

ADA-ES INC
Form 10-K
March 27, 2009

United States
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2008

Commission File Number: 000-50216

ADA-ES, Inc.

(Name of registrant as specified in its charter)

Colorado
(State of incorporation)

8100 SouthPark Way, Unit B, Littleton, Colorado
(Address of principal executive offices)

84-1457385
(IRS Employer Identification No.)

80120-4527
(Zip Code)

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

Securities registered under Section 12(b) of the Exchange 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 Exchange 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 Exchange 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 Exchange Act during the past 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 if disclosure of delinquent filers in response to Item 405 of Regulation S-K is not contained here, 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. Yes No

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.

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Large accelerated filer Accelerated filer
Non-accelerated filer Smaller Reporting Company
Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act.) Yes No

The aggregate market value of the voting common stock held by non-affiliates as of June 30, 2008 was \$52,221,000.

As of March 23, 2009, there were outstanding 6,893,877 shares of the common stock, no par value.

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 2009 are incorporated by reference into Part III of this Form 10-K.

PART I

Item 1. Business

Abbreviations We Use in this Report

ADA-ES, the Company, we, us, or our refer to ADA-ES, Inc., a Colorado corporation, and its consolidated subsidiaries. Other abbreviations use in this Report include:

AC = activated carbon

ACI = activated carbon injection

ADA-249M = our patented slag viscosity modifying compound

CAMR = Clean Air Mercury Rule

DOE = United States Department of Energy

EPA = United States Environmental Protection Agency

EPRI = the Electric Power Research Institute

ESP = electrostatic precipitator

FGC = flue gas conditioning

MEC = mercury emission control

PRB = Powder River Basin (a particular area of the Western United States)

Business Purpose and Strategy

Incorporated in Colorado in 1997, ADA-ES, Inc. develops and implements proprietary environmental technology and provides specialty chemicals that enable coal-fueled power plants to enhance existing air pollution control equipment, maximize capacity and improve operating efficiencies. We currently serve the emerging market for mercury emission controls through the supply of powdered activated carbon injection (ACI) systems, activated carbon (AC), mercury measurements and related services. ADA-ES became a stand-alone public company through a

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spin-off from its parent company, Earth Sciences, Inc. in September 2003. We have a wholly-owned subsidiary called ADA Environmental Solutions, LLC, a 50% interest in a Delaware limited liability company called ADA Carbon Solutions, LLC (Carbon Solutions), and a 50% interest in a Colorado limited liability company called Clean Coal Solutions, LLC (Clean Coal). Carbon Solutions has five wholly-owned subsidiaries called Crowfoot Supply Company, LLC (Crowfoot Supply), Red River Environmental Products, LLC (Red River), Five Forks Mining, LLC (Five Forks), Bowman Environmental Products, LLC, and Underwood Environmental Products, LLC, all Delaware limited liability companies.

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 technologies in the isolation of a laboratory without feedback from users, we work on full-scale mercury control systems that are installed on plants operated by several of the largest power companies in the United States and Canada. We assist electric utility companies to remain competitive while meeting environmental regulations.

Our major activities include:

the sale of equipment, field testing and services related to emission control for coal-fired boilers used in electric generation,

construction of a new Greenfield facility in Coushatta, Red River Parish, Louisiana (AC Facility) for the process and manufacture of AC for mercury control applications and the development of interim sources of AC to supply to utility customers until such time as our AC Facility is operational, through Carbon Solutions, our joint venture with Energy Capital Partners I, LP and its affiliated funds (ECP),

development and marketing of our refined coal technology through our Clean Coal joint venture with NexGen Refined Coal, LLC, an affiliate of NexGen Resources Corporation (NexGen), and

the sale of flue gas conditioning equipment and chemicals, and other chemicals and technologies for coal-fired boilers.

Financial Information for Industry Segments

We have two reportable segments: MEC and FGC and other. 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 13 Business Segment Information and that information is incorporated by reference here.

Our Business in Detail

Market for Our Products and Services

The primary drivers for many of our products and services are environmental regulations impacting the utility industry. Environmental regulations, such as the 1990 Clean Air Act Amendments and various state regulations and permitting requirements for new coal-fired power plants are requiring utilities to reduce emission of pollutants, such as sulfur dioxide (SO₂), nitrogen oxides (NO_x), mercury and carbon dioxide (CO₂). We are a key supplier of equipment and services to the market that first began in 2005 when individual states enacted limits on mercury emissions with the market subsequently expanding as a result of additional regulations. We are attempting to position ourselves to also become a key supplier of AC to that market.

Our business plan is based upon providing technologies for existing coal-fired power plants, as many as 1,100, that provide 325 GWs of electricity, or roughly 50% of the U.S. demand, according to a 2007 National Coal Council report. The DOE Energy Information Administration (EIA) estimates an additional 46 GW of new capacity between 2007 and 2030. A 2007 National Coal Council report estimated that United States reserves will be capable of serving demand for the next 250 years. However, the nation's existing coal-fired power plants emit approximately 48 tons of mercury per year, or approximately 37% of all human-caused mercury emissions. Mercury, which is one of the most toxic substances known to humans, eventually finds its way into the water supply and into fish which, when ingested, can cause severe neurological damage and even death particularly in young children and developing fetuses. Attaining significant reductions in mercury emissions from power plants is a critical near-term imperative in order to safely harness the energy afforded by U.S. coal. In 1999, a DOE study predicted that the estimated cost to control these emissions will be \$2 billion to \$6 billion annually. Regulations currently exist that require new coal-fired plants to control mercury emissions. There are as many as 48 new coal-fired power plants in the United States under various stages of development, all of which have requirements for mercury emission control.

The coal-fired power industry has been under increased scrutiny over environmental issues during the last year, especially related to 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 a number of permits for new coal-fired plants in 2008. These actions have slowed the progress of new coal-fired plants. We expect this adversarial climate to increase the market for our products and services. With new portfolio standards for increased use of renewable energy sources and requirements for reduction of greenhouse gases limiting the permitting of new coal-based plants, the dependence on the existing fleet for base load power increases. To continue operating even 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 particulates and now for pollutants such as mercury and CO₂. Therefore, the current trend toward cleaner energy has created a growing market for ADA's existing and developing innovative technologies.

