 by and among ADA-ES, Inc., and Clean Coal Solutions, LLC (36)

10.23 Development and License Agreement with Arch Coal, Inc. dated June 25, 2010\*\*\* (37)

10.24 Technology Sublicense Agreement between ADA-ES, Inc., Clean Coal Solutions, LLC and GS RC Investments LLC dated June 29, 2010 (38)

10.25 Agreement to Lease between Clean Coal Solutions, LLC, AEC-NM, LLC, AEC-TH, LLC, and GS RC Investments LLC dated June 29, 2010\*\*\* (39)

10.26 Amended and Restated License Agreement between ADA-ES, Inc. and Clean Coal Solutions, LLC dated October 30, 2009 (40)

10.27 Refined Coal Activities Supplemental Compensation Plan for Employees, Contractors and Consultants of ADA-ES, Inc.\*\* (41)

10.28 Intentionally left blank

10.29 US Department of Energy Cooperative Agreement No. DE-FE0004343 Evaluation of Solid Sorbents as an Industrial Retrofit Technology for Carbon Dioxide Capture , dated September 30, 2010 (42)

10.30 First Amendment to the Amended and Restated License Agreement between ADA-ES, Inc. and Clean Coal Solutions, LLC dated as of August 4, 2010 (43)

10.31 Amended and Restated 2010 Non-Management Compensation and Incentive Plan\*,\*\*

10.32 Credit Agreement by and between Clean Coal Solutions, LLC and Cobiz Bank (Colorado Business Bank in the State of Colorado) dated as of March 31, 2011 (44)

10.33 Exclusive Right to Lease Agreement dated May 27, 2011 between Clean Coal Solutions, LLC and GSFS Investments I Corp \*\*\*(45)

10.34 Class B Unit Purchase Agreement dated May 27, 2011 between Clean Coal Solutions, LLC and GSFS Investments I Corp (46)

10.35 ADA-ES, Inc. Guaranty for the benefit of GSFS Investments I Corp. dated May 27, 2011 (47)

10.36 Contribution Agreement dated May 27, 2011 between ADA-ES, Inc. and NexGen Refined Coal, LLC (48)

10.37 Settlement Agreement by and among ADA-ES, Inc., ADA Environmental Solutions, LLC, Norit Americas, Inc. and Norit International N.V. f/k/a Norit N.V. dated August 29, 2011 (49)

10.38 The First Amendment to the Second Amended and Restated Operating Agreement of Clean Coal Solutions, LLC, by and among Clean Coal Solutions, LLC, ADA-ES, Inc., GSFS Investments I Corp. and NexGen Refined Coal, LLC dated September 9, 2011 (50)

10.39 The Omnibus Amendment and Reaffirmation Agreement between Clean Coal Solutions, LLC and Cobiz Bank (Colorado Business Bank in the State of Colorado) dated September 9, 2011 (51)

10.40 Omnibus Amendment by and among ADA-ES, Inc., Clean Coal Solutions, LLC, AEC-NM, LLC, AEC-TH, LLC and GS RC INVESTMENTS LLC dated August 10, 2010 (52)

10.41 Exchange Agreement between Clean Coal Solutions, LLC, AEC-NM, LLC and GS RC Investments, LLC dated November 21, 2011\*, \*\*\*

10.42 New Equipment Lease between AEC-NM, LLC, and GS RC Investments, LLC dated November 21, 2011\*, \*\*\*

10.43 Amendment to Technology Sublicense Agreement between ADA-ES, Inc., GS RC Investments, LLC and Clean Coal Solutions, LLC dated November 21, 2011\*, \*\*\*

10.44 ADA-ES, Inc. Guaranty for the benefit of GS RC Investments LLC dated November 21, 2011\*

10.45 Indemnity Settlement Agreement between ADA-ES, Inc., ADA Environmental Solutions, LLC and Energy Capital Partners, LLC, Energy Capital Partners I, LP, Energy Capital Partners I-A, LP, Energy Capital Partners I-B IP, LP and Energy Capital Partners I (Crowfoot IP), LP and ADA Carbon Solutions, LLC (f/k/a Crowfoot Development, LLC ), ADA Carbon Solutions (Red River), LLC (f/k/a Red River Environmental Products, LLC), Morton Environmental Products, LLC, Underwood Environmental Products, LLC, Crowfoot Supply Company, LLC, and Five Forks Mining, LLC dated November 28, 2011\*

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- 10.46 Office Building Lease between ADA-ES, Inc. and Ridgeline Technology Center, LLC, dated November 9, 2011\*
- 10.47 Exchange Agreement between Clean Coal Solutions, LLC, AEC-TH, LLC and GS RC Investments, LLC dated December 15, 2011\*, \*\*\*
- 10.48 Equipment Lease between AEC-TH, LLC and GS RC Investments, LLC dated December 15, 2011\*, \*\*\*
- 10.49 Amendment #2 to Technology Sublicense Agreement between ADE-ES, Inc, GS RC Investments, LLC and Clean Coal Solutions, LLC dated December 15, 2011\*
- 10.50 ADA-ES, Inc. Guaranty for the benefit of GS RC Investments LLC dated December 15, 2011\*
- 10.51 Amended and Restated Refined Coal Activities Supplemental Compensation Plan dated November 9, 2011\*, \*\*
- 10.52 Amendment No.1 to Intellectual Property License Agreement by and between ADA-ES, Inc. and ADA Carbon Solutions, LLC (f/k/a Crowfoot Development Company, LLC) dated November 28, 2011\*

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10.53 Amendment No. 1 to the ADA-ES 2007 Equity and Incentive Plan\*;\*\*

21.1 Subsidiaries of ADA-ES, Inc.\*

23.1 Consent of Ehrhardt Keefe Steiner & Hottman PC\*

31.1 Certification of Chief Executive Officer of ADA-ES, Inc. Pursuant to 17 CFR 240.13a-14(a) or 17 CFR 240.15d-14(a)\*

31.2 Certification of Chief Financial Officer of ADA-ES, Inc. Pursuant to 17 CFR 240.13a-14(a) or 17 CFR 240.15d-14(a)\*

32.1 Certification of Chief Executive Officer of ADA-ES, Inc. Pursuant to 18 U.S.C Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002\*

32.2 Certification of Chief Financial Officer of ADA-ES, Inc. Pursuant to 18 U.S.C Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002\*

101 The following financial statements, formatted in XBRL: (i) Consolidated Balance Sheets as of December 31, 2011 and 2010, (ii) Consolidated Statements of Operations for the years ended December 31, 2011, 2010 and 2009, (iii) Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 2011, 2010 and 2009, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2011, 2010 and 2009; and (v) Notes to the Consolidated Financial Statements, tagged as blocks of text. The information in Exhibit 101 is furnished and not filed as provided in Rule 401 of Regulation S-T.

Notes:

\* Filed herewith.

\*\* Management contract or compensatory plan or arrangement.

\*\*\* Portions of this exhibit have been omitted pursuant to a request for confidential treatment. The non-public information has been separately filed with the Securities and Exchange Commission.

- (1) Incorporated by reference to Exhibit 3.1 to the Form 10-QSB for the quarter ended September 30, 2005 filed on November 10, 2005 (File No. 000-50216).
- (2) Incorporated by reference to Exhibit 3.2 to the Form 10-Q for the quarter ended September 30, 2010 filed on November 12, 2010 (File No. 000-50216).
- (3) Incorporated by reference to Exhibit 4.1 to the Form 8-K dated October 21, 2005 filed on October 26, 2005 (File No. 000-50216).
- (4) Incorporated by reference to Exhibit 10.1 to the Form 8-K dated October 21, 2005 filed on October 26, 2005 (File No. 000-50216).
- (5) Incorporated by reference to the same numbered Exhibit to the Form 10-KSB for the year ended December 31, 2005 filed on March 30, 2006 (File No. 000-50216).
- (6) Incorporated by reference to Exhibit A to Exhibit 10.1 to the Form S-3 filed on October 18, 2004 (File No. 333-119795).
- (7) Incorporated by reference to the same numbered Exhibit to the Form 10-Q for the quarter ended September 30, 2008 filed on November 07, 2008 (File No. 000-50216).
- (8) Incorporated by reference to Exhibit 4.1 to the form S-8 filed on June 3, 2009 (File No. 333-159715).
- (9) Incorporated by reference to Exhibit 4.1 to the form S-8 filed on June 3, 2009 (File No. 333-159715).
- (10) Incorporated by reference to Exhibit 4.2 to the form S-8 filed on June 3, 2009 (File No. 333-159715).
- (11) Incorporated by reference to Exhibit 4.9 to the Form 10-K for the year ended December 31, 2010 filed on March 28, 2011 (File No. 000-50216).
- (12) Incorporated by reference to Exhibit 4.4 to the form S-8 filed on June 3, 2009 (File No. 333-159715).
- (13) Incorporated by reference to Exhibit 4.1 to the Form 10-Q for the quarter ended March 31, 2010 filed on May 13, 2010 (File No. 000-50216).
- (14) Incorporated by reference to Exhibit 4.12 to the Form 8-K dated September 9, 2011 filed on September 14, 2011 (File No. 000-50216).
- (15) Incorporated by reference to Exhibit 4.13 to the Form 8-K dated September 9, 2011 filed on September 14, 2011 (File No. 000-50216).
- (16) Incorporated by reference to Exhibit 4.1 to the Form 10-Q for the quarter ended March 31, 2010 filed on May 13, 2010 (File No. 000-50216).
- (17) Incorporated by reference to Exhibit 10.2 to the Form 10-KSB for the year ended December 31, 2005 filed on March 30, 2006 (File No. 000-50216).
- (18) Incorporated by reference to Exhibit 99.2 to the Form S-8 filed on November 14, 2003 (File No. 333-110479).
- (19) Incorporated by reference to Exhibit 99.1 to the Form S-8 filed on February 6, 2004 (File No. 333-112587).
- (20) Incorporated by reference to Exhibit 99.3 to the Form S-8 filed on December 14, 2004 (File No. 333-121234).
- (21) Incorporated by reference to Exhibit 10.23 to the Form 10-KSB for the year ended December 31, 2004 filed on March 30, 2005 (File No. 000-50216).
- (22) Incorporated by reference to Exhibit 10.24 to the Form 10-KSB for the year ended December 31, 2004 filed on March 30, 2005 (File No. 000-50216).





