



Building a Better Tomorrow



people



planet



power

Arch Coal, Inc. (NYSE:ACI) is one of the largest and most efficient coal producers in the United States.

We embrace the Power of 3—people, planet and power—in all that we do. Our committed, 4,300-strong workforce enables Arch to lead the industry in mine safety and neighborly practices. The annual coal supply from Arch's 11 mining complexes in six states provides the fuel to power the equivalent of 20 million American homes, or 6 percent of annual U.S. electricity. Coal from our mines reached power producers and steel manufacturers in 21 countries around the planet in 2008. Roughly 82 percent of our 2.8-billion-ton reserve base is low in sulfur content, helping reduce emissions from electric generation. Our environmental record and dozens of stewardship awards further exemplify our commitment to our planet. To advance the next generation of clean coal technologies, we're taking action by investing in several university research programs, public-private pilot projects, as well as an emerging coal-to-liquids company. Learn more about us within the pages of this book or online at archcoal.com.



people



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Given the current challenges facing the world, the focus on *building a better tomorrow* is more important than ever. At Arch Coal, we've embraced the interconnection of people, planet and power since our very inception in 1997.

We are driven by our principles to protect and uplift people, sustain our planet for future generations, and deliver an even more powerful and promising energy future.

Arch's commitment to our core values has long been evident. In 2008, I'm proud to say that we set new company records in safety, environmental and financial performance. Arch also was named to *Forbes'* list of "America's Most Trustworthy Companies" in 2008.

Even with all that we have achieved, there is still more work to do. We are resolute in our determination to improve in all areas of our business, including data collection, measurement and reporting.

In particular, addressing the climate challenge is an enormous task for our planet and our business. As one of the largest U.S. coal producers, we recognize that future carbon constraints will have direct and indirect implications for our business, our customers and their consumers. To stabilize—and eventually reduce—greenhouse gas emissions on a global scale, it is essential to increase investments in technologies that will continue to make coal use here and around the world cleaner, more efficient and more climate friendly. For that reason, Arch has pledged \$8 million to university research and public-private pilot projects. We're also working with policymakers to define a balanced energy plan that meets the nation's environmental and economic goals.

I encourage you to read this report and visit us online to learn more about the depth and breadth of our recent efforts. To help us remain responsible corporate citizens, we welcome constructive conversations to challenge or compliment our current actions at responsible@archcoal.com.

No question, Arch's ultimate success is tied to our commitment to people, planet and power production. I'm confident that our progressive approach to our core values will help us build a better tomorrow for our company and our world.



Steven F. Leer

Chairman and CEO, Arch Coal, Inc.





The heart of Arch Coal embraces people, from our 4,300 employees to our customers in 21 countries to our neighbors in the eight states we call home. Whether it's our industry-leading safety record or our tradition of community giving, we strive to protect and uplift our greatest asset—people.

Valuing 
people

Commitment.

We are firm believers in the concept that good corporate citizenship is a central tenet of long-term success. Our company's foundation is built on three key pillars: safety, environmental stewardship and shareholder value.

Vision. We endeavor to create superior customer and shareholder value as the safest, lowest cost and most environmentally responsible supplier of coal-based energy in the world.



Valuing people is embedded in Arch's culture, from our safety initiatives to our community partnerships.

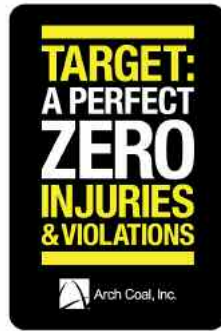
Corporate Governance. We believe that good corporate governance serves as the foundation for ethical business practices, and we're committed in every area and at every level of the organization. Our employees are driven by our principles and are rewarded for delivering value-based results. Overseeing this effort is our board, which includes 10 independent directors who possess significant leadership experience in the energy industry.

Company Sustainability. We must be successful in upholding our core values to be a truly sustainable company. We strive to provide shareholders with a superior and sustainable return on their investment. To that end, 2008 marked Arch's best year on record for lost-time and total safety incidents. In addition, our Surface Mining Control and Reclamation Act (SMCRA) environmental compliance was the company's best on record. 2008 also marked Arch's best financial performance for revenues, net income, earnings per share and EBITDA.