A dozen states and several environmental groups had previously sued the EPA alleging that the process that resulted in the relatively lenient Clean Air Mercury Rule (CAMR) violated the Clean Air Act and that CAMR was therefore invalid. In February 2008, the United States Court of Appeals for the District of Columbia Circuit ruled in favor of the plaintiffs in that case, holding that the EPA violated the Clean Air Act in the process it used to enact CAMR, and that CAMR was therefore invalid. The Court's ruling remanded the matter to the EPA for further proceedings; and the EPA filed an appeal of the ruling with the Court. In May 2008, the District of Columbia Circuit Court rejected the EPA's petition for an en banc rehearing on CAMR. In February 2009, the EPA withdrew its appeal of the CAMR ruling, clearing the way to promulgate mercury standards under Section 112 of the Clean Air Act, which governs hazardous air pollutants from stationary sources, but has yet to set any defined timeline for such actions. In the interim, the lack of clear regulations has generated some short-term uncertainty among utilities as to what they will be required to do to reduce mercury emissions and is impacting their ability to include mercury control costs in their rate bases. We believe that the likely result will be that the EPA will develop a maximum achievable control technology (MACT) based mercury regulation and/or Congress will enact new legislation requiring stricter mercury emission control within the next year or two with implementation deadlines over the subsequent two to three years.

While federal regulation remains uncertain, the market remains strong in 16 states that have passed their own mercury control regulations for new power plants and several Canadian provinces. We believe that the long-term growth of the MEC market for the electric utility industry will most likely depend on how industry chooses to respond to federal and state regulations. We anticipate this will create an even larger market for our mercury control products beyond 2010. As many as 1,100 existing coal-fired boilers may be affected by such regulations, if and when they are fully implemented. DOE's latest report issued in 2008 includes 95 existing and planned plant projects totaling 58 GW of capacity. Permitting of new coal-fired plants generally requires them to meet more stringent requirements that likely include MEC.

The complex regulatory issues surrounding mercury control have created confusion for suppliers to the electric utility industry because of the complicated patchwork of state regulations, separate rules for new plants, and the constant flux of federal regulation. Although a straightforward single-regulation-driven market may make the investment decision more clear for utilities, the complexity of the different requirements has actually been a strategic advantage for us. Unlike other suppliers of AC, we have been extensively involved in the policy process at national and state levels for the past nine years and we have intimate connections with our coal-fired power customers gained from over 30 years of serving this market. This knowledge and understanding of the regulatory process enabled us to accurately predict that this market was going to develop and make early decisions to position the Company to take advantage of these events.

Whether operating in a regulated or unregulated environment, power generating companies face competitive challenges requiring them to better control 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 have entered this market with (1) mercury control technology that effectively reduces mercury emissions over a broad range of plant configurations and coal types, (2) our proprietary chemical conditioner that offers both technical and economic advantages over the hazardous chemicals that have been and continue to be in use, (3) products, such as CyClean, our proprietary pre-combustion additive, that provide utilities flexibility in choosing the grade of fuel they can burn and (4) research and development of technologies aimed at the capture and conversion of CO₂ emissions. We have established ourselves as a leader in the mercury control market, having received seven new orders for commercial mercury control systems in 2008 and three new orders so far in 2009, one of which has an option for an additional system to be purchased. Our systems have been demonstrated to be effective in mercury control, even in difficult applications, and have also been shown to be cost effective, in many cases reducing the anticipated costs associated with mercury control.

Government and Industry-Supported Contracts

The United States Department of Energy (DOE) issues solicitations periodically for various development and research demonstration projects. DOE solicitations range in subject matter, and we submit bids for those solicitations that fit our mission, strategic plan and capabilities. The bids include a proposed statement of work, and DOE then negotiates a final contract with the successful bidder to perform the specified work. The contracts with the DOE can be Grants or Cooperative Agreements and are considered financial assistance awards. Generally, the agreements cover the development and/or demonstration of air pollution control technologies for coal-fired power generating plants. The work may involve designing and fabricating equipment, installing the equipment at power plants, testing the equipment, preparing economic studies, and preparing various reports. In addition, we assist coal-burning utilities in the variety of problems that may be encountered from new regulations and in switching to lower cost coals. 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, which includes testing/demonstrating various air pollution control technologies. The agreements with the DOE provide that any inventions we create as a result of the work become our property and we retain the rights to commercialize any products we develop under the contracts. We are currently a participant in five such agreements and are involved with two other DOE projects as a subcontractor. For one of these agreements, we are researching and developing a novel process to capture CO₂ from coal-fired power plants and we expect the project to last for approximately two years. The remaining four agreements relate to mercury emissions and are expected to be completed in 2009.

The agreements with DOE generally require industry cost share, which is considered a key component to the viability of the project and 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 are involved range from 25% to 45% of the total project costs. Typically, the utility 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 EPRI (the Electric Power Research Institute). To the extent that the required cost share is not provided by industry partners or EPRI, we provide the balance by reducing the revenues we would otherwise recognize on the work performed.

We currently participate in DOE and industry contracts totaling \$27.6 million, of which \$18.1 million represents contracts directly with DOE. We recognized revenues in 2008 and 2007 from these DOE and industry-funded contracts totaling \$4.7 million and \$7.2 million, respectively, which comprised 29% and 37%, of our total revenues for those respective periods. Of these amounts, \$1.1 million and \$3.3 million in 2008 and 2007, respectively, were revenues directly from DOE. These contracts are subject to audit and potential adjustment as to amounts already received. Adjustments mandated by government audits have not materially impacted our revenues in the past; however, government audits for the years 2002 through 2008 have not yet been finalized. These contracts are also subject to annual appropriation of funds by Congress, and although continued funding is considered probable, we cannot be certain that the government will continue to approve funding for these contracts in future budgets or at similar levels. We do not expect DOE to fund any new mercury control projects; however, we expect funding from power generators for mercury control evaluation and testing to increase to meet state regulations. We anticipate that DOE may fund other projects related to our business, including projects aimed at CO₂ emissions control. We expect future revenues from current DOE contracts in progress to amount to \$3.4 million, of which we expect to recognize approximately \$1.9 million in 2009.

