ADA-ES INC
Form 10-K
March 14, 2008

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, 2007

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 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 x 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.

Large accelerated filer ¨ Accelerated filer x 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 x No

The aggregate market value of the voting common stock held by non-affiliates as of June 29, 2007 was $120,692,000

As of March 7, 2008, there were outstanding 5,688,635 shares of the common stock, no par value.

DOCUMENTS INCORPORATED BY REFERENCE:

In Part III of this Annual Report on Form 10-K, portions of the registrant s definitive proxy statement for the 2008 Annual Meeting of Shareholders, currently scheduled to be held on June 18, 2008, are incorporated by reference.

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

PAC = powdered activated carbon

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

RC = Refined Coal (coal treated with our patented pre-combustion additive chemical)

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 (MEC) through the supply of powdered activated carbon

injection (ACI) systems, mercury measurement instrumentation, and related services. ADA-ES became a stand-alone public company through a spin-off from its parent company, Earth Sciences, Inc. in September 2003. We have four wholly-owned subsidiaries called ADA Environmental Solutions, LLC, Red River Environmental Products, LLC, Bowman Environmental Products, LLC, Underwood Environmental Products, LLC and a 50% interest in a Colorado limited liability company called Clean Coal Solutions, LLC (Clean Coal), through which all of our business is carried out.

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 North America. We assist electric utility companies to remain competitive while meeting environmental regulations.

Our major activities include sales of equipment, field testing and services related to the emerging market for mercury emission control for coal-fired boilers used in electric generation, development and marketing of our refined coal technology in the Clean Coal joint venture (JV) with NexGen Refined Coal, LLC, an affiliate of NexGen Resources Corporation (NexGen), development of a new Greenfield facility for the manufacture of activated carbon (AC), development of interim sources of AC to supply to utility customers until such time as our AC manufacturing facility is operational, the sale of flue gas conditioning (FGC) equipment and chemicals, and other chemicals and technologies for coal-fired boilers.

Overview of the Last Five Years

During our last five fiscal years, we have (a) substantially increased our MEC business through government and industry funded field demonstration contract work and various commercial activities; (b) been instrumental in the commercialization of ACI equipment systems; (c) advanced our plans to develop a Greenfield AC manufacturing facility in the United States; (d) entered into a joint venture in 2006 with NexGen to develop and market our refined coal technology, with our proprietary CyClean pre-combustion additive chemical; (e) continued in the FGC business through the sale of chemicals and services; and (f) provided other chemicals and technologies to users of coal-fired boilers.

Thus far in 2008, we have (a) continued work on 20 ACI systems which we expect to be completed at various times from 2008 through 2010; (b) continued work on government and industry-supported contracts for field testing, installation and evaluation of mercury emission control systems at several sites; (c) continued to supply FGC chemicals to several plants and began preparations to demonstrate FGC technology at an additional plant; (d) continued development and marketing of our refined coal technology through our JV with NexGen; (e) continued to pursue development of a new AC manufacturing facility; and (f) implemented plans that we expect will allow us to supply AC to customers beginning in 2008, such that we will be able to supply AC prior to our new AC manufacturing facility becoming operational, which we hope will be early in 2010.

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 11 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 and the deregulation of the utility industry. Environmental regulations, such as the 1990 Clean Air Act Amendments, various state regulations and permitting requirements for new coal-fired power plants are requiring utilities to reduce emission of pollutants, such as sulfur dioxide, nitrogen oxides, and mercury. We are a key supplier of equipment, services and AC to the market that first began in 2005 when the Clean Air Mercury Rule (CAMR) was adopted and that is developing rapidly as a result of the regulatory environment. We are attempting to position ourselves to become a key supplier of AC to that market.

Our business plan is based upon providing technologies for the existing 1,100 coal-fired power plants that provide 325 GWs of electricity, or roughly 50% of the U.S. demand, according to a 2007 National Coal Council report. The best estimates of energy experts indicate a need of an additional 300-500 GW of new capacity in the next 25-30 years. A 2007 National Coal Council report estimates 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, which has been recognized as a significant health risk. 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 45 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 carbon dioxide emissions on climate change. In response to protests by environmental groups, various state officials rejected a number of permits for new coal-fired plants in 2007. 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 baseline power increases. To continue operating even as environmental regulations become more stringent, these older plants will require the use of retrofit technologies to address conventional pollutants such as SO2, NOx, and particulates and for the first time pollutants such as mercury and carbon dioxide. Therefore, the current trends toward cleaner energy create a growing market for ADA s existing and developing innovative technologies.