Integrity. With our feet firmly planted on the ground, we demand our personal best each and every day to do the right thing for ourselves, for our children and for generations to come. We were proud to be named among America's Most Trustworthy Companies in 2008.

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Our goal is to operate the world's safest coal mines.

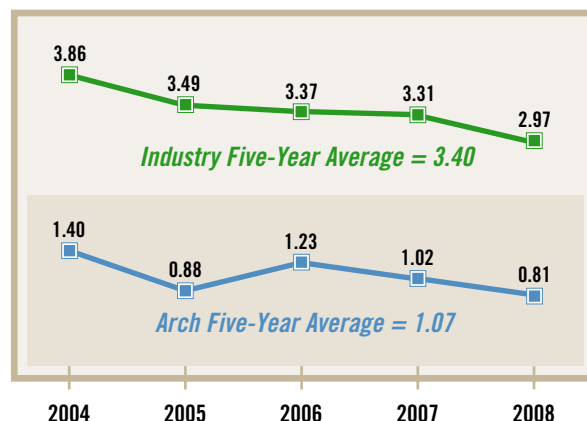
Perfect Zero Philosophy. We're proud to say that our safety and environmental performances have been the best among major coal industry peers for many years. We also recognize there is more work to do to reach our ultimate goal: zero injuries and zero environmental violations—what we call A Perfect Zero. We're succeeding in our pursuit of A Perfect Zero by continuously improving our award-winning safety practices and by implementing behavior-based initiatives and an environmental management system across our operations. At Arch, we embrace a model of employee ownership and responsibility. In 2008, we made progress toward our ultimate goal, with more than 50 percent of our mines and facilities working the entire year with zero lost-time incidents or zero SMCRA notices of violation. Each day is one more step on the path to our goal of zero.

Constantly Improving.

We strive to improve upon our industry-leading safety performance year after year. Our internal safety rate has improved 42 percent for lost-time incidents in the past four years and is three times better than the industry average.

Lost-Time Safety Incident Rate

(per 200,000 employee-hours worked)



Source: U.S. Mine Safety and Health Administration



Emergency Preparedness.

We maintain a total of 21 mine rescue teams across our national network of mines. These teams are among the most highly skilled in the country and regularly bring home industry trophies.

Black Thunder's team placed first in the 2008 International Surface Mine Rescue Competition.

Our safety motto is simple: Home Safely, Every One, Every Day.

Behavior-Based Safety. Our mining subsidiaries were the first among our public coal industry peers to adopt a behavior-based safety (BBS) process to target at-risk behaviors. This BBS process includes peer-to-peer observations and problem-solving leadership. Our unrelenting focus on safety touches everything we do—from the pre-shift meetings at the mines to the discussions held in our board room.

No Blame Philosophy. With a “no name, no blame” philosophy, employees are empowered to provide feedback and suggest improvements to drive our safety performance to the next level and propel us to our ultimate goal of A Perfect Zero.



OUR RECENT SAFETY AWARDS

SAFETY AWARD	ORGANIZATION
<i>Sentinels of Safety Awards</i>	U.S. Department of Labor/MSHA
<i>Best West Virginia Surface Mine Safety Record</i>	MSHA District #4
<i>Sentinels of Safety Certificates</i>	Mine Safety and Health Administration
<i>Mountaineer Guardian Awards</i>	West Virginia Office of Miners' Health Safety and Training
<i>Joseph A. Holmes National Certificates</i>	West Virginia Office of Miners' Health Safety and Training
<i>Pacesetter Award</i>	West Virginia State Council
<i>Bar B. Lay, Jr. Milestones of Safety Award</i>	West Virginia Office of Miners' Health Safety and Training
<i>Certificate of Safety</i>	Joseph A. Holmes Safety Association, West Virginia
<i>Best Combination Mining Award for Safest Large Surface Facility</i>	Virginia Coal Mine Safety Board Virginia Department of Mines, Minerals and Energy
<i>National Certificate of Honor</i>	Joseph A. Holmes Safety Association
<i>Safe Sam Award</i>	State of Wyoming

Our Community

As active corporate citizens, we are building on a long history of investing in our communities to make a positive difference where we live and work.