We are also seeing increased funding for clean coal technology. The newly enacted American Recovery and Reinvestment Act allocated \$3.4 billion to support development and demonstration of technology to capture and store CO₂ from coal-fired power plants. Although we currently have funding from DOE and power generators on a \$3.2 million project to support testing of our solid sorbent-based carbon capture technology, funding on the order of \$50 to \$100 million will be required to perform a scale-up of the technology. We expect that funding for larger-scale demonstrations of our technology will soon be made available from the federal stimulus bill through competitive DOE procurement activity. We have been successful in this arena in the past, with awards totaling approximately \$80 million that supported development of our mercury control work, and we are hopeful that we will be successful in obtaining similar funding in the future.

Commercial Mercury Emissions Control

Mercury control regulations have been passed in 16 U.S. states and several Canadian provinces. ACI is currently the dominant control technology to address mercury emissions and is being actively deployed to meet these existing state requirements. ACI controls have been thoroughly evaluated by the Department of Energy National Energy Technology Laboratory (NETL) over the course of its three-phase mercury control field testing program and have been demonstrated to consistently reduce mercury emissions by over 90% in most coal-fired power plants.

During 2008, we signed additional contracts for seven ACI systems for mercury emission control. We expect a total of approximately 30 ACI systems to be awarded in 2009 and 2010. We recognize revenue on these agreements on the percentage of completion method. The uncompleted portion of outstanding contracts at December 31, 2008, represents \$6.9 million in gross revenue. We expect to complete and recognize about \$5.9 million of this revenue in 2009, with the remainder in 2010. If we are unable to meet certain delivery obligations under the contracts, except for failures to do so beyond our control, we may be liable for liquidated damages. Since the market for commercial systems commenced in 2005, we have met all of the delivery milestones under our contracts, and we expect that we will continue to be able to do so. If a customer elects early termination of an agreement not due to any fault of ours, we are entitled to reimbursement for all costs incurred in performing the agreement through the date of termination, including costs incurred in terminating our performance and costs incurred to any subcontractors.

Development of an AC Manufacturing Facility

We believe that the current supply capacity of AC will be inadequate for the demand created by the developing mercury emissions control market. We project shortages of the material as early as 2010. In 2006 and 2008, we commissioned market studies from independent third parties and purchased multiple-client market studies to estimate the worldwide production and expected future demand for AC in both the conventional water treatment markets and the developing mercury control market. The studies we commissioned documented that the U.S. market for AC in 2007, which is primarily for water treatment, was approximately 334 million pounds. With regulations in place today to reduce mercury emissions, this could more than double by 2010, and if a more stringent federal regulation comes into effect, the demand could more than triple by that time.

In 2006, we decided to pursue the design and construction of a new AC manufacturing plant that is expected to have an annual manufacturing capacity of approximately 150 million pounds of AC per product line, sufficient to capture mercury from up to 40 GW of coal-fired power generation. This manufacturing plant is based on a significantly improved technology that is cost-effective, energy efficient, and environmentally sound. If completed, our AC Facility will be the largest ever constructed in the U.S.

In 2008, we accomplished the following key project milestones:

In May 2008, State and Federal environmental agencies approved the final air permits for two production lines capable of producing up to a total of 350 million pounds of AC per year for the AC Facility.

In July 2008, we purchased the land for the AC Facility and in August 2008, site preparation work commenced.

On September 5, 2008, Red River entered into four separate Multiple Hearth Furnace Contracts (MHF Contracts) with Industrial Furnace Company, Inc. (IFCO).

On September 8, 2008, Red River entered into an Amended and Restated Engineering, Procurement and Construction Contract (EPC Contract) with BE&K Construction Company, LLC (BE&K).

On October 1, 2008, ADA entered into a Joint Development Agreement (the JDA) and a Limited Liability Company Agreement for Carbon Solutions (the LLC Agreement) with ECP and related agreements for the purposes of funding and constructing the AC Facility and similar projects. Pursuant to the JDA, we transferred the development assets and certain liabilities relating to our production, processing and supply of AC for the control of mercury emissions from coal-fired power plants (the AC Supply Business) to certain wholly-owned subsidiaries of ours and then transferred the equity in those subsidiaries and certain contracts, goodwill and intellectual property relating to the AC Supply Business to Carbon Solutions. We provide certain accounting, administrative, oversight, insurance and other services to Carbon Solutions at agreed-upon rates and license to Carbon Solutions intellectual property that relates primarily to the AC Supply Business.

ADA and ECP made equity contributions under the first three tranches of funding provided for in the LLC Agreement of approximately \$88 million, which includes contributions made in February 2009.

Also on October 1, 2008, ADA entered into a Securities Purchase Agreement (the SPA) providing for the sale to ECP of 1,800,000 shares of Series A Convertible Preferred Stock and 1,800,000 shares of Series B Convertible Preferred Stock (together, the Preferred Stock). Assuming the closing of the SPA, which is subject to certain conditions including obtaining debt financing for the AC Facility, we will invest the expected \$18.8 million of net proceeds into Carbon Solutions.

In November 2008, Carbon Solutions formed Five Forks in connection with mining and supplying of coal for the operations of our AC Facility.

We expect to achieve partial commercial operation starting in the second quarter of 2010 and full operation by the end of the third quarter of 2010. All-in financing for the first production line is estimated at approximately \$363 million. Approximately \$140 million of that amount is expected to come from equity participation from us and our joint venture partner, ECP, while we expect to secure the remainder with debt financing. In August 2007, we engaged Credit Suisse Securities, (USA) LLC to assist us with negotiating the debt financing that will also be needed for the project. Under our agreement with Credit Suisse, it is entitled to reimbursement of expenses incurred in connection with providing us with services, and a customary commission will be payable to Credit Suisse upon closing of the debt financing for the project.

To date, Carbon Solutions has executed AC supply contracts expected to result in \$160 million in revenues with U.S. utilities seeking to control mercury emissions on existing and new power plants, representing approximately 32% of the plant's planned capacity. Many of the state mercury regulations already in place begin in 2010 and as such there are several utilities and independent power producers engaged in an AC

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procurement process this year. We are currently bidding on many requests for proposals for AC with a total contract value on the order of \$500 million. We expect that most of these contracts will be awarded during 2009. Given the current tight AC supply/demand situation in the U.S., we expect to be able to sell the majority of our AC output under three-to-five year contracts to owners of coal-fired power plants for the purpose of mercury mitigation.

