

ADA-ES INC
Form ARS
April 25, 2013

President's Letter and

Annual Report for the

Fiscal Year Ended December 31, 2012

ADA-ES: Advancing Cleaner Energy

April 25, 2013

Dear Fellow Shareholders:

Overview

2012 was a year of significant achievements in each of our businesses; along with unexpected delays in expanding our Refined Coal (RC) business. However, I am confident that ADA-ES, Inc. (ADA or we) is very well positioned to capitalize on multiple opportunities, and that the prospects for the Company are stronger than at any time in our history.

In April 2012, the Mercury and Air Toxics Standard (MATS) took effect and our utility customers began their extended procurement processes to get orders placed for equipment to meet the rule by 2015. By year-end 2012, our Emission Control equipment backlog had grown to \$25.3 million, up from \$736,000 at year-end 2011, and included a fleet wide award for Activated Carbon Injection (ACI) systems from a major domestic utility and multiple awards for Dry Sorbent Injection (DSI) and ACI systems. Further wins have followed in early 2013. In Refined Coal, we began the full-time operation of six additional RC facilities, two of which use our M-45 technology, and we achieved qualifying emissions for pulverized coal boilers with our new M-45-PC technology. Our RC facilities produced a total of 15.3 million tons of RC in 2012, up from 5.8 million tons in 2011. During 2012, we leased two RC facilities, one to an existing RC investor and another to a new RC investor. The other four operating RC facilities were retained and operated by Clean Coal Solutions, LLC (CCS or the Clean Coal JV), which generated \$38.6 million in tax credits that can be used to offset future tax liabilities. Although we made progress in our RC business in 2012, closings of additional deals with power companies and investment partners for our RC facilities were delayed in the second half of the year for various reasons, including: permitting, regulatory approval, corporate financial restructuring of related third parties, change in plant ownership, changes in and retirements of personnel involved in the negotiations and uncertainties in the tax credit community. These issues are being resolved and we are encouraged by progress made in our RC business thus far in 2013, which we expect will accelerate into 2014 and beyond.

2012 Review

Refined Coal

Refined Coal segment revenues in 2012 were \$194.9 million, consisting of \$36.9 million in revenues from leasing four RC facilities and \$157.9 million related to the sale of coal for the RC facilities operated by the Clean Coal JV. Gross profit for the segment was \$15.7 million or 8% of total revenues compared to \$20 million and 50% in 2011 reflecting the higher tonnage treated by RC facilities retained by the Clean Coal JV. The reduction in margin was not due to decreased profitability of the business but to the accounting treatment for certain transactions. When the Clean Coal JV operates an RC facility and retains the tax credits, it incurs the cost of raw coal purchases and operating expenses of the RC facility and records the sale of the coal to the utility. Excluding the costs of coal sales and raw coal purchases of \$157.9 million and retained tonnage operating expense of \$20.4 million, segment gross margin was \$36.1 million, or 98% of adjusted Refined Coal segment revenues of \$37 million. For financial reporting purposes we consolidate all of

the revenues and operating income recognized by the Clean Coal JV and then deduct the net portion attributable to our JV partners below the operating income line in our consolidated financial statements.

In February of 2013 we finalized a contract with a new RC investor for one of the RC facilities that was operated by the Clean Coal JV and we expect a sixth RC facility that CCS is operating to be leased to an existing RC investor in the near future. When an RC facility that is operated by CCS is sold or leased to an RC investor, it generates an upfront payment from the RC investor, provides ongoing lease/ownership payments, and immediately ends the operating expenses incurred by CCS while it operated the facilities on its own. We believe these transactions will improve our reported results in the second quarter and have a significant impact in the second half of 2013.

We have 20 additional RC facilities that have met the IRS "Placed in Service" definition and qualify for an escalating tax credit (\$6.59 for 2013), but are not yet in full-time operation. Eight of these facilities are committed to sites and are in various stages of negotiations with RC investors and utilities—a complex set of transactions with multiple parties that can take six months or longer to complete. We expect the bulk of these facilities to be leased or sold to RC investors in the second half of 2013 with a closing for a few facilities delayed until 2014 due to financial restructuring of the power plants where the RC facilities are located.

The final 12 RC facilities are being marketed with our new M-45-PC technology, which allows the RC facilities to be used at power plants that use pulverized coal (PC). This technology, which was certified as eligible for the Section 45 tax credit in late 2012, greatly expands the addressable market for the remaining RC facilities to include many boilers that each burn more than five million tons of coal per year. Earlier this year we successfully completed full-scale testing at three power plants and believe that the first RC facilities using M-45-PC technology could be put into full-time operation later this year.

By the end of 2014, we expect to have all of our RC facilities leased or sold to RC investors, with the exception of those facilities that CCS will operate and retain the tax credits to offset any tax liabilities.

Emission Control

Emission Control (EC) revenues were \$14.6M, up 47% from 2011, and our EC segment backlog at year-end 2012 stood at \$25.3 million, up from \$736,000 in 2011 as utilities accelerated their purchase of equipment to help them meet the MATS compliance deadline in 2015. We believe that the MATS and other emission control regulations could generate a total market in excess of \$1 billion for ACI and DSI systems, and we are targeting to achieve a combined market share of about 35%, which is our historic market share for ACI systems.

We have taken a number of steps to prepare for this market, including the August 2012 acquisition of the assets of Bulk Conveyor Specialist, Inc., a leading provider of DSI systems. In addition, we have grown our engineering capabilities and have put in place arrangements with various suppliers and component manufacturers to meet the growing market demand. Since 2011 we have won more than \$60 million in DSI and ACI awards and are working on potential ACI and DSI projects with a combined value of over \$180 million. We are confident that the preparations taken in 2012, along with the expected sizeable cash inflows from our Refined Coal segment, give us the capacity and flexibility to help our customers meet the MATS timelines.

In addition to the \$1 billion market for ACI and DSI systems, we anticipate that a \$1-\$2 billion annual market will develop for the chemicals needed to capture mercury on a continuous basis. ADA will compete in this market with our pre-combustion additive technology including a product sometimes referred to as "Enhanced Coal." We believe our technology provides a benefit to the customer of up to \$4 per ton of coal burned when used on Western coals by eliminating or minimizing the amount of activated carbon (AC) needed to achieve compliance and reducing its negative impacts on fly ash sales. U.S. power plants consume up to 600 million tons of Western coal per year. One of the advantages of our technology is that it does not use bromine. The power industry is beginning to experience and report corrosion issues in their plants that they attribute to the addition of bromine used to enhance the capture of mercury. Thus, we have found the industry open to considering a new pre-combustion additive technology such as ours, which avoids what could be very expensive plant repairs associated with the use of competing products.

We provide pre-combustion additive technology through two channels. We have licensed the technology to Arch Coal, Inc. to apply to its Powder River Basin coals at the mines resulting in lower mercury emissions when that coal is burned. We will also be applying our technology at individual plants that source their coal from multiple providers. This year we are planning several demonstrations of the technology both at the mine and at specific power plants. As well, we were recently awarded the first of what we believe will be a family of patents designed to protect this technology both in the U.S. and abroad.

CO2 Capture

CO2 Capture revenues were \$3 million in 2012 as the Company continues its work on Phase II of a Department of Energy (DOE) funded \$20.5 million, 51 month project. We had DOE contracts, including anticipated industry cost share, in progress totaling approximately \$12.7 million as of December 31, 2012. We expect to recognize approximately \$9.7 million from these contracts in 2013 and the balance in 2014. We began construction of a pilot of our full-scale process design in mid-2012 with construction estimated to be completed in late 2013 and testing planned for 2014. We are considering different potential future commercial markets for carbon capture technology including producing CO₂ for use in enhanced oil recovery (EOR).

Financial Overview

Total revenues in 2012 rose 299% to \$212.5 million from \$53.3 million in 2011 with improving performance in all three of our business segments. Excluding coal purchases and sales of \$157.9 million in 2012 and \$20 million in 2011, revenues increased \$21.3 million, or 64%, from 2011.

2012 consolidated gross margin was \$20 million or 9% of revenues compared to \$24.4 million or 46% of revenues in 2011. The 2012 gross margin, excluding coal sales and purchases of \$157.9 million and operating costs for retained tons of \$20.4 million, was 74% of revenues compared to a gross margin in 2011 of 80%, excluding coal sales and purchases of \$20 million and operating costs for retained tons of \$2.3 million.

Cash and cash equivalents were \$9.7 million at year-end 2012, but did not include more than \$20 million received from RC investors from sale and lease transactions in the first quarter of 2013.

Conclusion and 2013 Outlook

So in conclusion, we are beginning to see very good progress in our two major business segments, Refined Coal and Emissions Control, as we focus on executing on opportunities that we expect will create significant revenue growth and cash flows for ADA over the next three years. We are also positioning ourselves for continued long-term success and are developing technologies for future markets.

We have a solid financial platform upon which to expand our operations and a dedicated group of stakeholders who remain committed to our cause.

On behalf of the Board of Directors, management and employees, I thank you for your continuing support and look forward to reporting on our progress.

Sincerely,

Michael D. Durham, Ph.D., MBA

President & CEO

EXECUTIVE OFFICERS

Michael D. Durham

President and Chief Executive Officer

C. Jean Bustard

Chief Operating Officer

Jonathan Lagarenne

Executive Vice President

Graham O. Mattison

Vice President of Investor Relations

Richard L. Miller

Vice President Business Development

BOARD OF DIRECTORS

Robert N. Caruso (3,7)

Managing Partner

B/3 Management Resources, LLC

President

Design Net Engineering, LLC

Vice President

IngeniumCare, LLC

Michael D. Durham

President and Chief Executive Officer

ADA-ES, Inc.

Derek C. Johnson (5,7)

President

Visual Merchandising, Inc.

Director

Qualmark Corporation, Inc.

W. Phillip Marcum (1,6,7)

Mark H. McKinnies

Senior Vice President, Chief Financial Officer and Secretary

Sharon M. Sjostrom

Chief Technology Officer

Christine B. Amrhein

Vice President and General Counsel

Cameron E. Martin

Vice President Emission Control Systems

Richard J. Schlager

Vice President of Administration

Kim B. Clarke (6,7)

Senior Vice President and Chief Administrative Officer

Key Energy Services, Inc.

Alan Bradley Gabbard (5,6)

Director, President and Chief Financial Officer

Recovery Energy, Inc.

Ronald B. Johnson (5,6)

President and owner

Twin-Kem International, Inc.

President

ExecuVest, Inc.

Mark H. McKinnies

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| | |
|------------------|--|
| Principal | Senior Vice President, Chief Financial Officer and Secretary |
| MG Advisors, LLC | ADA-ES, Inc. |

Chairman of the Board

Applied Natural Gas Fuels, Inc.

Director

Key Energy Services, Inc.

Recovery Energy, Inc.

Robert E. Shanklin (7)

Jeffrey C. Smith (4,6)

Vice President of Coal Technology

Retired

Arch Coal, Inc.

Law Office of Jeffrey C. Smith

Richard J. Swanson (2,6)

Advisor and performance coach

1 - Chairman of the Board of Directors

2 - Chairman of the Audit Committee

3 - Chairman of the Compensation Committee

4 - Chairman of the Nominating and Governance Committee

5 - Member of the Audit Committee

6 - Member of the Compensation Committee

7 - Member of the Nominating and Governance Committee

SHAREHOLDER INFORMATION

Shareholder Correspondence:

ADA-ES, Inc.

Attention: Corporate Secretary

9135 South Ridgeline Boulevard, Suite 200

Highlands Ranch, CO 80129

Transfer Agent:

Computershare

350 Indiana St, Suite 750

Golden, CO 80401

INVESTOR RELATIONS

Security analysts, investment professionals and shareholders can find investor relations information on the Internet at **www.adaes.com**.

Written inquiries should be directed to:

ADA-ES, Inc.

Attention: Vice President of Investor Relations

9135 South Ridgeline Boulevard, Suite 200

Highlands Ranch, CO 80129

Telephone: (303) 734-1727

MARKET INFORMATION FOR COMMON STOCK

ADA-ES, Inc. common stock is listed on the Nasdaq Capital Market under the symbol ADES.

ANNUAL MEETING OF SHAREHOLDERS

The annual meeting will be held at 9:00 a.m. (local time) on June 13, 2013 at the Company's offices, located at 9135 South Ridgeline Boulevard, Suite 200 in Highlands Ranch, Colorado. A notice of the meeting, together with a form of Proxy, a Proxy Statement, and the Annual Report will be mailed or will otherwise be available to shareholders on or about April 29, 2013, at which time proxies will be solicited by the Board of Directors.

Availability of Proxy Statement and Form 10-K:

The Proxy Statement and the Form 10-K are available on the Internet at www.adaes.com. Additional copies of the Proxy Statement or the Annual Report may be obtained without charge by written request to the Investor Relations Department as listed above.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

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For the Fiscal Year ended December 31, 2012:

EKS&H LLLP

7979 E. Tufts Ave, Suite 400

Denver, CO 80237-2843

NON-INCORPORATION OF FORM 10-K WRAP

For the Fiscal Year ending December 31, 2013:

KPMG LLP

1225 17th Street, Suite 800

Denver, CO 80202-3499

ADA-ES, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2012, as filed with the SEC, is included within this Annual Report. Other than the Form 10-K, all other portions of this Annual Report are not filed with the SEC and should not be deemed so.

CERTIFICATIONS

The most recent certifications by our Chief Executive Officer and Chief Financial Officer pursuant to sections 302 and 906 of the Sarbanes-Oxley Act of 2002 are filed as exhibits to our Form 10-K.

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, 2012

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)

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Colorado
(State of incorporation)

84-1457385
(IRS Employer)

9135 South Ridgeline Boulevard, Suite 200, Highlands Ranch, Colorado 80129
(Address of principal executive offices) (Zip Code)

(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 | <input type="checkbox"/> | Accelerated filer | <input checked="" type="checkbox"/> |
| Non-accelerated filer | <input type="checkbox"/> | Smaller Reporting Company | <input type="checkbox"/> |

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, 2012 was \$229,487,000.

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 8, 2013

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Common Stock, no par value

10,059,145

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 2013 are incorporated by reference into Part III of this Form 10-K.

PART I

Item 1. Business

Abbreviations We Use in this Report

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

Business Purpose and Strategy

Incorporated in Colorado in 1997, ADA is a leader in clean coal technologies and associated specialty chemicals, primarily serving the coal-fueled power plant industry. Our proprietary environmental technologies and specialty chemicals enable power and coal-fired plants to enhance existing air pollution control equipment, minimize mercury, CO₂ and other emissions, maximize capacity and improve operating efficiencies, to meet the challenges of existing and pending emission control regulations. ADA became a stand-alone public company through a spin-off from its parent company, Earth Sciences, Inc. in September 2003. We have four wholly-owned subsidiaries, which include 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 operations during the year, BCSI, LLC, a Delaware limited liability company (BCSI) 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 and other companies to remain competitive while meeting environmental regulations. Additionally, many of our proprietary patented technologies and services are intended and expected to provide a continual revenue stream for the Company.

Our major activities include:

Development and marketing of our refined coal (RC) technologies, including the lease or sale of RC facilities for control of nitrous oxides (NO_x) 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 with 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 (SO₂) and particulate matter for coal and solid fuel fired boilers primarily used in electric generation,

Research and development of carbon dioxide (CO₂) 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).

Financial Information for Industry Segments

We have three reportable segments:

Refined coal or RC,

Emission control, or EC, and

CO₂ 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 16 Business Segment Information and that information is incorporated by reference here.

Our Business in Detail

Markets for Our Products and Services

The primary drivers for many of our EC products and services are environmental laws and regulations primarily impacting the electric power generation industry and other coal users. Environmental regulations, such as the 1990 Clean Air Act Amendments, the Mercury and Air Toxics Standards (MATS) regulations, various Maximum-Achievable Control Technology (MACT) standards including the Industrial Boiler MACT (IBMACT) regulations, Cement MACT (as defined below) regulations, various state regulations and permitting requirements for coal-fired power plants are requiring electric power generators and others to reduce emissions of pollutants, such as particulate matter, SO₂, NO_x, mercury, and acid gases. We are a key supplier of mercury control equipment and services, which include activated carbon injection (ACI) systems, to the EC market whose commercial equipment component first began in 2005 when several individual states began to require limits on mercury emissions. We also offer dry sorbent injection (DSI) systems to control sulfur dioxide and acid gases such as hydrogen chloride (HCl) and sulfur trioxide (SO₃).

We conduct research and development efforts in CO₂ capture and control from coal-fired boilers. In September 2010, we signed our second significant contract related to CO₂ capture with the DOE for a project that is expected to continue through the end of 2014.

Our RC segment generates revenues through the lease or sale of RC facilities that produce RC intended to qualify for production tax credits under Section 45 of the Internal Revenue Code (Section 45 tax credits), to third party investors, as well as operating RC facilities and keeping the tax credits for our own and our partners' accounts. To date, 28 RC facilities have been placed-in-service through Clean Coal, our RC joint venture. Unless Congress again extends the placed-in-service deadline for such facilities, which has expired, we do not expect to place any more RC facilities into service.

Our business is based upon providing technology for the approximately 1,200 coal-burning plants that currently produce roughly 40% 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 and, 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 capital expenditure (CAPEX) mercury control technologies and systems, such as ACI systems, that effectively reduce mercury emissions over a broad range of plant configurations and coal types,

Dry sorbent injection systems to reduce emissions of SO₂ and acid gases such as SO₃ and HCl,

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

Through Clean Coal products, such as our CyCleanTM, M-45TM and M-45-PCTM technologies, our proprietary pre-combustion coal treatment processes that provide electric power generators control of NO_x and mercury emission control,

Licenses of our proprietary technology, such as with Arch Coal, that allow Arch Coal to enhance certain of their coals resulting in reduced mercury emissions when the coal is burned, and

Research and development of technologies such as those aimed at the capture of CO₂ 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. The coal-fired power industry has been under increased scrutiny over environmental issues during the last several years, especially related to NO_x, SO_x, particulate matter, and mercury emissions, as well as the impact of CO₂ emissions on climate change. In response to concerns expressed by environmental groups and others, various state officials rejected or delayed 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 SO₂, NO_x, and particulate matter) and now for pollutants such as mercury, acid gases, and emissions such as CO₂ or face closure. Therefore, the current trend toward cleaner energy has created growing markets 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 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 control of 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 took effect on April 16, 2012. The EPA is reconsidering certain aspects of the MATS relating to new source standards due to various lawsuits. We believe these lawsuits and the EPA's rulemaking will not impact our ongoing business, which is focused on existing sources of HAPs.

The MATS for existing HAP sources 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. Units with lower generating capacities will instead fall under the IBMACT rule once it goes into effect in 2014. 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 limit for mercury emissions, which is 1.2 pounds per trillion BTU (1.0 pound per trillion BTU if 90 day averaging is used). This emission limit corresponds to the 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 having a greater than 8,500 BTU per pound heat rate. For plants burning lower rank coals such as lignite, the emission limit is 4.0 pounds per trillion BTU. The EPA estimates that there are approximately 1,200 coal-fired units and 300 oil-fired units affected by the MATS. Existing sources must comply with the MATS standards by April 16, 2015. An authorized State 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 issuing standards covering 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 (the Cement MACT). The Cement MACT regulation was initially 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. The EPA issued the final Cement MACT regulation on February 12, 2013. 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 August 6, 2013 including 92% of mercury emissions and 83% of hydrocarbons emissions. This regulation could require 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. The EPA also issued a new IBMACT regulation for coal-fired boilers that provide mostly steam and/or electricity for small industrial and institutional power needs with no more than 25 megawatts of electricity sold to the grid per year. 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 23, 2011, the EPA issued proposed reconsiderations of certain aspects of the IBMACT, including clarification of applicability and implementation issues. The EPA finalized the rule on February 1, 2013.

The IBMACT rule could impact over 600 existing coal-fired industrial boilers, which have until 2014 to comply. The final emission limit of 5.7 pounds of mercury per trillion BTU for existing and 80 pounds per trillion BTU for new coal-fired industrial boilers on average requires no less than 50% capture of mercury from coal-fired boilers burning various coals. However, we believe the final IBMACT could significantly increase the market for DSI systems when considering the requirements to limit HCl emissions to levels of 0.022 pounds per million BTU.