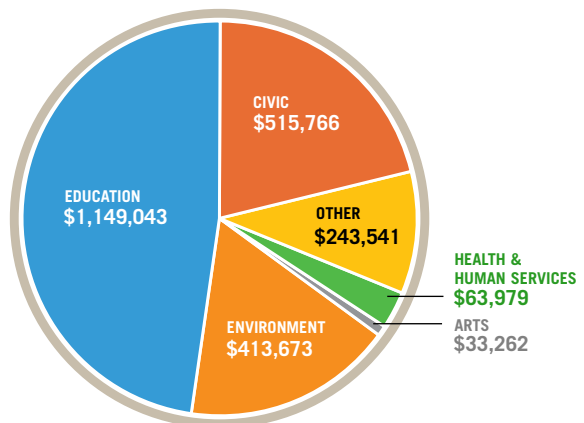
Volunteerism and Military Service. Our employees show enthusiasm for giving back to local communities, from day-to-day projects to emergency response in times of urgent need. Our countless volunteer hours and good neighbor practices have led to national awards for projects such as the adoption of local elementary schools, the development of a new high school baseball field and our human aid and outreach during a devastating tornado and its aftermath. We also honor military service by compensating employees with lost wages and continuous cash balance credit. And we champion support of National Guard and Reserve troops.

Charitable Contributions

Arch Coal, Inc. and the Arch Coal Foundation contribute more than \$2.4 million per year to educational groups and nonprofit organizations that are making a positive difference in our operating regions.

Charitable Contributions

(trailing 12-month total as of 4/09)





Scholarships. We honor scholastic excellence. One such program is our Arch Coal Scholars program, which each year provides financial assistance to more than 40 students in pursuit of higher education.

We appreciate the power and promise education holds for our communities and our nation.



Teacher Awards. We believe by supporting our teachers today, we're building a better tomorrow. That's why our signature community program, the Arch Coal Teacher Achievement Awards, honors 27 outstanding teachers in Wyoming, West Virginia and parts of Utah every year. Selected by a panel of peer educators, each recipient earns a \$3,500 unrestricted cash gift, a plaque, a trophy and statewide recognition. We know great teachers inspire their students to achieve great things, and we are proud to have recognized more than 200 teachers for their important contributions to America's future.

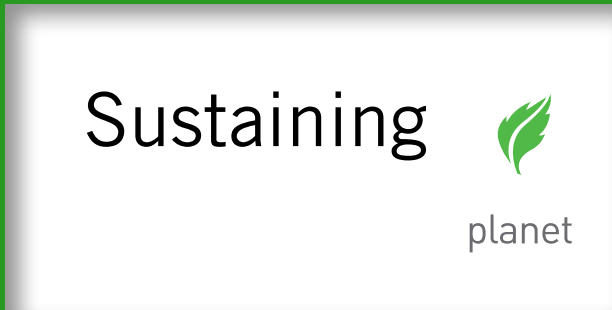
Teaching Grants. Our newest endeavor, the Arch Coal Foundation Innovative Teaching Grants, encourages the infusion of new and creative teaching methods across schools in Delta County, Colorado, near West Elk mine. One of the 24 projects selected in 2008, "A Night Under the Stars," invited 75 students and family members to learn and experience astronomy together.



Energy Education. Arch Coal supports educational organizations that bring K-12 teachers and students current information and teaching materials on our energy resources. These organizations include the American Coal Foundation, The Magic House in St. Louis, Alpine Schools' Energy Program in Utah County, Missouri Minerals Education Council and Coal Education Development and Resource Program of Southern West Virginia.



The soul of Arch Coal resides in the success of our environmental stewardship and our efforts to advance clean coal technologies. We believe American ingenuity is the key to developing a clean and secure energy future to benefit our planet.



Good Neighbors.

We go that extra mile to be good neighbors and stewards of our planet. Our ongoing pursuit of excellence in reclamation and community projects often earns us top honors, including the Department of Interior's National Good Neighbor Award five times.

