ADA-ES INC
Form 10-K
March 29, 2010
Table of Contents

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, 2009

Commission File Number: 000-50216

ADA-ES, Inc.

(Name of registrant as specified in its charter)

Colorado	**84-1457385**
(State of incorporation)	**(IRS Employer Identification No.)**

8100 SouthPark Way, Unit B, Littleton, Colorado 80120-4527

(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 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 x 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 x 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. x 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. x

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

Large accelerated filer ¨	Accelerated filer ¨
Non-accelerated filer ¨	Smaller Reporting Company x

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

The aggregate market value of the voting common stock held by non-affiliates as of June 30, 2009 was $27,770,000.

As of March 25, 2010, there were outstanding 7,404,143 shares of the Registrant s 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 2010 are incorporated by reference into Part III of this Form 10-K.

Table of Contents

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 Stated Environmental Protection Agency

EPRI = the Electric Power Research Institute

ESP = electrostatic precipitator

FGC = flue gas conditioning

MEC = mercury emission control

NO_x = nitrous oxides

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

SO_x = sulfur oxides

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 meet emissions regulations, enhance existing air pollution control equipment, maximize capacity and improve operating efficiencies. ADA-ES became a stand-alone public company through a spin-off from its parent company, Earth Sciences, Inc. in September 2003. We have a wholly-owned subsidiary called ADA Environmental Solutions, LLC and a 50% interest in a Colorado limited liability company called Clean Coal Solutions, LLC (Clean Coal). As of December 31, 2009 we had a 33% interest in a Delaware limited liability company called ADA Carbon Solutions, LLC (Carbon Solutions). 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, 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.

Table of Contents

Our major activities include:

- the development and marketing of our refined coal technology for control of 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),
- the sale of equipment, field testing and services related to mercury emission control for coal-fired boilers used in electric generation,
- the research and development of CO_2 capture technology through a contract supported by the Department of Energy (DOE) and industry participants,
- the sale of flue gas conditioning (FGC) equipment and chemicals, and other chemicals and technologies for coal-fired boilers, and
- through Carbon Solutions, our joint venture with Energy Capital Partners I, LP and its affiliated funds (ECP), the construction and operation of a new Greenfield facility in Coushatta, Red River Parish, Louisiana (the AC Facility) for the manufacture of AC for mercury control applications and the supply from interim sources of AC to utility customers until such time as the AC Facility is operational.

Financial Information for Industry Segments

We have two reportable segments: mercury emission control, or MEC, and FGC, refined coal 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 (SO_2), nitrogen oxides (NO_x), mercury and carbon dioxide (CO_2). We are a key supplier of equipment and services to the MEC market whose commercial component first began in 2005 when individual states began to enact limits on mercury emissions, with the market subsequently expanding as a result of additional regulations. Through Carbon Solutions, we are attempting to position the AC Facility as a key supplier of AC to that market. We anticipate Carbon Solutions will become a market leader in the AC supply market through likely future expansions in which we expect to have a higher participation rate.

Our business is based upon providing technology for the approximately 1,500 coal-burning plants that produce roughly 50% of electricity in the U.S. (according to a 2008 National Coal Council report) in addition to steam for industrial processes and heating. The DOE Energy Information Administration estimates an additional 24 GW of new capacity between 2008 and 2030. DOE s latest report, issued in 2009, includes 77 existing and planned new coal-fired power plant projects totaling 44 GW of capacity. A 2007 National Coal Council report estimated that United States reserves will be capable of serving demand for the next 250 years. However, prior to regulations the nation s existing coal-fired power plants emitted approximately 48 tons of mercury per year, or approximately 37% of all human-caused mercury emissions, and other pollutants. 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 and other pollutants from coal-fired power plants is a critical near-term imperative in order to safely harness the energy afforded by U.S. and foreign supplied coal. Regulations currently exist that require new coal-fired plants to control mercury emissions. There are as many as 30 new coal-fired power plants in the United States under various stages of development, which must comply with these regulations.

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, and mercury emissions, as well as the impact of CO_2 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 2009. 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 as environmental regulations become more stringent, these older plants will likely require the use of retrofit technologies to address conventional pollutants such as SO_2, NO_x, and particulates and now for pollutants such as mercury and emissions such as CO_2. Therefore, the current trend toward cleaner energy has created a growing market for ADA s existing and developing innovative technologies.