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 operators subject to the rules in choosing low CAPEX emissions control technologies and likely fewer forced plant retirements from having to install large CAPEX emission control equipment such as scrubbers and baghouses. We believe the MATS will create a large market for our emission control and RC products.

The Cross State Air Pollution Rule (the CSAPR), formerly known as the Transport Rule, was finalized by the EPA on July 6, 2011. CSAPR was intended to replace the EPA's 2005 Clean Air Interstate Rule (CAIR) and would have required 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 SO₂ and NO_x 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 the potential for irreparable harm caused by the rule.

On August 21, 2012, in a 2-1 decision, the U.S. Court of Appeals for the D.C. Circuit issued a decision vacating the CSAPR, ruling that the EPA exceeded its statutory authority in promulgating the rule. The court said the Clean Air Act gives the EPA the authority to require upwind states to reduce only their own significant contributions to a downwind state's nonattainment. Yet under CSAPR, upwind states may be required to reduce emissions by more than their own significant contributions to a downwind state's nonattainment. Furthermore, the court found that the Clean Air Act presents the states an initial opportunity to implement the required reductions, but under CSAPR, the EPA issued federal implementation plans (FIPs) without first providing states with the opportunity to put together their own implementation plans. The court thus vacated CSAPR and the CSAPR FIPs and remanded the case to the EPA for action consistent with the decision. The court directed the EPA to continue administering the CAIR pending the promulgation of a valid replacement. On January 24, 2013, the court denied the EPA's petition for rehearing of the court's decision vacating the CSAPR.

ADA's total potential market may increase as a result of this ruling because CSAPR was driving many announced plant retirements. With CSAPR's proposed requirement to reduce SO₂ emissions delayed for several years, certain plants that would have been retired had the rule remained in effect could instead have extended lives and will need to control acid gas and mercury emissions by 2015 in order to comply with the MATS.

On December 15, 2009, the EPA issued an endangerment finding that triggered a Clean Air Act requirement that the agency regulate CO₂ 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 court is considering arguments regarding the 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 if and when New Source Review and Prevention of Significant Deterioration regulations apply. On March 27, 2012, the EPA proposed its first new source performance standards for CO₂ emissions from new power plants as a result of a separate settlement with states and environmental groups in 2010.

Several 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 emission 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 when combined with the installation of low CAPEX systems such as ACI and DSI systems. If utilities need to upgrade their equipment with new large CAPEX equipment such as fabric filters or SO₂ scrubbers, they will need to quickly begin procurement of these systems due to long required lead times in their implementation. As a result we expect additional near-term ACI and DSI demonstration revenue and bidding on related ACI and DSI equipment as discussed below.

Refined Coal

In 2006, ADA established Clean Coal with an affiliate of NexGen to commercialize our patented RC technologies that reduce emissions of NO_x and mercury from certain coals in cyclone boilers. ADA licensed its CyClean technology, including the claims contained in certain patents, to Clean Coal upon formation of this joint venture. In July 2012, ADA licensed its M-45 technology (the M-45 License) to Clean Coal in order to leverage Clean Coal's operating expertise and 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. Clean Coal supplies

chemicals, additives, equipment and technical services to boiler users, but its primary purpose is to qualify RC for the Section 45 tax credits which amounted to \$6.47 per ton of RC in 2012 and is expected to escalate annually through 2021.

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 its 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. 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.

Clean Coal generates revenues from leasing or selling RC facilities to third party investors and by generating tax credits by retaining and operating certain of the 28 RC facilities through their respective 10 year terms. Upon the expiration of the tax credits on December 31, 2021, we expect the leases of RC facilities to third party investors will terminate and Clean Coal will have the option to repurchase RC facilities previously sold to third party investors. Clean Coal may then lease or sell the RC facilities directly to the utilities that own and operate the power plants at which the RC facilities are located or operate the facilities on behalf of utility customers given the significant benefit of the mercury reductions such facilities provide. After December 31, 2021, Section 45 tax credits would no longer be available absent further extension by Congress.

We are in the process of increasing the number of potential third party investors that we are negotiating with to invest in RC facilities. As more of the RC facilities become operational and operate for longer periods, we believe the technical and tax credit-related risks will be reduced.

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

Emission Control

Activated Carbon Injection and Dry Sorbent Injection Systems

ACI systems are currently the most established and accepted technology to specifically control mercury emissions and have been widely deployed to meet the existing state and new plant regulations. Based on procurement activity in the second half of 2012 and 2013 to date demand for ACI systems has significantly increased as a result of the recently finalized MATS rule.

In addition to ACI systems for mercury control, we have developed and are providing commercial DSI systems that inject dry alkaline sorbents to control acid gases such as SO₃ and HCl. Our DSI technology is also used to control SO₂, one of six criteria air pollutants. The use of DSI for SO₃ reduction has also been shown to enhance the capture of mercury from bituminous coal-fired boilers. We conducted several full-scale tests of our DSI equipment over the past three years for the control of HCl, SO₂ and SO₃ on plants burning bituminous, PRB, and lignite coals.

In order to meet the expected demand in the ACI and DSI markets, on August 31, 2012, our newly formed, wholly owned subsidiary BCSI, LLC, acquired the assets of Bulk Conveyor Specialist Inc., a leading privately held fabricator and supplier of DSI systems and other material handling equipment, and Bulk Conveyor Services, Inc. (together, Bulk Conveyor). In order to integrate the acquisition, Aaron Prince, who previously served as Refined Coal Development Director for Clean Coal, became the General Manager of the new subsidiary. In addition, the former owner of Bulk Conveyor entered into an exclusive consulting agreement with BCSI. This acquisition provided us with the capacity, experience and resources to provide customers with additional solutions for emissions compliance and the addition of Bulk Conveyor's manufacturing facility also allowed us to expand our capacity for supplying ACI systems. Currently BCSI is executing a large fleet utility contract for several DSI systems for SO₃ control and has several outstanding proposals for additional systems.

Enhanced Coal and License to Arch Coal

Another ADA mercury-only coal treatment technology is in the initial stages of being marketed by the Company to meet mercury requirements currently existing in 19 states and the MATS requirements set to go into effect in 2015. 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 the coal to be burned with lower mercury emissions. We believe that a technical breakthrough that involves the application of proprietary chemicals to Western coals such as PRB reduces emissions of mercury when this Enhanced Coal is burned at power plants. We believe our Enhanced Coal technology may provide a benefit to the customer of up to \$4 per ton of coal burned when used on Western coals, of which U.S. power plants burn up to 600 million tons per year.

We provide Enhanced Coal through two channels (1) through Arch Coal for use on PRB coal at the mine and (2) through direct coal treatment applied on-site at power plants. In June 2010, we entered into a Development and License Agreement (the "License Agreement") with Arch Coal giving them 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, and we have completed several additional demonstrations of the technology at specific power plants.

The MATS will likely create a market for chemicals to be used for the reduction in mercury emissions for much of the 600 million tons of western coals burned annually. One of the advantages of the chemical used in our Enhanced Coal technology is that it does not use bromine. The power industry is beginning to experience corrosion issues in their plants that they attribute to bromine that was used to enhance the capture of mercury. Thus, we have found the industry open to considering a new technology such as Enhanced Coal which helps avoid what could be very expensive repairs on the plants. In October of 2012 we were awarded the first of what we believe will be a family of patents designed to protect our technology both in the U.S. and abroad.

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 and may aid in the control of mercury emissions using ACI equipment.

Other Consulting Services

We also offer consulting services to assist electric power generators and others in planning and implementing strategies to meet the new and increasing government emission standards requiring reductions in SO₂, NO_x, particulates, acid gases and mercury. This includes demonstrations of our commercial products. We often receive funding for consulting and a portion of our development and testing activities from industry partners that have a strategic interest in the technology.

CO₂ 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 the 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, some or all of which we may contract to others, 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 DOE is providing partial funding for CO₂ control projects and in September 2010 we signed a contract with the DOE to continue development of clean coal technology to capture CO₂ from coal-fired power plants and other industrial sources of CO₂ 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 2012 pursuant to which we are researching and developing a novel process to capture CO₂ from coal-fired power plants. In June 2012, we initiated the fabrication and construction phase for a pilot plant to treat a slipstream of flue gas equivalent to that generated from producing one-megawatt of electricity. The pilot plant, which is scheduled to commence operations in October 2013, will be installed at Southern Company subsidiary Alabama Power's Miller Electric Generating Plant outside of Birmingham, Alabama.

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 2013, contributions from the DOE, industry partners and EPRI will not fully cover the required project costs calculated at the DOE allowed overhead rates. 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 could negatively impact our margins on these projects.

Competition

ACI systems are the most established mercury specific control technology with over 150 commercial installations to date. We have the largest share of the market, with systems on 69 boilers to date, generally yielding up to 90% mercury control on many applications. This approach to mercury control is cost effective compared to other available technologies that require capital intensive equipment such as wet scrubbers, generally installed for other pollutants, but control mercury emissions as well. We add significant value to our base offerings by having complementary products and services. Our expertise and experience in conducting full-scale emissions control demonstrations reflects our understanding of the application of the control technologies that customers find invaluable. Our ability to provide users with performance guaranties on our equipment along with comprehensive testing services and overall compliance strategies enhances our competitive position in this market. The ACI and DSI capital equipment we provide for the larger utility coal-boilers generally ranges from approximately \$600,000 to \$2 million per coal-fired boiler unit. We believe companies such as Norit Americas, Inc. (Norit), a division of Cabot Corporation, Alstom Power, 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, terms of performance guaranties and the ability to meet the requested schedule. In addition, certain of our competitors have the ability to offer their own activated carbon for use in their ACI systems, which may provide them with a competitive advantage. Based on the contracts we have been awarded since 2005, we believe that we are one of the market leaders, with 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, Clyde Bergemann, Nalco and Babcock & Wilcox 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 engineering, fabrication, delivery and installation 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 17 United States patents and have an additional 17 United States and seven international 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 and steel from a variety of vendors for the engineered ACI 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 materials and components from a variety of vendors for the DSI systems fabricated at BCSI facilities. We typically fabricate our own DSI silos, manifolds, lances and control panels and integrate these components and auxiliary buildings at our shop. 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 and patented 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 10, 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 chemicals are provided or RC equipment is sited, respectively. These customers routinely schedule maintenance outages in the spring and/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 2012, we performed work on ACI systems for 11 customers. In 2012, through Clean Coal, we recognized 16% of our total revenue from the lease of three of our RC facilities from two entities related to GS. Our own sales staff markets our technology through trade shows, mailings and direct contact with potential customers.

Backlog Orders

As of December 31, 2012, we had contracts in progress for work related to our EC segment totaling approximately \$25.3 million which we expect to recognize in 2013 and 2014. Our current DOE and industry funded R&D contract in progress, assuming no changes in funding, are expected to result in future revenues of \$12.7 million, of which we expect to recognize approximately \$9.7 million in 2013.

Research and Development Activities

In 2012, we were involved in several consulting R&D contracts funded by DOE, industry groups and ourselves, directed toward the control of mercury emissions, DSI, RC activities, Enhanced Coal activities and CO₂ 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 2012 was \$253,000. We spent \$311,000 and \$418,000 on our own behalf on research and development activities related to further development of our technologies during 2012 and 2011, respectively, exclusive of CO₂ capture related efforts.

Employees

As of December 31, 2012, ADA employed 105 full-time and part-time personnel, including ten Company executives. 95 people are employed at our offices in Colorado, two are employed by us in Pennsylvania and one is employed by us in each of Maryland, Massachusetts, Alabama, Georgia, New Jersey, Texas, Utah and Illinois. BCSI, our wholly owned subsidiary located in Pennsylvania, employed an additional 55 full-time and part-time personnel and Clean Coal employed 6 full-time employees in Colorado, and 1 located in California.

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.

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 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:

- (a) the scope and impact of mercury and other regulations or pollution control requirements, including the impact of the final Mercury and Air Toxics Standards (MATS);
- (b) expected growth in and potential size of our target markets;
- (c) expected supply and demand for our products and services;
- (d) the effectiveness of our technologies and the benefits they provide;
- (e) expected timing of conducting additional demonstrations of our technology;
- (f) the timing of awards of, and work under, our contracts and agreements and their value and their availability;
- (g) expected production levels at our refined coal (RC) facilities, when those RC facilities will be placed into permanent operation expected use of the tax credits under Section 45 of the Internal Revenue Code (Section 45 tax credits) generated by the RC facilities and the expected future value of Section 45 tax credits;
- (h) the status upon expiration of the Section 45 tax credit of RC facilities that we lease or sell;
- (i) our ability to profitably sell, lease and/or recognize the tax benefits from operating additional RC facilities;
- (j) timing and amounts of or changes in future revenues, funding for our business and projects, margins, expenses, earnings, tax rate, cash flow, working capital, liquidity and other financial and accounting measures;
- (k) the materiality of any future adjustments to previously recorded revenue as a result of Department of Energy (DOE) audits and the amount of contributions from the DOE and others towards project demonstrations;
- (l) the ability of third parties to which we lease or sell RC facilities to obtain Private Letter Rulings (PLRs) from the Internal Revenue Service (IRS); and

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- (m) whether any legal challenges or Environmental Protection Agency (EPA) actions will have a material impact on the implementation of the MATS or other regulations.

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 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;
- (i) governmental audits of our costs 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 sell or lease to the RC facilities to third party investors or use the Section 45 tax credits generated by their operation and;

(n) Parties to which we have leased or sold RC facilities and that have requested a PLR from the IRS will receive such PLRs. 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 on Form 10-K, 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 Report 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 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, OR GRANTING OF EXTENSIONS OF COMPLIANCE DEADLINES 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 and other 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 the Clean Air Mercury Rule 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.

The implementation of environmental regulations regarding certain pollution control and permitting requirements has been delayed from time to time due to various lawsuits. The uncertainty created by litigation and reconsiderations of rule-making by the EPA has negatively impacted our business, results of operations and financial condition and will likely continue to do so.

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 GENERATE REVENUES FROM THE SALE OR LEASE OF ADDITIONAL RC FACILITIES TO THIRD PARTY INVESTORS IS NOT ASSURED, AND THE INABILITY TO SELL, LEASE OR OPERATE RC FACILITIES TO GENERATE SECTION 45 TAX CREDITS COULD ADVERSELY AFFECT OUR FUTURE GROWTH AND PROFITABILITY.

To take advantage 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 for a total of 28 RC facilities. Clean Coal has leased or sold five of these RC facilities and is presently operating only eight RC facilities in total. Except for RC facilities that Clean Coal plans to retain and operate permanently for its own account, Clean Coal is attempting to sell or lease the remaining facilities to third party investors who receive the benefit of the Section 45 tax credits. Agreements have been finalized for the lease of one additional RC facility, which is awaiting permits and is not yet operating. The inability of Clean Coal to successfully lease or sell additional facilities to third party investors who will receive the benefit of the Section 45 tax credits that it expects to generate from those facilities would likely have an adverse effect on future growth and profitability.

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 utilize 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 sale or lease of RC facilities over the next nine years to return the initial investment in Clean Coal of \$60 million made by GSFS, an affiliate of GS, plus a 15% return thereon, then GSFS may require Clean Coal to redeem its interest in Clean Coal for any deficit of such amount not distributed to GSFS.

MARKET UNCERTAINTY CREATED BY THE LACK OF GUIDANCE AND RULINGS ISSUED BY COURTS AND THE INTERNAL REVENUE SERVICE COULD INHIBIT OUR ABILITY TO LEASE OR SELL ADDITIONAL RC FACILITIES OR REQUIRE A RESTRUCTURING OF, OR RESULT IN THE TERMINATION OF, EXISTING ARRANGEMENTS.

The availability of Section 45 tax credits to taxpayers with which we engage in lease or sale transactions depends upon a number of factors, including the risk assumed by the taxpayer in the transactions pursuant to which it earns Section 45 tax credits. The law addressing when a taxpayer may and may not avail itself of Section 45 tax credits is not fully developed and is subject to rulings by courts, interpretations by the IRS and other official pronouncements on tax credit regulations. If rulings, guidance or other pronouncements of courts or the IRS are lacking or become available and are interpreted as allowing the IRS to restrict the availability of, increase the difficulty of taking advantage of or suggest that the ability of taxpayers to take advantage of Section 45 tax credits may be limited in the future, several aspects of our RC business could be adversely impacted, including the viability of the market for Section 45 tax credits in general, the perceived risk involved in obtaining Section 45 tax credits and thus the price a third party would be willing to pay for them and the structure of agreements that we enter into to lease or sell our RC facilities.

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 long-term operation in June 2010 and six more facilities since the first quarter of 2012. It 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/or delays in, or postponement or cancellation of, expected potential future installations and operations at electric power generators and would likely have a material adverse effect on our business, financial condition and results of operations.

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

We own and control only one manufacturing and assembly facility for our ACI systems, our DSI systems and other components that we sell in our business. Like most of our competitors, we rely heavily upon third parties for the manufacture, assembly and some of the testing of key components, tanks and equipment. Delays and difficulties in the manufacturing or assembly of our products and equipment 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.

WE PRESENTLY RELY UPON ONE CUSTOMER AT THREE OF CLEAN COAL'S OPERATING 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 28 RC facilities into operation prior to the 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 three of the facilities in the Midwest to two entities related to GS, in exchange for rent payments based on the availability of Section 45 tax credits to the lessee. In 2012, through Clean Coal, we recognized 16% of our total revenue from our arrangements with these GS related entities. The lease agreements for the first two leases with GS RC Investments, LLC, (GS RC) an entity related to GS, were amended in March 2013 to change the structure and timing of the lease payments. The payments will be paid quarterly in advance and subject to adjustments for inflation. Each lease has an initial non-cancellable term of two years and will automatically renew, unless terminated at the option of the lessee thereof, for successive one-year terms through November 9, 2021 and December 10, 2021, as applicable.

If these GS related entities terminated the leases for these RC facilities or if the utility customers reduce their use of RC at the six furnaces that these RC facilities feed, this could have a material adverse effect on our business, results of operations or 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 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 company regularly involved in developing and commercializing 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 remained at relatively low levels after a period of sharp decline, 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.

Additionally, long-term changes in environmental regulation that threaten or preclude the use of coal or other fossil fuels as a primary fuel source for electricity production, and result in the reduction or closure of a significant number of coal-fired power plants, may adversely affect the Company's business, financial condition 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 DO NOT MEET OUR CUSTOMERS' EXPECTATIONS, THEN OUR SALES, RESULTS OF OPERATIONS 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 certain ACI and DSI systems we have sold and are responsible within contractual limits for repair or replacement costs and certain operating costs if those systems do not perform as promised. Continued improvement in 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 design, test and manufacturing processes for our EC systems and processes may not be sufficient to avoid failures and/or lack of adequate performance in our

EC systems and related technologies that may 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 Refined Coal, LLC (NexGen), Arch Coal, Inc. (Arch Coal) and other licensees 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 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;

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 government economic policies.

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 FUTURE 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 AND MAGNITUDE OF OUR 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 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 HAVE SOLE CONTROL OF 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 respective governing Boards, (2) design and implementation of financial and operational controls and reporting requirements, (3) hiring, (4) design, construction, testing 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.

AN INJURY TO OR DEATH OF 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 EFFECTS OF ISSUING PERFORMANCE GUARANTEES FOR COMMERCIAL ACI AND DSI SYSTEMS AND ISSUING PAYMENT AND PERFORMANCE GUARANTEES FOR CLEAN COAL'S RC FACILITIES ARE LARGELY UNKNOWN AND COULD ADVERSELY AFFECT OUR FINANCIAL CONDITION.