The 2007 National Good Neighbor Award

was presented to Mountain Laurel for its exemplary interaction and communication with surrounding communities, including a \$1 million extension of public water access to 90 nearby homes.



We exercise great care to sustain our planet's land, air and water.

Responsible Stewards. As a natural resource company, we take great care to ensure the land is restored to a productive state, thereby benefiting our planet and its current and future generations of people and wildlife. Our dedicated mine personnel often live and work in the same county and demonstrate great vision and a true passion for native lands. Our award-winning efforts have included research studies, community service and student education.

Land Use. As one of the leading producers in the Powder River Basin of Wyoming, we firmly believe that coal offers significant land use advantages over other fuel sources for electric generation. The United States relies on the PRB for 45 percent of its annual coal supply. There are approximately 80 million tons of coal per square mile in the PRB. That equates to only 6 square miles of coal extraction to produce almost half of the nation's coal supply each year—and more than 20 percent of its electricity.



Photo: Howard F. Schwartz, Colorado State University, Bugwood.org

Creative Post-Mining Projects.

We support effective post-mining land use. For example, we are cultivating switchgrass on former Coal-Mac mine lands for the potential development of homegrown biofuels in West Virginia.

H₂O



Protecting Water Resources.

Fresh water is critical to our ecosystems and our economy. We've extended the longevity of local water resources by fortifying and reconstructing dams in Utah and Colorado to benefit the surrounding communities. By modifying several established beaver dams, we improved fish migration and spawning. We have created new water sources for plants and animals, including such recent projects as the development of the only permanent water system in a 9,000-acre area in Utah as well as the creation of new wetlands in West Virginia and a sizable lake in Wyoming. Another mine in Utah voluntarily hauls water to two national forests each spring to benefit more than 2,000 grazing cattle. And we also have designed, funded and installed a guzzler system in central Utah on U.S. Forest Service lands. The water guzzlers provide birds and small mammals with a reliable water supply, which is particularly helpful during extended periods without rain.

Flora and Fauna.

The U.S. Department of Agriculture recognized the employees of Sufco Mine for voluntarily enhancing water supplies to benefit the sage grouse population on land managed by the U.S. Forest Service.





Pronghorn Lake occupies 59 acres of reclaimed lands at Black Thunder mine. This valuable water source, created by the mine, benefits an abundant variety of waterfowl and other wildlife in Wyoming, and will become a public recreation area on U.S. Forest Service lands.

Sustaining Wildlife.

To support indigenous animal and plant life, our operations carefully integrate a range of environmental plans throughout the life of each mine and treat each reclamation project as a unique endeavor. Additionally, we've implemented wildlife and habitat programs to restore and improve biodiversity. Above and beyond the mining and reclamation process, we've donated equipment and fuel and provided more than 400 volunteer hours to reduce noxious weeds on U.S. Forest Service lands in Utah, and we've planted new vegetation to attract and sustain wildlife. We continue to participate in a multi-year hawk migration study with the Nature Conservancy and the U.S. Forest Service in Wyoming. And we built and erected wild duck nesting boxes with the help of a local Boy Scout troop near new wetlands we created in West Virginia. Through our award-winning practices, we are proud to leave behind a positive and lasting legacy.



OUR RECENT ENVIRONMENTAL AWARDS

ENVIRONMENTAL AWARD	ORGANIZATION
<i>Wetlands West Virginia Award</i>	Ducks Unlimited
<i>National Good Neighbor Award (Gold)</i>	U.S. Department of the Interior
<i>National Good Neighbor Award (Bronze)</i>	U.S. Department of the Interior
<i>Certificate of Appreciation</i>	U.S. Department of Agriculture
<i>State Reclamation Award</i>	West Virginia Division of Environmental Protection
<i>Pollution Prevention Awards</i>	Colorado Division of Public Health and Environment
<i>Excellence in Preventative Measures</i>	Colorado Division of Reclamation, Mining and Safety
<i>Excellence in Reclamation Award</i>	Colorado Division of Reclamation, Mining and Safety
<i>Excellence in Mining Award</i>	Wyoming Dept. of Environmental Quality
<i>Community Service Award</i>	Wyoming Dept. of Environmental Quality
<i>Earth Day Awards</i>	Utah Division of Oil, Gas and Mining

Consumption Reduction and Recycling

Optimizing every aspect of our operations makes us more efficient and more responsible.