Following widespread disappointment and legal challenges to CAMR, in November 2005, the State and Territorial Air Pollution Program Administrators and the Association of Local Air Pollution Control Officials (STAPPA/ALAPCO), the two national associations of air pollution control agencies throughout the United States, developed a model rule entitled Mercury from Power Plants: A Model Rule for States and Localities in response to concern that CAMR was inconsistent with the requirements of the Clean Air Act and would not result in adequate reductions in emissions of mercury from coal-fired power plants to protect public health. The STAPPA/ALAPCO model rule provides state and local governments with the tools needed to obtain reductions in mercury emissions necessary to meet the requirements of the Clean Air Act. Specifically, the model describes two options for state and local governments that wish to develop utility mercury rules that are more protective of public health and the environment than EPA s regulation and contains model rule language for both. The phased timing proposed in the model rule allows power generators to consider mercury specific control technologies, or alternatively, control technologies that reduce mercury as an added benefit when reducing other air pollution emissions. The model rule provides compliance options using two phases: (a) the use of annual rolling averages and (b) averaging of emissions across sources at a facility. This may provide the flexibility to reduce the likelihood of any threat on a source s ability to continue to generate power. As compared with either maximum achievable control technology (MACT) regulation, or CAMR, we believe the STAPPA/ALAPCO model rule better reflects the capabilities of mercury emission control technologies that are commercially available today and gives power generators options in selecting the most cost effective approach for each plant.

In response to the uncertainty created by the challenges to CAMR, several states have entered into consent decrees requiring mercury control stricter than CAMR, and have passed, or are expected to pass, legislation requiring such control. As of March 2008, 14 states have mercury emission control rules and 13 additional states are considering regulations more stringent than CAMR.

A dozen States and several environmental groups had previously sued the EPA alleging that the process that resulted in the relatively lenient 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 remands the matter to the EPA for further proceedings, and in the interim, has generated some short-term uncertainty among utilities as to what they will be required to do to reduce mercury emissions. However, we believe that the likely result will be that either EPA will adopt stricter mercury emission control rules in 2008 or Congress will enact new legislation requiring stricter mercury emission control within the next year or two.

The regulatory issues surrounding mercury control have created confusion for the investment community because of the complicated patchwork quilt of state regulations, separate rules for new plants, and the constant flux of federal regulation. Although a straight forward single-regulation-driven market may make the investment decision more clear, the complexity of the different requirements has actually been a strategic advantage for us. Unlike other suppliers of activated carbon, we have been extensively involved in the policy process at national and state levels for the past eight years and we have intimate connections with our coal-fired power customers gained from 30 years of serving this market. This inside knowledge 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.

The coal burning electric power generation industry is also impacted by the ongoing deregulation process of the utility business. Historically, public utilities have been permitted to pass on capital and operating costs to customers through rate adjustments. With deregulation, however, utility companies face competitive challenges requiring them to better control capital spending and operating costs. These changes 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 carbon dioxide emissions. We have established ourselves as a leader in the mercury control market, having received 16 new orders for commercial mercury control systems in 2007, and letter of intent to proceed on two additional systems thus far in 2008. 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 costs associated with mercury control to less than 20% of initial cost estimates.

Government and Industry-Supported Contracts

The United States Department of Energy (DOE) issues solicitations from time to time for various development and 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 are known as Cooperative Agreements and are considered financial assistance awards. We are currently a participant in five such agreements and participate with another three organizations as a subcontractor. 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. We have one DOE contract on which we are acting as a subcontractor on a project to develop and demonstrate a novel process to capture carbon dioxide from coal-fired power plants. We expect this project to last for approximately three years. 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.

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 50%. 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 expect the power industry s interest in these demonstration projects to continue to grow.

We currently participate in DOE and industry contracts totaling $23.7 million, of which $12.9 million represents contracts directly with DOE. We recognized revenues in 2007, 2006 and 2005 from these DOE and industry-funded contracts totaling $7.2 million, $7.0 million and $4.3 million, respectively, which comprised 37%, 45% and 39% of our total revenues for those respective periods. Of these amounts, $3.3 million, $3.7 million and $2.3 million in 2007, 2006 and 2005, 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 2007 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. In 2007, the DOE decreased its commitment on one of our contracts by $800,000, which resulted in us reducing the scope of work performed related to the project. We are not aware of any further DOE plans to reduce funding on projects currently under contract. However, DOE has not committed funds of approximately $600,000 on two of our existing DOE contracts. We expect DOE funding for future mercury control projects to decline as the mercury control market matures. However, we expect funding from utilities for mercury control evaluation and testing to increase to meet state and local regulations, and that DOE may fund other projects related to our business, including projects aimed at carbon dioxide emissions control. Assuming no further changes in funding, we expect future revenues from current DOE contracts in progress to amount to $5.4 million, of which we expect to recognize approximately $3.0 million in 2008.

Commercial Mercury Emissions Control

During 2007, we signed additional contracts for 16 ACI systems for mercury emission control, and thus far in 2008, we have commenced work on two additional ACI systems under notices to proceed, with the expectation that the final contracts will be signed within the next month. We recognize revenue on these agreements on the percentage of completion method. The uncompleted portion of outstanding contracts at December 31, 2007, represents $11.3 million in gross revenue. We expect to complete and recognize about $6.1 million of this revenue in 2008, with the remainder in 2009 and 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.

In March 2007, we executed a Memorandum of Understanding with Calgon Carbon Corporation (CCC) to jointly market AC to the utility market and to explore ways in which we could cooperate with each other in expanding capacity at CCC s facilities and in implementing our plans to build a new AC production facility. In July 2007, CCC gave us notice of its intent not to proceed with any joint development plans, and terminated the agreement effective in August 2007. We intend, and CCC has advised us that it intends, to honor commitments made to one another for certain joint activities and on bids for supply contracts made to other parties during the term of the agreement. We expect the impact of the termination to result in reduced commissions in 2009 of up to $3.0 million that we expected as a result of activities under the agreement. We are continuing to proceed with development of a Greenfield AC manufacturing facility and securing interim AC supply as discussed below.