Near-Term AC Supply

In addition to construction of the AC Facility, Carbon Solutions through its subsidiary Crowfoot Supply implemented a near-term (interim) plan to supply AC to meet the growing demand in the mercury control market for coal burning power plants. Market forecasts predict AC demand for the mercury control market will increase to over 80 million pounds per year beginning this year for contract values of \$100-\$150 million per year based on current prices. In order to supply early and interim quantities of AC to the utility mercury control market, we acquired from Winfield Industries, Inc. (Winfield) the assets of an AC processing facility and entered into a take or pay Carbon Supply Agreement with Winfield to purchase AC beginning in 2008, with annual quantities expected to increase to over 20 million pounds during 2009 with additional amounts available for 2010. From this facility, we produced our first batch of treated AC and performed a full scale power plant test that achieved greater than 90% mercury removal. A number of additional tests are under way and others are scheduled to allow clients to evaluate this product. Red River is currently selling AC on a continuous basis from this facility to meet delivery obligations under our existing off-take agreements and expect to offer such supply to potential long-term customers who may become parties to off-take contracts for AC to be supplied from the AC Facility. Crowfoot Supply is also developing a larger offsite processing and storage facility in Natchitoches Parish, Louisiana that is expected to commence operations in the second quarter of 2009 and later operate in conjunction with the AC Facility. Crowfoot Supply is currently procuring additional AC processing equipment to enable it to expand capacity to over 30 million pounds of AC per year.

Clean Coal Solutions

In 2006, we established Clean Coal with an affiliate of NexGen to market our patented refined coal technology that reduces emissions of nitrogen oxides and mercury from certain, treated coals. We licensed technology, including certain patents, to Clean Coal upon formation of this joint venture. Clean Coal's primary opportunity is based on certain tax credits that are available under Section 45 of the Internal Revenue Code (Section 45 Tax Credits), as it was amended by the American Jobs Creation Act of 2004 (the 2004 Act), the Emergency Economic Stabilization Act of 2008 and the American Recovery and Reinvestment Act of 2009 for qualifying refined coal. NexGen's affiliates have extensive experience and expertise with Section 29 Tax Credits, which applied to the development of syn-fuels, and we anticipate that NexGen's experience and expertise in this area will serve as a template for monetization of Section 45 Tax Credits in the refined coal area. Our refined coal technology is applicable to a target market of approximately 20 million tons of coal per year, which would amount to a market potential to Clean Coal of approximately \$20 to \$25 million a year.

We expect Clean Coal to supply chemicals, additives, equipment and technical services to cyclone fired boiler users, but its primary purpose is to seek and obtain approval from the United States Internal Revenue Service to qualify for Section 45 Tax Credits (a Section 45 Business). In the Emergency Economic Stabilization Act of 2008, Congress included language modifying Section 45, which extended the qualification window for the Section 45 Tax Credits to January 1, 2010 and eliminated the increased market value test for refined coal. We expect this legislation to positively impact Clean Coal's efforts to obtain approval for the Section 45 Tax Credits. The ability of Clean Coal to sell its planned refined coal product and qualify for the expected Section 45 Tax Credits depends on several conditions, including meeting the emission control requirements, finalizing necessary contractual agreements, and completing and making operational such facilities prior to January 1, 2010. If Clean Coal obtains that approval and becomes a Section 45 Business, NexGen has the right to maintain its 50% interest by paying us an additional \$4.0 million, in eight quarterly payments of \$500,000 each, beginning in the quarter Clean Coal becomes a Section 45 Business. NexGen is not obligated to make those payments, but if it does not do so, it will forfeit a part of its interest in Clean Coal in direct proportion to the amount of the \$4.0 million that it elects not to pay. Once it fails to make any one payment, it cannot reclaim its interest by making later payments. We are not required to refund any of the payments made by NexGen. The agreement requires NexGen and us to each pay 50% of the costs of operating Clean Coal, and specifies certain duties that both parties are obligated to perform. Thus far, we have conducted three full-scale tests of our refined coal product, CyClean, that demonstrated the ability to meet the emission control performance required to qualify for the Section 45 Tax Credits.

In addition, we entered into a Chemicals, Equipment and Technical Services Supply Agreement with Clean Coal pursuant to which we supply it with certain chemicals, additives, equipment and technical services to facilitate its purposes. Clean Coal pays us standard charges for the chemicals, additives, and technical services we supply to Clean Coal. If we choose to supply equipment to Clean Coal, we have agreed to do so at our cost.

Our net operating loss for 2008 includes net costs of \$213,000 related to our refined coal efforts and \$129,000 from that JV.

FGC

We have developed 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 are able to 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. Our technology also has application in the cement and petroleum refining industries where particulate emissions are being or need to be controlled. We are not currently actively pursuing the non-utility markets but companies in that market have recently expressed interest in our technology.

Revenues from sales of equipment and chemicals to FGC customers in 2008 and 2007 and other FGC contract work totaled \$433,000 and \$1.0 million, respectively.

Other Consulting Services

We also offer consulting services to assist utilities in planning and implementing strategies to meet new government emission standards requiring reductions in sulfur dioxide, nitrogen oxide, particulates and mercury. This includes demonstrations of our commercial products. We receive funding for consulting and a portion of our development and testing activities from industry partners that have a strategic interest in the technology. Total revenues from other consulting services approximated \$1.6 million and \$1.2 million in 2008 and 2007, respectively, most of which is related to the mercury emission control segment.

Competition

The commercial mercury control market for existing coal-fired electric utilities has emerged as a result of the enactment of state and federal regulations that for the first time in U.S. history are requiring those utilities to control mercury emissions. We estimate that there are approximately 1,100 individual units (several may be located on one site) in excess of 25 megawatts of generating capacity that are and could be impacted by these regulations. Regulations currently exist that require new coal-fired plants to control mercury emissions. There are as many as 48 new coal-fired power plants in the United States under various stages of development, all of which have requirements for mercury emission control. Through 2008, our mercury control technology has been demonstrated at full scale at over 40 plants, generally yielding over 90% mercury control on most applications. In addition, our approach to mercury control is quite cost effective, in many cases reducing costs associated with mercury controls. We add significant value to our base offerings by having complementary products and services. Our expertise in installing full scale demonstration plants reflects our understanding of the application of mercury control technology that customers find invaluable. In combination with our practice of providing users with performance guaranties and offering both equipment and AC this expertise enhances our competitive position in this market. The capital equipment we provide ranges from approximately \$750,000 to \$1.0 million per coal-fired boiler unit, and the AC we intend to supply from the AC Facility is estimated to range from approximately \$1.0 million to \$2.0 million per year per unit. We believe Norit Americas, Inc., Alstom and Siemens Environmental Systems and Services (f/k/a Wheelabrator Air Pollution Control, Inc.) have responded to requests for commercial bids for ACI systems, and are our principal competitors in this market. Competition for ACI systems is based on price, quality, performance and the ability to supply AC. Based on the contracts we were awarded since 2005, we believe we are the market leader and that we currently have approximately 32% of the existing market. As this market matures, we expect competition to increase, primarily in the AC supply arena. See the discussion above under the caption Market for Our Products and Services.