Table of Contents

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. Following that decision, a coalition of consumer and environmental groups including the American Nurses Association brought suit against the EPA seeking to compel it to promulgate final rules setting emissions standards for approximately 180 hazardous air pollutants (HAPs) based on Maximum Achievable Control Technology (MACT). In October 2009, EPA and the plaintiffs in that suit entered into a Consent Decree under which the EPA has agreed to adopt rules reducing HAPs by November 2011 with implementation in 2014. These rules will establish a MACT-based hazardous pollutant regulation, which will include control of mercury from power plants, organics, and volatile metals. The MACT standard will be based upon the best performing 12% of the power plants and will not allow any averaging or trading. We estimate that with the performance of ACI systems recently installed, and the co-benefits achieved from controls for SO_2 and NO_x, the MACT standard for mercury will require between 90 and 95% mercury capture.

In the meantime, a lack of clear mercury emission regulations has generated uncertainty among independent power producers and utilities as to what will be required of them as far as mercury controls, and is adversely impacting their ability to include mercury control costs in their rate bases. The EPA settlement of the American Nurse Association suit mentioned above finally provides some certainty on the timing of implementation of a new MACT-based mercury control rule. It is of course possible that Congress could also enact new legislation requiring stricter mercury emission control within the next year or two, with implementation deadlines over the subsequent two to three years.

In addition to regulations directed to the independent power producers and utilities, EPA has started the process of developing a MACT-based mercury emissions regulation for the Portland cement industry through proposed amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Portland Cement Manufacturing Industry issued in May 2009, for which the EPA accepted public comments through September 4, 2009. The cement MACT final regulation is scheduled to be issued no later than the spring of 2010. This regulation could require ACI systems on up to 110 cement kilns in the U.S. We are discussing a number of testing programs with cement companies to define their emissions and evaluate how ACI equipment and sorbents will work in that industry. Such tests will be designed to evaluate the effectiveness of collecting mercury and organics from cement kiln exhaust gas streams. We believe a cement MACT regulation is likely and that its enactment will increase the market for both ACI systems and AC.

The EPA is also developing a new MACT regulation for coal-fired boilers that provide mostly steam and/or electricity for internal power needs with no less than 25 MW of electricity sold to the grid. A draft regulation is anticipated to be issued in mid April 2010, with a final regulation anticipated to be issued in December 2010, and likely compliance deadlines in late 2013 or early 2014. This regulation could impact over 600 existing coal-fired industrial boilers. We believe a new industrial coal-fired boiler regulation could increase the market for ACI systems by several hundred, and the associated AC by 50 to 100 million pounds per year with the possibility of significantly higher quantities should other non-coal-fired boilers be included in this new regulation.

While federal regulations continue to evolve, the market potential remains strong in 19 states and 6 Canadian provinces that either have passed their own mercury control regulations or have entered agreements with power plants to reduce mercury emission and for new power plants.

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 improves the capture of particulate matter emissions by new or existing equipment and offers both technical and economic advantages over the hazardous chemicals that have been and continue to be in use, (3) products, such as CyClean, our proprietary pre-combustion additive that provide

Table of Contents

utilities NO_x and mercury emission control and flexibility in choosing the grade of fuel utilities can burn and (4) research and development of technologies aimed at the capture and conversion of CO_2 emissions. We have established ourselves as a leader in the mercury control market, having received 10 new orders for commercial mercury control systems in 2009. We are active in the bid and proposal process and expect to sell several new systems in 2010. 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.

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 NO_X and mercury from certain, coals in cyclone boilers. We licensed technology, including certain patents, to Clean Coal upon formation of this joint venture. Clean Coal supplies chemicals, additives, equipment and technical services to cyclone fired boiler users, but its primary purpose is to qualify for Section 45 Tax Credits (a Section 45 Business), which amount to $6.20 per ton of refined coal for a period of ten years. In the Emergency Economic Stabilization Act of 2008, Congress included language modifying Section 45 of the Internal Revenue Code of 1986 (Code), 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. In December 2009 the IRS issued the anticipated guidance as to the specifics concerning how the emissions reductions are to be measured and certified to demonstrate the continuous compliance necessary to qualify for the tax credits. The U.S. Senate recently passed a bill that included a number of tax extenders, including a year s extension for Section 45 Refined Coal tax credits to January 1, 2011. We are working with Congress to keep this provision in the bill as it is further negotiated in conference committee. Clean Coal placed two facilities in service prior to January 1, 2010 and demonstrated the required emission reductions for their refined coal product to qualify for the tax credits. Clean Coal is in the process of finalizing necessary contractual agreements with the utility at which the facilities are located, completing modifications to the equipment to handle a broader array of feedstock materials and negotiating with potential monetizers. We expect such modification and negotiations to be finalized and the facilities to be in routine operation in the second quarter of 2010.