Development of Proposed Activated Carbon Manufacturing Facility

We believe that the current 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, we commissioned a market study from an independent third party and utilized purchased multiple-client market studies to estimate the current worldwide production and expected future demand for AC in both the conventional water treatment markets and the developing mercury control market. The study we commissioned documented that the current U.S. market for AC, which is primarily for water treatment, is approximately $200 million per year. 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 2004, we initiated activities aimed at positioning ADA-ES to supply AC to meet the needs of coal-fired electrical generating utilities. Initially these activities involved obtaining manufacturing capacity through the possible acquisition of existing facilities. This strategy did not prove successful, and in 2006, we determined to pursue the design and construction of a new AC manufacturing facility which, if completed, will be the largest AC manufacturing facility built to date in the US. We are designing the facility to maximize efficiency and produce the most cost-effective AC product for the mercury control market. We will manufacture and process the AC including chemical treatment, in the United States. We will design this AC to be effective for capturing mercury produced as a byproduct of burning Western lignite and subbituminous coals, which we believe represents the largest potential market for AC mercury emission reduction. We expect our AC product to meet the required, stringent quality specifications of this market.

We accomplished several key project milestones in 2007 and are continuing with development plans for the project. Through December 31, 2007, we have capitalized approximately $8.1 million of project costs that appear on our balance sheet as Development Projects.

We have formed three Delaware limited liability companies to carry out the operational aspects of the project at three potential locations. The names of these entities are Red River Environmental Products, LLC, Bowman Environmental Products, LLC, and Underwood Environmental Products, LLC.

We engaged a project development consultant, Emission Strategies Inc., a Maryland corporation (ESI), to oversee the project on our behalf. Our contract with ESI provides for fixed monthly compensation, with incentive payments on the attainment of certain milestones, which may include amounts based on revenues from the planned facility. We can terminate the agreement with ESI on 30 days notice for convenience, and for cause on 10 days notice, with cure rights to correct any default within 30 days. If termination is for convenience, ESI is entitled to receive all monthly fees earned prior to termination and any milestone payments for milestones achieved on the project, if ever and if any.

We expect to obtain three air permits to build AC manufacturing facilities, each covering two production lines capable of producing up to a total of 350 million pounds of AC per year, in North Dakota and Louisiana. Permit time lines and the overall business environment will dictate which site we will choose to build first. At the present time, we are farthest along with the permit in Louisiana, which was filed with the Louisiana Department of Environmental Quality (LDEQ) in August 2007. During the public comment period, comments were filed opposing the issuance of the permit by LDEQ. LDEQ responded to these comments, moved the permit forward without changes and submitted it to EPA Region 6 for their approval. If there are no additional comments from the EPA, we expect our final permit to be issued within the first half of 2008.

We have engaged BE&K Construction Company, LLC, of Birmingham, Alabama, as our engineering, procurement and construction contractor to perform the preliminary work needed to build the plant. BE&K is currently operating under Phase 1 of a two-phase Agreement, the second phase of which would be finalized prior to obtaining debt financing for the project. Under Phase 1, BE&K is performing preliminary site assessment, design work for the facility itself, and early site work, and has started the procurement process that will be necessary to construct the facility. We can terminate our current agreement with BE&K on three days notice, in which case we would be liable to BE&K for work performed through the date of termination.

Commercial operation of the first production line is planned for the first quarter of 2010. All-in financing for the first production line is estimated at approximately $300 million, and we expect that $120 million of that amount will come from equity participation from us and a strategic partner, while $180 million will be provided by debt financing. We consider participation of a strategic partner essential to the project and are seeking a strategic partner who is able and willing to commit approximately $60 million to the project through the purchase of up to one half of the equity interest in the company through which the project will be carried out. We are currently negotiating the terms that will define our relationship with a strategic partner. In August 2007, we engaged Credit Suisse Securities, (USA) LLC to assist us with locating such a strategic partner and 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.

Near-Term AC Supply

In addition to our plans to develop an AC manufacturing plant, we are in the process of implementing 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 increasing to over 100 million pounds per year in 2009 and our plan should allow us to capture a portion of this market beginning in the second half of 2008. Our near-term supply product will be processed, including chemical treatment at a US facility so that it is effective for capturing mercury produced by a variety of coals, and should meet the required, stringent quality specifications of this growing market. We have hired key personnel with extensive experience in the production of AC to lead this effort. Preliminary indications are that we will be able to obtain adequate supplies of AC (foreign and domestic) to meet our market projections. We expect that a portion of the AC we are able to supply in this manner will be offered to potential long-term customers who may become parties to off-take contracts for AC to be supplied from our manufacturing facility.

Clean Coal Solutions

In 2006, we established the Clean Coal JV with an affiliate of NexGen to market our patented refined coal technology that reduces emissions of nitrogen oxides and mercury from certain, treated coals. The JV s primary opportunity is based on tax credits 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) for qualifying RC. Under the 2004 Act, an owner can earn a tax credit with a current value of approximately $5.60 per ton of RC for a period of ten years ending in or before 2019. Our refined coal technology incorporates our patented chemical called CyClean that we developed for slagging boilers (see discussion of ADA-249M below), and our expertise with sorbent-based mercury control technology. 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 RC area. Our refined coal technology is applicable to a target market of approximately 20 million tons of RC per year, which would amount to a market potential to Clean Coal of approximately $150 million a year.