Performance and payment guarantees have been and will likely continue to be an integral part of successful sales of our products and services. Guarantees with respect to our ACI and DSI systems typically require levels of emission removal efficiency based on stated injection rates of a specified or approved absorbent or alkali material, as the case may be, given other operating parameters, including the nature of the coal burned. Such guarantees 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. Recently our

customers have sought stronger guarantees, which place us at greater risk. In addition to guarantees on ACI and DSI systems, we have provided certain of Clean Coal's lessees with joint and several guarantees guaranteeing any payments and performance that might be due to the lessee under the various agreements Clean Coal executed. Any substantial payments made under such guarantees could 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 most 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 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 RC BUSINESS, AND THE LOSS OF THEIR SERVICES COULD HAVE AN ADVERSE EFFECT ON THE GROWTH OF 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.

Twelve 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 2005 and later have not been finalized. Revenues recognized from 2005 through 2012 that are or were subject to government audit totaled \$31 million. In addition, we had \$12.7 million of remaining unearned amounts under contracts subject to audit as of December 31, 2012. 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 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 8, 2013, we had 10,059,145 shares of common stock issued and outstanding. Sales of significant quantities 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 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.

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 by leasing or selling 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.

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From December 31, 2011 to December 31, 2012, the closing price of our common stock ranged from \$14.22 to \$29.17 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.

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 OUR INTERNAL CONTROL OVER FINANCIAL REPORTING 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. In June of 2012, management determined that the Company's interest in Clean Coal held by an affiliate of GS would be more appropriately classified as temporary equity instead of as part of stockholders' equity. Management made this determination because of a provision in Clean Coal's operating agreement that permits GS under certain limited circumstances to require redemption of the unreturned portion of its initial investment in Clean Coal plus a return of 15%.

In August of 2012, management determined that the Company should have recognized a full valuation allowance against its net deferred tax assets. Management made this determination after reconsidering the weight given in its original assessment of the potential for ultimate realization of the deferred tax assets to the relevant information used to measure the positive and negative evidence weighing for and against such potential. As a result of these determinations, in October of 2012, the Company restated its consolidated financial statements as of and for the years ended December 31, 2010 and 2011 and the quarterly periods ended March 31, 2011, June 30, 2011, September 30, 2011, March 31, 2012 and June 30, 2012.

Management determined that the issues leading to the restatements arose because of material weaknesses in the Company's internal control over financial reporting. 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. Management has taken steps to remediate the material weaknesses that it identified and, while management feels that it has remediated these material weaknesses, we cannot assure you that we will not have material weaknesses of internal control over financial reporting in the future.

Because we for a time did not maintain a system of internal control over financial reporting that met the requirements of Section 404, we could be subject to sanctions or investigation by regulatory authorities such as the Securities and Exchange Commission or by the NASDAQ Stock Market. Additionally, the failure to comply with Section 404 or the report by us of any further 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 leases office and warehouse space in Highlands Ranch, Colorado, a suburb of Denver. Our operating leases generally provide for periodic increases in rent and renewal options. The office lease that was entered into in 2012 covers approximately 30,000 square feet of office space, expires in February 2019 and includes 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. The lease also included a one-time tenant improvement allowance in an amount of approximately \$480,000.

ADA leases approximately 150,000 square feet of office and warehouse space in Highlands Ranch, Colorado which expires in October 2017 with the option to renew for two additional three-year periods. ADA also leases approximately 15,000 square feet of warehouse space in Highlands Ranch, Colorado which expires in February 2019 and includes the option to renew for two additional five-year periods. The lease also included a one-time tenant improvement allowance of approximately \$150,000. Clean Coal entered into a sub-lease agreement for office space in 2012 with an entity related to NexGen that expires in February 2021. Future consolidated annual lease costs are expected to amount to approximately \$4.6 million through February 2021.

Clean Coal Leases and Sale

Clean Coal leased two RC Facilities in June 2010 to an entity related to GS. The current leases for these facilities were entered into in March 2013, have initial terms of two years and will automatically renew for up to seven additional one year terms unless sooner terminated by the parties, which may be effective as of the end of any term by providing three months prior written notice.

Clean Coal leased a third RC facility in the first quarter of 2012 to another related entity of GS. The lease has a preliminary lease term that renews every fifteen days and will continue to renew until the initial lease term commences once certain conditions are satisfied. The lessee has until November 30, 2013 to provide notice to renew or terminate the lease.

Clean Coal leased a fourth RC facility to another third party investor in August 2012. The lease contains an initial three year term, with additional automatic renewal terms for six successive one year terms ending in 2021, subject to certain termination clauses.

In February 2013 Clean Coal finalized a contract for the sale of a fifth RC facility with a new third party investor. The economic structure of the sale is similar to that of the initial leases and provides the buyer with the right to require Clean Coal to repurchase the facility for a nominal fee in certain circumstances.

The above RC facilities are located in the Midwest.

Item 3. Legal Proceedings.

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

Part II**Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.****Price Range of Common Stock**

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 2012 and 2011:

| | 2012 | | 2011 | |
|-------------|----------|----------|----------|----------|
| | High | Low | High | Low |
| 1st Quarter | \$ 27.00 | \$ 20.27 | \$ 24.92 | \$ 10.53 |
| 2nd Quarter | \$ 29.83 | \$ 21.46 | \$ 24.75 | \$ 7.58 |
| 3rd Quarter | \$ 25.55 | \$ 18.69 | \$ 19.37 | \$ 13.26 |
| 4th Quarter | \$ 23.76 | \$ 13.88 | \$ 23.41 | \$ 13.52 |

Holders

The number of record holders of our common stock as of March 8, 2013 was approximately 1,300. The approximate number of beneficial shareholders is estimated at 3,600.

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, 2012.

Company Stock Performance

The following graph shows a five-year comparison of cumulative total shareholder return, calculated on a dividend reinvested basis, for the Company, the Russell 2000 Index, the Russell 3000 Index, and an average of a peer group index including ten companies as determined by the Company. The graph assumes \$100 was invested in each of the Company's common stock, the Russell 2000 Index, the Russell 3000 Index, and the peer group index as determined by the Company as of the market close on December 31, 2007. Data points on the graph are annual. Note that historic price performance is not necessarily indicative of future stock price performance.

* 100 invested on December 31, 2007 in stock or index, including reinvestment of dividends.

INDEXED RETURNS

Base

| Company Name / Index | Period | | | Years Ended | | |
|----------------------|------------|------------|------------|-------------|------------|------------|
| | 12/31/2007 | 12/31/2008 | 12/31/2009 | 12/31/2010 | 12/31/2011 | 12/31/2012 |
| ADA-ES, Inc. | \$ 100 | \$ 41 | \$ 81 | \$ 147 | \$ 299 | \$ 223 |
| Russell 2000 Index | \$ 100 | \$ 66 | \$ 82 | \$ 103 | \$ 98 | \$ 112 |
| Russell 3000 Index | \$ 100 | \$ 61 | \$ 77 | \$ 88 | \$ 87 | \$ 100 |
| Peer Group | \$ 100 | \$ 52 | \$ 79 | \$ 78 | \$ 61 | \$ 59 |

The peer group index used by the Company consists of CECO Environmental Corp., Fuel Tech Inc., Calgon Carbon Corp., Westport Innovations Inc., EnerNOC Inc., Fuel Systems Solutions Inc. Capstone Turbine Corp., FuelCell Energy Inc., PowerSecure International Inc. and Active Power Inc.

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

The following selected financial data are derived from the audited Consolidated Financial Statements and should be read in conjunction with Item 1A Risk Factors, Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations, and our Consolidated Financial Statements and the related notes included in Item 8 Financial Statements and Supplementary Data of this Annual Report on Form 10-K.

(Amounts in thousands, except per share data)

| Income Statement Data | Years Ended December 31, | | | | |
|---|--------------------------|-------------|-------------|------------|------------|
| | 2012 | 2011 | 2010 | 2009 | 2008 |
| Revenues | \$ 212,523 | \$ 53,316 | \$ 22,281 | \$ 20,061 | \$ 16,193 |
| Net loss | \$ (13,701) | \$ (22,819) | \$ (31,127) | \$ (8,771) | \$ (4,106) |
| Net loss, per common share, basic and diluted | \$ (1.31) | \$ (2.85) | \$ (4.21) | \$ (1.26) | \$ (0.67) |
| Dividends declared per common share | \$ | \$ | \$ | \$ | \$ |

| Balance Sheet Data | As of December 31, | | | | |
|--------------------------------|--------------------|-------------|------------|-----------|-----------|
| | 2012 | 2011 | 2010 | 2009 | 2008 |
| Total assets | \$ 75,749 | \$ 87,474 | \$ 41,011 | \$ 40,967 | \$ 75,142 |
| Long-term debt | \$ 2,305 | \$ 3,624 | \$ | \$ | \$ |
| Stockholders' equity (deficit) | \$ (40,137) | \$ (29,446) | \$ (2,213) | \$ 24,351 | \$ 56,987 |

QUARTERLY FINANCIAL DATA - UNAUDITED

| | 2012 | | | | 2011 | | | |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
| (Amounts in thousands, except per share data) | | | | | | | | |
| Revenues | \$ 18,220 | \$ 52,511 | \$ 74,353 | \$ 67,439 | \$ 8,467 | \$ 7,026 | \$ 13,232 | \$ 24,591 |
| Gross margin | \$ 3,992 | \$ 7,434 | \$ 3,957 | \$ 4,585 | \$ 7,173 | \$ 5,175 | \$ 7,154 | \$ 4,850 |
| Net income (loss) | \$ (2,420) | \$ (1,298) | \$ (3,948) | \$ (5,405) | \$ (41,798) | \$ 6,416 | \$ (4,603) | \$ 17,166 |
| <u>Common Stock Data</u> | | | | | | | | |
| Basic net income (loss) per share | \$ (0.24) | \$ (0.13) | \$ (0.39) | \$ (0.54) | \$ (5.51) | \$ 0.84 | \$ (0.60) | \$ 1.94 |
| Diluted net income (loss) per share | \$ (0.24) | \$ (0.13) | \$ (0.39) | \$ (0.54) | \$ (5.51) | \$ 0.82 | \$ (0.60) | \$ 1.90 |
| <u>Average common shares outstanding</u> | | | | | | | | |
| Basic | 9,999 | 10,002 | 10,017 | 10,021 | 7,579 | 7,601 | 7,661 | 8,832 |
| Diluted | 9,999 | 10,002 | 10,017 | 10,021 | 7,579 | 7,803 | 7,661 | 9,015 |

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following Management Discussion and Analysis of Financial Condition and Results of Operations (MD&A) incorporates restated figures related to the previously filed amended consolidated financial statements, data and related disclosures for 2011 and 2010. The restatement resulted from management's determination that the Company had not properly accounted for the interest held by an affiliate of The Goldman Sachs Group, Inc. (GS) in our joint venture, Clean Coal since May 2011 and that a full valuation allowance against the Company's deferred tax assets should have been recognized as of December 31, 2010 and each subsequent quarter thereafter. For this reason, the following MD&A should be read in conjunction with the amended financial statements and notes thereto and the MD&A included in the Company's Amendment No. 2 to its Annual Report on Form 10-K/A for the fiscal year ended December 31, 2011 and in the Company's Amendment No. 2 to its Annual Report on Form 10-K/A for the fiscal year ended December 31, 2010, which were both filed on October 19, 2012, as well as the Company's other filings with the SEC.

Overview

The Company is a leader in clean coal technologies and associated specialty chemicals, primarily serving the coal-fueled power plant industry. Our proprietary environmental technologies and specialty chemicals enable power and coal-fired plants to enhance existing air pollution control equipment, minimize mercury, CO₂ and other emissions, maximize capacity, and improve operating efficiencies, to meet the challenges of existing and pending emission control regulations. We have three operating segments: RC (refined coal), EC (emission control) and CC (CO₂ capture). The RC segment includes revenues from the lease or sale of RC facilities and RC sales which approximate the cost of raw coal acquired for RC facilities operated for our own account. The EC segment includes revenue from the supply of emissions control systems including powdered activated carbon injection (ACI) systems, dry sorbent injection (DSI) systems to control SO₂ and HCl and flue gas conditioning systems, the licensing of certain technology and provision of consulting services. The CC segment includes revenue from projects relating to the CO₂ capture and control market, including projects co-funded by government agencies, such as the DOE and industry supported contracts.

Our RC segment generates revenues through the lease or sale of RC facilities that produce RC intended to qualify for production tax credits under Section 45 of the Internal Revenue Code (Section 45 tax credits), to third party investors, as well as operating RC facilities and keeping the tax credits for our own and our partners' accounts. To date, 28 RC facilities have been placed-in-service through Clean Coal, our RC joint venture. Unless Congress again extends the placed-in-service deadline for such facilities, which has expired, we do not expect to place any more RC facilities into service.

The primary drivers for many of our EC products and services are environmental laws and regulations primarily impacting the electric power generation industry and other coal users. Environmental regulations, such as the 1990 Clean Air Act Amendments, the MATS regulations, various Maximum-Achievable Control Technology (MACT) standards including the Industrial Boiler MACT regulations, the Cement MACT regulation, various state regulations and permitting requirements for coal-fired power plants are requiring electric power generators and others to reduce emissions of pollutants, such as particulate matter, SO₂, NO_x, mercury, and acid gases. We are a key supplier of mercury control equipment and services, which include ACI systems, to the EC market whose commercial equipment component first began in 2005 when several individual states began to require limits on mercury emissions. We also offer DSI systems to control SO₂ and acid gases such as HCl and SO₃.

We conduct research and development efforts in CO₂ capture and control from coal-fired boilers. In September 2010, we signed our second significant contract related to CO₂ capture with the DOE, for a project that is expected to continue through the end of 2014.

Refined Coal

We are marketing our CyClean and M-45 technologies, services and equipment through our joint venture Clean Coal. Since its inception, ADA has been considered the primary economic beneficiary of Clean Coal and has consolidated its accounts.

Environmental Legislation and Regulations

Clean Coal's primary opportunity is based on Section 45 tax credits established by the American Jobs Creation Act of 2004, and as amended by the Emergency Economic Stabilization Act of 2008, the American Recovery and Reinvestment Act of 2009, and the Tax Relief and Job Creation Act of 2010, the last of which extended the placed-in-service deadline for the Section 45 tax credits from its original date to January 1, 2012. The tax credit amounted to \$6.47 per ton of RC in 2012 and is expected to escalate annually through 2021. In December 2009, the Internal Revenue Service (the IRS) issued the initial guidance as to the specifics concerning how the emissions reductions are to be measured and certified to demonstrate compliance necessary for RC production to qualify for the Section 45 tax credits. The IRS provided subsequent guidance on October 4, 2010 to address various issues that had arisen. Additionally, the IRS has published a number of Private Letter Rulings (PLRs)

that provide approval to specific taxpayers on matters related to the Section 45 tax credit issues addressed in the PLRs. Although the approval in each PLR only applies to the taxpayer and the specific project mentioned in the PLR, other taxpayers can gain an understanding on how the IRS interprets certain matters based on the conclusions reached in the PLR. In August, 2012 Clean Coal was issued a PLR on one of the units it intended to operate by the IRS that addressed how to handle blending of coal from different ranks, using laboratory analysis of coal samples for periodic requalification of RC facilities, and increased options for measuring mercury during full scale testing. After that time the IRS stopped issuing PLRs on RC matters, resulting in delays in the closings of transactions for RC facilities. We understand that in February 2013 the IRS announced that it had begun to reissue PLRs again.

Use of the tax credits is also subject to audits of the entity that claims the credits on its tax return, negotiated/structured settlements that may be reached with the IRS and, in some cases, where the parties cannot reach agreement and the matter is litigated, rulings can impact various aspects of the RC business including the viability of the market for Section 45 tax credits in general, the perceived risk involved in the allocation of Section 45 tax credits and thus the amount a third party would be willing to invest for the opportunity to participate in the tax credits and the structure of contracts that we enter into to recognize value from our RC facilities.

Technology License Agreements

ADA licensed to Clean Coal, on an exclusive basis, the CyClean technology in November 2006. On July 27, 2012 ADA licensed the M-45 technology (the "M-45 License") to Clean Coal in order to leverage Clean Coal's operating expertise and 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.

In addition, the M-45 License gives Clean Coal, on a limited, non-exclusive, non-transferable, royalty-bearing basis, with the right to sublicense (under specified terms to be approved by ADA prior to the sublicense being granted) to limited utilities that purchase or have purchased RC produced using the M-45 technology, the right to use the M-45 technology under certain circumstances for the purpose of "Mercury Only Emission Control".

The M-45 License runs from July 27, 2012, through the latest of the expiration of (i) the Section 45 tax credits, (ii) any similar tax credit subsequently enacted, after the effective date of the agreement up to within one year of the expiration of the Section 45 tax credits, which tax credit provides for the production of a coal-based fuel (pre-combustion) that emits, when combusted, a lower level of both NOx and mercury emissions, and (iii) the date on which Clean Coal and all sublicensees of the M-45 technology have permanently ceased to provide Mercury Only Emission Control.

Pursuant to the M-45 License, we receive royalties equal to (i) a percentage of the per-ton, pre-tax margin from RC produced with the M-45 technology from leased or sold RC facilities, (ii) a percentage of the Section 45 tax credits claimed by Clean Coal (or a Clean Coal affiliate), or their respective owners, on RC produced by a facility that Clean Coal does not sell or lease to a third party and instead operates to retain the Section 45 tax credits from that facility for its (or an affiliate's) own benefit, net of all directly allocable operating expenses and all utility payments incurred by Clean Coal (or an affiliate) in connection with the production and sale of such RC, and (iii) a percentage of the revenue, net of all direct expenses, received by Clean Coal as a direct result of Clean Coal's exercise of the license for Mercury Only Emission Control described above. ADA has received \$10 million in prepaid royalty deposits upon the attainment by Clean Coal of certain milestones, consisting of the initial payment of \$2 million made upon signing of the non-binding term sheet for the M-45 License in November, 2011 and an additional \$8 million received in March 2013. We have certain obligations to provide technical assistance to Clean Coal and its sublicensees during the term of the M-45 License, as well as certain obligations to protect and maintain the patents that underlie the M-45 technology and to indemnify Clean Coal against certain claims related to the technology.

Leased and Operating RC Facilities

Clean Coal initially 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. On June 29, 2010, Clean Coal signed agreements to lease these two RC facilities through its wholly owned subsidiaries (the Lessors) to GS RC 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, the Lessors and GS RC entered into two Exchange Agreements pursuant to which the parties exchanged the leased RC facilities at each power plant with newly constructed, redesigned RC facilities which resulted in termination of the original leases and entry into new lease agreements (the Exchange Transactions). The new leases carried over most of the substantive terms and conditions of the initial leases and initially had annual terms that would have automatically renewed through December 31, 2021. 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.

GS RC also entered into supply agreements for each RC facility pursuant to which it supplies 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, (subject to oversight by GS RC) operates and maintains the RC facilities under two Operating and Maintenance Agreements entered into with GS RC in June 2010. CCSS also arranges for the purchase and delivery of certain chemical additives necessary for GS RC's production of RC under the supply agreements. The term of each such agreement runs coincident with the leases. These agreements were amended in November and December 2011 in connection with the Exchange Transactions.

In addition, pursuant to the Exchange Transactions, we, NexGen and two entities affiliated with NexGen have provided GS RC with 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 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. GSFS, GS RC's parent, provided Clean Coal with a guaranty as to the payment 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 2012, the parties amended the two leases to change the lease terms to month-to-month and allow GS RC, upon five business days written notice, to either terminate the leases or convert the lease terms to yearly. In March 2013 the parties amended and restated the lease agreements to change the structure and timing of the lease payments. The payments will be paid quarterly in advance and are subject to adjustments for inflation. Each lease has an initial non-cancellable term of two years and will automatically renew unless terminated at the option of the lessee thereof, for successive one-year terms through November 9, 2021 and December 10, 2021, as applicable. Revenues to Clean Coal are expected to remain at similar levels as seen under the prior written agreements. The parties also amended and restated the two Operating and Maintenance Agreements to provide for the payment of a fixed fee under the agreements instead of variable payments based on the production of RC.