In order to maintain our 50% interest in Clean Coal, we are obligated to fund half of its operating costs and capital expenditures. Clean Coal placed two facilities into operation to produce refined coal prior to the January 1, 2010 qualification deadline and is presently making modifications to those facilities for continuous long-term operation. The total capital expenditures for those facilities in 2009 were approximately $2.3 million, most of which was incurred in the fourth quarter of 2009. The modifications noted above and working capital for the commencement of routine operations are expected to amount to more than $2 million and will be required primarily in the second quarter of 2010. Clean Coal may pursue additional facilities if the qualification deadline is extended. The two facilities that were placed in service in time to qualify them for Section 45 tax credits are projected to produce average net after-tax cash flow for Clean Coal of an estimated $9 million per year for up to ten years.

Initially, NexGen had the right to maintain its 50% interest by paying us an additional $4.0 million in eight quarterly installments of $500,000 each. As described in greater detail below under Liquidity and Capital Resources, on October 26, 2009, we, Clean Coal and NexGen entered into an amendment to the Purchase and Sale Agreement pursuant to which NexGen must make these payments to extend the time by which the payments must be made, and to allow NexGen to make the payments from cash that would otherwise be distributable to NexGen under the Clean Coal Operating Agreement. In addition, on October 26, 2009, NexGen agreed to loan Clean Coal up to $1.0 million (all of which had been loaned as of December 31, 2009) (the NexGen Loan), to fund expenses in connection with constructing and placing in operation its refined coal facilities. We guaranteed 50% of the NexGen Loan and secured our guaranty by pledging our interest in Clean Coal to NexGen and by an agreement to issue up to 250,938 shares of our Common Stock to NexGen if we default on our guaranty. The NexGen Loan is due to be repaid on the earliest to occur of (a) the third day after we receive funds from a sale of our securities (with certain permitted exceptions, including the sale of our common stock to Arch Coal on March 23, 2010), (b) April 30, 2010, or (c) the occurrence of a continuing uncured event of default or a change in control of the Company or Clean Coal.

Lastly, on that same day, we entered into an amendment to the 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 stated 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.

Table of Contents

Our net operating loss for 2009 in addition to including the consolidated operations of Clean Coal includes net costs of $388,000 related to our refined coal efforts and $703,000 from that joint venture. As noted above, Clean Coal placed two systems in service during December 2009 which produced $2.4 million in revenue from the sale of approximately 76,800 tons of refined coal produced, generating $476,000 of related tax credits.

Commercial Mercury Emissions Control

Mercury control regulations have been passed in 19 U.S. states and 6 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 over the course of its three-phase mercury control field testing program and have been demonstrated to reduce mercury emissions by over 90% in most coal-fired power plants.

During 2009, we signed new contracts for 10 ACI systems for mercury emission control. We believe the eventual outcome of the EPA MACT process and/or legislative action will accelerate and further expand the market for our MEC products and services. We have seen delays in the decision-making process on mercury control as a result of the invalidation of CAMR, which has postponed the award of some near-term projects as independent power producers and utilities revise their long-term plans for compliance. We expect more than eight ACI systems will be awarded in 2010 and 2011, with an increase in 2012 through 2014 in response to anticipated EPA mercury MACT rules in the industrial boiler, cement and utility markets. We recognize revenue on these contracts on the percentage of completion method. The uncompleted portion of outstanding contracts at December 31, 2009 represents $5.7 million in gross revenue. We expect to complete and recognize about $3.7 million of this revenue in 2010, with the remainder in 2011. 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.