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- (23) Incorporated by reference to Exhibit 10.25 to the Form 10-KSB for the year ended December 31, 2004 filed on March 30, 2005 (File No. 000-50216).
- (24) Incorporated by reference to Exhibit 10.26 to the Form 10-KSB for the year ended December 31, 2004 filed on March 30, 2005 (File No. 000-50216).
- (25) Incorporated by reference to Exhibit 99.1 to the Form S-8 filed on April 16, 2004 (File No. 333-114546).
- (26) Incorporated by reference to Exhibit 10.29 to the Form 10-KSB for the year ended December 31, 2005 filed on March 30, 2006 (File No. 000-50216).
- (27) Incorporated by reference to Exhibit 10.2 to the Form 10-Q for the quarter ended September 30, 2006 filed on November 8, 2006 (File No. 000-50216).
- (28) Incorporated by reference to Exhibit 10.3 to the Form 10-Q for the quarter ended September 30, 2006 filed on November 8, 2006 (File No. 000-50216).
- (29) Incorporated by reference to Exhibit 10.33 to the Form 10-Q/A for the quarter ended June 30, 2010 filed on September 28, 2011 (File No. 000-50216).
- (30) Incorporated by reference to Exhibit 10.34 to the Form 10-K for the year ended December 31, 2006 filed on March 27, 2007 (File No. 000-50216).
- (31) Incorporated by reference to Exhibit 10.35 to the Form 10-K for the year ended December 31, 2006 filed on March 27, 2007 (File No. 000-50216).
- (32) Incorporated by reference to Exhibit 10.79 to the Form 10-Q for the quarter ended September 30, 2010 filed on November 12, 2010 (File No. 000-50216).
- (33) Incorporated by reference to Exhibit 10.39 to the Form 10-K for the year ended December 31, 2007 filed on March 14, 2008 (File No. 000-50216).
- (34) Incorporated by reference to Exhibit 10.43 to the Form 10-K for the year ended December 31, 2007 filed on March 14, 2008 (File No. 000-50216).
- (35) Incorporated by reference to Exhibit 10.56 to the Form 10-Q for the quarter ended September 30, 2008 filed on November 07, 2008 (File No. 000-50216).
- (36) Incorporated by reference to Exhibit 10.64 to Form 10-K for the year ended December 31, 2009 filed on March 29, 2010 (File No. 000-50216).
- (37) Incorporated by reference to Exhibit 10.66 to Form 10-K for the year ended December 31, 2009 filed on March 29, 2010 (File No. 000-50216).
- (38) Incorporated by reference to Exhibit 10.71 to the Form 10-Q for the quarter ended June 30, 2010 filed on August 16, 2010 (File No. 000-50216).
- (39) Incorporated by reference to Exhibit 10.74 to the Form 10-Q for the quarter ended June 30, 2010 filed on August 16, 2010 (File No. 000-50216).
- (40) Incorporated by reference to Exhibit 10.76 to the Form 10-Q for the quarter ended June 30, 2010 filed on August 16, 2010 (File No. 000-50216).
- (41) Incorporated by reference to Exhibit 10.77 to the Form 10-Q for the quarter ended June 30, 2010 filed on August 16, 2010 (File No. 000-50216).
- (42) Incorporated by reference to Exhibit 10.78 to the Form 10-Q for the quarter ended June 30, 2010 filed on August 16, 2010 (File No. 000-50216).
- (43) Incorporated by reference to Exhibit 10.80 to the Form 10-Q for the quarter ended September 30, 2010 filed on November 12, 2010 (File No. 000-50216).
- (44) Incorporated by reference to Exhibit 10.81 to the Form 10-K for the year ended December 31, 2010 filed on March 28, 2011 (File No. 000-50216).
- (45) Incorporated by reference to Exhibit 10.83 to the Form 10-Q for the quarter ended March 31, 2011 filed on May 13, 2011 (File No. 000-50216).
- (46) Incorporated by reference to Exhibit 10.84 to the Form 10-Q/A for the quarter ended June 30, 2011 filed on September 28, 2011 (File No. 000-50216).
- (47) Incorporated by reference to Exhibit 10.85 to the Form 10-Q/A for the quarter ended June 30, 2011 filed on September 28, 2011 (File No. 000-50216).
- (48) Incorporated by reference to Exhibit 10.86 to the Form 10-Q for the quarter ended June 30, 2011 filed on August 12, 2011 (File No. 000-50216).
- (49) Incorporated by reference to Exhibit 10.87 to the Form 10-Q for the quarter ended June 30, 2011 filed on August 12, 2011 (File No. 000-50216).
- (50) Incorporated by reference to Exhibit 10.88 to the Form 10-Q for the quarter ended September 30, 2011 filed on November 14, 2011 (File No. 000-50216).
- (51) Incorporated by reference to Exhibit 10.89 to the Form 10-Q for the quarter ended September 30, 2011 filed on November 14, 2011 (File No. 000-50216).
- (52)

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Incorporated by reference to Exhibit 10.90 to the Form 10-Q for the quarter ended September 30, 2011 filed on November 14, 2011 (File No. 000-50216).

(53) Incorporated by reference to Exhibit 10.91 to the Form 8-K dated November 21, 2011 filed November 22, 2011 (File No. 000-50216).

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- (b) See (a)(3) above.
- (c) See (a)(2) above.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Exchange Act, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

**ADA-ES, Inc.**  
**(Registrant)**

By /s/ Mark H. McKinnies  
Mark H. McKinnies, Senior Vice  
President and Chief Financial Officer  
(Principal Financial and Accounting Officer)

/s/ Michael D. Durham  
Michael D. Durham  
President (Chief Executive Officer)

Date: March 15, 2012

Date: March 15, 2012

Pursuant to the requirements of the Exchange Act, this report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

/s/ Robert E. Shanklin  
Robert E. Shanklin, Director

/s/ Walter P. Marcum  
Walter P. Marcum, Director

Date: March 15, 2012

Date: March 15, 2012

/s/ Jeffrey C. Smith  
Jeffrey C. Smith, Director

/s/ Michael D. Durham  
Michael D. Durham, Director

Date: March 15, 2012

Date: March 15, 2012

/s/ Mark H. McKinnies  
Mark H. McKinnies, Director

/s/ Ronald B. Johnson  
Ronald B. Johnson, Director

Date: March 15, 2012

Date: March 15, 2012

/s/ Robert N. Caruso  
Robert N. Caruso, Director

/s/ Richard Swanson  
Richard Swanson, Director

Date: March 15, 2012

Date: March 15, 2012

/s/ Derek C. Johnson  
Derek C. Johnson, Director

Date: March 15, 2012

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders of

ADA-ES, Inc. and Subsidiaries

Littleton, Colorado

We have audited the accompanying consolidated balance sheets of ADA-ES, Inc. and Subsidiaries (collectively, the Company ) as of December 31, 2011 and 2010 and the related consolidated statements of operations, changes in stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2011. We also have audited the Company's internal control over financial reporting as of December 31, 2011, based upon the criteria established in *Internal Control - Integrated Framework*, issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company was not required to have, nor were we engaged to perform, an audit of the Company's internal control over financial reporting as of December 31, 2010. Accordingly, we express no such opinion as of December 31, 2010. The Company's management is responsible for these financial statements and for maintaining effective internal control over financial reporting, included in the accompanying Management Report on Internal Control over Financial Reporting included in Item 9A. Our responsibility is to express an opinion on these consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits.

We conducted our audits in accordance with standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform our audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the consolidated financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control, based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinion.