We sold a 50% interest in Clean Coal to NexGen s affiliate for $1.0 million in 2006, after a successful demonstration of our RC product. The total payment of $1.0 million net of tax has been included in our shareholders equity. We expect the JV to supply chemicals, additives, equipment and technical services to cyclone fired boiler users, but the JV s 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). If the JV 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 the JV receives qualification. 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 the JV, and specifies certain duties that both parties are obligated to perform.

We also licensed certain patents and know-how (the Licensed Property) to Clean Coal on a fully paid-up, royalty-free, non-transferable and exclusive basis, to allow it to exploit our refined coal technology for the cyclone-fired boiler market. We are required to provide technical assistance without charge to the JV relating to the development, marketing and deployment of the Licensed Property and, with certain limitations, to prosecute, maintain and defend the patents that are a part of the Licensed Property, take appropriate steps to protect the know-how and trade secrets comprising a part of the Licensed Property, and indemnify and hold Clean Coal harmless in the event the Licensed Property infringes the intellectual property of any third party.

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

Thus far, we have conducted three full-scale tests of our RC product, CyClean, that demonstrated the ability to meet the emission control performance required to qualify for the Section 45 Tax Credits. We are continuing to market our product to the industry. Legislative correction is needed to Section 45 of the Internal Revenue Code to clarify the current tax credit requirement for a 50% increase in the market value of the RC. Because market value for coal is not a well-defined concept, this provision makes it difficult for both the technology supplier and the Internal Revenue Service to determine how to interpret and enforce this provision. We have made good progress working with Congress, and the correction we needed to address this problem was included in the final markup of the 2007 Senate Energy bill. The Senate was unable to get the required 60 votes, however, and the tax title was dropped from the Energy Bill passed last fall. We are still working to get this correction in an Energy Tax Bill that Congress will work on this year, driven by the need for extension of tax credits for renewable energy. We expect these changes to be enacted in 2008. In any event, we will continue to sell and market our RC product through the JV, although we expect it to be a smaller aspect of our business than would be the case if the Section 45 tax credits were available.

Our net operating loss for 2007 includes net costs of $247,000 related to our RC efforts and $150,000 from the 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.

We currently have three operating FGC units installed at coal-fired utilities in Illinois and Louisiana. Revenues from sales of equipment and chemicals to FGC customers in 2007, 2006 and 2005 and other FGC contract work totaled $1.0 million, $1.7 million and $1.9 million, respectively. One customer discontinued chemical usage in 2007. Activities in late 2007 and early 2008 indicate that FGC could once again be a revenue growth product line for us. We are responding to recent inquiries about our product meeting certain requirements in the mercury emission control regulations. We expect to conduct a demonstration of our FGC technology in 2008.

ADA-249M

Since 2000, we have produced and sold a specialty chemical, called ADA-249M, which is designed to save utility companies with cyclone furnaces significant costs each year through reduced fuel costs, enhanced operational flexibility and improved marketability of combustion by-products. ADA-249M is a patented product designed to modify slag viscosity. ADA-249M is a blend of iron oxides, mineralizers, and flow enhancers that are added to the PRB coal prior to combustion in order to create the proper slag layer for combustion within the cyclone barrel. The addition of ADA-249M to the coal results in more coal burning in the cyclone, less carbon in the fly ash, better precipitator performance, reliable slag tapping, and more bottom ash to sell. We design and sell the delivery system and the continuing supply of chemical. We expect that Clean Coal will pursue future applications for ADA-249M that are a part of our refined coal technology as applied to cyclone coal-fired boilers.

Sales related to ADA-249M are recorded in the FGC and Other segment and were $124,000, $60,000 and $327,000 in 2007, 2006 and 2005, 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, and we continue to develop and test new chemical blends expected to aid coal-burning utilities in the variety of problems that may be encountered in switching to lower cost coals. We received funding for a portion of our development and testing activities from an industry partner that has a strategic interest in the technology. Total revenues from other consulting services approximated $1.2 million, $1.5 million and $3.0 million in 2007, 2006 and 2005, 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 could be impacted by these regulations. Regulations currently exist that require new coal-fired plants to control mercury emissions. There are as many as 45 new coal-fired power plants in the United States under various stages of development, all of which have requirements for mercury emission control. Through 2007, our mercury control technology has been demonstrated on a full scale at over 30 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 control to less than 20% of initial cost estimates. Our experience in installing full scale demonstration plants, together with our practice of providing users with performance guarantees, as well as the cost effectiveness of our methodology, are our principal methods of competing in this market. We have responded to more than one hundred bid requests for ACI systems since January 2006, of which we believe over 70 are likely to proceed to orders between now and 2010. The capital equipment we provide ranges from approximately $750,000 to $1.0 million per unit, and the sorbent we intend to supply is estimated to range from approximately $1.0 million to $2.0 million per year per unit. We believe Norit Americas, Siemens Environmental Systems and Sorbent Technologies, have responded to requests for commercial bids for mercury control systems, and are our principal competitors in this market. Based on the contracts we were awarded since 2005, we believe we have approximately 40% of the existing market. As this market matures, we expect competition to increase, primarily in the sorbent supply arena (AC). See the discussion above under the caption Market for Our Products and Services.