On March 23, 2010, we entered into a Subscription Agreement with Arch Coal, Inc. (Arch Coal) pursuant to which they purchased 143,885 shares of our Common Stock for an aggregate purchase price of $1.0 million. We are also in the process of negotiating an agreement with Arch Coal (the Arch Coal License) to exclusively license to Arch Coal technology relating to additives that may be applied to coal at Arch s mines to limit HAPs emissions from burning that coal in boilers and enhancing the marketability of such coal, pursuant to which they would pay us a non-refundable initial license fee of $2.0 million in cash, and additional fees based on sales of coal to which such technology has been applied. We expect to use the net proceeds of the sale of our common stock and, if received, the initial license fee to fund our capital contributions to Clean Coal to repay the NexGen Loan and for Clean Coal s and our general working capital.

Carbon Solutions Development of an AC Manufacturing Facility

We believe that the current supply capacity of AC will be inadequate for the projected demand created by the expanding mercury emissions control market. Without regard to Carbon Solutions supply and production capabilities, we projected 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 nearly double by the end of 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. The manufacturing facility is being constructed through Red River, a wholly owned subsidiary of our joint venture Carbon Solutions. When completed, the AC Facility will be the largest ever constructed in the U.S.

The plant is expected 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 and related activities is estimated at approximately $400 million. Approximately $160 million of that amount is expected to come from

Table of Contents

equity participation from us and our joint venture partner, ECP, while we expect to fund the remainder with debt financing. As of December 31, 2009, the outstanding amount of ECP S preferred equity totaled $102 million, and the principal balance of ECP s loans to Red River totaled $76.3 million. In August 2007, we engaged Credit Suisse Securities, (USA) LLC (Credit Suisse) 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 sales of over 200 million pounds of AC with U.S. and Canadian utilities seeking to control mercury emissions on existing and new power plants, representing approximately 32% of the plant s planned capacity. Red River expects to be able to sell the majority of its AC output under three-to-five year contracts to owners of coal-fired power plants for the purpose of mercury mitigation but expects that such sales may not occur until 2012.

Government and Industry-Supported Contracts

The United States Department of Energy (DOE) issues solicitations periodically for various research, development and demonstration (RD&D) projects. DOE solicitations range in subject matter, and we submit proposals for those solicitations that fit our mission, strategic plan and capabilities. The bids include a proposed statement of work, and cost estimates, and DOE then negotiates a final contract with the successful bidder to perform the specified work. The contracts with the DOE can be Grants or Cooperative Agreements and are considered financial assistance awards. Generally, the agreements cover the development and/or demonstration of air pollution control technologies for coal-fired power generating plants. The work may involve designing and fabricating equipment, installing the equipment at power plants, testing the equipment, preparing economic studies, and preparing various reports. 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 participating in one such agreement pursuant to which we are researching and developing a novel process to capture CO_2 from coal-fired power plants and expect the project to last through the end of 2010.

Agreements with the 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 have participated have ranged from 25% to 50% 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 the Electric Power Research Institute (EPRI). To the extent that the required cost share is not provided by industry partners or EPRI, we provide the balance by providing some cost sharing on our own in one form or another.

Our present contract with DOE and industry participants totals $3.2 million, of which $2 million represents the contract directly with DOE. We recognized revenues in 2009 and 2008 from this and other DOE and industry-funded contracts totaling $3.9 million and $4.7 million, respectively, which comprised 19% and 29%, of our total revenues for those respective periods. Of these amounts, $876,000 and $1.1 million in 2009 and 2008, 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 2004 through 2009 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 meet state regulations to continue. We anticipate that DOE may fund other projects related to our business, including projects aimed at CO_2 emissions control. We expect future revenues from our current DOE contracts in progress to amount to $1.6 million, of which we expect to recognize approximately $730,000 in 2010.

We are also seeing increased funding for clean coal technology. The American Recovery and Reinvestment Act allocated $3.4 billion to support development and demonstration of technology to capture and store CO_2 from coal-fired power plants. In October 2009, DOE released a Funding Opportunity Announcement (FOA) for continued

Table of Contents

funding of our current CO_2 project. This FOA provides the ability to request additional funding for solid sorbent technologies. We submitted a proposal in December 2009 for a $14 million program in response to this opportunity and expect that DOE will announce awards in April 2010. 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.

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 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.

Revenues from sales of chemicals to FGC customers in 2009 and 2008 and other FGC contract work totaled $324,000 and $433,000, respectively. In 2009, revenues from FGC-related equipment sales totaled $405,000 which is included in the MEC segment.