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Board of Directors and Stockholders of

ADA-ES, Inc. and Subsidiaries

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A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that: 1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; 2) provide reasonable assurance that transactions are recorded as necessary to permit accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and 3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the accompanying consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of ADA-ES, Inc. and Subsidiaries as of December 31, 2011 and 2010 and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2011, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, ADA-ES, Inc. and Subsidiaries maintained, in all material respects, effective internal control over financial reporting as of December 31, 2011 based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

/s/ Ehrhardt Keefe Steiner & Hottman PC

March 15, 2012

Denver, Colorado

**Table of Contents****ADA-ES, Inc. and Subsidiaries****Consolidated Balance Sheets****December 31, 2011 and 2010***(Amounts in thousands, except share data)*

	<b>2011</b>	<b>2010</b>
<b><u>ASSETS</u></b>		
<b>Current Assets:</b>		
Cash and cash equivalents	\$ 40,879	\$ 9,696
Receivables, net of allowance for doubtful accounts	5,914	9,066
Investment in securities	508	505
Notes receivable		1,580
Prepaid expenses and other assets	3,924	603
Total current assets	51,225	21,450
<b>Property and Equipment, at cost</b>	<b>41,771</b>	<b>8,041</b>
Less accumulated depreciation and amortization	(4,651)	(3,235)
Net property and equipment	37,120	4,806
Intangible assets, net of amortization	354	260
Goodwill, net of amortization	435	435
Investment in unconsolidated entities	590	14,021
Deferred taxes and other assets	16,375	15,696
Total other assets	17,754	30,412
<b>Total Assets</b>	<b>\$ 106,099</b>	<b>\$ 56,668</b>

**LIABILITIES AND STOCKHOLDERS' EQUITY**

<b>Current Liabilities:</b>		
Accounts payable	\$ 8,849	\$ 3,441
Accounts payable - related parties	1,209	205
Accrued payroll and related liabilities	2,545	1,852
Line of credit	10,873	
Deposits	14,900	
Deferred revenues and other liabilities	5,105	5,883
Settlement awards and related accrued liabilities	3,983	
Total current liabilities	47,464	11,381
<b>Long-term Liabilities:</b>		
Line of credit	3,624	
Settlement awards and indemnity liability	5,200	27,411
Accrued warranty and other liabilities	632	4,432
Total long-term liabilities	9,456	31,843



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Total liabilities	56,920	43,224
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**Commitments and Contingencies** (Note 9)

**Stockholders Equity:**

ADA-ES, Inc. stockholders equity		
Preferred stock: 50,000,000 shares authorized, none outstanding		
Common stock: no par value, 50,000,000 shares authorized, 9,996,144 and 7,538,861 shares issued and outstanding, respectively	93,184	39,627
Accumulated deficit	(48,069)	(28,218)
Total ADA-ES, Inc. stockholders equity	45,115	11,409
Non-controlling interest	4,064	2,035
<b>Total Stockholders Equity</b>	49,179	13,444
<b>Total Liabilities and Stockholders Equity</b>	<b>\$ 106,099</b>	<b>\$ 56,668</b>

See accompanying notes.

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**Table of Contents****ADA-ES, Inc. and Subsidiaries****Consolidated Statements of Operations****For the Years Ended December 31, 2011, 2010 and 2009***(Amounts in thousands, except per share data)*

	<b>2011</b>	<b>2010</b>	<b>2009</b>
<b>Revenue:</b>			
Refined coal	\$ 40,253	\$ 10,383	\$ 2,588
Emission control	9,967	9,825	15,947
CO <sub>2</sub> capture	3,096	2,073	1,526
<b>Total revenues</b>	<b>53,316</b>	<b>22,281</b>	<b>20,061</b>
<b>Cost of Revenues:</b>			
Refined coal	20,201	1,440	3,357
Emission control	6,839	6,107	9,544
CO <sub>2</sub> capture	1,924	1,066	969
<b>Total cost of revenues</b>	<b>28,964</b>	<b>8,613</b>	<b>13,870</b>
<b>Gross Margin</b>	<b>24,352</b>	<b>13,668</b>	<b>6,191</b>
<b>Other Costs and Expenses:</b>			
General and administrative	17,468	32,790	16,745
Research and development	2,289	911	709
Depreciation and amortization	1,568	917	577
<b>Total expenses</b>	<b>21,325</b>	<b>34,618</b>	<b>18,031</b>
<b>Operating Income (Loss)</b>	<b>3,027</b>	<b>(20,950)</b>	<b>(11,840)</b>
<b>Other Income (Expense):</b>			
Net equity in net income (loss) from unconsolidated entities	(6,967)	(8,037)	(3,243)
Other income including interest	2,218	2,510	34
Interest expense	(1,584)	(16)	
Settlement of litigation and arbitration award, net	(21,932)	6,072	
<b>Total other income (expense)</b>	<b>(28,265)</b>	<b>529</b>	<b>(3,209)</b>
<b>Loss from Continuing Operations Before Income Tax Benefit and Non-controlling Interest</b>	<b>(25,238)</b>	<b>(20,421)</b>	<b>(15,049)</b>
<b>Income Tax Benefit</b>	<b>13,368</b>	<b>8,564</b>	<b>5,546</b>
<b>Net Loss Before Non-controlling Interest</b>	<b>(11,870)</b>	<b>(11,857)</b>	<b>(9,503)</b>
<b>Non-controlling Interest</b>	<b>(7,981)</b>	<b>(3,613)</b>	<b>732</b>
<b>Net Loss Attributable to ADA-ES, Inc.</b>	<b>\$ (19,851)</b>	<b>\$ (15,470)</b>	<b>\$ (8,771)</b>

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<b>Net Loss Per Common Share Basic and Diluted Attributable to ADA-ES, Inc.</b>	\$ (2.48)	\$ (2.09)	\$ (1.26)
<b>Weighted Average Common Shares Outstanding</b>	8,020	7,393	6,973
<b>Weighted Average Diluted Common Shares Outstanding</b>	8,020	7,393	6,973

See accompanying notes.

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**Table of Contents****ADA-ES, Inc. and Subsidiaries****Consolidated Statements of Changes in Stockholders Equity****For the Years Ended December 31, 2011, 2010 and 2009***(Amounts in thousands, except share data)*

	Common Stock		(Accumulated	Total ADA-ES	Non-	Total
	Shares	Amount	Deficit)	Stockholders	controlling	Equity
				Equity	Interest	
<b>Balances, December 31, 2008</b>	6,755,932	\$ 35,812	\$ (3,977)	\$ 31,835	\$ 25,152	\$ 56,987
Stock-based compensation	265,649	997		997		997
Issuance of stock to 401(k) plan	71,100	204		204		204
Issuance of stock on exercise of options	1,250	4		4		4
Equity contributions by non-controlling interest					738	738
Deconsolidation of ADA Carbon Solutions, LLC					(25,059)	(25,059)
Expense of stock issuance and registration		(17)		(17)		(17)
Net loss			(8,771)	(8,771)	(732)	(9,503)
<b>Balances, December 31, 2009</b>	<b>7,093,931</b>	<b>\$ 37,000</b>	<b>\$ (12,748)</b>	<b>\$ 24,252</b>	<b>\$ 99</b>	<b>\$ 24,351</b>
Stock-based compensation	214,089	1,024		1,024		1,024
Issuance of stock to 401(k) plan	45,106	282		282		282
Issuance of stock for cash	143,885	1,000		1,000		1,000
Issuance of stock on exercise of options	41,850	347		347		347
Equity contributions by non-controlling interest					2,090	2,090
Distributions to non-controlling interest					(3,767)	(3,767)
Expense of stock issuance and registration		(26)		(26)		(26)
Net income (loss)			(15,470)	(15,470)	3,613	(11,857)
<b>Balances, December 31, 2010</b>	<b>7,538,861</b>	<b>\$ 39,627</b>	<b>\$ (28,218)</b>	<b>\$ 11,409</b>	<b>\$ 2,035</b>	<b>\$ 13,444</b>
Stock-based compensation	114,582	786		786		786
Issuance of stock to 401(k) plan	27,769	349		349		349
Issuance of stock for cash	2,300,000	35,075		35,075		35,075
Issuance of stock on exercise of options	14,932	106		106		106
Equity contribution from sale of interest in joint venture net of income taxes		19,600		19,600		19,600
Equity contributions by non-controlling interest					250	250
Distributions to non-controlling interest					(6,202)	(6,202)
Expense of stock issuance and registration		(2,359)		(2,359)		(2,359)
Net income (loss)			(19,851)	(19,851)	7,981	(11,870)
<b>Balances, December 31, 2011</b>	<b>9,996,144</b>	<b>\$ 93,184</b>	<b>\$ (48,069)</b>	<b>\$ 45,115</b>	<b>\$ 4,064</b>	<b>\$ 49,179</b>

See accompanying notes.