We are focused on the growing North American market for activated carbon 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, a United States company, HOK, a German company, Sorbent Technologies, a United States company, and Alstom, a French company. However, of these, only Norit, Calgon Carbon, and HOK actually produce the carbon they sell. Sorbent Technologies and Alstom treat and supply carbon produced by others. Asian producers of carbon, primarily in China, are also sources of carbon to the market, and supply companies that re-sell their carbon, such as Sorbent Technologies. Other US producers of activated carbon, who currently tend to focus on other activated carbon applications, include Mead/Westvaco Corporation and Siemens Water. Competition in activated carbon, and carbon 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 or a combination of sulfur trioxide and ammonia. This technology has been available commercially since the 1970 s and is offered by Chemithon Engineers Ltd., Wahlco, Inc. and Benetech, in a variety of forms. Conditioning of fly ash by injecting small amounts of sulfur trioxide into the flue gas is a well-proven technique for improving performance of the electrostatic precipitator (ESP). Sulfur trioxide conditioning loses its effectiveness in applications with temperatures over 350 degrees Fahrenheit. The capital costs of conventional FGC technology are in excess of $1.0 million. Injection of water mist into the flue gas stream is also a known technique for improving performance of the ESP in certain applications and is offered by EnviroCare, Inc. The capital cost of a water injection system is typically $200,000 to $300,000. A typical ADA-ES system costs between $300,000 and $600,000. We have also introduced a product shown to be effective in the 300-750 degree range that is suitable for intermittent application and can augment a sulfur trioxide system and help to avoid use of ammonia. The competitive advantages of our FGC technology include an effective temperature range

of 300 to 900 degrees Fahrenheit; a simple injection system; a non-toxic conditioner that will not become a secondary pollutant; and chemicals that are safer and easier to handle on site. 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 and ADA-249M, 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 magnetite, iron ore and coal blends. Even though there is currently no significant direct competition, the market for ADA-249M has been slow to emerge. However, we expect the demand for products in this area to increase as recent consent decrees requiring mercury emission control in several states are beginning to impact the market.

Patents

We have received six patents and have an additional seven 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 1995. 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 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. We are investigating several near-term and long-term alternatives to assure the supply of AC to our customers. See the discussion above under the caption Market for Our Products and Services.

We are also in the process of developing the ability to supply utility customers with AC for mercury control needs. We anticipate that we will be able to commence significant deliveries of this material, which we will likely procure from foreign suppliers, around the fourth quarter of 2008. 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 construction labor associated with installation of such equipment, again from a variety of vendors, usually located near the work site. We purchase our proprietary FGC, RC 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 maintain any significant amounts of inventory for any of our business segments, and we do not provide any extended payment terms to our customers. We typically provide equipment warranties and performance guarantees related to our ACI systems (see Risk Factors and Footnote 7 Commitments and Contingencies, in the Financial Statements filed as a part of this Report).

Seasonality of Activities

The sale of FGC chemicals depends on the operations of the utilities to which such chemicals are provided. Our FGC customers routinely schedule maintenance outages in the spring of each year. During the period of such outages, which may range from two weeks to over a month, no 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

During 2007, we recognized 37% of our revenue from services provided directly or as a subcontractor under contracts to the U.S. government and industry involving mercury control systems, as discussed above under Government and Industry-Supported Contracts. (See also Notes 4 and 8 to the Consolidated Financial Statements included elsewhere in this Report). In 2007, we supplied ACI systems to eight customers. We recognized 13% and 10% of our total revenue from Alstom Power Inc. in Tennessee and Fluor Enterprises, Inc. in South Carolina, respectively. Our own sales staff markets our technology through trade shows, mailings and direct contact with potential customers.

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Backlog Orders

As of December 31, 2007, we had contracts in progress for supply of ACI systems totaling approximately $11.3 million. We expect to complete and recognize approximately $6.1 million of this revenue in 2008, with the remainder in 2009 and 2010. As noted above with regard to our DOE and industry funded R&D contracts, assuming no changes in funding, future revenues from current contracts in progress total $5.4 million, of which we expect to recognize approximately $3.0 million in 2008. Contracts in progress for other consulting work totaled approximately $524,000 at year end 2007. We expect to complete and realize the revenues for all of our existing consulting work in 2008.

As of December 31, 2006, we had contracts in progress for supply of ACI systems totaling approximately $3.3 million, of which we recognized approximately $2.5 million in 2007. Expected future revenues from our DOE and industry funded R&D contracts totaled $13.2 million at the end of 2006, which was reduced by $800,000 by the DOE and of which we recognized approximately $7.2 million in 2007. Contracts in progress for other consulting work totaled approximately $464,000 at year-end 2006, of which $175,000 was recognized in 2007. All of these backlog amounts relate to our MEC segment as FGC orders are generally filled as submitted and do not typically give rise to backlog.