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 SO_2, NO_x, 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 in both 2009 and 2008, most of which is related to mercury emission control.

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 1,500 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 30 new coal-fired power plants in the United States under various stages of development, all of which have requirements for mercury emission control. Through 2009, our mercury control technology has been demonstrated at full scale at over 40 plants and 26 commercial ACI systems, generally yielding over 90% mercury control on most applications. In addition, our approach to mercury control is quite cost effective compared to competing technologies that require capital intensive equipment. We add significant value to our base offerings by having complementary products and 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 (through Carbon Solutions) 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. The AC usage is estimated to range from approximately $1.0 million to $2.0 million per year per unit for an average size plant (250-300 MW). We believe Norit Americas, Inc. (Norit), Alstom Power, Inc. 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 primarily on price, quality, performance and the ability to meet the requested schedule. Based on the contracts we were awarded since 2005, we believe we are one of the market leaders and that we currently have approximately 33% of the existing market. As this market matures, we expect competition to continue to increase.

Carbon Solutions is focused on the growing North American market for AC used for the control of mercury emissions from coal-fired power plant. Their principal competitors in this market include Norit, Calgon Carbon Corporation (Calgon), RWE Power AG (a German company), and Albermarle. However, Albermarle does not produce AC Albemarle treats and supplies AC produced by others such as Mead/Westvaco Corporation (which, we believe, has a marketing/supply agreement with Albermarle for AC supply) and Chinese imports. Norit and Calgon have announced they are constructing additional facilities or renovating existing facilities to expand their capacity to produce and supply AC.

Table of Contents

Asian producers of AC, primarily in China, are also sources of AC to the market, and supply companies that re-sell AC. Other U.S. producers of AC, which currently tend to focus on other AC applications, include Mead/Westvaco Corporation and Siemens Water. Competition in AC supply and services is based on price, quality, expertise 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 AC which is expected to limit new SO_3 installations after new mercury regulations are promulgated. 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 electrostatic precipitator 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 continuing 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 12 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 and refined coal 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.

Our joint venture, Carbon Solutions, also supplies utility customers with AC for mercury control needs. In 2008, Carbon Solutions commenced deliveries of this material, procured from foreign suppliers and processed at its facilities for quality and product control.

Raw Materials, Subcontract of 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 work associated with installation of such equipment 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. 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 FGC chemicals and expected refined coal operations depend on the operations of the utilities to which such products are provided. Our utility customers routinely schedule maintenance outages in the spring or fall depending upon the operation of the boilers. During the period in which an outage may occur, which may range from one week to over a month, no chemicals or refined coal products 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 2009, we performed work to supply ACI systems to 20 customers. We recognized 15% and 5% of our total revenue from Ameren Energy Generating Company in Missouri and Alstom Power, Inc. in Tennessee, respectively. In 2009, through Clean Coal, we recognized 13% of our total revenue from Associated Electric Cooperative, Inc. in

9

Table of Contents

Missouri. In addition, we recognized 7% of our revenue from services provided as a subcontractor from Wisconsin Energy Corporation in Wisconsin under a U.S. government contract. (See Note 5 to the Consolidated Financial Statements included elsewhere in this Report). Our own sales staff markets our technology through trade shows, mailings and direct contact with potential customers.

Backlog Orders

As of December 31, 2009, we had contracts in progress for supply of ACI systems totaling approximately $5.7 million. We expect to complete and recognize approximately $3.7 million of this revenue in 2010, with the remainder in 2011. Our current DOE and industry funded R&D contracts in progress, assuming no changes in funding, are expected to result in future revenues of $1.6 million, of which we expect to recognize approximately $730,000 in 2010. Contracts in progress for other consulting work totaled approximately $200,000 at year-end 2009. We expect to complete and realize the revenues for all of our existing consulting work in 2010.

Research and Development Activities

In 2009 we were involved in several R&D contracts funded by DOE and industry groups, primarily directed toward the control of mercury emissions and CO_2 capture. We participate in cost share arrangements in many of those contracts. For 2009 and 2008 our direct cost share for R&D under DOE related contracts approximated $1,000 and $30,000, respectively. In addition, we spent approximately $170,000 and $948,000 on our own behalf on research and development activities related to further development of our technologies during 2009 and 2008, respectively.