**Table of Contents****ADA-ES, Inc. and Subsidiaries****Consolidated Statements of Cash Flows****Years Ended December 31, 2011, 2010 and 2009***(Amounts in thousands)*

	2011	2010	2009
<b>Cash Flows from Operating Activities:</b>			
Net loss	\$ (19,851)	\$ (15,470)	\$ (8,771)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:			
Depreciation and amortization	1,568	917	577
Deferred tax benefit	(13,368)	(8,563)	(5,555)
Loss on disposal of assets	37		17
Provision for doubtful accounts		(7)	
Expenses paid with stock, restricted stock and stock options	1,135	1,306	1,201
Net equity in net (income) loss from unconsolidated entities	6,967	8,037	3,243
Non-cash gain from joint venture partner		(1,768)	
Non-cash gain from indemnity claim settlement	(20,034)		
Non-controlling interest in income (loss) from subsidiaries	7,981	3,613	(732)
Changes in operating assets and liabilities:			
Receivables, net	3,152	(3,247)	282
Assets held for resale and inventory			(2,056)
Prepaid expenses and other assets	(1,258)	288	(155)
Accounts payable	6,412	(1,666)	2,567
Accrued payroll, expenses and other related liabilities	693	1,274	(407)
Deposits	14,900		
Deferred revenues and other liabilities	(4,578)	6,412	1,364
Settlement awards and related accrued liabilities	3,983		
Accrued indemnity liabilities	4,288	20,589	6,822
Net cash provided by (used in) operating activities	(7,973)	11,715	(1,603)
<b>Cash Flows from Investing Activities:</b>			
Investment in securities	(3)	(105)	(400)
Cash balance held in deconsolidated entity			(25,171)
Principal payments received on notes receivable	1,580	188	
Equity contribution from sale of interest in joint venture	30,000		
Capital expenditures for equipment, patents and development projects	(33,788)	(2,919)	(296)
Cash paid for equity contributions to unconsolidated entity		(283)	
Net cash used in investing activities	(2,211)	(3,119)	(25,867)
<b>Cash Flows from Financing Activities:</b>			
Net borrowings under line of credit	14,497		
Non-controlling interest equity contributions	250	2,090	738
Distributions to non-controlling interest	(6,202)	(3,767)	
Exercise of stock options	106	347	4
Issuance of common stock	35,075	1,000	
Stock issuance and registration costs	(2,359)	(26)	(17)
Net cash provided by (used in) financing activities	41,367	(356)	725

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<b>Increase (decrease) in Cash and Cash Equivalents</b>	31,183	8,240	(26,745)
<b>Cash and Cash Equivalents, beginning of period</b>	9,696	1,456	28,201
<b>Cash and Cash Equivalents, end of period</b>	<b>\$ 40,879</b>	<b>\$ 9,696</b>	<b>\$ 1,456</b>
<b>Supplemental Schedule of Non-Cash Flow Financing Activities:</b>			
Stock and stock options issued for services	\$ 1,135	\$ 1,306	\$ 1,201
Cash paid for interest	\$ 1,311	\$ 24	\$

See accompanying notes.

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**Table of Contents****1. SUMMARY OF NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES**

**Nature of Operations** ADA-ES, Inc. ( ADA ), its wholly-owned subsidiaries, Advanced Emissions Solutions, Inc., a Delaware corporation ( ADES ) and ADA Intellectual Property, LLC, a Colorado limited liability company ( ADA IP ) both of which had no activity in 2011, and ADA Environmental Solutions, LLC, a Colorado limited liability company ( ADA LLC ), and ADA s joint venture interest in Clean Coal Solutions, LLC ( Clean Coal ) are collectively referred to as the Company . The Company is principally engaged in providing environmental technologies and specialty chemicals to the coal-burning electric power generation industry. The Company generates a substantial part of its revenue from the sale of refined coal ( RC ), Activated Carbon Injection ( ACI ) systems, contracts co-funded by the government and industry, and development and lease of equipment for the RC market. The Company s sales occur principally throughout the United States.

**Principles of Consolidation** The consolidated financial statements include the accounts of ADES, ADA IP, ADA LLC and Clean Coal and its wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

**Cash and Cash Equivalents** The Company considers all highly liquid debt instruments with purchased maturities of three months or less to be cash equivalents. The Company maintains the majority of its cash in certificates of deposit and money market accounts. The amount on deposit at December 31, 2011 was held in one commercial bank and deposits were in excess of the insurance limits of the Federal Deposit Insurance Corporation.

**Receivables and Credit Policies** Trade receivables are uncollateralized customer obligations due under normal trade terms requiring payment within 30 days from the invoice date. Management reviews trade receivables periodically and reduces the carrying amount by a valuation allowance that reflects management s best estimate of the amount that may not be collectible. The balance was as follows:

	As of December 31,	
	2011	2010
	<i>(in thousands)</i>	
Receivables balance	\$ 4,919	\$ 8,239
Unbilled revenues balance	995	827
<b>Total</b>	<b>\$ 5,914</b>	<b>\$ 9,066</b>

**Intangible Assets** Intangible assets principally consist of patents.

	As of December 31,	
	2011	2010
	<i>(in thousands)</i>	
Cost of patents	\$ 436	\$ 331
Less accumulated amortization	(82)	(71)
<b>Total</b>	<b>\$ 354</b>	<b>\$ 260</b>

	Year ended December 31,		
	2011	2010	2009
Amortization expense of intangible assets for the year	\$ 11,000	\$ 10,000	\$ 12,000
Amortization life in years of patents	17	17	17
Anticipated annual amortization expense over the next five years	\$ 11,000	\$ 15,000	\$ 13,000
Weighted average amortization period in years	11	14	13

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**Goodwill** The Company reviews the recoverability of goodwill at least annually as of December 31 and any time business conditions indicate a potential change in recoverability. During 2011 and 2010, we did not recognize any goodwill impairment charges.

**Investments** Investments in securities represent certificates of deposit which are recorded at fair value.

**Investment in Unconsolidated Entities** On January 20, 2010, the Company, together with NexGen Resources Corporation ( NexGen ), formed Clean Coal Solutions Services, LLC ( CCSS ) for the purpose of operating the RC facilities leased to third parties. The Company has a 50% ownership interest in CCSS (but does not control it) and accordingly has accounted for the investment under the equity method of accounting. The Company evaluates this investment annually for other than temporary declines in value. At December 31, 2011 and 2010, no such declines existed on this investment.

On November 28, 2011, the Company relinquished all of its interest in ADA Carbon Solutions, LLC ( Carbon Solutions ) (See Notes 6 and 9). As of December 31, 2010, ADA owned a 25.9% interest in Carbon Solutions and our net investment in Carbon Solutions of \$13.6 million was being accounted for under the equity method of accounting. Our respective share of Carbon Solutions' income and losses for the years ended December 31, 2011, 2010 and 2009 has been recognized in the consolidated statements of operations.

**Property and Equipment** Property and equipment is stated at cost. Depreciation on assets is provided using the straight-line method based on estimated useful lives ranging from 3 to 10 years. Maintenance and repairs are charged to operations as incurred and maintenance and repair of the leased RC facilities are the responsibility of CCSS under agreements with the lessee of the facilities. When assets are retired, or otherwise disposed of, the property accounts are relieved of costs and accumulated depreciation and any resulting gain or loss is credited or charged to income.

**Leasehold Improvements** Leasehold improvements are recorded at cost and included with property and equipment. Amortization expense is computed using the straight-line method over the shorter of the estimated useful lives of the assets or the period of the related lease.

**Warranty Costs** Under certain ACI and DSI systems contracts, the Company may grant performance guaranties for a specified period and the achievement of a certain system operating conditions. In the event the equipment fails to perform as specified, the Company is obligated to correct or replace the equipment. Estimated warranty costs are recorded at the time of sale based on current experience factors.

**Impairment of Long-Lived Assets (other than Goodwill)** The Company routinely performs an evaluation of the recoverability of the carrying value of its long-lived assets to determine if facts and circumstances indicate that the carrying value of assets or intangible assets may be impaired and if any adjustment is warranted. Based on the Company's evaluation as of December 31, 2011 and 2010, no impairment of value existed for long-lived assets.

**Fair Value of Financial Instruments** The carrying amounts of financial instruments, including cash, cash equivalents, accounts receivable, line of credit, accounts payable and accrued expenses approximate fair value due to the short maturity of these instruments.

**Revenue Recognition** ADA follows the percentage of completion method of accounting for all significant contracts which have a fixed contract price excluding government contracts and coal and chemical sales. The percentage of completion method of reporting income takes into account the percent of work completed and overall revenue for contracts in progress. The Company recognizes revenue on government contracts based on the time and expenses incurred to date.



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	As of December 31,	
	2011	2010
	<i>(in thousands)</i>	
Costs in excess of billings included in accounts receivable, net	\$ 452	\$ 602
Billings in excess of recognized income included in deferred revenue	\$ 173	\$ 452

RC revenues are recognized when RC production and coal sales occur. Chemical sales are recognized when products are shipped to customers. Based upon historical trends no reserve has been established for any returns. RC is typically produced by adding proprietary chemicals to coal at the customer's site and title passes to the customer when the production process is complete. Chemicals are shipped FOB shipping point and title passes to the customer when the chemicals are shipped. The Company's sales agreements for chemicals do not contain a right of inspection or acceptance provision and products are generally received by customers within one day of shipment. The Company has had no significant history of non-acceptance, or of replacing goods damaged or lost in transit.

Consulting revenue is recognized as services are performed and collection is assured.

**Cost of Revenues** Costs of revenues include all labor, fringe benefits, subcontract labor, chemical and coal costs, materials, equipment, supplies and travel costs directly related to the Company's production of revenue.

**General and Administrative** General and administrative costs include personnel related fringe benefits, sales and administrative staff labor costs, legal expenses, facility costs and other general costs of conducting business.