We are focused on the growing North American market for AC used for the control of mercury emissions from power plant exhaust. Our principal competitors in this market include Norit, N.V., a Dutch company, Calgon Carbon Corporation (Calgon), a United States company, RWE Power AG, a German company and Albermarle, a United States company. However, of these, only Norit, Calgon and RWE actually produce the AC they sell. Norit and Calgon have announced that they are constructing additional facilities or renovating existing facilities to expand their capacity to produce and supply AC. Albermarle and Alstom treat and supply AC produced by others. Asian producers of AC, primarily in China, are also sources of AC to the market, and supply companies that re-sell their AC, such as Albermarle. Other US producers of AC, who currently tend to focus on other AC applications, include Mead/Westvaco Corporation and Siemens Water. Competition in AC supply and AC equipment and services is based on price, quality, and performance.

Our primary competition in the FGC arena is conventional FGC technology using either sulfur trioxide (SO_3) or a combination of SO_3 and ammonia. This technology has been available commercially since the 1970 s in a variety of forms. Conventional SO_3 FGC has been shown to interfere with the performance of MEC which is expected to severely limit new SO_3 installations after mercury regulations are reinstated. Preliminary tests indicate that our FGC technology does not interfere with MEC as does SO_3 based FGC. The different products in the industry that aid ESP performance primarily compete on the basis of performance and price. We usually arrange for a full-scale demonstration of our products to potential customers prior to selling our systems and chemicals for use on a continual basis.

With respect to our refined coal technology, there are no major barriers to entry in this niche market; however, utility companies are generally slow to embrace new technologies when they perceive any potential for disruption in the production of electricity. Potential competition for these products comes from the use of coal blends.

Patents

We have received 9 patents and have an additional 9 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, as noted above.

Supply of Chemicals for Our Customers

We typically negotiate blending contracts that include secrecy agreements with chemical suppliers located near major FGC 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. See the discussion above under the caption Market for Our Products and Services.

We also supply utility customers with AC for mercury control needs. In 2008, Carbon Solutions commenced deliveries of this material, procured from foreign suppliers and processed at our own facilities for quality and product control. Initial tests of the material we have procured and then treated, packaged and tested under actual operating conditions at a power plant burning Western PRB Coal indicate that our product is effective for removal of greater than 90% of the mercury under very favorable feed conditions.

Raw Materials, Contract Installation and Working Capital Practices

We purchase equipment from a variety of vendors for the engineered ACI systems, components and other equipment we manufacture and/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 fabrication associated with installation of such equipment, again from a variety of vendors, usually located near the work site. We purchase our proprietary FGC, refined coal and ADA-249M 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. Red River purchased the MHF Furnaces for the AC Facility from IFCO and a boiler through BE&K. Red River is purchasing other equipment for the construction of the AC Facility from BE&K and other suppliers. Such equipment is available from numerous sources. Crowfoot Supply obtains a near-term supply of AC product from foreign suppliers and applies a chemical treatment at its US facility. We do not provide any extended payment terms to our customers. We typically provide equipment warranties and performance guaranties related to our ACI systems (See Risk Factors and Footnote 9 Commitments and Contingencies in the Financial Statements filed as a part of this Report).

Seasonality of Activities

The sale of AC and FGC chemicals depends on the operations of the utilities to which such products are provided. Our AC and FGC customers routinely schedule maintenance outages in the spring or fall depending upon the operation of the boilers. During the period in which an outage may occur, which may range from one week to over a month, no AC and FGC chemicals are used and purchases from us are correspondingly reduced. The other aspects of our business are not seasonal in any material way.

Dependence on Major Customers

In 2008, we performed work to supply ACI systems to 12 customers. We recognized 16% and 10% of our total revenue from Ameren Energy Generating Company in Missouri and Alstom Power, Inc. in Tennessee, respectively.

During 2008, we recognized 11% of our revenue from services provided as a subcontractor from Wisconsin Energy Corporation in Wisconsin under a U.S. government contract. (See also Notes 5 and 10 to the Consolidated Financial Statements included elsewhere in this Report). Our own sales staff markets our technology through trade shows, mailings and direct contact with potential customers.

Backlog Orders

As of December 31, 2008, we had contracts in progress for supply of ACI systems totaling approximately \$6.9 million. We expect to complete and recognize approximately \$5.9 million of this revenue in 2009, with the remainder in 2010. Our current DOE and industry funded R&D contracts in progress, assuming no changes in funding, are expected to result in future revenues of \$3.4 million, of which we expect to recognize approximately \$1.9 million in 2009. Contracts in progress for other consulting work totaled approximately \$836,000 at year-end 2008. We expect to complete and realize the revenues for all of our existing consulting work in 2009.

Research and Development Activities

In 2008 we were involved in several R&D contracts funded by DOE and industry groups, primarily directed toward the control of mercury emissions. We participate in cost share arrangements in many of those contracts. For 2008 and 2007 our direct cost share for R&D under DOE related contracts approximated \$30,000 and \$163,000, respectively. In addition, we spent approximately \$948,000 and \$1,038,000 on our own behalf on research and development activities related to further development of our technologies during 2008 and 2007, respectively.

Employees

As of December 31, 2008 we employed a total of 64 full-time personnel, including eight Company executive officers. 57 people are employed at our offices in Littleton, Colorado, 1 in Alabama, 2 in Louisiana, 1 in Maryland, 1 in Pennsylvania and 2 in Texas. In addition, other personnel provided services to us on a contract basis for specific project tasks during the year, including two key positions, one of whom oversees our refined coal business and the other oversees our AC Supply Business.

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 amendments thereto, and are available free of charge, as soon as reasonably practicable after the same 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 8100 SouthPark Way Unit B, Littleton, CO 80120.