Employees

As of December 31, 2009, we employed a total of 54 full-time and part-time personnel, including eight Company executive officers. Fifty-two people are employed at our offices in Littleton, Colorado, one in Maryland, and one in Pennsylvania.

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 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 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 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 the invalidation of the Clean Air Mercury Rule (CAMR), when Maximum Achievable Control Technology (MACT) based mercury relations will be promulgated and/or mercury control legislation will be enacted and the timing, scope and impact of such regulations or legislation;

(b) expected long-term growth in the MEC market and changes in the FGC market;

(c) expected growth in the power industry s interest in and funding for carbon dioxide (CO_2) capture projects;

(d) the appropriation of funds by Congress for DOE CO_2 projects;

(e) the timing of awarding of contracts and their value;

(f) the proposed Arch Coal License;

Table of Contents

(g) the expected costs, capacity of, funding of and timing for the commencement of operations at the activated carbon facility (AC) that is being built by Red River in Coushatta, Red River Parish, Louisiana (the AC Facility);

(h) the willingness and ability of ECP to continue to fund the construction costs of the AC Facility and legal expenses relating to the Norit arbitration through contributions and loans to Carbon Solutions;

(i) possible changes in the level of our ownership of Carbon Solutions;

(j) timing and amounts of or changes in future revenues, funding for our business, margins, expenses, cash flow and other financial measures;

(k) impact of pending legal actions, including the costs thereof and our indemnity obligations to Carbon Solutions and ECP;

(l) the ability of Clean Coal to monetize its refined coal facilities;

(m) working capital and liquidity; and

(n) the materiality of any future adjustments to previously received revenue as a result of DOE audits.

Our expectations are based on certain assumptions, including without limitation, that:

(a) coal will continue to be a major source of fuel for electrical generation in the United States;

(b) we will continue as a key supplier of equipment and services to the coal-fired power generation industry as it seeks to implement reduction of mercury emissions;

(c) contracts we have with the DOE will continue to be funded at expected levels and we will be chosen to participate in additional contracts of a similar nature;

(d) current environmental laws and regulations requiring reduction of mercury from coal-fired boiler flue gases will be expanded and strengthened as a result of the EPA MACT process 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 our operating needs and to fund 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 effectively to compete against others;

(m) Red River will commence operations in its AC Facility on time and within budget;

(n) we will be able to meet any technical requirements of projects we undertake; and

(o) Clean Coal will be able to monetize its refined coal facilities.

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

Table of Contents

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 ENVIRONMENTAL LAWS AND REGULATIONS; 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 and other environmental laws. 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 invalidation of CAMR in February 2008 resulted in a wait and see approach by our customers, which we have seen 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 has also caused delays in purchasing decisions for MEC equipment, especially for those utilities who were considering multi-pollution control solutions.

In October 2009, the U.S. Environmental Protection Association (EPA) agreed to promulgate final rules to reduce hazardous air pollutants (HAPs) from coal-fired power plants, based on MACT by November 2011 with implementation in 2014. A lack of definitive mercury (and other HAPs) emission regulations until then will likely continue the uncertainty among independent power producers and utilities as to what will be required of them as far as mercury (and other HAPs) controls, which has adversely impacted their ability to include pollution control costs in their rate bases. This uncertainty is and will likely continue to negatively impact our business, results of operations and financial condition until new federal regulations are finalized, which will then mandate how industry must respond to the new federal regulations or state laws, including those that are presently in various stages of enactment, for pollution control and permitting requirements for new coal-fired plants. We do not expect significant revenue growth in this area unless and until federal or state regulations impact a significant portion of the 1,500 existing boilers.

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

Finally, federal, state and local legislation mandating that utility companies serving a state or region purchase a minimum amount of power from renewable energy sources such as wind, hydroelectric, solar and geothermal would reduce demand for our products and services.

WE MAY NOT HAVE SUFFICIENT WORKING CAPITAL TO PURSUE OUR BUSINESSES AND PAY OUTSTANDING OBLIGATIONS, AND WE MAY NOT BE ABLE TO OBTAIN OUTSIDE FINANCING ON ACCEPTABLE TERMS.

Costs to defend and indemnity obligations related to existing legal actions against us have been and are expected to continue to be significant, and taken together, exceed our working capital, and the outcome of the legal actions and satisfaction of our indemnity obligations may have a material adverse effect on our business and financial condition.