In connection with an Exclusive Right to Lease Agreement between Clean Coal and GSFS (the Lease Agreement), Clean Coal granted GSFS the exclusive right (but not the obligation) to lease additional RC facilities that will produce up to approximately 12 million tons (+/- 10%) (the Target Tons) of RC per year on pre-established lease terms similar to those in effect at the time for Clean Coal's two then-existing leased RC facilities, but which are more economically favorable to Clean Coal than the rates in the leases for the existing RC facilities that Clean Coal leased to GS RC in June 2010. Under the Lease Agreement, Clean Coal is required to submit a package to GSFS with respect to each RC facility it proposes that GSFS 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 GSFS, GSFS is required to pay Clean Coal, as a deposit, an agreed amount for each 1 million tons of projected annual RC production. Upon closing of such a lease of an RC facility from Clean Coal, GSFS is required to pay Clean Coal an additional amount per 1 million tons of projected annual RC production. These payments are paid as advance rent, and actual amounts due under the leases (with true-ups)

are paid in accordance with the operative lease and related agreements. If GSFS determines that it will not lease an RC facility after it has paid the deposit, it can provide notice requesting the return of the deposit paid for that RC facility, and the deposit must be returned within 30 days of the end of the quarter in which the notice is given. The amount of any deposit will earn interest from the date of the notice until the deposit is returned.

Clean Coal received \$14.9 million from GSFS in 2011 as initial deposits for more than the Target Tons. In October 2012, GSFS determined that it would not pursue leases on two particular RC facilities on which it had paid deposits totaling \$4.7 million and concurrently gave notice for the return of the related deposits. In December 2012, GSFS agreed to defer the return of the deposits until April 30, 2013. In March 2013, Clean Coal returned the \$4.7 million in deposits plus accrued interest to GSFS.

Pursuant to the Lease Agreement, Clean Coal leased a third RC facility in the first quarter of 2012 to another entity related to GS. Clean Coal leased a fourth RC facility to another third party investor during the third quarter of 2012. All agreements included terms and conditions substantially similar to those applicable to the first two leased RC facilities. On February 28, 2013, Clean Coal sold an RC facility to a new third party investor, bringing the total number of RC facilities leased or sold to five. The structure of the sale was similar to that of the initial leases and provided the buyer with the right to require Clean Coal to repurchase the RC facility for a nominal fee in certain situations. The terms of the sale included \$20 million paid immediately to Clean Coal and a combination of fixed and variable payments going forward. An additional \$5 million is to be paid to Clean Coal when the buyer receives an applied for PLR from the IRS, which is expected later this year.

In addition to the four leased RC facilities and the fifth RC facility sold to a third party investor, Clean Coal currently operates three additional RC facilities for its own account, resulting in its ability to claim the Section 45 tax credits for the RC produced during those operations. We expect the largest of those facilities to be leased to one of the existing third party investors within the first half of 2013.

With the four leased RC facilities, the fifth RC facility sold to a third party investor and the three RC facilities currently operated by Clean Coal for its own account, there are currently eight RC facilities in routine operations on 15 coal-fired boilers that, in the aggregate, have historically burned more than 20 million tons of coal per year. One of Clean Coal's goals is to process to RC as high a percentage of coal made available to it as possible. During 2012, Clean Coal facilities produced approximately 15 million tons of RC representing over 95% of the coal made available.

Clean Coal plans to retain and operate one or two of the currently operating RC facilities permanently for its own account. Clean Coal's ultimate goal is to retain RC facilities sufficient to claim Section 45 tax credits for one of every five tons of RC produced by all RC facilities going forward. During 2012, the RC facilities operated for Clean Coal's account generated \$38.6 million in Section 45 tax credits that can be used to offset future tax expenses of its owners and \$157.9 million in revenues from RC sales which were offset by \$157.9 million in raw coal costs. ADA's portion of these credits amounted to \$16.4 million in 2012. Clean Coal is in negotiations to lease or sell several additional RC facilities and plans to have all RC facilities in operation by the end of 2014 utilizing the CyClean and M-45 technologies.

In those cases where Clean Coal chooses to operate an RC facility for its own account, either on an interim basis or for the long-term, it receives the benefit of the Section 45 tax credits from the RC produced at the facility. As part of those operations Clean Coal purchases raw coal from the utility, refines the raw coal into RC and then sells the RC back to the utility, generally at the same price per ton, recognizing revenue from the RC sale and costs of revenue for the raw coal purchased. These amounts may be significant as the average per ton price for the raw coal purchased and RC sold has historically ranged from \$20 to \$40 per ton. In those operations Clean Coal also pays, recognizing as an expense, and may also deduct for tax purposes, operational costs, a fee to the utility for coal handling and a fee for the land used to site the RC facility. For the RC facilities that Clean Coal operates for its own account, it incurs operating expenses of approximately \$3 per ton of coal treated and generates approximately \$7.50 per ton in tax benefits.

In those cases where Clean Coal chooses to lease or sell an RC facility to a third party investor, once the final utility site and the third party investor have been determined, it takes a minimum of six to twelve months to obtain environmental permits for full-time operation, secure necessary approvals from state Public Utility Commissions, and negotiate and complete all necessary contracts. Since the IRS has yet to provide explicit guidance on certain aspects of RC production such as the blending of coal to qualify for Section 45 tax credits, PLRs may be needed from the IRS if requested by the applicable utility or third party investor, which may take several additional months to obtain after formal contracts are completed. We expect that the requesting party will eventually be able to obtain all required PLRs necessary for operating the RC facilities.

Closings of several deals with utilities and tax equity partners for our RC facilities were delayed in 2012 for various reasons, including: permitting, regulatory approval, corporate financial restructuring of third parties involved in some aspect of the transaction, changes in plant ownership, changes and retirements of personnel involved in the negotiations, involvement of additional parties in the transactions, and uncertainties in the tax credit community. As our previous disclosures have indicated, because of the complexities of each RC deal and the number of externalities that are outside our direct control and involvement, there was potential for and we may experience delays beyond our initial estimates of six to twelve months to close the transactions.

We expect that future transactions for RC facilities not presently operating may be either lease or sale transactions with the purchase price payable over time, but that regardless of their form the final transaction structures will provide long-term economic benefits substantially similar to those provided by the prior lease transactions. However, the economics of each facility will be somewhat unique as the revenue and expected margins will differ from one RC facility to another depending upon, among other factors, the size of the power plant that the facility serves, the amount of RC produced at the plant and the expenses incurred, including the cost of chemicals, labor costs, negotiated payments to the utility, upfront prepaid rent payments and royalty payments for the license of certain technologies. As is generally the case in these transactions, the sale or lease of the RC facilities involves a relationship between the utility, a third party investor and Clean Coal. By buying or leasing the RC facility and producing RC, the third party investor becomes the producer of RC, receives the benefit of the annually escalating per ton Section 45 tax credit and is able to deduct depreciation and/or a portion or all of the lease payments. In return it pays, and may also deduct, a fee to the utility for coal handling and land use to site the RC facility and operational costs. In addition, the third party investor pays a mutually agreed combination of fixed and contingent rents or, in certain instances, fixed rents only, to Clean Coal for the lease of the RC facility. In the case of a sale, the overall economics of the payments made are substantially similar to the fixed and/or contingent rents paid under the initial leases. In addition to the site and coal handling payments, the utility receives the benefit of the resulting mercury reductions which have an estimated value of between \$1.00- \$4.00 per ton of RC burned.

Since its inception, ADA has been considered the primary economic beneficiary of Clean Coal and has consolidated its accounts in our financial statements, but we do not consolidate the accounts of CCSS because NexGen controls the entity pursuant to the operating agreement of the entity. Clean Coal's 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.

Status of Remaining RC Facilities

Our goal is to place into full time operations the remaining RC facilities as soon as possible with an expectation that all will be in operation in 2014. For the remaining 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 time as to the timing, location and likelihood of 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 operations at the utility or other changes such as technology improvements, switch in coal rank, or obtaining a PLR from the IRS, in order for those facilities to

begin full time operation. In this regard we have made significant progress in expanding the potential target market by extending our RC technologies beyond cyclone boilers and PRB coals. Clean Coal is currently operating two RC facilities using the M-45 technology at plants burning Gulf Coast lignite and one RC facility using the CyClean technology at a plant burning North Dakota lignite. In addition, tests have demonstrated the potential to apply these RC technologies to bituminous coals. Clean Coal has successfully conducted tests on an improvement to the M-45 technology that would potentially make it available for use on different types of pulverized coal (PC) boilers. The ability to use the M-45 technology on PC boilers would significantly increase the potential market for locations where the RC facilities could be located as PC boilers represent over 80% of the 1,200 electricity generating boilers in the U.S. and there are over 50 plants where it may be possible to treat five to ten million tons of coal per year with a single RC facility. The tax credit rules further ease the transition by allowing us to change the process by which coal is refined and use the RC facilities at plants other than those at which they were originally placed into service. We believe it is possible to have an RC facility operating on a PC unit as early as the third quarter of 2013.

We believe that once all new and existing RC facilities are leased or sold to others and become fully operational, they will achieve an annualized segment rental revenue rate of approximately \$200 million; this revenue figure excludes approximately \$250 million to \$300 million in ongoing coal sales and raw coal purchases for RC facilities that Clean Coal is expected to operate in the long-term for its own account. These revenue rates would be expected to eventually generate approximately \$100 million in segment income to the Company after payments to joint venture partners, including an estimated \$30 million in tax credits (the Company's share) to be generated by RC facilities operated by Clean Coal. The projected segment revenue and income are expected to continue through 2021.

From now through 2014, we expect leases and sales of new facilities to generate significant cash receipts from prepaid rent and upfront purchase price payments for Clean Coal. For the RC facilities that it operates, Clean Coal will record operating costs, coal sales and costs of coal that may be significant. This will result in increased expenses and revenues over and above the increased revenue recognized from the lease and sale of additional RC facilities and will likely depress the level of gross margin dollars below what we would expect if the RC facilities were not retained.

Emission Control

Many power companies recognize the urgency of the issued and pending environmental regulations, and as a result have either started or will soon begin procuring ACI and DSI systems. We also continue to receive requests to evaluate mercury and acid gas control options at a number of plants. We anticipate seeing additional ACI and DSI revenues as contracts are awarded on the outstanding proposals (see discussion below).

Activated Carbon Injection and Dry Sorbent Injection Systems

Since 2005, we have completed or are in the process of executing awarded projects for over 60 ACI systems intended to control mercury emissions from 69 coal-fired EGU boilers. We anticipate the MATS market will require greater than 400 more ACI systems to be supplied between 2013 and 2015, which would require further scale-up of our production capabilities to maintain our target 35% market share. The ACI and DSI capital equipment we provide for the larger utility coal-boilers generally ranges from approximately \$600,000 to \$2 million per coal-fired boiler unit and in total we expect the MATS rules to create a market in excess of \$1 billion for the combination of ACI and DSI systems. DSI systems, which sell at approximately \$1.5 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. The EPA predicts that about 200 DSI systems will be sold by 2015.

In order to meet the expected demand in the ACI and DSI markets, we purchased the assets of Bulk Conveyor in August 2012 in exchange for \$2 million in cash and \$3 million in notes payable over the next five years as evidenced by two promissory notes of \$2.8 million and \$200,000, with payment under the larger note guaranteed by ADA.

We believe that several contracts for ACI and DSI systems will be awarded during the remainder of this year, and that the MATS could eventually generate over \$300 million in combined sales of ACI and DSI systems for the Company between now and the end of 2015, although there has been some indication that some generators have obtained extensions for MATS compliance, which could result in the consummation of these sales being delayed for an additional one to two years. As an indication of progress in the development of this market, as of the end of February 2013 the Company has active bids on over \$125 million for ACI systems and over \$160 million for DSI systems.

In early February of 2012, we signed a \$2 million contract for a DSI system for a power generator. In November 2012, BCSI signed a contract to supply up to four DSI systems for a group of coal-fired generating plants. This contract has a total value of up to \$14 million if the power company elects to purchase all of the contracted systems. The project began generating revenues immediately and deliveries are scheduled over the 15 months following the contract's signing. In addition, we were awarded a large fleet-wide award from a major utility client for a minimum of 10 ACI systems with several others from the same client occurring over the next several months that is expected to be in the \$10 million to \$20 million range when completed. We started engineering services for this large contract in November and expect to begin making the first system deliveries in the late summer of 2013. In March 2013, we were awarded a contract to supply ACI and DSI systems with a contract value at more than \$8.5 million that is scheduled to be delivered in the fourth quarter of 2012 and first quarter of 2013.

Enhanced Coal and License to Arch Coal

Pursuant to the License Agreement we license to Arch Coal certain technology to produce Enhanced Coal, and we also provide Arch Coal with development services aimed at applying the technology to PRB coal. In consideration for this development work and the license provided under the License Agreement, Arch Coal paid us an initial, non-refundable license and development fee in cash totaling \$2 million in June 2010 which was recognized 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 premium Arch Coal is able to charge on sales of Enhanced Coal. 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.

Subsequent to entering into the License Agreement, on November 1, 2012, we entered into a related Supply Agreement under which Arch Coal will purchase the additives used in conjunction with the technology licensed under the License Agreement exclusively from us, and we will supply Arch Coal with the additives it needs. For customers that prefer to have the coal treatment applied on-site at their plants, the Company will provide the technology directly to the power plants.

CO₂ Capture

In addition to our two key growth areas, RC and EC, we continue to demonstrate our position as a premier developer of innovative clean energy technologies. We expect that CO₂ capture technologies will be required to control CO₂ emissions from coal-fired power plants in the future as a result of the impact of CO₂ emissions on climate change. In the last few years, 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 CO₂ from their existing and new plants.

In 2010 we began the first field tests of our CO₂ control technology on a \$3.8 million program co-funded by the 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 CO₂ 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 CO₂ 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 \$20.5 million project (including expected contributions by other industry partners) administered by the 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.

In June 2012, we initiated the fabrication and construction phase for the pilot plant to treat a slipstream of flue gas equivalent to that generated from producing one-megawatt of electricity.

We anticipate that DOE funded CO₂ programs will continue to represent an important component of the revenue stream of the Company over the next several years.

Results of Operations 2012 versus 2011

Revenues totaled \$212.5 million for 2012 versus \$53.3 million in 2011, representing an increase of 299%. The increase is due primarily to revenues from operations at the RC facilities we leased to third parties and RC sales from other facilities placed-in-service in 2011 that were operated by Clean Coal in 2012 prior to being leased to third parties. The increase is also due in part to a 47% increase in our EC segment revenues. We expect overall revenues and costs for 2013 to be lower than for 2012 given our plan to sell or lease our RC facilities currently being operated for our own account.

Cost of revenues increased by \$163.6 million or 565% in 2012 from 2011 primarily as a result of the costs of raw coal purchased for the RC facilities operated by Clean Coal and the operating costs incurred related to those facilities. In addition, costs increased in the EC segment due to the increased activity in this segment and due to the hiring of additional staff required to meet expected growth.

Gross margins were 9% for the year compared to 46% in 2011. The decrease primarily reflects such increased costs. If the coal sales and raw coal purchases of \$157.9 million and operating costs of \$20.4 million related to RC produced for Clean Coal's account, which will not continue with respect to any facilities after they are leased or sold, are subtracted from the revenue and costs of revenue amounts reported for 2012, adjusted gross margin would have been 74% for 2012 compared to 80% in 2011. The revenues and cost of revenues for 2011 included coal sales and raw coal purchases of \$20 million and operating cost of \$2.3 million related to RC produced for Clean Coal's account. Adjusted gross profit margin percentage is a non-GAAP financial measure which is used to provide investors with greater transparency with respect to the effect on gross margin from Clean Coal's operation of certain RC facilities for its own account. We believe this non-GAAP financial measure provides meaningful supplemental information for investors regarding the performance of our business and the effect on gross margin of the operation of these RC facilities by Clean Coal for its own account. For the near term, we expect the lease and sale of RC facilities 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 2013 to be higher than the overall margin realized in 2012.

Refined Coal

Revenues in our RC segment totaled \$194.9 million in 2012 compared to \$40.3 million in 2011, representing an increase of 384%. Rental income from the leased RC facilities totaled \$36.9 million in 2012 compared to \$20.1 million in 2011. RC coal sales totaled \$157.9 million in 2012 compared to \$20 million in 2011 as a result of raw coal purchases and RC sales at the RC facilities that Clean Coal operated for its own account.

Clean Coal incurs the operating costs for the RC facilities operated for its own account and retains for its owners the tax credits generated from the approximately 6 million tons produced for its own account during 2012. 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 five RC facilities leased or sold third party investors to generate approximately \$55 million to \$65 million in revenue per year now through 2021.

Cost of revenues for the RC segment increased by \$159 million or 787% for 2012 from 2011. Costs increased due primarily to the cost of coal acquired to operate RC facilities placed-in-service which cost approximates the revenues realized on its sale as noted above. We expect future RC margins for the RC facilities leased or sold to others to be at a level near 95%.

RC segment profits decreased by \$3.8 million or 21% for 2012 compared to 2011 primarily as a result of the cost of operating certain RC facilities for our own account and one-time costs incurred as we work through moving the placed-in-service facilities to full-time, long-term operations, offset by the two additional RC facilities leased during the first and third quarters of 2012 and an increase in the

amount of coal burned at the utilities where the leased RC facilities are located due to seasonal changes in demand during the third quarter of 2012. These amounts are prior to the allocation of such profits to the non-controlling interests of Clean Coal.

Emission Control

Revenues in our EC segment totaled \$14.6 million in 2012 compared to \$10 million in 2011, representing an increase of 47%. The amounts reported for 2012 and 2011 exclude the work ADA has conducted for Clean Coal, as further described below, which was eliminated in our consolidation. Revenues from the EC segment for 2012 were comprised of sales of ACI and DSI systems and services (66%), flue gas chemicals and services (5%) and other services (29%), compared to 42%, 9%, and 49%, respectively, in 2011. We expect our EC segment revenues related to ACI and DSI systems to continue to grow in 2013 when we expect utilities, cement plants and industrial boilers to continue placing orders in response to the MATS and other MACT regulations. We expect our gross margin percentage for our EC segment for 2013 will approximate 20 to 25%.

Our consulting revenues totaled \$4.2 million during 2012 compared to \$4.9 million in 2011 representing a 14% decrease primarily due to a decrease in the size and scope of our consulting contracts, a result of potential clients deferring work on MATS compliance until 2013. We are continuing with demonstrations and other work related to the MATS and we expect our consulting revenue to continue to be a significant part of EC revenues during 2013 as several customers are seeking alternatives on how best to comply with the MATS.

As of December 31, 2012, we had contracts in progress for work related to our EC segment totaling \$25.3 million which we expect to recognize as revenue in 2013 and 2014. Our ACI and DSI systems revenues totaled \$9.6 million for 2012 representing an increase of 131% compared to 2011. In the EC segment, we performed work related to RC facilities provided to Clean Coal valued at \$2.7 million for year-end 2012, respectively compared to \$8.3 million for 2011, which would otherwise be recognized as revenue but was eliminated in the consolidation of Clean Coal. The 2011 amount includes work provided to Clean Coal for the 26 additional RC facilities placed-in-service.

Cost of revenues for the EC segment increased by \$4.3 million or 63% in 2012 from 2011, primarily as a result of the increased revenue-generating activities from our ACI and DSI systems sales. Gross margin for the EC segment was 23.8% for 2012 compared to 31% for 2011. The decrease in gross margin from the prior year is primarily a result of a higher percent of work in this segment related to ACI and DSI systems that carry lower margins than our typical consulting work and increased costs related to our ACI and DSI systems activities including hiring additional staff required for expected growth.

EC segment profits decreased by \$1.1 million or 79% for 2012 compared to 2011. The decrease was primarily a result of lower margins and overhead costs related to the hiring of additional staff for expected growth as discussed above.

CO₂ Capture

Revenues in our CC segment totaled \$3 million in 2012 compared to \$3.1 million in 2011 representing a decrease of 2%. We had outstanding DOE contracts, including anticipated industry cost share in progress totaling \$12.7 million as of December 31, 2012. We expect to recognize approximately \$9.7 million from these contracts in 2013 including participation by other industry partners. We are seeking additional cost share participants for the remaining work under the contracts.