**Penalties and Interest Costs** Under certain circumstances, the Company might have a penalty or interest charge that is classified as an expense and is shown in our general and administrative costs. The cost is charged in the period the Company was notified of the charge.

	Years Ended December 31,		
	2011	2010	2009
	<i>(in thousands)</i>		
Penalty and interest costs	\$ 35	\$ 1	\$ 6

**Research and Development Costs** Research and development costs are charged to operations in the period incurred.

**Income Taxes** The Company accounts for income taxes under the liability method whereby deferred tax assets and liabilities are determined based on tax rates and laws enacted as of the date of the consolidated balance sheets. A valuation allowance is provided if and when deferred tax assets are not expected to be realized. Clean Coal is a flow-through tax entity and therefore the owners are taxed or receive tax benefits based on their respective ownership interests.

**Net Loss Per Share** Basic EPS is calculated by dividing the income or (loss) available to common stockholders by the weighted average number of common shares outstanding for the period. Diluted EPS is calculated using the same numerator as basic EPS and further reflects the potential dilution that could occur if outstanding stock options were exercised. No stock options were included in the calculations for 2011, 2010 or 2009 as their inclusion would be anti-dilutive due to the Company's net losses per share for those periods.

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Stock-Based Compensation The Company records equity compensation to employees at estimated fair value.

	Years Ended December 31,		
	2011	2010	2009
	<i>(in thousands)</i>		
Stock based compensation before tax	\$ 1,135	\$ 1,306	\$ 1,201
Stock based compensation after tax	714	833	720
Basic and diluted loss per share	(0.09)	(0.11)	(0.11)

Use of Estimates The preparation of the Company's consolidated financial statements in conformity with generally accepted accounting principles requires the Company's management to make estimates and assumptions that affect the amounts reported in these financial statements and accompanying notes. Actual results could differ from those estimates.

The Company makes significant assumptions concerning:

the impairment of and the remaining realizability of its long-lived assets including equity method investments, goodwill and intangibles;

estimates of certain overhead and other rates on research contracts with the U.S. Government, which are subject to future audits;

fair value of stock options;

warranty costs;

the allowance for doubtful accounts, which is based on historical experience;

the percentage of completion method of accounting for significant long-term fixed price contracts, which is based on estimates of gross margins and of the costs to complete such contracts;

the deferred tax assets expected to be realized in future periods; and

the period over which we estimate we will earn up front license payments.

Segment Information The Company follows established standards on the way that public companies report financial information about operating segments in annual financial statements and required reporting of selected information about operating segments in interim financial statements issued to the public. These standards provide for disclosures regarding products and services, geographic areas, and major customers. These standards also define operating segments as components of a company about which discrete financial information is available that is evaluated regularly by the chief operating decision makers in deciding how to allocate resources and in assessing performance.

In applying these standards, the Company has defined its components as three reportable segments:

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Refined coal ( RC ),

Emission control ( EC ), and

CO<sub>2</sub> Capture ( CC ).

Reclassification Certain amounts in the 2010 and 2009 consolidated financial statements have been reclassified to conform to the 2011 presentation. Such reclassification had no effect on net income.

Recently Issued or Newly Adopted Accounting Standards In September 2011, the Financial Accounting Standards Board issued updated guidance allowing the use of a qualitative approach to test goodwill for impairment. The updated guidance would permit the Company to first perform a qualitative assessment to determine whether it is more likely than not that the fair value of one of its reporting units is less than its carrying value. If concluded that this is the case, it is then necessary for the Company to perform the currently prescribed two-step goodwill impairment test. Otherwise, the two-step goodwill impairment test is not required. The updated guidance is effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011 with early adoption permitted. The Company is currently evaluating the impact of our pending adoption of this update.

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**Table of Contents****2. NOTES RECEIVABLE**

NexGen Refined Coal, LLC ( NexGen ), the Company's partner in Clean Coal, was required to pay the Company up to \$4 million in order to maintain its 50% interest in Clean Coal. In June 2010, NexGen executed notes payable to the Company for approximately \$1.8 million with a due date of June 2012. During the second quarter of 2011, NexGen paid the notes receivable and the entire remaining balance due to maintain its interest in Clean Coal.

The outstanding balance of the notes receivable at December 31, 2010 totaled approximately \$1.6 million. During the second quarter of 2010, the Company recognized a non-operating gain of \$1.8 million as a result of these notes, which is included in interest and other income including interest on the consolidated statements of operations.

**3. PROPERTY AND EQUIPMENT**

Property and equipment consisted of the following at the dates indicated:

	Life in Years	As of December 31, (in thousands)	
		2011	2010
Machinery and equipment	3-10	\$ 3,937	\$ 2,497
Leasehold improvements	2-5	624	535
Furniture and fixtures	3-7	281	284
RC assets placed in service	10	33,800	
RC assets under lease (See Note 10)	10	3,129	4,725
		41,771	8,041
Less accumulated depreciation and amortization		(4,651)	(3,235)
Total property and equipment, net		\$ 37,120	\$ 4,806

	Years Ended December 31, (in thousands)		
	2011	2010	2009
Depreciation and amortization	\$ 1,568	\$ 906	\$ 565

**4. DEFERRED REVENUES AND DEPOSITS**

Deferred revenues consist of:

billings in excess of costs and earnings on uncompleted contracts;

unearned revenues on licensing of the Company's intellectual property to Arch Coal, Inc. ( Arch ) (as discussed further below);  
and

deferred rent revenue related to Clean Coal's lease of its RC facilities (also as discussed further below).



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**Arch Coal** In June 2010, the Company entered into a Development and License Agreement with Arch in which the Company licensed, on an exclusive non-transferable basis, the use of certain of its technology to enhance coal by a proprietary treatment process and received a non-refundable license fee of \$2 million in cash. Revenues of \$1.3 million and \$700,000 related to this agreement were recognized in 2011 and 2010, respectively. As part of the agreement, Arch is required to purchase from the Company the chemicals required to enhance the coal.

**Clean Coal** In June 2010, Clean Coal executed agreements to lease two RC facilities. These agreements provided for, among other things, a prepaid rent payment of \$9 million for both facilities that was received before June 30, 2010. In November and December 2011, Clean Coal entered into transactions to exchange the existing facilities (See Notes 7 and 10). There was no change to the prepaid rent payment or amortization period as a result of the exchanges.

During 2011 and 2010, the Company recognized \$20.1 million and \$10.4 million in total rent revenues, respectively, related to these RC facilities which includes \$3.6 million and \$1.8 million from amortization of the initial prepaid rent payment for the years ended December 31, 2011 and 2010, respectively. Future revenues expected to be recognized with respect to the prepaid rent paid totaling \$3.6 million are included in deferred revenues and other liabilities on the consolidated balance sheets as of December 31, 2011.

During 2011, Clean Coal received deposits of \$14.9 million towards RC facilities which may be leased upon attainment of certain milestones. Such amount is included in deposits on the consolidated balance sheets.

**5. GOVERNMENT AND INDUSTRY FUNDED CONTRACTS**

The Company has participated in several contracts awarded by the Department of Energy (the DOE). The Company typically invoices the DOE and industry cost-share partners monthly for labor and expenditures plus estimated overhead factors, less any cost share amounts. The contracts under which the Company has performed are subject to audit and future appropriation of funds by Congress. The Company has not experienced adverse adjustments as a result of government audits, however, the government audits for years ended 2004 through 2011 have not yet been finalized.

	Years Ended December 31,		
	2011	2010	2009
	<i>(in thousands)</i>		
Revenue recognized related to CC segment	\$ 3,096	\$ 2,073	\$ 1,526
Unearned contract amount	\$ 15,706	\$ 18,800	\$ 1,600
Expected revenue in 2012	\$ 5,579		

**Table of Contents****6. INVESTMENTS IN UNCONSOLIDATED ENTITIES**

**Clean Coal Solutions Services** As discussed in Note 1 above, on January 20, 2010, the Company, together with NexGen, formed CCSS. The Company's investment includes its share of CCSS income since its formation, which has been accounted for under the equity method of accounting. Following is unaudited summarized information as to assets, liabilities and results of operations of CCSS:

	As of December 31,	
	2011	2010
	<i>(in thousands)</i>	
Current assets	\$ 22,609	\$ 34,534
Property, equipment, and other long-term assets	3,682	89
<b>Total Assets</b>	<b>\$ 26,291</b>	<b>\$ 34,623</b>
<b>Total Liabilities</b>	<b>\$ 15,988</b>	<b>\$ 33,896</b>

	Years Ended December 31,	
	2011	2010
	<i>(in thousands)</i>	
Net revenue	\$ 153,684	\$ 90,854
Net income- attributed to CCSS	\$ 189	\$ 236

During 2011 and 2010, the Company recorded revenues of \$131,000 and \$272,000, respectively, for management fees provided to CCSS. This management fee arrangement was terminated in May 2011. During 2011 and 2010, the Company recorded \$3.4 million and \$64,000, respectively, for development and operating costs. At December 31, 2011 and 2010, the amount due to CCSS totaled \$1.2 million and \$105,000, respectively, and is included in accounts payable to related parties on the consolidated balance sheets.