Research and Development Activities

We are 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 2007, 2006 and 2005 our direct cost share for R&D under DOE related contracts approximated $163,000, $481,000 and $273,000, respectively. In addition, we spent approximately $1,038,000, $983,000 and $704,000 on our own behalf on research and development activities related to further development of our technologies during 2007, 2006 and 2005, respectively.

Employees

As of December 31, 2007 we employed a total of 58 full-time personnel, including seven Company executive officers. 52 people are employed at our offices in Littleton, Colorado, 1 in Alabama, 1 in Pennsylvania, 2 in Maryland 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 RC business and one our Greenfield AC development project.

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) the capability of U.S. coal reserves to serve demand for the next 250 years;

(c) future estimated costs to control mercury emissions;

(d) rapid development of the mercury emission control market;

(e) expected growth in the power industry s interest in DOE carbon dioxide removal projects;

(f) impact of the termination of our Memorandum of Understanding with CCC;

(g) amounts and timing of, and changes in, future revenues, research and development expenses, and costs of operating Clean Coal;

(h) annual lease costs and other expenditures and gross margins;

(i) expected M&A activities;

(j) our ability to meet contract delivery milestones for ACI systems, RC and chemicals;

(k) the size of the applicable target market and market potential for refined coal technology and ADA-249M;

(l) our expectation that changes in tax laws will be passed to clarify the conditions applicable to Section 45 tax credits and the timing of those changes in the tax laws;

(m) the timing of completion of projects and future demonstrations;

(n) the procession of outstanding bid requests to orders between now and 2010;

(o) the range of costs for capital equipment expected to be required by each coal-fired unit and range of sorbent requirements per unit;

(p) the continued use of coal for generating a large part of the electricity used in the United States;

(q) the inability of the supply of AC to meet market demand as early as 2010;

(r) the expected costs for the development of a Greenfield AC manufacturing facility;

(s) our ability to obtain necessary permits for the construction of a planned Greenfield AC manufacturing facility;

(t) our ability to raise the funds necessary to maintain our desired level of participation in our planned AC manufacturing facility;

(u) our ability to enter into appropriate arrangements with a strategic partner to share development costs of our planned AC manufacturing facility;

(v) our ability to enter into suitable long-term contracts for the delivery of AC from our planned AC manufacturing facility and our ability to be able to timely deliver the AC required by such contracts;

(w) our ability to obtain adequate long-term debt financing for our planned AC manufacturing facility;

(x) our ability to meet a significant portion of the expected shortage in AC supply, including in the near-term (2008 and 2009) from interim sources, and in the longer term (2010 and beyond) from our new AC manufacturing facility;

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

(z) impact of market price risk; and

(aa) the immateriality 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 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 remand of CAMR to the EPA 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 guarantees 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 permits and funding required to build our planned AC manufacturing facility;

(n) the cost of our planned AC manufacturing facility will remain within budget;

(o) adequate supplies of coal will be available to power generators;

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

(q) 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 manufacturing facility, and the AC needed to supply customers in the near term;

(r) our FGC segment will remain attractive to the power generation industry; and

(s) our stock price will not be negatively affected by our retaining earnings for future expansion rather than paying dividends to shareholders.

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 outlined under Risk Factors in Item 1A, including the following: changes in existing and planned environmental laws, changes in government funding, loss of key relationships, technical or operational problems with ACI systems sold, non-compliance with guarantees on ACI systems, failure to protect our intellectual property, IP infringement claims, decrease in demand for coal or increase in demand for alternative energy sources, lack of management expertise, dependence on third parties, material adjustments due to DOE audits, inability to obtain funding and other risks relating to the development of a Greenfield activated carbon facility, seasonality of our business, inadequate supply of activated carbon, inadequate supply of coal, lack or mismanagement of resources to support future growth, loss of key personnel, 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.

IF EXISTING AND PLANNED ENVIRONMENTAL LAWS ARE RESCINDED OR SUBSTANTIALLY CHANGED, OUR FGC BUSINESS WOULD BE ADVERSELY AFFECTED.

A significant market driver for our existing products and services, and those planned in the future, are the environmental laws that limit emissions from power plants. If such laws were rescinded or substantially changed, our business would be adversely affected by declining demand for such products and services. Demand for our FGC and ADA-249M products is primarily two-fold. Customers purchase these products to mitigate operating problems and to help comply with environmental regulations such as the Clean Air Act Amendments of 1990. Although our existing customers and those expected in the near-term are believed to desire our products for mitigation of operating problems, we expect that any softening of existing air pollution control requirements would slow expected growth for these products and have an adverse effect on our business.

THE OVERTURNING OF CAMR HAS LED TO SHORT-TERM UNCERTAINTY IN THE MARKET FOR OUR PRODUCTS AND SERVICES, AND IF EXISTING AND PLANNED ENVIRONMENTAL LAWS GOVERNING MERCURY CONTROL ARE RESCINDED OR SUBSTANTIALLY CHANGED, OUR MEC AND REFINED COAL BUSINESSES WOULD BE ADVERSELY AFFECTED.