Cost of revenues for the CC segment increased by \$292,000 or 15% for 2012 from 2011, primarily from increased activities related to our development of CO₂ capture technology. Gross margin for this segment was 27% in 2012 compared to 38% in 2011. The decrease in gross margin from 2012 to 2011 is due primarily to greater use of subcontractors for which our margins are lower under these contracts. 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 2013 to be lower than the levels achieved in 2012, due to our likely share of costs and the mixture of direct and indirect costs (labor versus equipment) associated with this segment.

CC segment profits decreased by \$31,000 or 13% for 2012 compared to 2011. As discussed above, the decrease was primarily the result of lower cost share participation by others and greater use of subcontractors as discussed above.

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 2005 and later have not been finalized. Revenues recognized from 2005 through 2012 that are subject to government audit totaled approximately \$31 million. In addition, we had \$12.7 million of remaining unearned amounts under contracts subject to audit as of December 31, 2012. 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 increased by \$2.7 million or 15% to \$20.2 million in 2012. The increase for the year was primarily due to increased compensation due to our increased sales, marketing, bid and proposal staff and activities, increased occupancy cost from our expanded space and overlap in the approximately five months during which we transitioned out of our old lab and rental space, costs related to the acquisition of Bulk Conveyor's assets and initiation of activities at the BCSI site, and increases in the staff expense and overhead costs of Clean Coal.

Legal costs decreased \$3.1 million or 76% in 2012 compared to 2011. Legal expenses in 2011 resulted primarily from costs related to our legal proceedings and settlements described in prior filings.

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 \$679,000 or 30% in 2012 compared to 2011 as a result of increases in EC and CC activities. The increase in total R&D is related to preparing for growth in the delivery of our ACI and DSI systems, as well as our RC activities. We had \$311,000 in direct cost share for R&D under DOE related contracts in 2012. 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 2013 compared to 2012. We continue to anticipate that our future R&D expenses will grow in direct proportion to DOE funded CO₂ work we perform for the next several years and other technology development we choose to pursue.

Other income totaled \$305,000 compared to other income of \$2.2 million in 2011 representing an 86% decrease primarily due to notes receivable and other amounts due from NexGen received in 2011. We recognized \$2.3 million in expenses related to royalty payments to Norit Americas, Inc. and Norit International N.V. f/k/a Norit N.V. (Norit) in 2012. We expect that these royalty payments to Norit will amount to between approximately \$2 million and \$3 million per year for the next several years. We recognized \$41.7 million in expenses in 2011 related to legal proceedings and settlements and a \$20 million gain from a settlement as discussed in prior filings. We had interest expense of \$1.5 million in 2012 compared to \$1.6 million in 2011, related primarily to Clean Coal's line of credit agreements and the deferred gain resulting from the tax treatment of the RC facilities leased by Clean Coal during such periods.

The deferred income tax benefit of \$10.4 million for December 31, 2011 represents the income tax effect of the sale of the equity interest in Clean Coal to GS in May 2011. The 2011 consolidated financial statements have been restated to include a full valuation allowance against the deferred tax assets as discussed in Note 16 of the notes to the consolidated financial statements.

The net operating loss from continuing operations before income tax benefit (expense) and non-controlling interest was \$11.1 million in 2012 compared to \$25.2 million in 2011. The decrease in the net operating loss in 2012 is due in large part to the decrease in legal and settlement costs associated with our arbitration and litigation and a decrease in our net loss from unconsolidated entities as a result of the relinquishment of our interest in ADA Carbon Solutions, LLC in the fourth quarter of 2011.

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.

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.

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.

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.

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 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.

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.

As of December 31, 2011, we had contracts in progress for work related to our EC segment totaling \$736,000. 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 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.

CO₂ 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.

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 CO₂ 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.

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.

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. 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 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.

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 (expense) rate of 41% and (35%) for the years ended December 31, 2011 and 2010, respectively. The deferred income tax benefit of \$10.4 million for the fiscal year ended December 31, 2011 represents the income tax effect of the sale of the equity interest in Clean Coal to GS in May 2011. 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 (expense) and non-controlling interest was \$25.2 million in 2011 compared to a 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.

Liquidity and Capital Resources

Our principal sources of liquidity are our cash on hand at present and anticipated growing cash flows from RC activities and other operations. We had consolidated cash and cash equivalents totaling \$9.7 million at December 31, 2012 compared to consolidated cash and cash equivalents of \$40.9 million at December 31, 2011.

At December 31, 2012, we had a working capital deficit of \$24.1 million compared to working capital of \$1.4 million at December 31, 2011. Included in that December 31, 2012 amount are \$21.2 million in deposits and \$4.5 million in deferred revenues. Decreases in working capital during 2012 resulted primarily from \$10.8 million in capital expenditures related to RC facilities and leasehold improvements, a \$2 million payment for the acquisition of assets by BCSI, a \$2.5 million payment related to a litigation settlement, a \$500,000 loan to CCSS, net repayments of \$11.5 million under the Clean Coal line of credit and increased overhead costs related to increases in our staff level to support anticipated growth. These were offset by increases in receivables, securities and prepaid expenses and other assets.

If GSFS determines that it will not lease an RC facility after it has paid the deposit, it can provide notice requesting 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 notice is given. In October 2012, GSFS determined that it would not pursue leases on two particular RC facilities on which it had paid deposits totaling \$4.7 million and concurrently gave notice for the return of related deposits. In December 2012, GSFS agreed to defer the return of these deposits until April 30, 2013. In March 2013, Clean Coal returned the \$4.7 million in deposits plus accrued interest to GSFS.

On February 28, 2013, Clean Coal sold an RC facility to a new third party investor. The terms of the sale included \$20 million paid immediately to Clean Coal and a combination of fixed and variable payments going forward. An additional \$5 million is to be paid to Clean Coal when the buyer receives an applied for PLR from the IRS, which is expected later this year. Subsequent to receiving the \$20 million payment, Clean Coal paid ADA \$8 million pursuant to the M-45 License.

Clean Coal has a revolving line of credit with a bank for \$15 million that is secured by the equity interests and proceeds related to such equity interests of each subsidiary owned by Clean Coal that expires on March 31, 2013. At December 31, 2012, the line of credit had been fully repaid and no additional borrowings are available under this agreement. In May 2012, an increased commitment note was issued in conjunction with the line of credit for \$3 million which is secured by a cash collateral account of \$3 million with funds received equally from ADA and NexGen. In December 2012, the agreement was amended to extend the term of that agreement until June 2013. The balance under the agreement at December 31, 2012 totaled \$3 million, and the balance was paid in March 2013. In January 2013, the line of credit agreement was amended again to provide an additional \$2 million with any borrowings under the amended agreement due on December 31, 2013. Clean Coal has not borrowed any additional amounts pursuant to the \$2 million increased commitment.

Our ability to generate the financial liquidity required to meet ongoing operational needs and to meet our obligations will likely depend upon our ability to maintain a significant share of the market for mercury control equipment, the continued operation of the RC facilities leased or sold to third parties to date, success in the sale or lease of additional RC facilities to third party investors and our ability to raise additional financing. We believe, with the lease of four RC facilities to date, and the sale of the fifth RC facility, that we have sufficient working capital to meet the operation needs of the Company for the next 12 months. If GSFS requires the return of its deposits or does not place deposits on additional RC facilities, we may need to seek additional sources of financing to meet those obligations if they became immediately due and payable and/or decide to suspend operations at one or more of the RC facilities that Clean Coal is operating for its own account.

We have recorded long-term liabilities of \$2.5 million related to litigation settlement obligations, \$2.3 million in notes payable related to the acquisition of assets by BCSI and \$809,000 for accrued warranty, deferred revenue and other liabilities as of December 31, 2012. Our stockholders' deficit was \$40.1 million as of December 31, 2012 compared to \$29.4 million as of December 31, 2011. The increase in stockholders' deficit is primarily due to the net loss and is offset by the net income from the non-controlling interest for 2012.

Clean Coal Related Items

Clean Coal, our joint venture with NexGen, placed two RC 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. In 2012, two RC facilities were leased, one to the lessee of the first two facilities and one to a new third party investor. In addition, in February 2013, a fifth RC facility was sold which Clean Coal had been previously operating for its own account. On an ongoing basis, we expect our five currently leased and sold RC facilities to generate from \$55 million to \$65 million in revenue per year from now through 2021 based on their operations and periodic payments we expect to receive. We expect by the end of 2013 to have additional RC facilities under lease or sale such that total revenues from these activities will be at a run-rate of over \$100 million per year and be at a level of producing pre-tax cash flows of as much as \$50 million per year. We would expect those levels to continue through 2021, the present term of the Section 45 tax credit, with an opportunity to

double those amounts by the end of 2014 as we look to have all of our RC facilities operating on a continuous basis and leased or sold by that time. We believe that once all new and existing RC facilities are leased or sold to others and become fully operational, they will achieve an annualized segment rental revenue rate of approximately \$200 million; excluding the approximately \$250 million to \$300 million in ongoing coal sales and raw coal purchases from RC facilities that Clean Coal is expected to operate in the long-term for its own account. These revenue rates would be expected to generate approximately \$100 million in segment income to the Company after payments to minority partners, including an estimated \$30 million in tax credits apportioned to the Company to be generated by RC facilities operated by Clean Coal.

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, 2012 our trade receivables balance was \$11 million compared to \$5.9 million at December 31, 2011. Our trade receivables balance was higher at December 31, 2012 compared to December 31, 2011 primarily due to the nature and timing of billing milestones for our ACI and DSI systems contracts and increased receivables related to our RC activity.

Under our defined contribution and 401(k) retirement plan, we match up to 7% of limited salary amounts deferred by employees in the Plan. During 2012 and 2011, we recognized \$413,000 and \$349,000, respectively, of matching expense which payment was made with our stock.

We had net current deferred tax assets of \$2.3 million and long-term deferred tax assets of \$37.2 million as of December 31, 2012 compared to net current deferred tax assets of \$2.4 million and long-term deferred tax assets of \$16.2 million as of December 31, 2011. The current and long-term amounts for both periods have been reduced to zero by recording a valuation allowance as discussed in Notes 13 and 16 to the consolidated financial statements. Management determined that it was necessary to record the valuation allowance against the Company's deferred tax assets after reconsidering the weight given in the original assessment to the relevant information used to measure the positive and negative evidence regarding the potential for ultimate realization of the net deferred tax assets.

Cash flows used in operations totaled \$5 million for 2012 compared to \$8 million in 2011. The decrease in operating cash flows primarily resulted from increases in accounts receivable of \$5.1 million, prepaid assets and other assets of \$1.4 million, accounts payable of \$1.6 million, deposits of \$6.3 million and deferred revenue and other liabilities of \$2.9 million. These increases were offset by a decrease in settlement awards and related accrued liabilities of \$3.2 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 non-cash operating activities included expenses paid with stock and restricted stock of \$541,000, depreciation and amortization of \$5.3 million and non-controlling interest in Clean Coal of \$1.9 million, each of which increased our cash flow from operations.

Net cash used in investing activities was \$13.9 million for 2012 compared to \$32.2 million for 2011. The cash used consisted primarily of purchases of equipment, leasehold improvements and RC facility related costs of \$10.8 million, purchases of certificates of deposit of \$1.1 million and a \$2 million payment for the acquisition of Bulk Conveyor's assets by BCSI and reflects significantly higher capital expenditures in 2011 as we worked and spent to meet the year-end placed-in-service deadline for RC facilities.

Cash used in financing activities was \$12.2 million in 2012 compared to cash provided by financing activities of \$71.4 million in 2011. The cash used consisted of net payments on the line of credit of \$11.5 million, distributions by Clean Coal to the non-controlling interest of \$106,000 and a loan by ADA to CCSS of \$500,000. Among other factors, the decrease in 2012 from 2011 reflected a 2011 sale of stock for proceeds totaling \$35.1 million and the one-time receipt of \$60 million in 2011 from the sale of our interest in Clean Coal.

We had the following contractual commitments as of December 31, 2012:

| | Total | Payment Due by Period | | | |
|-----------------------------|------------------|-----------------------|------------------|------------------|--------------------|
| | | 2013 | 2014 and 2015 | 2016 and 2017 | 2018 and Beyond |
| | | | (in thousands) | | |
| Purchase obligations | \$ 6,233 | \$ 6,233 | \$ | \$ | \$ |
| Operating lease obligations | 4,570 | 477 | 1,557 | 1,605 | 931 |
| Total | \$ 10,803 | \$ 6,710 | \$ 1,557 | \$ 1,605 | \$ 931 |

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 10 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 warranty costs;

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 and;

estimated future royalty obligations associated with our settlement with Norit.

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 \$3.9 million in 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. 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. At each reporting date, management reviews deferred tax assets and liabilities and any related valuation allowance and, if necessary, revises them to reflect changed circumstances. In a situation where recent losses have been incurred, the accounting standards require convincing evidence that there will be sufficient future taxable income to realize deferred tax assets. Deferred tax assets have been reduced to zero by a valuation allowance because, in the opinion of management, it is more likely than not that all of the deferred tax assets will not be realized. A 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.

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 Since inception, ADA has been considered the primary economic beneficiary of the joint venture with Clean Coal and, therefore, we 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

None.

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 2012 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 \$594,000.

Interest Rate Risk

As of December 31, 2012, approximately \$2.6 million of the cash and cash equivalents and investments in certificates of deposit were invested in interest-bearing accounts. Clean Coal had available \$3 million under an increased commitment note issued in conjunction with their line of credit as of December 31, 2012 with an effective interest rate of 3.35% per annum. A hypothetical change of 10% in the effective interest rate from the year end 2012 rate would not have materially affected our financial statements.

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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Item 9. Changes In and Disagreements With Accountants on Accounting and Financial Disclosure.

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 Securities Exchange Act of 1934, as amended, (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. Management necessarily applied its judgment in assessing the costs and benefits of such controls and procedures, which, by their nature, can provide only reasonable assurance regarding management's control objectives.

Evaluation of Disclosure Controls and Procedures

Based on this evaluation, our Chief Executive Officer and Chief Financial Officer concluded as of December 31, 2012 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, 2012. 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 management's assessments, we believe that, as of December 31, 2012, our internal control over financial reporting is effective based on those criteria.

EKS&H, LLLP, f/k/a Ehrhardt Keefe Steiner & Hottman, 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, 2012.

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 Business Conduct and Executive Compensation Section 16(a) Beneficial Ownership Reporting Compliance in our definitive Proxy Statement for the 2013 Annual Meeting of Shareholders (2013 Proxy Statement) to be filed within 120 days after the end of our fiscal year ended December 31, 2012.

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 2013 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 2013 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 2013 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 2013 Proxy Statement.

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 | Intentionally left blank |
| 4.3 | Standstill and Registration Rights Agreement between ADA-ES, Inc. and Arch Coal, Inc. dated September 19, 2003 (5) |
| 4.4 | Intentionally left blank |
| 4.5 | Intentionally left blank |
| 4.6 | ADA-ES, Inc. Profit Sharing Retirement Plan Adoption Agreement (8) |

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| No. | Description |
|-------|--|
| 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) |
| 10.1 | 2003 ADA-ES, Inc. Stock Option Plan** (15) |
| 10.2 | 2003 Stock Compensation Plan #1** (16) |
| 10.3 | 2003 Stock Compensation Plan #2** (17) |
| 10.4 | ADA-ES, Inc. 2004 Executive Stock Option Plan** (18) |
| 10.5 | Employment Agreement dated May 1, 1997 between C. Jean Bustard and ADA Environmental Solutions, LLC (assigned to ADA-ES, Inc.) ** (19) |
| 10.6 | Employment Agreement dated May 1, 1997 between Michael D. Durham and ADA Environmental Solutions, LLC (assigned to ADA-ES, Inc.) ** (20) |
| 10.7 | Employment Agreement dated January 2, 2000 between Mark H. McKinnies and ADA Environmental Solutions, LLC (assigned to ADA-ES, Inc.) ** (21) |
| 10.8 | Employment Agreement dated January 1, 2000 between Richard J. Schlager and ADA Environmental Solutions, LLC (assigned to ADA-ES, Inc.) ** (22) |
| 10.9 | 2004 Stock Compensation Plan #2 and model stock option agreements** (18) |
| 10.10 | 2004 Directors Stock Compensation Plan #1** (23) |
| 10.11 | 2005 Directors Compensation Plan** (24) |
| 10.12 | 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/k/a ADA-NexCoal, LLC). (25) |
| 10.13 | 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*** (26) |
| 10.14 | Employment Agreement dated March 1, 2003 between Sharon M. Sjostrom and ADA Environmental Solutions, LLC (assigned to ADA-ES, Inc.)** (27) |
| 10.15 | Amended and Restated Executive Compensation Plan dated February 22, 2012** (63) |
| 10.16 | Amended and Restated 2007 Equity Incentive Plan, dated August 31, 2010** (28) |
| 10.17 | Employment Agreement dated November 28, 2005 between Richard Miller and ADA-ES, Inc.** (29) |
| 10.18 | Employment Agreement dated January 1, 2008 between Cameron E. Martin and ADA-ES, Inc.** (30) |
| 10.19 | Intellectual Property License Agreement between ADA-ES, Inc. and Crowfoot Development, LLC dated October 1, 2008*** (31) |

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| No. | Description |
|-------|---|
| 10.20 | 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/k/a ADA-NexCoal, LLC) (32) |
| 10.21 | Development and License Agreement with Arch Coal, Inc. dated June 25, 2010*** (33) |
| 10.22 | Technology Sublicense Agreement between ADA-ES, Inc., Clean Coal Solutions, LLC and GS RC Investments LLC dated June 29, 2010 (34) |
| 10.23 | Agreement to Lease between Clean Coal Solutions, LLC, AEC-NM, LLC, AEC-TH, LLC, and GS RC Investments LLC dated June 29, 2010*** (35) |
| 10.24 | Amended and Restated License Agreement between ADA-ES, Inc. and Clean Coal Solutions, LLC dated October 30, 2009 (36) |
| 10.25 | 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 (37) |
| 10.26 | First Amendment to the Amended and Restated License Agreement between ADA-ES, Inc. and Clean Coal Solutions, LLC dated as of August 4, 2010 (38) |
| 10.28 | Amended and Restated 2010 Non-Management Compensation and Incentive Plan**(39) |
| 10.29 | Credit Agreement by and between Clean Coal Solutions, LLC and Cobiz Bank (Colorado Business Bank in the State of Colorado) dated as of March 30, 2011 (40) |
| 10.30 | Exclusive Right to Lease Agreement dated May 27, 2011 between Clean Coal Solutions, LLC and GSFS Investments I Corp *** (41) |
| 10.31 | Class B Unit Purchase Agreement dated May 27, 2011 between Clean Coal Solutions, LLC and GSFS Investments I Corp (42) |
| 10.32 | ADA-ES, Inc. Guaranty for the benefit of GSFS Investments I Corp. dated May 27, 2011 (43) |
| 10.33 | Contribution Agreement dated May 27, 2011 between ADA-ES, Inc. and NexGen Refined Coal, LLC (44) |
| 10.34 | 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 (45) |
| 10.35 | 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 (46) |
| 10.36 | 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 (47) |
| 10.37 | 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 (48) |
| 10.38 | Exchange Agreement between Clean Coal Solutions, LLC, AEC-NM, LLC and GS RC Investments LLC dated November 21, 2011 *** (49) |
| 10.39 | Amendment to Technology Sublicense Agreement between ADA-ES, Inc., GS RC Investments, LLC and Clean Coal Solutions, LLC dated November 21, 2011*** (51) |
| 10.40 | ADA-ES, Inc. Guaranty for the benefit of GS RC Investments LLC dated November 21, 2011 (52) |
| 10.41 | Office Building Lease between ADA-ES, Inc. and Ridgeline Technology Center, LLC, dated November 9, 2011 (54) |