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 Section 21E of the Securities Exchange Act of 1934 that involve risks and uncertainties. In particular such forward-looking statements are found in this Part 1 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 impact of national and state mercury regulations on the nation's 1,100-plus coal-fired units;
- (b) rapid development of the mercury emission control market;
- (c) expected growth in the power industry's interest in DOE carbon dioxide removal projects;
- (d) annual lease costs and other expenditures and gross margins;
- (e) our ability to complete and realize revenues from backlog orders;
- (f) our ability to meet contract delivery milestones for ACI systems, refined coal and chemicals;
- (g) the size of the applicable target market and market potential for refined coal technology and ADA-249M;

- (h) the effect of new legislation on Clean Coal s efforts to obtain approval for Section 45 Tax Credits;
 - (i) the timing of completion of projects and future projects;
 - (j) the range of costs for capital equipment expected to be required by each coal-fired unit and range of sorbent requirements per unit;
 - (k) the inability of the supply of AC to meet market demand as early as 2010;
 - (l) the expected costs for the construction of the AC Facility;
 - (m) our ability to enter into additional long-term contracts for the delivery of AC from our new AC Facility;
 - (n) our ability to consummate the sale of the Preferred Stock to ECP under the SPA and to obtain adequate long-term debt financing for the AC Facility;
 - (o) our ability to meet a significant portion of the expected shortage in AC supply, including in the near-term (2009) from interim sources, and in the longer term (2010 and beyond) from the AC Facility;
 - (p) the appropriation of funds by Congress for DOE projects;
 - (q) impact of market price risk;
 - (r) the immateriality of any future adjustments to previously received revenue as a result of DOE audits; and
 - (s) future working capital needs.
- 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 seek to implement reduction of mercury in flue gases;
- (c) contracts we have with the DOE, which generate a significant part of our revenue, will continue to be funded at expected levels and we will be chosen to participate in additional contracts of a similar nature;
- (d) current environmental laws and regulations requiring reduction of mercury from coal-fired boiler flue gases will be strengthened as a result of the court invalidation of CAMR and/or by pending federal and state legislation, and such laws and regulations will

- not be materially weakened or repealed by courts or legislation in the future;
- (e) we will be able to meet any performance guaranties we make with respect to levels of mercury reduction from systems that we install;
 - (f) we will continue to be able to meet our other obligations under contracts as required by those contracts;
 - (g) we will be able to obtain adequate capital and personnel resources to meet anticipated growth;
 - (h) we will be able to establish and retain key business relationships with other companies;
 - (i) orders we anticipate receiving will in fact be received;
 - (j) governmental audits of our performance under DOE contracts will not result in material adjustments to amounts we have previously received under those contracts;
 - (k) we will be able to formulate new chemicals and blends that will be useful to, and accepted by, the coal-fired boiler power generation business;
 - (l) we will be able to effectively compete against others who may choose to participate in our areas of business;
 - (m) we will obtain the necessary funding required to build the AC Facility;
 - (n) the cost of the AC Facility will remain within budget;
 - (o) we will be able to meet any technical requirements of projects we undertake;
 - (p) we will be able to obtain adequate supplies of the materials and supplies needed in our business, including materials needed to construct our planned AC Facility, and the AC needed to supply customers in the near term; and
 - (q) new legislation will positively impact Clean Coal's ability to obtain approval for Section 45 Tax Credits.
- The forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from the anticipated results we discuss in this Report. Although forward-looking statements provide additional information about us, investors should keep in mind that forward-looking statements are only predictions, at a point in time, and are inherently less reliable than historical information. We do not guarantee future results, levels of activity, performance or achievements and we do not assume responsibility for the accuracy and completeness of these statements. You are cautioned not to place undue reliance on the forward-looking statements made in this Annual Report, and to consult any later filings we may make with the Securities and Exchange Commission for additional risks and uncertainties that may apply to our business and the ownership of our securities. The

forward-looking statements contained in this Annual Report on Form 10-K are made and based on information as of the date of this Report. We assume no obligation to update any of these statements based on information after the date of this Report. In evaluating these statements, you should specifically consider the risks discussed in greater detail under the caption **Risk Factors** in Item 1A below, including the following: changes in existing and planned environmental laws, inadequate supply and increases in costs of AC, coal and other raw materials, inability to obtain funding and other risks relating to the construction of our Greenfield AC Facility, decrease in demand for coal, impact of competition, impact of the general economy, changes in government funding, litigation, IP infringement claims, failure to protect our intellectual property, technical or operational problems with ACI systems sold, dependence on third parties, non-compliance with guaranties on ACI systems, material adjustments due to DOE audits, seasonality of our business, lack or mismanagement of capital and other resources to support future growth, loss of key personnel, lack of management expertise, impact of weather and natural disasters, bank failures, changes in taxation rules or financial accounting standards, dilution resulting from future sales of common stock or other securities, lack of dividend payments to shareholders and significant costs of compliance with securities laws and regulations. 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. 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 EXISTING AND PLANNED ENVIRONMENTAL LAWS AND REGULATIONS GOVERNING MERCURY CONTROL; UNCERTAINTY AS TO THE FUTURE OF SUCH LAWS AND REGULATIONS, AS WELL AS CHANGES TO SUCH LAWS, 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 the environmental laws that limit mercury emissions from coal-fired power plants. If such laws were rescinded or substantially changed, our business would be adversely affected by declining demand for such products and services. For example, the remand of CAMR has resulted in a *wait and see* approach by our customers, which we have seen in delays in deliveries of previously placed orders, cancellations or delays in planned product demonstrations and decreased sales to coal-fired electric generating utilities. Such uncertainty has also caused delays in purchasing decisions for MEC equipment, especially for those utilities who were considering multi-pollution control solutions.

The impact of state and federal mercury control regulation on the future of our business, and the long-term growth of the MEC market for the electric utility industry will most likely depend on how the states and the federal government react to the remands of CAMR. This will in turn mandate how industry must respond to new federal legislation or regulations, as well as state laws, including those that are presently in various stages of enactment, and permitting requirements for new coal-fired plants. We do not expect significant revenue growth unless and until federal or state regulations impact a significant portion of the 1,100 existing boilers. Rescission of state mercury control legislation or permitting requirements, or undue delay in adoption by the EPA of regulations replacing CAMR or passage of federal mercury control legislation, would likely cause an adverse effect on our business and financial condition.