With a focus on continuous process improvements, our operations have delivered outstanding results in the area of consumption reduction and recycling. For instance, we have reduced the amount of diesel fuel needed to move a ton of material thanks to the installation or extension of high-speed conveyors and the increased precision of electronic detonators. With more than 100 large-scale haul trucks at our Black Thunder mine in the Powder River Basin, we have successfully extended tire life by 45 percent since 2004 — thus delaying the need for rubber disposal and recycling. Additionally, Arch reused or recycled more than 550,000 gallons of spent oil and recycled 23,830 pounds of business and employee-owned computer equipment in 2008.

Environmental Management.

Our subsidiaries are dedicating more resources to environmental practices with each passing year, including the addition of new personnel and the adoption of a comprehensive environmental management system to track and measure the company's environmental performance and compliance.





Planting Trees. Since 2002, we've planted roughly 1.1 million tree seedlings in a variety of hardwoods and softwoods at our Coal-Mac operation alone. This doubles the number of trees originally found on the property. Trees use photosynthesis to naturally remove carbon dioxide from the atmosphere.

We're committed to making coal an increasingly clean resource.



Improved Air Quality. Just a few decades ago, the primary air quality concerns centered on particulate matter, sulfur dioxide and nitrogen oxide emissions. Since 1970, the coal-based generation industry has invested more than \$50 billion to deploy technologies to facilitate a 57-percent reduction in U.S. power plant emissions—even with significant growth in the nation's gross

domestic product, energy consumption and population. Arch Coal helps customers achieve these emission reductions by mining and marketing cleaner-burning, low-sulfur coal for electric generation. Now the coal-based electricity industry is focused on reducing carbon dioxide emissions—and we are confident that we can again achieve great success.

Climate-Friendly Solutions. Addressing the climate challenge will require a significant commitment from governments, industries and consumers around the world. On the policy side, Arch advocates an aggressive timeline for technology research and development that will reduce greenhouse gases from man-made sources, including the use of coal. On the operations side, we're working to increase fuel efficiency and to evaluate greenhouse gas emission reductions, while assessing how best to manage our business in a carbon-constrained economy.



A Global Challenge. Experts agree that the next generation will need every available fuel source to satisfy growing global energy demand. As the leading source of our planet's electricity, coal is a vital part of our energy mix. To stabilize greenhouse gas emissions worldwide, responsible coal use is an essential part of our energy solution.



The minds of Arch Coal are dedicated to creating smart energy that powers our modern lives and to developing advanced energy solutions that meet the world population's growing energy needs.

Transforming



power

Our Future.

Increasingly clean coal use is essential for securing national energy supplies, reaching our climate goals and holding down energy costs for consumers.

Keeping America Energized. Affordable and reliable energy supplies help keep America competitive in today's global marketplace. The United States relies on coal to fuel roughly half of its electricity at an average cost that is substantially less than most competing fuels. Low-cost energy enhances Americans' standard of living and keeps our industrialized base competitive on a global scale.



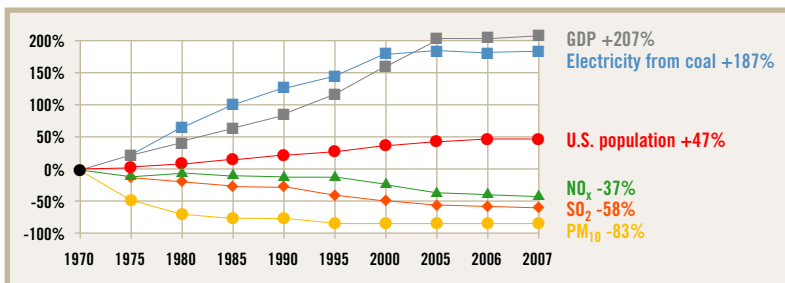
The power to transform a nation—and a world.