Demand for our MEC and refined coal technology is being driven almost exclusively by legislation requiring mercury emission control. Mercury has been identified as a toxic substance and pursuant to a court order the EPA issued the CAMR for its control in March 2005. CAMR has been controversial since its inception, and in February 2008, the United States Court of Appeals for the District of Columbia Circuit invalidated CAMR and remanded the matter to the EPA for further proceedings. Although we believe that the Court s ruling is likely to ultimately result in the EPA developing stricter mercury control rules, as of the date of this report, the reaction of industry has generally been a wait and see approach, which we have seen in our current dealings with some of the coal-fired electric generating utilities.

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 the outcome of the recently remanded CAMR, and how the states and the federal government react to it. This will in turn mandate how industry must respond to final federal regulations, as well as state regulations, including those that are presently in various stages of enactment. As many as 1,100 existing coal-fired boilers may be affected by such regulations when they are fully implemented. Permitting of new coal-fired plants generally requires them to meet more stringent requirements that include controlling mercury emissions. For the near-term, our revenues from this market will depend on (i) DOE- and industry-funded contracts, (ii) mercury testing services and (iii) equipment sales and AC sold to new plants and existing plants affected by the implementation of enacted regulations. We do not expect significant revenue growth unless and until federal or state regulations impact a significant portion of existing boilers. Delays in, or derailment of, the passage of state mercury control legislation, or undue delay in adoption by the EPA of regulations replacing CAMR, would likely cause an adverse effect on our business and financial condition.

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

In 2007, 2006 and 2005, 37%, 45% and 39%, respectively of our revenues were derived from or related to DOE programs. Our revenues from government contracts would be adversely impacted by any material decrease in funding for the projects in which we are involved. In addition, we have looked to DOE funding as a significant means to further develop our technology and intellectual property in the areas of mercury emissions control and flue gas conditioning additives covered by that funding, and we are expecting that DOE will soon begin to fund research into CO_2 capture technology, which we are hoping to develop. Any material decrease in funding for the projects in which we are involved would hamper the development of our technology and intellectual property as it does not appear that we could currently fund the same level of research and development work apart from the funding provided to us by the DOE. President Bush s currently proposed federal budget for fiscal year 2008 does not contain any funding for the types of mercury control DOE projects we have historically participated in. Although we believe Congress will appropriate funds consistent with past practice, we cannot be sure that this will occur, and failure to appropriate such funds would be likely to have a material adverse effect on our business.

INADEQUATE SUPPLIES OF ACTIVATED CARBON COULD ADVERSELY AFFECT OUR BUSINESS.

We expect the demand for AC to increase as power plants begin to use ACI systems to control mercury emissions. We are currently developing sources and processing capabilities that we expect will allow us to supply AC for the mercury control market beginning later in 2008. We believe that it is important for us to be able to supply AC on an interim basis until our planned AC manufacturing facility comes on line in order to supply AC to our ACI systems customers, and to create relationships with customers we can ultimately shift over to AC to be supplied by our planned AC manufacturing facility. We expect that the majority of AC we would sell in the short term would come from foreign sources. If the production of AC, which is currently outside our control, is inadequate to meet the increased demand, it would likely have a negative impact our business and financial condition.

WE HAVE COMMITTED SIGNIFICANT RESOURCES TO THE DEVELOPMENT OF A GREENFIELD ACTIVATED CARBON MANUFACTURING FACILITY TO SUPPLY THE EMERGING MERCURY EMISSION CONTROL MARKET AND OUR INABILITY TO COMPLETE THE PROJECT IN A TIMELY MANNER WOULD LIKELY HAVE AN ADVERSE EFFECT ON OUR BUSINESS AND FINANCIAL CONDITION.

We have committed significant resources to the development of a Greenfield AC manufacturing facility, to date having expended approximately $8.1 million on preliminary development work, including plant design, environmental and other permitting, equipment design and procurement, options to acquire land and consulting fees. The all-in cost of the project is estimated at approximately $300 million for a facility with one production line capable of producing approximately 175 million pounds of AC per year. Completion of the project will require funding well beyond our present capabilities. We anticipate obtaining funding from three sources: our own equity contributions ($60 million), equity contributions from a strategic partner ($60 million) and third-party debt financing ($180 million). We do not presently have all of the funds necessary to provide our own equity capital contribution to the project, we have not yet entered into any agreements with a strategic partner whom we are seeking to fund the other 50% of the equity capital for the project, nor do we have any commitments for the debt financing that will be needed for the project. If we are unable to obtain the capital necessary to fund the capital contributions necessary for our own interest in the project, to enlist the services of a strategic partner who is capable of providing the additional equity we require for the project, or to obtain the debt financing for the project, we would in all likelihood be required to abandon the project, and our financial condition would be likely to suffer materially as a result.

OUR PROJECT TO BUILD A GREENFIELD AC MANUFACTURING FACILITY POSES CERTAIN ADDITIONAL RISKS TO US, ANY OF WHICH COULD HAVE AN ADVERSE EFFECT ON OUR BUSINESS OR FINANCIAL CONDITION

If we are unable to complete our planned AC manufacturing facility by early 2010, we may suffer adverse consequences.

We expect that the need for AC by coal-fired electric utilities will increase significantly, outstripping the available foreign and domestic supply by early 2010. If we incur any significant delays in the project that cause us to be unable to commence operations by that time, we could miss market opportunities that would have been available had we been able to commence operation of the facility by that date. This would likely materially adversely affect our business and financial condition.