INADEQUATE SUPPLIES OF AC WOULD ADVERSELY AFFECT OUR BUSINESS.

We have seen an increase in demand for AC as power plants begin to use ACI systems to control mercury emissions. Crowfoot Supply has a supply agreement for foreign sources of AC and interim processing capabilities that enables us to supply limited

quantities of AC for the mercury control market in 2009. We believe that it is important for us to be able to supply AC on an interim basis until the AC Facility comes on line in order to compete effectively with other suppliers. If AC supply, which is currently outside our control, is inadequate to meet the increased demand, it would likely have a negative impact on our business and financial condition.

WE HAVE COMMITTED SIGNIFICANT RESOURCES TO THE DEVELOPMENT OF THE AC FACILITY TO SUPPLY THE EMERGING MEC MARKET AND THE INABILITY TO COMPLETE THE PROJECT IN A TIMELY MANNER WOULD LIKELY HAVE AN ADVERSE EFFECT ON OUR BUSINESS AND FINANCIAL CONDITION.

ADA has committed significant resources to the development of the AC Facility, to date having contributed approximately \$25.6 million to Carbon Solutions for preliminary development work, including plant design, environmental and other permitting, equipment design and procurement, land acquisition and consulting fees, and construction costs. Carbon Solutions has additional future commitments of approximately \$268.7 million for which ADA has provided guaranties to date. We estimate that the all-in cost of the project will be approximately \$363 million for a facility with one production line capable of producing approximately 150 million pounds of AC per year. If we consummate the sale of our Preferred Stock to ECP under the SPA, we will invest the net proceeds in Carbon Solutions for the AC Facility. We do not have any further capital commitments to Carbon Solutions, and we expect that all future funding for the AC Supply Business will come from ECP and third-party debt financing. Given the recent turmoil in the financial markets, Carbon Solutions has been unable to secure debt financing on reasonable terms. If ECP delays or stops providing additional equity funding for the AC Facility or if Red River is unable to obtain the debt financing for the project in a timely manner and on acceptable terms, the planned schedule for the project would be delayed and would adversely impact the project.

WE HAVE COMMITTED SIGNIFICANT RESOURCES TO THE DEVELOPMENT OF THE AC FACILITY AND THE INABILITY TO COMPLETE THE PROJECT WOULD LIKELY RESULT IN OUR BEING UNABLE TO RECOUP OUR INVESTMENT.

In addition, if (i) we are unable to close the sale of our Preferred Stock to ECP under the SPA by the deadline specified in the SPA (as it may be automatically extended) (the SPA Outside Date) or if the SPA were terminated, in each case other than due to a material uncured breach of the SPA by ECP, or (ii) we materially breach the SPA prior to closing and fail to cure such breach within the time period specified in the SPA (an ADA-ES Triggering Event), ECP could elect to buy out ADA 's equity interest in Carbon Solutions at a purchase price equal to its capital contributions and the amount of any guaranties, letters of credit or other credit support obligations it has provided that are not terminated or replaced or dissolve or sell Carbon Solutions. If Carbon Solutions were sold or dissolved, we would likely not be able to recoup our investment. If any of these events were to occur, our business and financial condition would likely suffer materially as a result.

CURRENT LEVELS OF MARKET VOLATILITY HAVE ADVERSELY IMPACTED OUR ABILITY TO OBTAIN ON FAVORABLE TERMS THE DEBT FINANCING REQUIRED TO COMPLETE THE AC FACILITY AND COULD CAUSE DELAYS TO THE PROJECT.

The capital and credit markets have been experiencing extreme volatility and disruption for more than 12 months. In some cases, the markets have exerted downward pressure on stock prices and the ability of most issuers to obtain financing. Our plans for growth require access to the capital and credit markets on favorable terms. If current levels of market disruption and volatility continue or worsen, access to capital and credit markets could be further restricted, causing additional delays in our ability to obtain debt financing for the AC Facility on favorable terms.

UNDER THE LLC AGREEMENT OF CARBON SOLUTIONS, ECP CONTROLS FUTURE FUNDING OF THE AC SUPPLY BUSINESS AND MAY DILUTE OUR EQUITY SUCH THAT WE WOULD NO LONGER BE ABLE TO CONSOLIDATE THE FINANCIAL RESULTS OF CARBON SOLUTIONS WITH ADA 'S, WHICH MAY ADVERSELY AFFECT OUR FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

We are currently in the third tranche of funding under the LLC Agreement. ECP has the sole right to increase the Third Tranche Amount (as defined in the LLC Agreement) and continue funding Carbon Solutions through preferred equity contributions, one-half of which would bear a 12% preferred return, or to move into the fourth tranche of funding and continue funding Carbon Solutions through ordinary capital contributions. Preferred equity contributions have priority over ordinary capital contributions on any distributions. Accordingly, if Carbon Solutions were to sell the AC Supply Business and the proceeds were not sufficient to return all preferred equity (including the preferred return on such equity) and ordinary capital contributions, ADA may not receive a return of

all of its ordinary capital contributions. After a certain period of time, ECP may convert prior preferred equity contributions to ordinary capital contributions, which would result in a dilution of our ownership interest in Carbon Solutions. If our ownership interest is diluted, we would likely no longer be able to consolidate the financial results of the AC Supply Business with our financial statements, which may adversely affect our financial condition and results of operations.

UNDER THE LLC AGREEMENT OF CARBON SOLUTIONS, ECP CONTROLS FUTURE FUNDING OF THE AC SUPPLY BUSINESS AND MAY DILUTE OUR EQUITY SUCH THAT WE WOULD LOSE MANAGEMENT RIGHTS, WHICH MAY ADVERSELY AFFECT OUR FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

Carbon Solutions is managed by a Board of Managers consisting of four managers, two of whom are appointed by ADA and two of whom are appointed by ECP. Meetings of such Board require a quorum of at least one ADA manager and one ECP manager, with approval of specified transactions being required of a majority of the managers present at any meeting at which there is a quorum. Other major transactions require the written consent of members holding at least 75% of the aggregate Carbon Solutions membership interests. If ECP makes additional ordinary capital contributions to Carbon Solutions or converts its preferred equity contributions to ordinary capital contributions, our percentage ownership interest would be diluted. In the JDA, we agreed to indemnify ECP and the AC Supply Companies for certain excluded liabilities, and if we default under such indemnity obligations, ECP will have the option to satisfy such indemnity obligations with our membership interests in Carbon Solutions. If our percentage ownership interest is diluted to less than 35%, we would lose our rights to designate one out of the two managers we currently have the right to designate, and the presence of any two managers would constitute a quorum of the Board of Managers. If our interest is further diluted to less than 15%, we would lose our rights to designate any managers. In such event, Carbon Solutions would be managed exclusively by ECP and its designees. Our loss of management rights may result in ECP's making decisions regarding the AC Supply Business that adversely affect our business, financial condition and results of operations. Furthermore, under the LLC Agreement, until October 1, 2011, we may not pursue additional investments in carbon lines for the AC Facility or additional investments in AC production projects without ECP's agreement. Accordingly, even if our membership interest in Carbon Solutions were significantly diluted, we could not pursue an AC production business prior to October 1, 2011, which may impede our ability to compete effectively with other suppliers of ACI systems who have the ability to supply their own AC to their customers.