**Carbon Solutions** On October 1, 2008, ADA entered into a Joint Development Agreement ( JDA ), a Limited Liability Company Agreement ( LLC Agreement ), and other related agreements with Energy Capital Partners I, LP and its affiliated funds ( ECP ) and formed Carbon Solutions for the purposes of funding and constructing the activated carbon ( AC ) manufacturing facility in Red River Parish, Louisiana and similar projects. In November 2011, ADA relinquished all of its interest in Carbon Solutions. The Company had been accounting for the investment in Carbon Solutions under the equity method and recorded \$7.2 million as its share of Carbon Solutions' losses for 2011.

Under the terms of the JDA, ADA was required to indemnify ECP and Carbon Solutions for certain damages and expenses they had incurred with respect to ADA's litigation with Norit Americas, Inc. ( Norit ) which was settled in August 2011. On November 28, 2011, an Indemnity Settlement Agreement was entered into whereby ADA agreed to settle the indemnity obligations asserted against ADA and relinquish all of its interest in Carbon Solutions (See Note 9). As of December 31, 2010, the Company recorded a long-term liability to Carbon Solutions of approximately \$27.4 million related to such damages and expenses paid by Carbon Solutions.

During the fourth quarter of 2011, we recorded the transactions resulting from the Indemnity Settlement Agreement for the satisfaction of the indemnity obligations and the relinquishment of ADA's interest which resulted in other income of \$20 million.

The Company has the following related agreements with Carbon Solutions:

**Master Services Agreement** Pursuant to a Master Services Agreement ( MSA ), the Company provides certain accounting, administrative, oversight, and other services to Carbon Solutions at agreed-upon rates.

	Years Ended December 31,		
	2011	2010	2009
	<i>(in thousands)</i>		
Service revenue included in EC segment	\$ 63	\$ 293	\$ 1,100





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**Intellectual Property License** Pursuant to an Intellectual Property License Agreement (as amended in November 2011 pursuant to the Indemnity Settlement Agreement discussed above), the Company has licensed to Carbon Solutions all intellectual property relating primarily to the manufacture of AC (that was not transferred to Carbon Solutions under the JDA) or any application or use of AC competitive with the control of mercury emissions from coal-fired power plants (the Field ) on an exclusive, perpetual, royalty-free basis and has provided certain rights of first refusal to Carbon Solutions with respect to intellectual property relating to the Field the Company may develop in the future.

7. **JOINT VENTURE INVESTMENT IN CLEAN COAL**

In November 2006, the Company sold a 50% interest in its RC technology to a joint venture called Clean Coal Solutions, LLC, which was formed in 2006 with NexGen, to market RC technology. Clean Coal's function is to supply chemicals, additives, equipment and technical services to cyclone-fired and other boiler users, but Clean Coal's primary purpose is to put into operation facilities that produce RC that qualifies for tax credits that are available under Section 45 of the Internal Revenue Code ( Section 45 tax credits ). Clean Coal qualified two facilities in 2009 for such purposes and leased those facilities to a third party. The operating agreement of Clean Coal required NexGen and ADA to each pay 50% of the costs of operating Clean Coal and specified certain duties that both parties were obligated to perform.

In May 2011, ADA entered into a transaction in which Clean Coal sold an effective 15% interest of the equity in Clean Coal to an affiliate of The Goldman Sachs Group, Inc. ( GS ). GS's interest has certain preferences over ADA and NexGen as to liquidation and profit distribution. GS has no further capital call requirements and does not have a voting interest but does have approval rights over certain corporate transactions. In conjunction with the closing of the purchase agreement, ADA, NexGen and GS entered into a Second Amended and Restated Operating Agreement and an Exclusive Right to Lease Agreement pursuant to which Clean Coal granted GS the exclusive right (but not the obligation) to lease facilities that will produce up to approximately 12 million tons of refined coal per year on pre-established lease terms similar to those currently in effect for Clean Coal's first two facilities.

In September 2011, ADA, NexGen, and GS entered into a First Amendment to Second Amended and Restated Operating Agreement pursuant to which ADA and NexGen each transferred our 2.5% member interests in each of Clean Coal's subsidiaries back to Clean Coal in return for an increase in our interest in Clean Coal to 42.5% from 42.1%. This restructuring of ownership interests did not change the financial relationships of the parties. Since its inception, ADA has been considered the primary beneficiary of this joint venture and has consolidated the accounts of Clean Coal.

In November and December 2011, ADA entered into transactions with Clean Coal to exchange the two leased RC facilities with newly constructed, redesigned RC facilities (See Note 10).

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Following is summarized information as to assets, liabilities and results of operations of Clean Coal:

	As of December 31,	
	2011	2010
	<i>(in thousands)</i>	
<b>Primary assets</b>		
Cash and cash equivalents	\$ 8,804	\$ 1,335
Accounts receivable, net	3,177	4,835
Prepaid expenses and other assets	3,028	19
Property, plant and equipment including assets under lease and assets placed in service	36,751	5,066
Development costs		215
<b>Primary liabilities</b>		
Accounts payable and accrued liabilities	\$ 10,526	\$ 157
Accounts payable, related parties	1,209	205
Line of credit	14,497	
Deferred revenue, current and deposits	18,500	3,600
Deferred revenue, long-term		3,600

	Years Ended December 31,		
	2011	2010	2009
	<i>(in thousands)</i>		
Net revenue	\$ 40,253	\$ 10,378	\$ 2,588
Net income (loss)	\$ 13,658	\$ 6,873	\$ (1,406)

During 2011 and 2010, the Company recorded \$2.6 million and \$687,000, respectively, for management fees and labor costs provided by NexGen related to capital improvements for assets under lease and placed in service. At December 31, 2011 and 2010, the amount payable to NexGen was \$138,000 and \$55,000, respectively, and is included in accounts payable and accrued liabilities on the consolidated balance sheets.

**8. STOCKHOLDERS' EQUITY**

On October 28, 2011, ADA closed on an underwritten public offering selling 2 million shares of common stock for \$15.25 per share generating \$28.4 million in net proceeds to ADA. In November 2011, the underwriters exercised their over-allotment option to purchase an additional 300,000 shares, generating an additional \$4.3 million in net proceeds to ADA.

As described in Note 7, in May 2011, Clean Coal entered into a transaction in which it sold an effective 15% interest of its equity to GS. Approximately 15.8 units of non-voting Class B membership interests were issued to GS for \$60 million in cash. ADA and NexGen each received \$30 million as a result of the sale. In conjunction with the closing of the purchase agreement, ADA, NexGen and GS entered into a Second Amended and Restated Operating Agreement and ADA and NexGen each exchanged 50 units of membership interests for approximately 42.1 voting Class A units in Clean Coal (each of which represents a 50% voting interest). Since the transaction did not result in a change in control of Clean Coal, the amount received from this transaction was recorded to common stock, net of the tax effect of approximately \$11 million.

For the years ended December 31, 2011 and 2010, the non-controlling interest portion of stockholders' equity includes a non-controlling interest related to Clean Coal.

Pursuant to certain agreements, on March 23, 2010, ADA issued 143,885 shares of its common stock to Arch and received proceeds, net of issuance costs, totaling \$974,000. ADA filed a registration statement, which was effective September 1, 2010, to register these shares in accordance with provisions of the registration rights agreement, which was executed at the time of the stock subscription agreement.

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Since 2003, ADA has had several stock and option plans, including the Amended and Restated 2007 Equity Incentive Plan dated as of August 31, 2010 (the "2007 Plan") and the ADA-ES, Inc. Profit Sharing Retirement Plan, which is a plan qualified under Section 401(k) of the Internal Revenue Code (the "401(k) Plan") described below. These plans allow ADA to issue stock or options for shares of common stock to employees, Board of Directors and non-employees.

Following is a table summarizing the option activity for the two years ended December 31, 2011 and 2010:

	Employee and Director Options	Non-Employee Options	Weighted Average Exercise Price
Options outstanding, December 31, 2009	270,265	9,000	\$ 10.23
Options granted			
Options expired	(14,495)	(9,000)	14.11
Options exercised	(41,850)		8.60
Options outstanding, December 31, 2010	213,920		\$ 10.18
Options granted			
Options expired	(15,000)		15.20
Options exercised	(15,978)		8.18
Options outstanding, December 31, 2011	182,942		\$ 9.95

Following is a table of aggregate intrinsic value of options exercised and exercisable for the two years ended December 31, 2011 and 2010:

	Value	Average Market Price
Exercised, December 31, 2011	\$ 140,155	\$ 15.38
Exercised, December 31, 2010	\$ (86,000)	\$ 6.23
	Value	Market Price
Exercisable, December 31, 2011	\$ 2,322,000	\$ 22.64
Exercisable, December 31, 2010	\$ 209,000	\$ 11.16

Stock options outstanding and exercisable at December 31, 2011 are summarized in the table below:

Range of Exercise Prices	Number of Options Outstanding and Exercisable	Weighted Average Exercise Price	Weighted Average Remaining Contractual Lives
\$8.60 - \$10.20	143,743	\$ 8.66	3.9
\$13.80 - \$15.20	39,199	\$ 14.68	3.5
	182,942	\$ 9.95	3.8

No stock options were granted and/or vested during the year ended December 31, 2011.