Norit Americas, Inc., which is an AC manufacturer with whom we have previously done business, filed a lawsuit against us, Carbon Solutions, certain of Carbon Solutions subsidiaries (collectively with Carbon Solutions, the AC Supply Companies) and two of Carbon Solutions employees (who were former employees of Norit) asserting claims for misappropriation of trade secrets and other claims, and seeking monetary

damages and injunctive relief that seek to prevent us from using what they allege to be Norit trade secrets and other intellectual property involving the manufacture of AC, particularly in connection with the AC Facility. The case, which was originally captioned Norit Americas, Inc. v. ADA-ES, Inc., ADA Environmental Solutions, LLC, John Rectenwald, and Stephen Young, Cause No. 08-0673, was filed in Harrison County, Texas in August 2008 (the Texas Action), has been moved by

Table of Contents

order of the court to binding arbitration in Atlanta, Georgia, and is now scheduled to be heard beginning in October, 2010. In addition, in December 2009, Norit N.V., which is the Dutch parent of Norit, opened a preliminary proceeding in the Almelo District Court, the Netherlands, to take preliminary testimony based on allegations that we violated a confidentiality agreement entered into by us in 2005 with Norit N.V. Responding to Norit s claims, whether or not they are ultimately found to have merit, has been time consuming and very costly, and the ultimate outcome of these matters is unknown. In addition, the litigation could result in substantial damages for which we would be responsible. Finally, pursuant to agreements we have entered into with ECP and the AC Supply Companies, certain liabilities were expressly excluded from the transactions (Excluded Liabilities), including liabilities with respect to the Texas Action, and we are obligated to provide indemnity against the reasonable costs, expenses and losses that are incurred as a result of such Excluded Liabilities (the Indemnity Obligations). Satisfaction of any Indemnity Obligations to ECP may be made via a decrease in our capital contributions (and corresponding increase in ECP s capital contributions) in Carbon Solutions and adjustment of each party s percentage ownership accordingly. As described above, such amounts are substantial, and, if payment were required, it would likely have a material adverse effect on our business and financial condition, and there may be doubt as to our ability to continue as a going concern.

We may not have sufficient working capital to fund the Indemnity Obligations or other indemnity claims or for our refined coal and other businesses.

Our principal source of liquidity has been our existing working capital. We had a negative operating cash flow for the year ended December 31, 2009 and this trend may continue into 2010, primarily due to legal expenses incurred in connection with the Texas Action. Carbon Solutions has funded, through loans or equity contributions from ECP to Carbon Solutions, a significant portion of the legal expenses related to the Texas Action. As of December 31, 2009, we had recorded a liability to Carbon Solutions of approximately $6.8 million related to such expenses. We do not currently have any accrued indemnity obligations to ECP, and we are unable to estimate the total amount of any future indemnity obligations to Carbon Solutions or ECP at this time. ECP has notified us that it believes such obligations include any losses it suffers due to its loss of potential customers and diminution in the value of its businesses as well as costs and fees it will incur and any damages it may suffer as a result of a new lawsuit Norit N.V. has filed against ECP in state court in New Jersey. We may also require additional working capital to meet our 50% share of capital expenditures and operating requirements of Clean Coal and to pursue our other businesses. Our ability to generate the financial liquidity required to meet ongoing operational needs and to meet our current and future indemnification obligations to Carbon Solutions and potentially to ECP, will likely depend upon several factors, including ongoing legal expenses incurred by the parties in the Norit matters, timing of satisfaction and ultimate amount of the Indemnity Obligations, insurance coverage with respect to the Norit matter, our ability to finalize negotiations on the Arch Coal License and obtain the initial license fee, our ability to maintain a significant share of the market for mercury control equipment, continuation of FGC chemical sales and Clean Coal s success in monetizing Section 45 tax credits through the sale of facilities to third party investors. Our failure to have sufficient working capital to fund these obligations would likely have a material adverse impact upon our business and financial condition.

The recession has adversely impacted our ability to obtain third party financing for our businesses.

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 many issuers to obtain financing. Our working capital needs and 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 delays in our ability to obtain the debt or equity financing that we require for our businesses.

In addition to the Indemnity Obligations, we have provided guaranties and undertaken other commitments of approximately $120 million as of December 31, 2009 related to Carbon Solutions and do not have sufficient working capital to meet such obligations if they were called upon.