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

Although we have employees and have hired, and expect to hire, consultants who have past experience in the design, oversight and construction of complex manufacturing facilities, our management has limited experience in managing or overseeing projects as complex as this one. As a result, various difficulties might 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 will require long-term sales agreements for the AC to be produced by the facility.

In order to obtain the planned financing necessary for our AC manufacturing facility, we will need to have secure long-term AC sales (off-take) contracts from significant customers who agree to take or pay for the AC to be produced by the facility. Although we are presently negotiating with several possible customers for such contracts, we do not presently have commitments for any contracts, and our inability to obtain them in a timely manner would likely result in our inability to obtain financing for the project.

We will require long-term supply agreements for the lignite feedstock necessary to produce AC from our planned facility.

In order to assure that we will be able to manufacture AC at our planned AC facility, we will need to obtain long-term contracts to supply the lignite coal necessary as feedstock for the AC to be produced at the facility. Although we are negotiating with a lignite supplier for such a contract, we do not presently have commitments for any contracts, and our inability to obtain them in a timely manner and on reasonable terms would require us to abandon the project.

We will require environmental and other permits for the plant which we do not yet have.

We are in the process of applying for and/or obtaining air and other environmental and building permits from state, local and federal authorities for two potential plant sites, one in Louisiana and one in North Dakota. The air permit in Louisiana has been passed on to the EPA for review. We cannot assure you that we will obtain the necessary permits to build a facility in either Louisiana or North Dakota. If we fail to do so, we would likely have to delay or cancel the project.

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

We rely on a combination of patent, copyright and trademark laws, trade secrets, confidentiality procedures and contractual provisions to protect our proprietary rights. Such means of protecting our proprietary rights may not be adequate because such laws provide only limited protection. We also enter into confidentiality and non-disclosure of intellectual property agreements with our employees, consultants and many of our vendors, and generally control access to and distribution of our proprietary information. Notwithstanding these precautions, it may be possible for a third party to copy or otherwise obtain and use our proprietary information without authorization. Policing unauthorized use of intellectual property is difficult. The laws of other countries may afford little or no effective protection of our technology. We cannot assure you that the steps taken by us will prevent misappropriation of our technology, which could result in injury to our business. In addition, pursuing persons who might misappropriate our intellectual property could be costly and divert the attention of our management from the operation of our business.

We are not aware and do not believe that any of our technologies or products infringe the proprietary rights of third parties. Nevertheless, third parties may claim infringement with respect to our current or future technologies or products or products manufactured by others and incorporating our technologies. We have entered into certain license agreements with Clean Coal, and may enter into additional license agreements with others, under which we agree to indemnify and hold the licensee harmless from and against losses it may incur as a result of the infringement of third party rights by our patents or other intellectual property. Responding to claims, whether or not they are found to have merit, can be time consuming, result in costly litigation, cause development delays, require us to enter into royalty or license agreements, or require us to cease using the technology that is the intellectual property of a third party. Royalty or license agreements may not be available on acceptable terms or at all. As a result, infringement claims could have a material adverse affect on our business, operating results, and financial condition.

THE MARKET FOR OUR PLANNED REFINED COAL PRODUCT AND QUALIFICATION FOR THE SECTION 45 TAX CREDIT ARE UNCERTAIN AND COULD ADVERSELY AFFECT OUR FUTURE GROWTH AND PROFITABILITY.

The ability of Clean Coal to sell its planned RC product and qualify for the expected Section 45 tax credits depends on several conditions, including meeting the requirements of a presently unclear law which we believe requires corrective legislation that has not yet been enacted, selling the RC at the mark-up required by the law, contracting with monetizers to facilitate the sale of the required facilities, and completing and making operational such facilities prior to January 1, 2009, the date presently required by the law. The inability of Clean Coal to successfully resolve and complete any of these conditions would likely have an adverse effect on our future growth and profitability.

THE LOSS OF KEY RELATIONSHIPS WOULD ADVERSELY AFFECT OUR SALES AND FINANCIAL CONDITION.

We have developed key industry relationships with companies much larger than ourselves. We will need to enter into agreements with various companies to carry out our planned project to build an AC manufacturing facility, which are important and/or will be essential to allow us to position ourselves in the MEC market from coal-fueled power plants. Our inability to enter into these agreements could adversely affect our future growth, profitability and financial condition.

TECHNICAL OR OPERATIONAL PROBLEMS WITH LONG-TERM OPERATION OF ACTIVATED CARBON INJECTION SYSTEMS COULD RESULT IN DELAYS THAT ADVERSELY AFFECT OUR FINANCIAL CONDITION.

We started to install our ACI systems at coal-fired power plants on a permanent basis for the first time in 2006. We cannot assure that there will be not be technical or operational problems with our ACI systems from long-term operations. Any such problems could result in delays in, or postponement or cancellation of, expected installations at power plants, and would likely have a material adverse effect on our business.

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

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

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

Although we may purchase inventories of strategic components, some parts of the systems (such as silos) may require custom fabrication, and may not be amenable to being stocked as part of standard inventory. Alternative sources may be difficult to locate if we experience delays in obtaining them from our usual suppliers. If the cost of componen