THE BUILDING OF THE AC FACILITY POSES CERTAIN ADDITIONAL RISKS TO US, ANY OF WHICH COULD HAVE AN ADVERSE EFFECT ON OUR BUSINESS OR FINANCIAL CONDITION.

If Red River is not able to obtain the necessary financing for the AC Facility or complete the AC Facility on a timely basis such that Carbon Solutions determines to terminate the project, or complete the facility by the first half of 2010, we would likely owe significant amounts to terminate the agreements to which Red River is now a party or the performance of which we have guaranteed.

Red River has entered into three significant contracts with respect to the AC Supply Business.

Red River has commitments totaling \$231.4 million to BE&K under the EPC Contract. ADA has guaranteed Red River's payment obligations under the EPC Contract. A \$29.0 million irrevocable letter of credit was issued for BE&K's benefit to assure payment of short-term amounts owing under the EPC Contract; the letter of credit is guaranteed by our JV partner ECP. Red River is required to increase that letter of credit on monthly intervals if adequate third party financing is not then in place to cover amounts Red River would owe in the event of a payment default under the contract. Although Red River can terminate the EPC Contract for convenience at any time, Red River (and us, based on our responsibility under a guaranty we have given to BE&K) would then owe BE&K (a) the amount earned by BE&K under the contract through the effective date of termination, (b) cancellation charges to BE&K's subcontractors, (c) other reasonable termination-related costs incurred by BE&K, (d) costs of demobilization, and (e) unreimbursed sales taxes paid by BE&K. These amounts could be substantial and may not be completely recoverable by us if Red River were to abandon or sell the project.

Red River has also entered into four MHF Contracts with IFCO to purchase four multi-hearth furnaces for the AC Facility at an aggregate cost of approximately \$40.8 million. ADA has guaranteed the payment obligations of Red River under those contracts. As with the EPC Contract, Red River can terminate the MHF Contracts at any time for convenience; however, Red River would then owe IFCO for (a) reimbursable costs and amounts owing for milestone and progress payments, (b) cancellation charges owing to IFCO's subcontractors, and (c) costs of demobilization. These amounts could be substantial and may not be completely recoverable by us if Red River were to abandon or sell the project.

Finally, Red River's AC sales agreement with Luminant requires Red River to sell treated AC to Luminant over a six-year period or until such time as Luminant has purchased its minimum commitment. Red River must deliver AC produced at the AC Facility no later than July 14, 2010, except for periods when the AC Facility is either under construction or unable to produce AC for certain specified reasons. If Luminant terminates the agreement as a result of Red River's default prior to commencement of delivery of AC from the AC Facility, Luminant would be entitled to cover damages up to \$10 million. Luminant may also be entitled to require specific performance. Red River caused a \$1 million irrevocable letter of credit to be issued for the benefit of Luminant and in replacement of ADA's prior guaranty in January, 2009. Red River must replace that letter of credit with a \$10 million irrevocable letter of credit upon closing of the debt financing for the project. If Red River cannot secure financing to be able to meet its obligations to Luminant under this agreement, we may be liable to Luminant for significant damages, which would materially adversely affect our financial condition and our ability to proceed with the project.

The AC Supply Business will require significant additional AC supply and processing capabilities in order to meet its obligations under long-term sales agreements.

In order to pave the way for project financing, Red River has entered into AC sales agreements with Luminant and other power companies to sell AC, which ramp up significantly in 2010 and thereafter. Red River intends to enter into additional, similar long-term AC sales agreements. The AC Supply Business currently does not have supply agreements for adequate quantities of AC or the capability to process and deliver the treated AC to meet Red River's obligations under these sales agreements. If the AC Supply Business is unable to secure such supply or develop such capabilities in a timely manner, it would be in default under these agreements, which would likely materially adversely affect our business and the value of the AC Supply Business.

The AC Supply Business will require long-term supply agreements for the coal feedstock necessary to produce AC from our planned facility.

In order to assure that Red River will be able to manufacture AC at the AC Facility, the AC Supply Business will need to obtain long-term contracts for the supply of the coal necessary as feedstock for the AC to be produced at the facility. The AC Supply Business does not presently have contracts or commitments for a dependable supply of feedstock for the AC Facility, and its inability to obtain them in a timely manner and on reasonable terms would adversely impact the project.

Our management does not have significant experience in projects of the size and complexity of the AC Facility and that inexperience could adversely affect our business and financial condition.

Although the AC Supply Companies have employees who have experience in the design, oversight and construction of complex manufacturing facilities, ADA management has limited experience in managing or overseeing projects as complex as this one. As a result, ADA management will depend on the expertise of others to minimize various difficulties that may arise during the planning, construction or operation of the project, including delays in development or construction, deviations from planned schedule, cost overruns, or any of various other possible construction or operational complications, any of which could impact the viability of the project, thereby causing us to suffer material adverse effects on our business and financial condition.

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

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

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

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

extreme volatility in commodity prices;

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

the inability to predict with any certainty the effectiveness and long-term impact of economic stimulus plans.

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.

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, personnel and other resources. We may not be able to successfully compete with them. We have seen our market share for ACI systems decline over the last year due to pricing pressures from increased competition. If we are unable to maintain a significant market share for our systems, our business and financial condition would be adversely affected. In addition, competitors have reduced their prices to attract or retain our customers, which may result in an adverse impact to our margins, revenues and business. The AC Supply Business has significant competition as well. If that business i