We have guaranteed all amounts owed by Red River under the contract for the engineering, procurement and construction of the AC Facility. As of December 31, 2009, the remaining obligations under this contract totaled approximately $98 million. Although Red River can terminate this contract for convenience at any time, Red River (and us, based on our guaranty) would then owe the contractor the amount earned through the termination date, cancellation charges to subcontractors, other reasonable termination-related costs incurred by the contractor, costs of demobilization and unreimbursed sales taxes paid by the contractor. We have also guaranteed the payment by Red

Table of Contents

River of amounts owing under four multi-hearth furnace contracts for the AC Facility. As of December 31, 2009, the remaining obligation under these contracts was approximately $9.9 million. Red River can terminate these contracts at any time for convenience; however, Red River would then owe the supplier for reimbursable costs and amounts owed for milestone and progress payments, cancellation charges to subcontractors and 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 AC Facility. Finally, we have guaranteed Red River s obligations under three AC sales agreements with a maximum liability of $12 million. If Red River cannot meet its obligations under these agreements, we may be liable to the customers for significant damages, which would materially adversely affect our financial condition.

Although Red River has agreed to reimburse us if we are required to make payments under our guaranties of its obligations, we have assigned our rights to be reimbursed to ECP and would not be reimbursed unless and until ECP s preferred equity in Carbon Solutions is fully redeemed or converted and all of its loans to Red River are paid in full.

Under terms of agreements with Carbon Solutions, as amended in August, 2009, Red River has agreed to reimburse us and ECP if we or they make payments related to the guaranties provided by ECP and us and has granted a security interest in its assets to ECP and us to secure the reimbursement agreement and any loans ECP makes to Red River. Carbon Solutions has guaranteed the obligations of Red River under a reimbursement and loan agreement and has pledged its equity interest in Red River to ECP and us as security for this guaranty. We have assigned our rights under these agreements to ECP, and any amounts payable to us would be paid directly to ECP until ECP s preferred equity in Carbon Solutions is fully redeemed or converted and all loans to Red River have been paid in full. As of December 31, 2009, the outstanding amount of ECP s preferred equity totaled $102 million, and as of that date, the principal balance of ECP s loans to Red River totaled $76.3 million. These amounts have increased between December 31, 2009 and the present, and will likely continue to increase until either the AC Facility is completed or permanent debt financing is in place. ECP s loans to Red River are evidenced by secured demand notes bearing interest at 12% per annum compounded quarterly.

ECP CONTROLS CARBON SOLUTIONS AND MAY DILUTE OUR EQUITY FURTHER SUCH THAT WE WOULD LOSE ADDITIONAL MANAGEMENT RIGHTS, WHICH MAY ADVERSELY AFFECT OUR FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

Carbon Solutions is managed by a Board of four Managers, three of which were designated by ECP. Certain major transactions require the written consent of members holding at least 75% of the aggregate Carbon Solutions membership interests, of which we held 33% as of December 31, 2009. If ECP makes additional ordinary capital contributions to Carbon Solutions or converts its demand loans or preferred equity contributions to ordinary capital contributions, our percentage ownership interest would be diluted. In addition, if we fail to promptly pay our indemnity obligations to ECP, although no dollar amounts have been claimed by ECP, ECP may decrease our capital contributions (and increase ECP s capital contributions) in Carbon Solutions by such amount and adjust each party s percentage ownership accordingly. If our interest in Carbon Solutions is diluted to less than 15%, we would lose our rights to designate our one remaining designee on the Board of Managers, and Carbon Solutions would be managed exclusively by ECP and its designees. If all of ECP s outstanding equity and loans were converted to ordinary capital contributions, our percentage ownership interest would be diluted to less than 15%. Our loss of approval rights may result in ECP s making decisions regarding the AC Facility and AC supply business that adversely affect our business, financial condition and results of operations. Furthermore, under the LLC Agreement of Carbon Solutions, 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 freely pursue an AC production business prior to October 1, 2011, which would likely adversely impact our ability to compete effectively with other suppliers of ACI systems that have the ability to supply their own AC to their ACI system customers.

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;

Table of Contents

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 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 two years 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.

IF THE DOE DISCONTINUES FUNDING OF EXISTING AND PLANNED CLEAN COAL TECHNOLOGY PROGRAMS, OUR BUSINESS WOULD BE HARMED.