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Although ADA adopted the 2007 Plan in 2007, it was further amended and restated as of August 31, 2010 to make non-material changes to assure Internal Revenue Code Section 409A compliance and to increase the non-management director annual grant limit to 15,000 shares of common stock from 10,000 shares. The 2007 Plan authorizes the issuance to employees, directors and non-employees of up to 1 million shares of common stock, either as restricted stock grants or to underlie options to purchase shares of ADA's common stock.

In 2009, ADA revised its 401(k) Plan. The revision permits ADA to issue shares of its common stock to employees to satisfy its obligation to match employee contributions under the terms of the plan in lieu of matching contributions in cash. ADA reserved 300,000 shares of its common stock for this purpose. The value of common stock issued as matching contributions under the plan is determined based on the per share market value of ADA's common stock on the authorization date.

Following is a table summarizing the activity under various stock issuance plans for the two years ended December 31, 2011 and 2010:

	Stock Issuance Plans		
	2007 Plan	401(k) Plan	Other Stock Plans
Balance available, December 31, 2009	267,232	228,900	19,065
Evergreen addition	33,800		
Restricted stock issued to new and anniversary employees	(34,175)		
Restricted stock repurchased	4,918		
Stock issued based on incentive and matching programs to employees	(51,345)	(45,106)	
Stock issued to executives, directors and non-employees	(126,487)		(7,000)
Balance available, December 31, 2010	93,943	183,794	12,065
Evergreen addition	44,593		
Restricted stock issued to new and anniversary employees	(21,477)		
Stock issued based on incentive and matching programs to employees	(35,825)	(27,769)	
Stock issued to executives, directors and non-employees	(50,280)		(7,000)
Balance available, December 31, 2011	30,954	156,025	5,065

Expense recognized under the different plans for the three years ended:

	<i>(in thousands)</i>		
December 31, 2011	\$ 747	\$ 349	\$ 39
December 31, 2010	\$ 983	\$ 282	\$ 41
December 31, 2009	\$ 954	\$ 204	\$ 43

Unrecognized expense under the different plans for the three years ended:

	<i>(in thousands)</i>		
December 31, 2011	\$ 512	\$	\$
December 31, 2010	\$ 341	\$	\$
December 31, 2009	\$ 363	\$	\$

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A summary of the status of the non-vested shares for the two years ended December 31, 2011 and 2010 is presented below:

	Shares	Weighted Average Grant Date Fair Value
Non-vested at December 31, 2009	116,313	\$ 6.65
Granted	34,175	5.94
Vested	(52,634)	8.06
Forfeited	(4,918)	5.55
Non-vested at December 31, 2010	92,936	\$ 5.46
Granted	22,849	14.95
Vested	(6,422)	10.38
Forfeited	(1,372)	7.48
Non-vested at December 31, 2011	107,991	\$ 6.98

9. **COMMITMENTS AND CONTINGENCIES**

**Line of Credit** Clean Coal has available a revolving line of credit with a bank that is secured by substantially all assets of Clean Coal (including its subsidiaries). The line of credit expires in March 2013 and requires four equal quarterly installments of principal (plus all accrued interest at such time) to be paid beginning June 30, 2012. Borrowings under the line of credit bear interest at the higher of the Prime Rate (as defined in the related credit agreement) plus one percent (1%) or 5% per annum. The original line of credit limit of \$10 million was amended in September 2011 to \$15 million. At December 31, 2011, the outstanding balance on the line of credit was \$14.5 million and the effective interest rate was 5% per annum. Borrowings under the line of credit are subject to certain financial covenants applicable to Clean Coal.

**Retirement Plan** The Company assumed the 401(k) plan covering all eligible employees as of January 1, 2003 which was revised in 2009, and makes matching contributions to the plan in the form of cash and its common stock. Such contributions are as follows:

	Years Ended December 31,		
	2011	2010	2009
	<i>(in thousands)</i>		
Matching contributions in stock	\$ 349	\$ 282	\$ 204
Matching contributions in cash			63
Total	\$ 349	\$ 282	\$ 267

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**Performance Guarantee on AC Injection Systems** Under certain contracts to supply ACI systems, the Company may guarantee the performance of the associated equipment for a specified period to the owner of the power plant. The Company may also guarantee the achievement of a certain level of mercury removal based upon the injection of a specified quantity of a qualified AC at a specified rate given other plant operating conditions. In the event the equipment fails to perform as specified, the Company may have an obligation to correct or replace the equipment. In the event the level of mercury removal is not achieved, the Company may have a make right obligation within the contract limits. The Company assesses the risks inherent in each applicable contract and accrues an amount that is based on estimated costs that may be incurred over the performance period of the contract. Such costs are included in the Company's accrued warranty and other liabilities in the accompanying consolidated balance sheets. Any warranty costs paid out in the future will be charged against the accrual. The adequacy of warranty accrual balance is assessed at least quarterly based on the then current facts and circumstances and adjustments are made as needed. The changes in the carrying amount of the Company's performance guaranties are as follows:

	As of December 31,	
	2011	2010
	<i>(in thousands)</i>	
Beginning balance	\$ 612	\$ 604
Performance guaranties accrued	88	74
Expenses paid	(153)	(66)
Ending balance	\$ 547	\$ 612

In some cases, a performance bond may be purchased and held for the period of the warranty that can be used to satisfy the obligation.

**Purchase Obligations** As of December 31, 2011, the Company expects to pay purchase obligations totaling approximately \$410,000 primarily for the purchase of components and services related to our Emission Control Segment in 2011.

**Operating Lease Obligations** ADA leases office and warehouse facilities under non-cancellable operating lease agreements. Our facilities leases generally provide for periodic rent increases and renewal options. ADA's lease for the majority of the current facilities covering approximately 26,000 square feet of combined office and warehouse space in Littleton, Colorado expires in August 2012.

In October 2011, ADA entered into a new lease agreement covering approximately 30,000 square feet of office space in Highlands Ranch, Colorado. The lease term began in March 2012 and expires in February 2019 with the option to renew for two additional five-year periods. The lease includes abatement of base rent and operating expenses for the first six months and abatement of base rent for an additional thirteen months. In addition, ADA has temporarily leased approximately 2,700 square feet in this property complex until such time as the relocation is complete.

The lease also includes a one-time tenant improvement allowance in an amount up to approximately \$480,000. ADA plans to move its headquarters to the new offices once construction and improvements are completed and is considering renewing a portion of the existing leased facilities for additional office and warehouse space.

In February 2012, ADA entered into a new lease agreement covering approximately 15,000 square feet of warehouse space in Highlands Ranch, Colorado. The lease covers five suites in the building with rent for the first two suites beginning in April 2012, an additional two suites beginning in May 2012, and the last suite beginning in September 2012. The lease expires in February 2019 and includes the option to renew for two additional five-year periods. The lease also includes a one-time tenant improvement allowance of approximately \$150,000.

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Annual minimum commitments under the leases are as follows:

Years Ending December 31,	Operating Lease Commitments (in thousands)
2012	\$ 214
2013	210
2014	480
2015	493
2016	506
Thereafter	1,141
<b>Total</b>	<b>\$ 3,044</b>

Rental expense incurred for the years ended December 31, is as follows:

	Years Ended December 31,		
	2011	2010	2009
	(in thousands)		
Rent expense	\$ 395	\$ 339	\$ 259

**Clean Coal** The Company also has certain guaranties and obligations in connection with the activities of Clean Coal. The Company, NexGen and two entities affiliated with NexGen have provided the lessee of its RC facilities and GS with joint and several guaranties (the CCS Party Guaranties ) guaranteeing all payments and performance due under the related transaction agreements. The Company also entered into a contribution agreement with NexGen under which any party called upon to pay on a CCS Party Guaranty is entitled to receive contribution from the other party equal to 50% of the amount paid. The parent of the lessee in the RC facilities lease transactions has provided Clean Coal with a guaranty as to the payment only of all the initial term fixed rent payments and the renewal term fixed rent payments under the related leases, which, although terminable at any time, cannot be terminated without the substitution of such guaranty with another guaranty on similar terms from a creditworthy guarantor.

**Carbon Solutions/ECP Indemnity Liability Settlement** As discussed above in Note 6, in November 2011, ADA entered into an Indemnity Settlement Agreement whereby ADA agreed to settle certain indemnity obligations asserted against the Company related to the Norit litigation. Under the terms of the Indemnity Settlement Agreement, ADA paid Carbon Solutions a \$2 million payment on November 28, 2011 and agreed to make 16 additional monthly payments of \$100,000 with the first one paid on November 28, 2011, and the remaining 15 payments commencing on December 1, 2011, relinquished all of its equity interest in Carbon Solutions to Carbon Solutions and amended the Intellectual Property License Agreement dated October 1, 2008 between ADA and Carbon Solutions.

The Company has accrued a current liability of \$1.2 million which is included in settlement awards and related accrued liabilities and a long-term liability of \$200,000 which is included in settlement awards and indemnity liability on the consolidated balance sheets related to this agreement.