Plentiful Coal Resources. Coal is abundant and widespread, present in almost every country in the world. Coal is the most prevalent fossil-fuel resource in America. In fact, the U.S. has more coal reserves than any other nation, with an estimated 28 percent of the world's total. Other leading world economies have similar strategic coal reserves. China and India, together, have only 4 percent of the world's oil and natural gas. But with 2.5 billion people, they have 37 percent of the population and 23 percent of the world's coal. It should be no surprise that coal is the fuel of choice for billions.

Value of Electrification. According to the United Nations, electrification is an essential pre-condition for poverty alleviation—yet more than 2 billion people around the world lack adequate access to electricity. Because it is the most affordable and abundant source of electric power in many parts of the world, coal will play a pivotal role in electrification and subsequent quality-of-life improvements. This is particularly true in emerging economies, which are focused—first and foremost—on lifting their citizens out of poverty, raising their standards of living and supporting rapidly growing economies.

United States Air Quality



NO_x = Nitrogen oxide SO₂ = Sulfur dioxide PM₁₀ = Particulate matter

Source: U.S. Environmental Protection Agency

U.S. Clean Air Progress

underscores the value in harnessing technology. The energy industry can and will build upon its proven track record by driving further improvements and also addressing carbon dioxide.

clean.



Harnessing the power of the next generation.



Today's Modern Conveniences. Coal-based energy powers nearly 50 percent of Americans' modern conveniences and digital gadgets, from electrifying our laptops to recharging our MP3 players. Coal also must be part of our energy solution for the next generation of people and technologies. According to two recent public surveys, a majority of Americans agree with the use of coal for electricity generation today, and with the expanded use of coal in the future through advances in new technologies.

Tomorrow's Vehicle Fleet. Clean coal technologies may hold the key to reducing carbon dioxide emissions, not only from our power plants, but also from the world's growing fleet of automobiles. Coal can produce hydrogen for hydrogen-powered vehicles or we can convert coal to gasoline, ultra-low-sulfur diesel fuel and synthetic natural gas, while capturing and sequestering the carbon dioxide during the conversion process. But perhaps the most promising option is the adoption of electric vehicles — with power stations providing centralized carbon capture, utilization and storage for near-zero emissions.

National Energy Security. As global energy demand for energy rises, so too should concerns over national energy security. An interruption of energy supplies can create havoc, cause major financial losses and reduce a population's access to critical services such as health care. A diverse mix of energy sources provides flexibility and security to an energy system. Coal has a unique role to play in meeting that demand with its reliable, plentiful and safely transportable supplies.



Investing in our energy future.

At Arch, we believe technology holds the key to a cleaner energy future, and we are taking steps to accelerate new coal technologies by providing support to a number of organizations and institutions.

Advancing CCS. Arch has pledged \$8 million for research geared toward developing and testing the next generation of clean coal technologies—including carbon capture, utilization and storage (CCS). And, through our equity investment in DKRW Advanced Fuels, we plan to be among the first companies to capture and utilize carbon dioxide generated in the coal-to-liquids conversion process for enhanced oil recovery.

Removing Mercury. Arch has invested in—and works closely with—ADA-ES to develop and enhance mercury control technologies. These technologies enable coal-fueled power plants to improve existing air pollution control equipment and operating efficiencies. The work includes the nation's first full-scale mercury control program in cooperation with the U.S. Department of Energy's National Energy Technology Laboratory.

Making Progress. There is more work yet to be done to solve the climate challenge. But we're moving forward. We're funding university research programs and public-private pilot projects focused on the next generation of clean coal. These efforts include the Consortium for Clean Coal Utilization at Washington University in St. Louis and the Clean Coal Technology Center at the University of Wyoming. Furthermore, we actively participate in national and international energy organizations, such as the Coal Industry Advisory Board of the International Energy Agency.

The terms "we" and "our" refer to Arch Coal, Inc. and its subsidiary operations.



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Learn more about our efforts at
www.archcoal.com



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- Reduces air emissions by 639 pounds