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| No. | Description |
|-------|--|
| 10.42 | Amendment #2 to Technology Sublicense Agreement between ADE-ES, Inc, GS RC Investments, LLC and Clean Coal Solutions, LLC dated December 15, 2011(57) |
| 10.43 | ADA-ES, Inc. Guaranty for the benefit of GS RC Investments LLC dated December 15, 2011(58) |
| 10.44 | Amended and Restated Refined Coal Activities Supplemental Compensation Plan dated November 9, 2011 *(59) |
| 10.45 | 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(60) |
| 10.46 | Amendment No. 1 to the ADA-ES, Inc. Amended and Restated 2007 Equity Incentive Plan *(61) |
| 10.47 | Amendment to Agreement to Lease among Clean Coal Solutions, LLC, AEC-NM, LLC, AEC-TH, LLC, and GS RC Investments LLC dated May 9, 2011* |
| 10.48 | Lease of Space between ADA, ES, Inc. and Highridgeline, LLC dated February 23, 2012(62) |
| 10.49 | First Amendment to 2011 Loan and Security Agreement by and between Clean Coal Solutions, LLC and CoBiz Bank (Colorado Business Bank in the State of Colorado) dated as of March 7, 2012(64) |
| 10.50 | Second Amendment to 2011 Loan and Security Agreement by and between Clean Coal Solutions, LLC and CoBiz Bank (Colorado Business Bank in the State of Colorado) dated as of May 21, 2012(65) |
| 10.51 | M-45 Technology License Agreement between ADA-ES, Inc. and Clean Coal Solutions, LLC dated July 27, 2012*** (66) |
| 10.52 | Second Amendment to the Second Amended and Restated Operating Agreement of Clean Coal Solutions, LLC by and among ADA-ES, Inc., NexGen Refined Coal, LLC and GSFS Investments I Corp. dated August 1, 2012(67) |
| 10.53 | Forms of agreements for use under the ADA-ES, Inc. Amended and Restated 2007 Equity Incentive Plan, as amended(68) |
| 10.54 | Third Amendment to 2011 Loan and Security Agreement by and between Clean Coal Solutions, LLC and CoBiz Bank (Colorado Business Bank in the State of Colorado) dated as of November 30, 2012* |
| 21.1 | Subsidiaries of ADA-ES, Inc.* |
| 23.1 | Consent of EKS&H, LLLP* |
| 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, 2012 and 2011, (ii) Consolidated Statements of Operations for the Years ended December 31, 2012, 2011 and 2010, (iii) Consolidated Statements of Changes in Stockholders' Equity (Deficit) for the Years ended December 31, 2012, 2011 and 2010, (iv) Consolidated Statements of Cash Flows for the Years ended December 31, 2012, 2011 and 2010; and (v) Notes to the Consolidated Financial Statements. 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) Intentionally left blank
 - (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) Intentionally left blank
 - (7) Intentionally left blank
 - (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 10.2 to the Form 10-KSB for the year ended December 31, 2005 filed on March 30, 2006 (File No. 000-50216).
 - (16) Incorporated by reference to Exhibit 99.2 to the Form S-8 filed on November 14, 2003 (File No. 333-110479).
 - (17) Incorporated by reference to Exhibit 99.1 to the Form S-8 filed on February 6, 2004 (File No. 333-112587).
 - (18) Incorporated by reference to Exhibit 99.3 to the Form S-8 filed on December 14, 2004 (File No. 333-121234).
 - (19) 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).
 - (20) 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).
 - (21) 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).
 - (22) 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).
 - (23) Incorporated by reference to Exhibit 99.1 to the Form S-8 filed on April 16, 2004 (File No. 333-114546).
 - (24) 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).
 - (25) 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).
 - (26) 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).
 - (27) 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).

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- (28) 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).
 - (29) 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).
 - (30) 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).
 - (31) 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).
 - (32) 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).
 - (33) 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).
 - (34) 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).
 - (35) 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).
 - (36) 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).
 - (37) 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).
 - (38) 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).
 - (39) Incorporated by reference to Exhibit 10.31 to the Form 10-K for the year ended December 31, 2011 filed on March 15, 2012 (File No. 000-50216).
 - (40) 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).
 - (41) 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).
 - (42) 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).
 - (43) 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).
 - (44) 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).
 - (45) 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).
 - (46) 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).
 - (47) 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).
 - (48) Incorporated by reference to Exhibit 10.91 to the Form 8-K dated November 21, 2011 filed November 22, 2011 (File No. 000-50216).
 - (49) Incorporated by reference to Exhibit 10.41 to the Form 10-K for the year ended December 31, 2011 filed on March 15, 2012 (File No. 000-50216).
 - (50) Intentionally left blank.
 - (51) Incorporated by reference to Exhibit 10.43 to the Form 10-K for the year ended December 31, 2011 filed on March 15, 2012 (File No. 000-50216).
 - (52) Incorporated by reference to Exhibit 10.44 to the Form 10-K for the year ended December 31, 2011 filed on March 15, 2012 (File No. 000-50216).
 - (53) Intentionally left blank.
 - (54) Incorporated by reference to Exhibit 10.46 to the Form 10-K for the year ended December 31, 2011 filed on March 15, 2012 (File No. 000-50216).

- (55) Intentionally left blank.
 - (56) Intentionally left blank.
 - (57) Incorporated by reference to Exhibit 10.49 to the Form 10-K for the year ended December 31, 2011 filed on March 15, 2012 (File No. 000-50216).
 - (58) Incorporated by reference to Exhibit 10.50 to the Form 10-K for the year ended December 31, 2011 filed on March 15, 2012 (File No. 000-50216).
 - (59) Incorporated by reference to Exhibit 10.51 to the Form 10-K for the year ended December 31, 2011 filed on March 15, 2012 (File No. 000-50216).
 - (60) Incorporated by reference to Exhibit 10.52 to the Form 10-K for the year ended December 31, 2011 filed on March 15, 2012 (File No. 000-50216).
 - (61) Incorporated by reference to Exhibit 10.53 to the Form 10-K for the year ended December 31, 2011 filed on March 15, 2012 (File No. 000-50216).
 - (62) Incorporated by reference to Exhibit 10.54 to the Form 10-Q for the quarter ended March 30, 2012 filed on May 10, 2012 (File No. 000-50216).
 - (63) Incorporated by reference to Exhibit 10.55 to the Form 10-Q for the quarter ended March 30, 2012 filed on May 10, 2012 (File No. 000-50216).
 - (64) Incorporated by reference to Exhibit 10.56 to the Form 10-Q for the quarter ended March 30, 2012 filed on May 10, 2012 (File No. 000-50216).
 - (65) Incorporated by reference to Exhibit 10.57 to the Form 10-Q for the quarter ended June 30, 2012 filed on August 9, 2012 (File No. 000-50216).
 - (66) Incorporated by reference to Exhibit 10.58 to the Form 10-Q for the quarter ended September 30, 2012 filed on November 9, 2012 (File No. 000-50216).
 - (67) Incorporated by reference to Exhibit 10.59 to the Form 10-Q for the quarter ended September 30, 2012 filed on November 9, 2012 (File No. 000-50216).
 - (68) Incorporated by reference to Exhibit 10.61 to the Form 10-Q for the quarter ended September 30, 2012 filed on November 9, 2012 (File No. 000-50216).
-
- (b) See (a)(3) above.
 - (c) See (a)(2) above.

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

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

(Principal Financial and Accounting Officer)

Date: March 18, 2013

Date: March 18, 2013

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.

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

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

Date: March 18, 2013

Date: March 18, 2013

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

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

Date: March 18, 2013

Date: March 18, 2013

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

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

Date: March 18, 2013

Date: March 18, 2013

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

By /s/ Richard Swanson
Richard Swanson, Director

Date: March 18, 2013

Date: March 18, 2013

By /s/ Alan Bradley Gabbard
Alan Bradley Gabbard, Director

By /s/ Kim B. Clarke
Kim B. Clarke, Director

Date: March 18, 2013

Date: March 18, 2013

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

Date: March 18, 2013

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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 (the "Company") as of December 31, 2012 and 2011, 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, 2012. We also have audited the Company's internal control over financial reporting as of December 31, 2012, based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of 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 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 the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the 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 financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and 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.

To the Board of Directors and Stockholders of

ADA-ES, Inc. and Subsidiaries

Page Two

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 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 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 financial statements referred to above present fairly, in all material respects, the financial position of ADA-ES, Inc. and subsidiaries as of December 31, 2012 and 2011, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2012 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, 2012, based on criteria established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

/s/ EKS&H LLLP

March 18, 2013

Denver, Colorado

ADA-ES, Inc. and Subsidiaries

Consolidated Balance Sheets

December 31, 2012 and 2011

(Amounts in thousands, except share data)

| | 2012 | 2011 |
|---|------------------|------------------|
| <u>ASSETS</u> | | |
| Current Assets | | |
| Cash and cash equivalents | \$ 9,737 | \$ 40,879 |
| Receivables, net of allowance for doubtful accounts | 11,025 | 5,914 |
| Investment in securities | 1,641 | 508 |
| Prepaid expenses and other assets | 2,888 | 1,532 |
| Total current assets | 25,291 | 48,833 |
| Property and Equipment, at cost | 53,542 | 41,771 |
| Less accumulated depreciation and amortization | (8,931) | (4,651) |
| Net property and equipment | 44,611 | 37,120 |
| Investment in unconsolidated entity | 1,850 | 590 |
| Other assets | 3,997 | 931 |
| Total other assets | 5,847 | 1,521 |
| Total Assets | \$ 75,749 | \$ 87,474 |
| <u>LIABILITIES, TEMPORARY EQUITY AND STOCKHOLDERS' DEFICIT</u> | | |
| Current Liabilities | | |
| Accounts payable | \$ 6,615 | \$ 8,849 |
| Accounts payable to related parties | 5,082 | 1,209 |
| Accrued payroll and related liabilities | 2,569 | 2,545 |
| Line of credit | 3,000 | 10,873 |
| Current portion of notes payable | 559 | |
| Deposits | 21,200 | 14,900 |
| Deferred revenue and other liabilities | 6,919 | 5,105 |
| Settlement awards and related accrued liabilities | 3,453 | 3,983 |
| Total current liabilities | 49,397 | 47,464 |
| Long-term Liabilities | | |
| Line of credit | | 3,624 |
| Long-term portion of notes payable | 2,305 | |
| Settlement awards and indemnity liability | 2,500 | 5,200 |
| Deferred revenue | 875 | |
| Accrued warranty and other liabilities | 809 | 632 |
| Total long-term liabilities | 6,489 | 9,456 |
| Total Liabilities | 55,886 | 56,920 |

Commitments and Contingencies (Note 10)

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| | | |
|--|------------------|------------------|
| Temporary Equity - Non-controlling Interest Subject to Possible Redemption | 60,000 | 60,000 |
| Stockholders' Deficit | | |
| ADA-ES, Inc. stockholders' deficit | | |
| Preferred stock: 50,000,000 shares authorized, none outstanding | | |
| Common stock: no par value, 50,000,000 shares authorized, 10,028,269 and 9,996,144 shares issued and outstanding at December 31, 2012 and 2011, respectively | 63,724 | 63,184 |
| Accumulated deficit | (79,765) | (66,694) |
| Total ADA-ES, Inc. stockholders' deficit | (16,041) | (3,510) |
| Non-controlling interest | (24,096) | (25,936) |
| Total Stockholders' Deficit | (40,137) | (29,446) |
| Total Liabilities, Temporary Equity and Stockholders' Deficit | \$ 75,749 | \$ 87,474 |

See accompanying notes.

ADA-ES, Inc. and Subsidiaries

Consolidated Statements of Operations

For the Years Ended December 31, 2012, 2011 and 2010

(Amounts in thousands, except per share data)

| | 2012 | 2011 | 2010 |
|---|--------------------|--------------------|--------------------|
| Revenues | | | |
| Refined coal | \$ 194,900 | \$ 40,253 | \$ 10,383 |
| Emission control | 14,603 | 9,967 | 9,825 |
| CO ₂ capture | 3,020 | 3,096 | 2,073 |
| Total revenues | 212,523 | 53,316 | 22,281 |
| Cost of Revenues | | | |
| Refined coal | 179,204 | 20,201 | 1,440 |
| Emission control | 11,135 | 6,839 | 6,107 |
| CO ₂ capture | 2,216 | 1,924 | 1,066 |
| Total cost of revenues | 192,555 | 28,964 | 8,613 |
| Gross Margin before Depreciation and Amortization | 19,968 | 24,352 | 13,668 |
| Other Costs and Expenses | | | |
| General and administrative | 20,151 | 17,468 | 32,790 |
| Research and development | 2,968 | 2,289 | 911 |
| Depreciation and amortization | 5,277 | 1,568 | 917 |
| Total expenses | 28,396 | 21,325 | 34,618 |
| Operating Income (Loss) | (8,428) | 3,027 | (20,950) |
| Other Income (Expense) | | | |
| Net equity in net income (loss) from unconsolidated entities | 760 | (6,967) | (8,037) |
| Other income including interest | 305 | 2,218 | 2,510 |
| Interest expense | (1,461) | (1,584) | (16) |
| Settlement of litigation and arbitration award, net | (2,301) | (21,932) | 6,072 |
| Total other income (expense) | (2,697) | (28,265) | 529 |
| Loss from Continuing Operations Before Income Tax Benefit and Non-controlling Interest | (11,125) | (25,238) | (20,421) |
| Income Tax Benefit (Expense) | | 10,400 | (7,093) |
| Net Loss Before Non-controlling Interest | (11,125) | (14,838) | (27,514) |
| Non-controlling Interest | (1,946) | (7,981) | (3,613) |
| Net Loss Attributable to ADA-ES, Inc. | \$ (13,071) | \$ (22,819) | \$ (31,127) |
| Net Loss Per Common Share Basic and Diluted Attributable to ADA-ES, Inc. | \$ (1.31) | \$ (2.85) | \$ (4.21) |
| Weighted Average Common Shares Outstanding | 10,013 | 8,020 | 7,393 |
| Weighted Average Diluted Common Shares Outstanding | 10,013 | 8,020 | 7,393 |

See accompanying notes.

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ADA-ES, Inc. and Subsidiaries

Consolidated Statements of Changes in Stockholders' Equity (Deficit)

For the Years Ended December 31, 2012, 2011 and 2010

(Amounts in thousands, except share data)

| | Common Stock | | Accumulated | Total ADA-ES | Non- | Total |
|--|-------------------|------------------|--------------------|--------------------|----------------------|--------------------|
| | Shares | Amount | Deficit | Equity (Deficit) | controlling Interest | Equity (Deficit) |
| Balances, December 31, 2009 | 7,093,931 | \$ 37,000 | \$ (12,748) | \$ 24,252 | \$ 99 | \$ 24,351 |
| 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) | | | (31,127) | (31,127) | 3,613 | (27,514) |
| Balances, December 31, 2010 | 7,538,861 | \$ 39,627 | \$ (43,875) | \$ (4,248) | \$ 2,035 | \$ (2,213) |
| 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 |
| Income tax impact of sale of temporary equity in joint venture | | (10,400) | | (10,400) | | (10,400) |
| Equity contributions by non-controlling interest | | | | | 250 | 250 |
| Distributions to non-controlling interest | | | | | (36,202) | (36,202) |
| Expense of stock issuance and registration | | (2,359) | | (2,359) | | (2,359) |
| Net income (loss) | | | (22,819) | (22,819) | 7,981 | (14,838) |
| Balances, December 31, 2011 | 9,996,144 | \$ 63,184 | \$ (66,694) | \$ (3,510) | \$ (25,936) | \$ (29,446) |
| Stock-based compensation | 10,716 | 128 | | 128 | | 128 |
| Issuance of stock to 401(k) plan | 19,443 | 413 | | 413 | | 413 |
| Issuance of stock on exercise of options | 1,966 | 21 | | 21 | | 21 |
| Distributions to non-controlling interest | | | | | (106) | (106) |
| Expense of stock issuance and registration | | (22) | | (22) | | (22) |
| Net income (loss) | | | (13,071) | (13,071) | 1,946 | (11,125) |
| Balances, December 31, 2012 | 10,028,269 | \$ 63,724 | \$ (79,765) | \$ (16,041) | \$ (24,096) | \$ (40,137) |

See accompanying notes.

ADA-ES, Inc. and Subsidiaries

Consolidated Statements of Cash Flows

Years Ended December 31, 2012, 2011 and 2010

(Amounts in thousands)

| | 2012 | 2011 | 2010 |
|---|-------------|-------------|-------------|
| Cash Flows from Operating Activities | | | |
| Net loss | \$ (13,071) | \$ (22,819) | \$ (31,127) |
| Adjustments to reconcile net loss to net cash provided by (used in) operating activities: | | | |
| Depreciation and amortization | 5,277 | 1,568 | 917 |
| Deferred tax (benefit) expense | | (10,400) | 7,093 |
| Loss on disposal of assets | 46 | 37 | |
| Provision for doubtful accounts | (5) | | (7) |
| Expenses paid with stock, restricted stock and stock options | 541 | 1,135 | 1,306 |
| Net equity in net (income) loss from unconsolidated entities | (760) | 6,967 | 8,037 |
| Non-cash gain from joint venture partner | | | (1,768) |
| Non-cash gain from indemnity claim settlement | | (20,034) | |
| Non-controlling interest in income from subsidiaries | 1,946 | 7,981 | 3,613 |
| Changes in operating assets and liabilities: | | | |
| Receivables, net | (5,106) | 3,152 | (3,247) |
| Prepaid expenses and other assets | (1,368) | (1,258) | 289 |
| Accounts payable | 1,639 | 6,412 | (1,666) |
| Accrued payroll, expenses and other related liabilities | (34) | 693 | 1,274 |
| Deposits | 6,300 | 14,900 | |
| Deferred revenue and other liabilities | 2,867 | (4,578) | 6,412 |
| Settlement awards and related accrued liabilities | (3,230) | 3,983 | |
| Accrued indemnity liabilities | | 4,288 | 20,589 |
| Net cash provided by (used in) operating activities | (4,958) | (7,973) | 11,715 |
| Cash Flows from Investing Activities | | | |
| Investment in securities | (1,133) | (3) | (105) |
| Acquisition of of assets of consolidated entity | (2,000) | | |
| Proceeds from sale of property and equipment | 35 | | |
| Principal payments received on notes receivable | | 1,580 | 188 |
| Capital expenditures for equipment, patents and development projects | (10,846) | (33,788) | (2,919) |
| Cash paid for equity contributions to unconsolidated entity | | | (283) |
| Net cash used in investing activities | (13,944) | (32,211) | (3,119) |
| Cash Flows from Financing Activities | | | |
| Net borrowings (repayments) under line of credit | (11,497) | 14,497 | |
| Loan to unconsolidated entity | (500) | | |
| Non-controlling interest equity contributions | | 250 | 2,090 |
| Distributions to non-controlling interest | (106) | (36,202) | (3,767) |
| Exercise of stock options | 21 | 106 | 347 |
| Sale of temporary equity in joint venture | | 60,000 | |
| Issuance of common stock | | 35,075 | 1,000 |
| Repayments of notes payable | (136) | | |
| Stock issuance and registration costs | (22) | (2,359) | (26) |
| Net cash provided by (used in) financing activities | (12,240) | 71,367 | (356) |

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| | | | |
|--|-----------------|------------------|-----------------|
| Increase (Decrease) in Cash and Cash Equivalents | (31,142) | 31,183 | 8,240 |
| Cash and Cash Equivalents, beginning of period | 40,879 | 9,696 | 1,456 |
| Cash and Cash Equivalents, end of period | \$ 9,737 | \$ 40,879 | \$ 9,696 |
| Supplemental Cash Flow Disclosure | | | |
| Stock and stock options issued for services | \$ 541 | \$ 1,135 | \$ 1,306 |
| Cash paid for interest | \$ 1,551 | \$ 1,311 | \$ 24 |
| Notes payable related to acquisition of intangible assets of consolidated entity | \$ 3,000 | \$ | \$ |

See accompanying notes.