**Litigation** As previously reported in various filings, the Company had been engaged in litigation with Norit. The Norit lawsuit initially filed in Texas was moved to arbitration, and on April 8, 2011, the arbitration panel issued an interim award holding ADA liable for approximately \$37.9 million for a non-solicitation breach of contract claim and held ADA and certain other defendants liable for royalties of 10.5% for the first three years beginning in mid-2010 and 7% for the following five years based on adjusted sales of AC from the Red River plant.



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On August 29, 2011, ADA and Norit entered into a settlement agreement whereby the Company paid a lump-sum payment to Norit totaling \$33 million on August 30, 2011. In addition, the Company agreed to pay an additional \$7.5 million over a three-year period commencing on August 29, 2012, payable in three installments without interest of \$2.5 million. Under the terms of the settlement agreement, ADA is also required to pay the royalty noted above and a lesser royalty on certain treated activated carbons. Payments of amounts due under the royalty award for each quarter are payable three months after such quarter ends. On October 18, 2011, the arbitration panel endorsed and confirmed the terms of the settlement agreement.

The Company has accrued a current liability of \$2.8 million which is included in settlement awards and related accrued liabilities and a long-term liability of \$5 million which is included in settlement awards and indemnity liability on the consolidated balance sheets related to this agreement.

10. **CLEAN COAL LEASING ACTIVITIES**

Clean Coal leased two RC Facilities in June 2010 to an independent third party. The leases had initial terms that ran through December 31, 2012 and automatically renewed for annual terms through the end of 2019. As discussed in Note 7 above, in November and December 2011, ADA entered into Exchange Agreements with Clean Coal to exchange the two leased RC facilities with newly constructed, redesigned RC facilities which resulted in termination of the original leases and issuance of new lease agreements. The new leases carry over many of the substantive terms and conditions of the initial leases, have initial terms that run through December 31, 2012 and automatically renew for annual terms through 2021, subject to a number of termination clauses.

Clean Coal receives fixed and contingent rent payments as defined in the lease agreements. In addition, the lessee paid \$9 million at the inception of the leases, which was recorded as deferred revenue and is being amortized into revenue under the straight-line method over the initial term of the leases through December 31, 2012. During the years ended December 31, 2011 and 2010, \$3.6 million and \$1.8 million, respectively, of deferred revenue was recognized. Contingent rental income received during 2011 and 2010 totaled \$8.6 million and \$6 million, respectively. Future minimum lease payments shown below do not include contingent rentals, which are based on the production of RC.

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The following is a schedule, by year, of total fixed lease payments to be received, if all term extension options are exercised, through December 31, 2021.

Years Ending December 31,	Lease Payments Expected (in thousands)
2012	\$ 10,352
2013	14,196
2014	14,744
2015	15,332
2016	15,857
Thereafter	90,027
<b>Total minimum lease payments</b>	<b>\$ 160,508</b>

**11. MAJOR CUSTOMERS**

Sales to unaffiliated customers who represent 10% or more of the Company's sales were as follows:

Customer	As of December 31,	
	2011	2010
A	38%	47%

The Company's receivables were as follows:

Receivables as of:	Number of Customers That Make up	Percentage of Balance
	Percentage of Balance	Percentage of Balance
December 31, 2011	2	63%
December 31, 2010	1	67%

**12. INCOME TAXES**

The Company's income tax expense (benefit) from continuing operations consists of the following:

	Years Ended December 31,		
	2011	2010	2009
	(in thousands)		
Current	\$	\$ (1)	\$ 9
Deferred	\$ (13,368)	\$ (8,563)	\$ (5,555)
<b>Income tax expense (benefit)</b>	<b>\$ (13,368)</b>	<b>\$ (8,564)</b>	<b>\$ (5,546)</b>



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The following lists the Company's deferred tax assets and liabilities, of which \$2.4 million and \$188,000 are included in prepaid expenses and other assets as of December 31, 2011 and 2010, respectively, and \$16.2 million and \$15.4 million are included in deferred taxes and other assets as of December 31, 2011 and 2010, respectively, in the accompanying consolidated balance sheets:

	As of December 31,	
	2011	2010
	<i>(in thousands)</i>	
<b>Deferred tax assets</b>		
Deferred warranty, settlements and other	\$ 3,439	\$ 223
Allowance for doubtful accounts	4	4
Property and equipment	48	
Deferred revenues, compensation and other	1,174	306
Net equity in net loss of unconsolidated entities		459
Net operating loss carryforward	13,947	14,072
Tax credits	2,210	753
<b>Total tax assets</b>	<b>20,822</b>	<b>15,817</b>
<b>Deferred tax liabilities</b>		
Prepaid expenses	129	122
Intangible assets and other	21	38
Net equity in net loss of unconsolidated entities	2,044	
<b>Total tax liabilities</b>	<b>2,194</b>	<b>160</b>
<b>Net deferred tax assets</b>	<b>\$ 18,628</b>	<b>\$ 15,657</b>

No valuation allowance has been recorded as the Company believes that it is more likely than not that its deferred tax assets will be realized in the future.

A reconciliation of expected federal income taxes on income from operations at statutory rates with the expense (benefit) for income taxes follows:

	Years Ended December 31,		
	2011	2010	2009
	<i>(percent)</i>		
Expected income tax rate	34	34	34
Non-controlling interest	11	6	
Permanent differences	<1	<1	<1
Tax credits	6	1	2
State income taxes	2	2	4
Other		(1)	(3)
<b>Actual effective income tax rate</b>	<b>53</b>	<b>42</b>	<b>37</b>

The Company did not have any unrecognized tax benefits in 2011 and 2010. The primary jurisdictions in which the Company files income tax returns are the U.S. federal government and State of Colorado. The Company is no longer subject to U.S. federal examinations by tax authorities for years before 2008 and Colorado state examinations for years before 2007.

The Company has a federal net operating loss carryforward of approximately \$38.1 million that will expire in the years ranging from 2029 to 2031 and a state net operating loss carryforward of approximately \$27.3 million that will expire in years ranging from 2016 to 2031. The

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Company has federal tax credit carryforwards of approximately \$2.2 million that will expire in the years ranging from 2025 to 2031.

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**Table of Contents****13. RELATED PARTY TRANSACTIONS**

As discussed above in Note 4 and Note 8, the Company entered into a Development and License Agreement and executed a Securities Subscription and Investment Agreement with Arch in 2010.

	Years Ended December 31,		
	2011	2010	2009
	<i>(in thousands)</i>		
Revenues recognized from activities with Arch	\$ 1,402	\$ 784	\$ 30

John Eaves is the President and Chief Operating Officer and a director of Arch and was one of the members of the Company's Board of Directors (the Board) until November 10, 2011 when he resigned from the Board. Robert E. Shanklin, Vice President Coal Technology of Arch was appointed to the Board in place of Mr. Eaves. The initial appointment of Mr. Eaves, and subsequent appointment of Mr. Shanklin, to the Board was made pursuant to a 2003 Subscription and Investment Agreement with Arch whereby the Company's management agreed to make available one seat on our Board for an Arch designee and to vote all shares and proxies they are entitled to vote in favor of such designee for so long as Arch continues to hold at least 100,000 shares of our common stock. Mr. Eaves abstained from voting on the above-described transactions. In addition, as required by our related-party transaction policy, the transactions were approved by the Company's audit committee before being recommended to the Board for approval and were then approved by the disinterested members of the Board.

**14. BUSINESS SEGMENT INFORMATION**

The following information relates to the Company's three reportable segments: Emissions control ( EC ), Capture ( CC ) and Refined coal ( RC ). All assets are located in the U.S. and are not evaluated by management on a segment basis. All significant customers are U.S. companies and the U.S. Government.

	Years Ended December 31,		
	2011	2010	2009
	<i>(in thousands)</i>		
Revenue			
RC	\$ 40,253	\$ 10,383	\$ 2,588
EC	9,967	9,825	15,947
CC	3,096	2,073	1,526
Total	\$ 53,316	\$ 22,281	\$ 20,061
Segment profit (loss)			
RC	\$ 17,984	\$ 7,842	\$ (1,313)
EC	1,350	2,114	5,326
CC	241	895	349
Total	\$ 19,575	\$ 10,851	\$ 4,362

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A reconciliation of the reported total segment profit to net income for the periods shown above is as follows:

	Years Ended December 31,		
	2011	2010	2009
	<i>(in thousands)</i>		
Total segment profit	\$ 19,575	\$ 10,851	\$ 4,362
Non-allocated general and administrative expenses	(14,980)	(30,884)	(15,625)
Depreciation and amortization	(1,568)	(917)	(577)
Interest and other income	2,218	2,510	34
Interest expense	(1,584)	(16)	
Settlement of litigation and arbitration award, net	(21,932)	6,072	
Net equity in net income (loss) of unconsolidated entities	(6,967)	(8,037)	(3,243)
Deferred income tax benefit	13,368	8,564	5,546
Net (income) loss attributable non-controlling interest	(7,981)	(3,613)	732
Net loss attributable to ADA-ES, Inc.	\$ (19,851)	\$ (15,470)	\$ (8,771)

Non-allocated general and administrative expenses include costs that benefit the business as a whole and are not directly related to one of our segments. Such costs include but are not limited to accounting and human resources staff, information systems costs, legal fees, facility costs, audit fees and corporate governance expenses.