Notes to Consolidated Financial Statements

1. Summary of Nature of Operations and Significant Accounting Policies

Nature of Operations ADA-ES, Inc. (ADA), its direct and indirect 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 operations in 2012, BCSI, LLC, a Delaware limited liability company (BCSI), 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), the sale of Activated Carbon Injection (ACI) and Dry Sorbent Injection (DSI) systems, contracts co-funded by the government and industry and the development and lease or sale 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 ADA, ADES, ADA IP, BCSI, 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, 2012 was held in three commercial banks 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 30-45 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, | |
|---------------------------|--------------------|-----------------|
| | 2012 | 2011 |
| | (in thousands) | |
| Receivables balance | \$ 9,217 | \$ 4,919 |
| Unbilled revenues balance | 1,808 | 995 |
| Total | \$ 11,025 | \$ 5,914 |

Patents Intangible assets include patents and are included in other assets in the consolidated balance sheets.

| | As of December 31, | |
|-------------------------------|--------------------|---------------|
| | 2012 | 2011 |
| | (in thousands) | |
| Cost of patents | \$ 562 | \$ 436 |
| Less accumulated amortization | (93) | (82) |
| Total | \$ 469 | \$ 354 |

| | 2012 | Year ended December 31, 2011 | 2010 |
|--|-------|---------------------------------|-------|
| | | (in thousands, except years) | |
| Amortization expense of intangible assets for the year | \$ 12 | \$ 11 | \$ 10 |
| Amortization life in years of patents | 17 | 17 | 17 |
| Anticipated annual amortization expense over the next five years | \$ 11 | | |
| Weighted average amortization period in years | 11 | | |

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 2012, 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. All of these certificates of deposit are pledged as security for letters of credit in the same amount as the investments.

Investment in Unconsolidated Entity 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 or sold 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, 2012 and 2011, no such declines existed on this investment.

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 three to ten 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 or owners 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 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 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. There were no indicators of impairment for 2012, 2011 and 2010.

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

Revenue Recognition The Company 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.

| | As of December 31, | |
|--|--------------------|--------|
| | 2012 | 2011 |
| | (in thousands) | |
| Costs in excess of billings included in accounts receivable, net | \$ 1,623 | \$ 452 |
| Billings in excess of recognized income included in deferred revenue | \$ 3,730 | \$ 173 |

RC revenues are recognized when RC production and coal sales occur and when rental income has been earned. 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. RC rental income is generally comprised of two components; the fixed component is earned with the passage of time and the contingent component is earned upon the production of RC. 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, | | |
|----------------------------|--------------------------|-------|------|
| | 2012 | 2011 | 2010 |
| | (in thousands) | | |
| Penalty and interest costs | \$ 9 | \$ 35 | \$ 1 |

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. At each reporting date, management reviews deferred tax assets and liabilities and any related valuation allowance and, if necessary, revises them to reflect changed circumstances. In a situation where recent losses have been incurred, the accounting standards require convincing evidence that there will be sufficient future taxable income to realize deferred tax assets. Clean Coal is a flow-through tax entity and therefore the owners are taxed or receive tax benefits based on their respective ownership interests.

The Company recognizes the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position.

Net Loss Per Share Basic EPS is calculated by dividing the 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 2012, 2011 or 2010 as their inclusion would be anti-dilutive due to the Company's net loss per share for those periods.

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

| | Years Ended December 31, | | |
|-------------------------------------|--------------------------|-----------|-----------|
| | 2012 | 2011 | 2010 |
| | (in thousands) | | |
| Stock based compensation before tax | \$ 541 | \$ 1,135 | \$ 1,306 |
| Stock based compensation after tax | \$ 340 | \$ 714 | \$ 833 |
| Basic and diluted loss per share | \$ (0.04) | \$ (0.09) | \$ (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 or lack thereof 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;

estimated future royalty obligations associated with our settlement with Norit Americas, Inc. (Norit);

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:

Refined coal (RC),

Emission control (EC), and

CO₂ Capture (CC).

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Reclassification Certain amounts in the 2011 and 2010 consolidated financial statements have been reclassified to conform to the 2012 presentation. Such reclassification had no effect on net income.

Newly Adopted Accounting Standard In September 2011, the Financial Accounting Standards Board issued revised authoritative guidance for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011. The guidance allows an entity the option to make a qualitative evaluation about the likelihood of goodwill impairment for a reporting unit. If, after assessing the totality of events or circumstances, an entity determines it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then performing the quantitative two-step impairment test is unnecessary. The adoption of this guidance did not have a material impact on the Company's consolidated financial statements.

2. **Property and Equipment**

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

| | Life in Years | As of December 31, 2012 | 2011 |
|--|------------------|----------------------------|-----------|
| | | (in thousands) | |
| Machinery and equipment | 3-10 | \$ 7,522 | \$ 3,937 |
| Leasehold improvements | 2-5 | 1,106 | 624 |
| Furniture and fixtures | 3-7 | 781 | 281 |
| RC assets | 10 | 44,133 | 36,929 |
| | | 53,542 | 41,771 |
| Less accumulated depreciation and amortization | | (8,931) | (4,651) |
| Total property and equipment, net | | \$ 44,611 | \$ 37,120 |

| | Years Ended December 31, 2012 | 2011 | 2010 |
|-------------------------------|----------------------------------|----------------|--------|
| | | (in thousands) | |
| Depreciation and amortization | \$ 5,277 | \$ 1,568 | \$ 917 |

3. **Deferred Revenue and Deposits**

Deferred revenue consists of:

billings in excess of costs and earnings on uncompleted contracts;

deferred rent revenue related to Clean Coal's lease of its RC facilities.

Clean Coal Deferred Rent Revenue In June 2010, Clean Coal executed agreements to lease two RC facilities to GS RC Investments, LLC ("GS RC"), a related entity of the Goldman Sachs Group, Inc. ("GS"). These agreements provided for, among other things, a prepaid rent payment of \$9 million for both RC facilities that was received before June 30, 2010. In November and December 2011, Clean Coal entered into transactions to exchange the existing RC facilities (See Notes 7 and 11). There was no change to the prepaid rent payment or amortization period as a result of the exchanges. Clean Coal received an additional \$1.5 million from another financial party in July 2012.

Following is a table of current deferred revenue which is included in deferred revenue and other liabilities in the consolidated balances sheets and long-term deferred revenue which is included in deferred revenue in the consolidated balance sheets related to these rent revenues:

| | As of December 31, | |
|------------------------------|--------------------|----------|
| | 2012 | 2011 |
| | (in thousands) | |
| Deferred revenue, short-term | \$ 625 | \$ 3,600 |
| Deferred revenue, long-term | \$ 875 | \$ |

The following table presents total rent revenues recognized and amortization with respect to the prepaid rents:

| | Years Ended December 31, | | |
|--|--------------------------|-----------|-----------|
| | 2012 | 2011 | 2010 |
| | (in thousands) | | |
| Rent revenue recognized | \$ 36,855 | \$ 20,110 | \$ 10,111 |
| Amortization of prepaid rent included in amounts above | \$ 3,600 | \$ 3,600 | \$ 1,800 |

Clean Coal Deposits

During 2011, Clean Coal received deposits of \$14.9 million from GSFS Investments I Corp. (GSFS), an affiliate of GS towards RC facilities which may be leased upon attainment of certain milestones. An additional \$6.3 million was received in 2012 and the total of \$21.2 million is included in deposits in the consolidated balance sheets as of December 31, 2012 (see Note 11).

In October 2012, GSFS determined that it would not pursue leases on two particular RC facilities on which it had paid deposits totaling \$4.7 million and concurrently gave notice for the return of the related deposits. In December 2012, GSFS agreed to defer the return of these deposits until April 30, 2013. In March 2013, Clean Coal returned the \$4.7 million in deposits plus accrued interest to GSFS.

4. 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 2005 through 2012 have not yet been finalized.

| | Years Ended December 31, | | |
|--|--------------------------|-----------|-----------|
| | 2012 | 2011 | 2010 |
| | (in thousands) | | |
| Revenue recognized related to CC segment | \$ 3,020 | \$ 3,096 | \$ 2,073 |
| Unearned contract amount | \$ 12,686 | \$ 15,706 | \$ 18,800 |
| Expected revenue in 2013 | \$ 9,671 | | |

5. **Investments in Unconsolidated Entities**

Clean Coal Solutions Services As discussed in Note 1 above, the Company, together with NexGen, formed CCSS on January 20, 2010. The Company's investment in and advances to CCSS of \$1.9 million and \$590,000 as of December 31, 2012 and 2011, respectively, includes its share of CCSS income since its formation and is accounted for under the equity method of accounting. The following schedule shows CCSS unaudited consolidated summarized information as to assets, liabilities and revenues and ADA's share of net income attributed to CCSS (before consolidation). CCSS's consolidated financial statements include the financial results of the entities that lease RC facilities and its revenues include the sale of RC and its cost of sales includes raw coal purchases.

| | As of December 31, | |
|---|--------------------|------------------|
| | 2012 | 2011 |
| | (in thousands) | |
| Current assets | \$ 55,109 | \$ 22,609 |
| Property, equipment, and other long-term assets | 768 | 3,682 |
| Total Assets | \$ 55,877 | \$ 26,291 |
| Total Liabilities | \$ 31,904 | \$ 15,988 |

| | Years Ended December 31, | | |
|--|--------------------------|------------|-----------|
| | 2012 | 2011 | 2010 |
| | (in thousands) | | |
| Net revenue | \$ 226,860 | \$ 153,684 | \$ 90,854 |
| ADA's share of net income attributed to CCSS | \$ 760 | \$ 189 | \$ 236 |

ADA Carbon Solutions, LLC (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 and \$8 million as its share of Carbon Solutions' losses for 2011 and 2010, respectively.

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 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 10).

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.

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.

6. Acquisition of Assets by BCSI

On August 31, 2012, pursuant to an Asset Purchase Agreement (Purchase Agreement) executed on July 26, 2012, BCSI acquired certain assets of two related privately held companies (Seller Companies) that fabricated and supplied DSI systems and other material handling equipment and provided testing and related DSI services for a purchase price of \$2 million and other amounts payable over the next five years as described below. This acquisition provided the Company with DSI market experience and expanded manufacturing capabilities for ACI systems.

In conjunction with the Purchase Agreement, the Seller Companies sole stockholder (Sellers Stockholder) and BCSI also executed a personal goodwill purchase agreement and goodwill promissory note whereby BCSI agreed to pay the Sellers Stockholder a total of \$2.8 million (subject to adjustment pursuant to the terms of the Purchase Agreement) as payment for the personal goodwill generated in connection with the Seller Companies.

In addition, the Sellers Stockholder and BCSI entered into a consulting and non-competition agreement and non-compete promissory note whereby BCSI paid the Sellers Stockholder \$200,000 and is paying him a monthly consulting fee of approximately \$21,000 per month for five years beginning August 31, 2012 in exchange for professional services provided by the Sellers Stockholder, subject to terms and conditions as specified in the Purchase Agreement (see Note 10).

The transaction was accounted for using the purchase method of accounting and the operating results related to the acquired assets have been consolidated into the Company s results of operations beginning August 31, 2012.

The purchase price was allocated to the identifiable assets acquired and liabilities assumed based on their estimated fair values on the acquisition date. The following table summarizes the fair value of the Seller Companies assets acquired and liabilities assumed as of August 31, 2012:

| | <i>(in thousands)</i> |
|----------------------------------|-----------------------|
| Assets acquired: | |
| Inventory | \$ 109 |
| Property and equipment | 2,001 |
| Intangible assets | 2,748 |
| Other assets | 200 |
| Total assets acquired | 5,058 |
| Liabilities assumed: | |
| Accrued liabilities | 58 |
| Total liabilities assumed | 58 |
| Net assets acquired | \$ 5,000 |
| Purchase consideration: | |
| Deposit paid | \$ 200 |
| Cash paid at closing | 1,800 |
| Notes payable | 3,000 |
| Total purchase consideration | \$ 5,000 |

7. Joint Venture Investment in Clean Coal

In November 2006, the Company sold a 50% interest in its joint venture in Clean Coal, which was formed in 2006 with NexGen to market RC technology. In May 2011, ADA and NexGen entered into a transaction in

which Clean Coal sold an effective 15% interest of the equity in Clean Coal to GSFS, an affiliate of GS which is included in temporary equity subject to possible redemption in the consolidated balance sheets (see Note 8). GSFS has certain preferences over ADA and NexGen as to liquidation and profit distribution. GSFS has no further capital call requirements and does not have a voting interest but does have approval rights over certain corporate transactions.

In September 2011, ADA, NexGen, and GSFS entered into a First Amendment to Second Amended and Restated Operating Agreement pursuant to which ADA and NexGen each transferred their 2.5% member interests in each of Clean Coal's subsidiaries back to Clean Coal. As a result of these transactions, ADA's interest in Clean Coal's net profits and losses is now 42.5%. This restructuring of ownership interests did not change the financial relationships of the parties and ADA still maintains a 50% governance interest in Clean Coal. In July 2012, ADA, NexGen and GSFS entered into the Second Amendment to the Operating Agreement (the "Operating Agreement") which, among other things, expanded Clean Coal's board of managers to allow for the appointment of an additional manager not directly representative of any of the members. Since its inception, ADA has been considered the primary economic beneficiary of this joint venture and has consolidated the accounts of Clean Coal.

Clean Coal's function is to supply technology, 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 available under Section 45 of the Internal Revenue Code ("Section 45 tax credits"). Clean Coal qualified two facilities in 2009 for such purposes and, as discussed in Note 3, leased those facilities to GS RC in 2010.

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 in 2011 which met the extended placed in service date. In November and December 2011, the two leased RC facilities qualified in 2009 were exchanged with newly constructed, redesigned RC facilities. The new leases carried over most of the substantive terms and conditions of the initial leases. In December 2012, the parties amended the two leases to change the lease term to month-to-month and allow the lessee, upon five business days' written notice, to either terminate the leases or convert the lease terms to yearly. In March 2013 the parties amended and restated the lease agreements to change the structure and timing of the lease payments. The payments will be paid quarterly in advance and are subject to adjustments for inflation. Each lease has an initial non-cancellable term of two years and will automatically renew unless terminated at the option of the lessee thereof, for successive one-year terms through November 9, 2021 and December 10, 2021, as applicable. The parties also amended and restated the two Operating and Maintenance Agreements pursuant to which CCSS (subject to oversight by the lessee) operates and maintains the RC facilities to provide for the payment of a fixed fee under the agreements instead of payments based on the production of RC as had previously been in place.

Clean Coal leased a third RC facility in the first quarter of 2012 to another entity related to GS. Clean Coal leased a fourth RC facility to a third party investor during the third quarter of 2012. All agreements included terms and conditions substantially similar to those applicable to the first two leased RC facilities. On February 28, 2013, Clean Coal sold an RC facility to a new third party investor, bringing the total number of RC facilities currently leased or sold to five.

The Operating Agreement requires NexGen and ADA to each pay 50% of the costs of operating Clean Coal and specifies certain duties that both parties are obligated to perform. Pursuant to the Operating Agreement and Exclusive Right to Lease Agreement, GSFS is in the process of exercising its exclusive right (but not the obligation) to lease additional facilities that will produce up to approximately 12 million tons of RC per year on pre-established lease terms similar to those currently in effect for Clean Coal's first two leased facilities.

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

| | As of December 31, 2012 2011 (in thousands) | |
|---|--|-----------|
| Primary assets | | |
| Cash and cash equivalents | \$ 994 | \$ 8,804 |
| Accounts receivable, net | 3,275 | 3,177 |
| Prepaid expenses and other assets | 2,546 | 3,028 |
| Property, plant and equipment including assets under lease and assets placed in service | 40,096 | 36,751 |
| Primary liabilities | | |
| Accounts payable and accrued liabilities | \$ 5,728 | \$ 10,526 |
| Accounts payable to related parties | 5,082 | 1,209 |
| Line of credit | 3,000 | 14,497 |
| Deposits | 21,200 | 14,900 |
| Deferred revenue, current | 625 | 3,600 |
| Deferred revenue, long-term | 875 | |

| | Years Ended December 31, 2012 2011 2010 (in thousands) | | |
|--------------------|--|-----------|-----------|
| Net revenue | \$ 194,900 | \$ 40,253 | \$ 10,383 |
| Net income | \$ 3,384 | \$ 13,658 | \$ 6,873 |

Amounts paid and payable to NexGen

During 2012, 2011 and 2010, Clean Coal paid NexGen \$450,000, \$2.6 million and \$687,000, respectively, for management fees, rent and labor costs related to capital improvements for assets under lease and placed in service. At December 31, 2012 and 2011, the amount payable to NexGen was \$1.3 million and \$138,000, respectively, and is included in accounts payable to related parties in the consolidated balance sheets.

Amounts paid and payable to CCSS

During 2012, 2011 and 2010, Clean Coal paid CCSS \$4.7 million, \$3.4 million and \$64,000, respectively, for development and operating expenses. At December 31, 2012 and 2011, the amount payable to CCSS was \$3.5 million and \$1.2 million, respectively, and is included in accounts payable to related parties in the consolidated balance sheets.

8. Temporary Equity Subject to Possible Redemption

As described in Note 7, in May 2011, ADA and NexGen entered into a transaction in which Clean Coal sold an effective 15% interest of the equity in Clean Coal to GSFS. Approximately 15.8 units of non-voting Class B membership interests were issued to GSFS for \$60 million in cash. ADA and NexGen each received \$30 million as a result of the sale. The terms of the Operating Agreement permit GSFS to require redemption of the unreturned portion of its initial \$60 million investment in Clean Coal plus a return of 15% in 2021 and under certain limited circumstances. As a result, \$60 million is classified as temporary equity subject to possible redemption in the consolidated balance sheets.

9. Stockholders' Deficit

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 GSFS. Approximately 15.8 units of non-voting Class B membership interests were issued to GSFS 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 GSFS 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, 2012 and 2011, the non-controlling interest portion of stockholders' deficit includes the non-controlling interest related to Clean Coal.

Since 2003, ADA has had several stock and option plans, including the 2005 Directors' Compensation Plan (the "2005 Plan"), the Amended and Restated 2007 Equity Incentive Plan (the "2007 Plan"), the Amended and Restated 2010 Non-Management Compensation and Incentive Plan, (the "2010 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") as 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, 2012 and 2011:

| | Employee and Director Options | Weighted Average Exercise Price |
|--|-------------------------------------|---------------------------------------|
| 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 |
| Options granted | 5,000 | 19.54 |
| Options expired | | |
| Options exercised | (1,966) | 10.73 |
| Options outstanding, December 31, 2012 | 185,976 | \$ 10.20 |

Following is a table of aggregate intrinsic value of options exercised and exercisable for the two years ended December 31, 2012 and 2011:

| | Intrinsic Value | Average Market Price |
|--------------------------------|--------------------|----------------------------|
| Exercised, December 31, 2012 | \$ 23,100 | \$ 22.47 |
| Exercised, December 31, 2011 | \$ 140,155 | \$ 15.38 |
| | Intrinsic Value | Market Price |
| Exercisable, December 31, 2012 | \$ 1,242,900 | \$ 16.88 |
| Exercisable, December 31, 2011 | \$ 2,322,000 | \$ 22.64 |

Stock options outstanding and exercisable at December 31, 2012 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 | 142,583 | \$ 8.66 | 2.9 |
| \$13.80 - \$15.20 | 38,393 | \$ 14.70 | 2.5 |
| \$19.54 | 5,000 | \$ 19.54 | 4.8 |
| | 185,976 | \$ 10.20 | 2.9 |

During 2005, the Company adopted the 2005 Plan, which authorized the issuance of shares of common stock and the grant of options to purchase shares of common stock to non-management directors. Under the 2005 Plan, the award of stock is limited to not more than 1,000 shares per individual per year, and the grant of options is limited to 5,000 per individual in total. The aggregate number of shares of common stock reserved for issuance under the 2005 Plan totals 90,000 shares (50,000 in the form of stock awards and 40,000 in the form of options). In October 2012, we issued 5,000 options to a new Board member under the 2005 Plan.

The 2007 Plan, which was adopted by ADA in 2007, was 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. On July 19, 2012, the stockholders of ADA approved an amendment to the 2007 Plan to increase the number of shares presently issuable to 1.3 million and increase the number of shares authorized for issuance to 1.8 million. In addition, the stockholders also approved an increase in the number of shares with respect to which awards may be granted in any fiscal year from 30,000 to 50,000 and the annual grant limit for the non-management director annual grant was increased to 30,000 shares. The 2007 Plan authorizes the issuance to employees, directors and non-employees 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.

The 2010 Plan, which was adopted by ADA in 2010, was amended and restated as of July 19, 2012 to make non-material changes to assure Internal Revenue Code Section 409A compliance. The Plan permits grants of awards, which may be shares, rights to purchase restricted stock or bonuses of restricted stock or other rights or benefits under the Plan.

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Following is a table summarizing the common stock activity under various stock issuance plans for the two years ended December 31, 2012 and 2011:

| | Stock Issuance Plans | | | Other |
|--|----------------------|-------------|-----------|-------------|
| | 2007 Plan | 401(k) Plan | 2010 Plan | Stock Plans |
| Shares available, December 31, 2010 | 93,943 | 183,794 | 300,000 | 12,065 |
| Evergreen addition | 44,593 | | | |
| Restricted stock issued to new and anniversary employees | (22,849) | | | |
| 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) |
| Forfeited shares | 1,372 | | | |
| Shares available, December 31, 2011 | 30,954 | 156,025 | 300,000 | 5,065 |
| Additional shares authorized for issuance | 300,000 | | | |
| Evergreen addition | 209,628 | | | |
| Restricted stock issued to new and anniversary employees | (8,464) | | (1,898) | |
| Stock issued based on incentive and matching programs to employees | | (19,443) | | |
| Stock issued to executives, directors and non-employees | (864) | | | |
| Forfeited shares | 510 | | | |
| Shares available, December 31, 2012 | 531,764 | 136,582 | 298,102 | 5,065 |

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

| | <i>(in thousands)</i> | | | |
|-------------------|-----------------------|--------|----|-------|
| December 31, 2012 | \$ 125 | \$ 413 | \$ | \$ 3 |
| December 31, 2011 | \$ 747 | \$ 349 | \$ | \$ 39 |
| December 31, 2010 | \$ 983 | \$ 282 | \$ | \$ 41 |

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

| | <i>(in thousands)</i> | | | |
|-------------------|-----------------------|----|----|----|
| December 31, 2012 | \$ 646 | \$ | \$ | \$ |
| December 31, 2011 | \$ 512 | \$ | \$ | \$ |
| December 31, 2010 | \$ 341 | \$ | \$ | \$ |

A summary of the status of the non-vested shares for the two years ended December 31, 2012 and 2011 is presented below:

| | Shares | Weighted Average Grant Date Fair Value |
|---------------------------------|----------|---|
| 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 |
| Granted | 10,362 | 23.47 |
| Vested | (10,280) | (22.31) |
| Forfeited | (510) | (11.51) |
| Non-vested at December 31, 2012 | 107,563 | \$ 8.26 |

10. **Commitments and Contingencies**

Line of Credit Clean Coal has a revolving line of credit with a bank for \$15 million that is secured by the equity interests and proceeds related to such equity interests of each subsidiary owned by Clean Coal. The line of credit expires on March 31, 2013 with payment due in four equal quarterly installments of principal of \$3.75 million (plus all accrued interest at such time) 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. At December 31, 2012, the balance on the line of credit had been fully repaid and no additional borrowings are available under this agreement.

In May 2012, an amendment was made to the line of credit agreement to increase the amount available by \$3 million under an increased commitment note issued in conjunction with the line of credit. This amount is secured by a cash collateral account of \$3 million held by the bank issuing the line of credit with funds received equally from ADA and NexGen. Interest is payable monthly at 3% over the rate paid by the bank on the cash collateral account (3.35% at December 31, 2012). The agreement was amended in December 2012 to extend the term of the agreement until June 1, 2013.

In January 2013, the line of credit agreement was amended to provide an additional \$2 million with any borrowings under the amended agreement due on December 31, 2013. Borrowings under the additional line 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 increased commitment is secured by the equity interests and proceeds related to such equity interests of each subsidiary owned by Clean Coal.

At December 31, 2012, the outstanding balance on the increased commitment note was \$3 million and the effective interest rate was 3.35% per annum. The \$3 million balance was repaid in March 2013. Borrowings under the line of credit and increased commitment notes are subject to certain financial covenants applicable to Clean Coal.

Notes Payable - As discussed in Note 6, in August 2012 ADA executed two promissory notes in conjunction with the acquisition of BCSI which consist of the following:

| | As of December 31, | |
|--|--------------------|------|
| | 2012 | 2011 |
| | (in thousands) | |
| Goodwill promissory note, payable in twenty quarterly installments of approximately \$154,000, including interest at 4% per year, due on September 30, 2017. The note is secured by a letter of credit in the amount of \$308,000, which expires August 31, 2017. | \$ 2,673 | \$ |
| Non-compete promissory note, payable in twenty quarterly installments of approximately \$11,000, including interest at 4% per year, due on September 30, 2017. The note is secured by a letter of credit in the amount of \$20,000, which expires August 31, 2017. | 191 | |
| Total | 2,864 | |
| Less current portion | (559) | |
| Long-term portion | \$ 2,305 | \$ |

The notes payable mature as follows:

| Years Ending December 31, | |
|---------------------------|----------|
| 2013 | \$ 559 |
| 2014 | 581 |
| 2015 | 605 |
| 2016 | 630 |
| 2017 | 489 |
| | \$ 2,864 |

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, | | |
|---------------------------------|--------------------------|--------|--------|
| | 2012 | 2011 | 2010 |
| | (in thousands) | | |
| Matching contributions in stock | \$ 413 | \$ 349 | \$ 282 |
| Matching contributions in cash | | | |
| Total | \$ 413 | \$ 349 | \$ 282 |

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 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, | |
|--------------------------------|--------------------|--------|
| | 2012 | 2011 |
| | (in thousands) | |
| Beginning balance | \$ 547 | \$ 612 |
| Performance guaranties accrued | 151 | 88 |
| Expenses paid | (30) | (153) |
| Ending balance | \$ 668 | \$ 547 |

In some cases, a letter of credit is obtained and held to cover the period of the warranty that can be used to satisfy the obligation.

Purchase Obligations As of December 31, 2012, the Company expects to pay purchase obligations totaling approximately \$6.2 million primarily for the purchase of components and services related to our Emission Control Segment.

Operating Lease Obligations ADA leases office and two warehouse facilities under non-cancellable operating lease agreements. Our facilities leases generally provide for periodic rent increases and renewal options. Clean Coal entered into a sub-lease agreement for office space in 2012 with an entity related to NexGen that expires in February 2021.

ADA's lease covering approximately 30,000 square feet of office space in Highlands Ranch, Colorado 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. The lease also included a one-time tenant improvement allowance in an amount up to approximately \$480,000.

ADA leases approximately 150,000 square feet of warehouse space in Highlands Ranch, Colorado which expires in October 2017 with the option to renew for two additional three-year periods.

ADA also leases approximately 15,000 square feet of warehouse space in Highlands Ranch, Colorado which expires in February 2019 and includes the option to renew for two additional five-year periods. The lease also included a one-time tenant improvement allowance of approximately \$150,000.

Annual minimum commitments under the leases are as follows:

| Years Ending December 31, | Operating Lease Commitments (in thousands) |
|---------------------------|---|
| 2013 | \$ 477 |
| 2014 | 768 |
| 2015 | 789 |
| 2016 | 810 |
| 2017 | 795 |
| Thereafter | 931 |
| Total | \$ 4,570 |

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

| | Years Ended December 31, | | |
|--------------|--------------------------|--------|--------|
| | 2012 | 2011 | 2010 |
| | (in thousands) | | |
| Rent expense | \$ 1,032 | \$ 395 | \$ 339 |

Clean Coal The Company also has certain obligations in connection with the activities of Clean Coal. The Company, NexGen and two entities affiliated with NexGen have provided GS RC 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 first two 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.

Arbitration Award Liabilities As previously reported in various filings, ADA had been engaged in litigation with Norit Americas, Inc. and Norit International N.V. f/k/a Norit N.V (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. The Company recorded \$2.3 million and \$1.5 million in royalty expense for the years ended December 31, 2012 and 2011, respectively, related to this award.

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 June 1, 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 \$3.3 million which is included in settlement awards and related accrued liabilities and a long-term liability of \$2.5 million which is included in settlement awards and indemnity liability in the consolidated balance sheets related to this agreement.

Indemnity Liability Settlement As previously reported in various filings, in November 2011, ADA entered into an Indemnity Settlement Agreement whereby ADA agreed to settle certain indemnity obligations asserted against ADA 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 \$200,000 which is included in settlement awards and related accrued liabilities in the consolidated balance sheets related to this agreement.

11. Clean Coal Leasing Activities

Clean Coal leased two RC Facilities in June 2010 to GS RC. The leases had initial terms that ran through December 31, 2012 and automatically renewed for annual terms through the end of 2019. Clean Coal received \$9 million at the inception of the leases, which was recorded as deferred revenue and was amortized into revenue under the straight-line method over the initial term of the leases through December 31, 2012. As discussed in Note 7 above, in November and December 2011, the two leased RC facilities were exchanged with newly constructed, redesigned RC facilities which resulted in termination of the original leases and issuance of new lease agreements. The new leases carried over many of the substantive terms and conditions of the initial leases, had initial terms that ran through December 31, 2012 and automatically renewed for annual terms through 2021, subject to a number of termination clauses.

In December 2012, the terms of these equipment leases were amended. The amendments provided that, as of December 31, 2012, the leases renew on a month-to-month basis and that, upon written notice, the leases could either be terminated or converted to yearly leases.

In March 2013 the parties amended and restated the lease agreements to change the lease payments from a combination of fixed and contingent rent payments to fixed payments payable quarterly in advance and subject to adjustment only for inflation for the remaining period of the leases. As amended and restated, the leases have initial terms of two years and will automatically renew for up to seven additional one year terms unless sooner terminated by the parties, which may be done by GS RC effective as of the end of any term by providing three months prior written notice. The parties also amended and restated the two Operating and Maintenance Agreements to provide for the payment of a fixed fee under the agreements instead of variable payments based on the production of RC.

Clean Coal leased a third RC facility in the first quarter of 2012 to another entity related to GS. The lease has a preliminary lease term that renews every fifteen days and will continue to renew until the initial lease term (as defined in the lease agreement) commences once certain conditions are satisfied. Clean Coal received \$6.3 million in prepaid rents at the inception of the lease that will be amortized into revenue once the initial lease term commences which is included in deposits in the consolidated balance sheets. The initial lease term runs through January 31, 2014, subject to certain termination clauses. The lessee has until November 30, 2013 to provide notice to renew or terminate the lease.

A fourth RC facility was leased to a third party investor in August 2012. Clean Coal received \$1.5 million as prepaid rent under the lease agreement which is included in deferred revenue in the consolidated balance sheet and is being amortized under the straight-line method through August 2013. The lease contains an initial three year term, with additional automatic renewal terms for six successive one year terms ending in 2021, subject to certain termination clauses.

In addition, subsequent to year end, in February 2013 Clean Coal finalized a contract for the sale of a fifth RC facility with a new third party investor. The structure of the sale agreement was similar to that of the initial leases and provides the buyer with the right to require Clean Coal to repurchase the facility for a nominal fee in certain situations. The terms of the sale included an upfront contribution of \$25 million, with \$20 million paid immediately, the remaining \$5 million to be paid when certain events are completed and a combination of fixed and variable payments going forward.

During the years ended December 31, 2012, 2011 and 2010, \$3.6 million, \$3.6 million and \$1.8 million, respectively, of deferred revenue was recognized. Contingent rental income received during 2012, 2011 and 2010 totaled \$14.9 million, \$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.

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) |
|-------------------------------------|--|
| 2013 | \$ 40,442 |
| 2014 | 43,346 |
| 2015 | 44,339 |
| 2016 | 45,202 |
| 2017 | 46,710 |
| Thereafter | 186,650 |
| Total minimum lease payments | \$ 406,689 |

12. Major Customers

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

| Customer | As of December 31, | |
|----------|--------------------|------------|
| | 2012 | 2011 |
| A | 16% | 38% |

The Company's receivables were as follows:

| Receivables as of: | Number of Customers That Make up Percentage of Balance | Percentage of Balance |
|--------------------|--|-----------------------------|
| December 31, 2012 | 3 | 67% |
| December 31, 2011 | 2 | 63% |

13. Income Taxes

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 the enacted tax rates in effect for the year in which the differences are expected to reverse. A valuation allowance is provided 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 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. At each reporting date, management reviews existing income tax assessments and, if necessary, revises them to reflect changed circumstances. In a situation where

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recent losses have been incurred, the accounting standards require convincing evidence that there will be sufficient future taxable income to realize deferred tax assets.

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The Company has provided a full valuation allowance against the deferred tax assets of \$39.5 million and \$18.6 million as of December 31, 2012 and 2011 respectively, to reflect the estimated amount of deferred tax assets that may not be realized. The ultimate realization of deferred tax assets is dependent upon generation of future taxable income during the periods in which those temporary differences become deductible. Management considers both positive and negative evidence and tax planning strategies in making this assessment. See Note 16 for additional discussion.

The tax benefit included in the consolidated statement of operations for fiscal year ended December 31, 2011 was recorded as a result of the sale of the equity interest in Clean Coal to GSFS in May 2011. Since the transaction did not result in a change in control of Clean Coal, the \$10.4 million tax effect of the amount received from this transaction was recorded to stockholders' deficit.

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

| | Years Ended December 31, | | |
|------------------------------|--------------------------|-----------|------------|
| | 2012 | 2011 | 2010 |
| | (in thousands) | | |
| Current | \$ | \$ | \$ |
| Deferred | | 10,400 | (7,093) |
| Income tax benefit (expense) | \$ | \$ 10,400 | \$ (7,093) |

The following lists the Company's deferred tax assets and liabilities:

| | As of December 31, | |
|--|--------------------|----------|
| | 2012 | 2011 |
| | (in thousands) | |
| Deferred tax assets | | |
| Deferred warranty, settlements and other | \$ 2,136 | \$ 3,439 |
| Allowance for doubtful accounts | 2 | 4 |
| Property and equipment | | 48 |
| Deferred revenues, compensation and other | 1,542 | 1,174 |
| Net operating loss carryforward | 22,300 | 13,944 |
| Tax credits | 18,695 | 2,210 |
| Total tax assets | 44,675 | 20,819 |
| Deferred tax liabilities | | |
| Prepaid expenses | 190 | 129 |
| Intangible assets and other | 67 | 21 |
| Property and equipment | 696 | |
| Net equity in net income/loss of joint venture and unconsolidated entities | 4,199 | 2,044 |
| Total tax liabilities | 5,152 | 2,194 |
| Deferred tax assets, net of liabilities | 39,523 | 18,625 |
| Valuation allowance | (39,523) | (18,625) |
| Net deferred tax assets | \$ | \$ |

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

| | Years Ended December 31, | | |
|----------------------------------|--------------------------|------|------|
| | 2012 | 2011 | 2010 |
| | (percent) | | |
| Expected income tax rate | 34 | 34 | 34 |
| Valuation allowance | (191) | (12) | (77) |
| Non-controlling interest | 6 | 11 | 6 |
| Permanent differences | (3) | <1 | <1 |
| Tax credits | 150 | 6 | 1 |
| State income taxes | 2 | 2 | 2 |
| Other | 2 | | (1) |
| Actual effective income tax rate | | 41 | (35) |

We believe that our income tax filing positions reflected in the various tax returns are more-likely-than not to be sustained on audit and thus there are no anticipated adjustments that would result in a material change to our consolidated financial position, results of operations and cash flows. Therefore, no reserves for uncertain income tax positions have been recorded.

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 2009 and Colorado state examinations for years before 2008.

The Company has a federal net operating loss carryforward of \$54.8 million that will expire in the years ranging from 2029 to 2032 and a state net operating loss carryforward of \$45.2 million that will expire in years ranging from 2016 to 2032. The Company has federal tax credit carryforwards of \$18.7 million that will expire in the years ranging from 2025 to 2032.

14. **Related Party Transactions**

In June 2010, the Company entered into a Development and License Agreement and executed a Securities Subscription and Investment Agreement with Arch Coal, Inc. (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 which was recognized as revenue in 2011 and 2010. As part of the agreement, Arch is required to purchase from the Company the chemicals required to enhance the coal.

| | Years Ended December 31, | | |
|---|--------------------------|----------|--------|
| | 2012 | 2011 | 2010 |
| | (in thousands) | | |
| Revenues recognized from activities with Arch | \$ | \$ 1,402 | \$ 784 |

Robert E. Shanklin is the Vice President of Coal Technology of Arch and is a member of the Company's Board of Directors (the Board). The 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. In addition, as required by our related-party transaction policy, the above noted agreements 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.

15. **Business Segment Information**

The following information relates to the Company's three reportable segments: RC, EC and CC. 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, | | |
|----------------------------|--------------------------|------------------|------------------|
| | 2012 | 2011 | 2010 |
| | <i>(in thousands)</i> | | |
| Revenue | | | |
| RC | | | |
| Rental income | \$ 36,855 | \$ 20,110 | \$ 10,111 |
| Coal sales | 157,898 | 19,952 | |
| Other revenues | 147 | 191 | 272 |
| | 194,900 | 40,253 | 10,383 |
| EC | | | |
| Systems and equipment | 9,578 | 4,141 | 5,546 |
| Consulting and development | 4,227 | 4,900 | 3,625 |
| Chemicals | 798 | 926 | 654 |
| | 14,603 | 9,967 | 9,825 |
| CC | 3,020 | 3,096 | 2,073 |
| Total | \$ 212,523 | \$ 53,316 | \$ 22,281 |
| Segment profit | | | |
| RC | \$ 14,214 | \$ 17,984 | \$ 7,842 |
| EC | 277 | 1,350 | 2,114 |
| CC | 210 | 241 | 895 |
| Total | \$ 14,701 | \$ 19,575 | \$ 10,851 |

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

| | Years Ended December 31, | | |
|--|--------------------------|--------------------|--------------------|
| | 2012 | 2011 | 2010 |
| | <i>(in thousands)</i> | | |
| Total segment profit | \$ 14,701 | \$ 19,575 | \$ 10,851 |
| Non-allocated general and administrative expenses | (17,852) | (14,980) | (30,884) |
| Depreciation and amortization | (5,277) | (1,568) | (917) |
| Interest and other income | 305 | 2,218 | 2,510 |
| Interest expense | (1,461) | (1,584) | (16) |
| Settlement of litigation and arbitration award, net | (2,301) | (21,932) | 6,072 |
| Net equity in net income (loss) of unconsolidated entities | 760 | (6,967) | (8,037) |
| Deferred income tax benefit (expense) | | 10,400 | (7,093) |
| Net (income) loss attributable non-controlling interest | (1,946) | (7,981) | (3,613) |
| Net loss attributable to ADA-ES, Inc. | \$ (13,071) | \$ (22,819) | \$ (31,127) |

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.

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16. **Restatements**

Subsequent to filing the Company's Annual Reports on Form 10-K for the fiscal years ended December 31, 2011 and 2010, the Company determined that a full valuation allowance on its net deferred tax assets should have been maintained as of December 31, 2011 and 2010. Management determined that it was necessary to maintain the valuation allowance against its deferred tax assets after considering information that should have been used to measure the positive and negative evidence regarding the ultimate realization of the net deferred tax assets in the original assessment.

Realization of the net deferred tax assets is dependent upon the Company's ability to generate future taxable income. In its reassessment, management concluded that objective and verifiable negative evidence represented by historic losses outweighed more subjective positive evidence of anticipated future income. As a result, the Company determined it necessary to maintain a full valuation allowance against its net deferred tax assets as of December 31, 2011 and 2010.

In addition, after completion of a review and evaluation of the operating agreement of Clean Coal and the members' rights and obligation thereunder and accounting authoritative literature, management determined that GSFS' interest in Clean Coal would be more appropriately classified as temporary equity because of a provision in the agreement that permits GSFS to require redemption of the unreturned portion of its initial investment plus a return of 15% under certain limited circumstances.

As a result, the Company restated its financial statements and filed amended Annual Reports on Form 10-K for the fiscal years ended December 31, 2011 and 2010 on October 19, 2012. Additional information related to the restatements is included in Note 16 and Note 15 of the consolidated financial statements included in the Annual Reports on Form 10-K/A for the fiscal years ended December 31, 2011 and 2010, respectively.