

Environmental Responsibility Report on Climate Change



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Forward-looking statements

This publication contains forward-looking statements. Specifically, all statements pertaining to future periods or expectations are forward-looking statements. These forward-looking statements are subject to risks and uncertainties that could cause actual results to differ materially from the forward-looking statements. These risks and uncertainties include weather, economic and market conditions; regulatory developments; environmental requirements; and changes in the availability and cost of fuel and purchased power. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of publication. MGE Energy undertakes no obligation to release publicly any revision to these forward-looking statements to reflect events or circumstances after the date of this release.

Environmental policy statement

As part of MGE's commitment to environmental stewardship, we have adopted an environmental policy that states MGE will:

- Consider the environmental impacts of all applicable company activities and actively seek cost-effective ways to reduce adverse environmental impacts and risks.
- Seek environmentally friendly options when considering sources of supply, material and contractors where cost-effective opportunities exist.
- Educate our employees about MGE's environmental responsibilities and policy and encourage them to actively seek ways to mitigate environmental impacts.
- Set environmental goals and objectives and strive to continually improve corporate environmental performance.
- Strictly comply with all environmental laws, regulations, permit

requirements and other corporate environmental commitments and exceed simple compliance where sound science and cost-effective technologies permit.

- Continue to be an active member of the community and work with other community agencies to promote environmental education and energy conservation. As a member of the community, MGE will communicate openly and honestly with the public regarding its environmental policy and performance.
- Rely on our company-wide Environmental Management System.

www.mge.com/environment



MGE Energy, Inc., is an investor-owned public utility holding company headquartered in the state capital of Madison, Wis. MGE Energy is the parent company of Madison Gas and Electric Co. The regulated utility provides natural gas and electricity to customers in south-central and western Wisconsin. MGE began service in 1896. Predecessor companies date back to 1855.

MGE Energy at year-end 2005

Assets: \$917 million

Market value: \$693 million

Revenues: \$513 million

Natural gas customers: 137,000

Natural gas sales: 220 million therms

Electric customers: 136,000

Electric sales: 3.5 billion kilowatt-hours

Generation capacity: 967 megawatts

To our shareholders

MGE Energy recognizes the environmental ethic of our customers and shareholders and respects the strong environmental heritage that runs deep in Wisconsin. We reflect this in our efforts to meet the high expectations of our investors, customers and communities.

Our regulated utility, Madison Gas and Electric, is a community energy company responsible for providing energy, caring for the environment and educating customers about wise energy use. We work to strike a balance between providing affordable, reliable energy while protecting the environment and delivering value to shareholders.

This Environmental Responsibility Report on Climate Change describes some of our specific steps to help address the issue of greenhouse gas emissions and our approach to mitigate impacts and manage potential risks.

Energy 2015

A sustainable future is vital to our shareholders and customers. Recently, we introduced Energy 2015 – a comprehensive 10-year electric generation plan designed to:

- Increase renewable energy sources.
- Replace old coal power with new, cleaner coal generation.
- Challenge customers to increase their commitment to conservation.



In 2004, we began developing Energy 2015 to ensure a balanced energy supply. The plan reflects our commitment to environmental stewardship and addresses greenhouse gas issues. Energy 2015 emphasizes energy efficiency, cleaner coal and renewable energy – three mitigation strategies that reduce greenhouse gas emissions – and anticipates future regulations.

We strategically go above and beyond compliance. This thoughtful decision-making demonstrates our deep commitment to the environment – a commitment that honors Wisconsin's history of environmental leadership while assuring a cleaner environment for future generations.

Gary J. Wolter
*Chairman, President and
Chief Executive Officer
MGE Energy and MGE*
Aug. 21, 2006

Executive summary

As a holding company, MGE Energy has no operations of its own. MGE Energy's regulated utility and primary subsidiary, Madison Gas and Electric (MGE), works to preserve and protect the environment while providing affordable, reliable energy. MGE meets current, applicable environmental regulations and monitors potential new environmental standards. Although greenhouse gases (GHGs) are not currently regulated, we recognize that these gases – particularly carbon dioxide (CO₂) – may face future regulations. MGE is already hard at work on this issue.

This report examines MGE's efforts to reduce its GHG footprint and mitigate economic impacts that may result from potential CO₂ regulations. Section one discusses overall climate change, potential GHG regulations and mitigation options. Section two focuses more on MGE and explains its environmental programs, generation and carbon dioxide profiles and voluntary CO₂ reductions and offsets.

MGE's generation plans call for decreasing our CO₂ intensity even while our electric capacity increases to meet growing customer demand. We also plan to continue many of our voluntary environmental efforts. Through strategic planning and our consistent, careful approach, we believe we are well positioned to respond to potential regulations and minimize risks.

Emission reduction measures

MGE recently announced its comprehensive 10-year plan for a

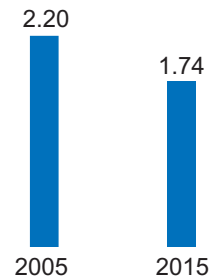
balanced energy future. Parts of the Energy 2015 plan include key changes in our electric generation mix. By 2015, these changes are expected to lower CO₂ emission rates, compared to 2005:

- Coal operations at our Blount Station power plant will be replaced by new, cleaner coal generation. This is expected to offset 529,000 tons of CO₂ in 2015.
- We intend to increase our renewable energy by five to 10 times. Clean wind power or another renewable energy source is projected to offset 289,000 tons of CO₂ in 2015.
- A comprehensive conservation program, which involves working closely with our customers, is expected to offset additional CO₂.

Potential GHG mitigation responses

Beyond MGE's Energy 2015 plan, there are several other options to mitigate the impact of possible GHG regulations. These options include changing the generation fuel mix to less carbon-emitting fuels. Many proposed GHG regulations include some market-based emission trading approaches that MGE could employ. And, carbon-control technologies are developing and may hold promise for the future.

Projected MGE system* CO₂ emission rate (lbs. per kilowatt-hour)



* Owned, leased and purchased power agreement generation

Voluntary actions

MGE Energy offset nearly 122,000 tons of CO₂ in 2005 from voluntary actions. Through the power of working together, we continue to reduce our CO₂ footprint. Our environmental partnerships with Dane County, the City of Madison and the University of Wisconsin-Madison help reduce GHGs. We are working closely with customers through our new conservation program Power Tomorrow.

Voluntary actions in our day-to-day utility operations also offset GHG, such as using bio-diesel and compressed natural gas fuel in our fleet. Recycling fly ash from a coal-burning power plant reduces CO₂. MGE's overall voluntary actions are part of our commitment to strategically go above and beyond compliance.

Strong regulatory climate

Wisconsin has an extensive utility regulatory system that helps protect shareholders and customers. MGE's response to any future GHG regulations will fall under the purview of the Public Service Commission of Wisconsin (PSCW). Should MGE or other state utilities incur additional costs to comply with GHG regulations, we would anticipate working with the PSCW to incorporate prudently incurred expenses when setting electric rates.



MGE Energy's regulated utility, MGE, serves Wisconsin's capital city and surrounding area. It is a vibrant, growing economic and population center. Our service area's population is expected to increase about 15% by 2020 compared to a 9% growth statewide.

Conclusion

In summary, we are already addressing GHG emissions through voluntary actions. We will continue to monitor our environmental footprint and proposed GHG regulations so we are prepared to take additional, appropriate actions. MGE Energy recognizes its responsibility to aggressively control pollution, minimize waste and improve our environment.



Climate change introduction

This report explores climate change issues and potential GHG regulations. Through monitoring of regulations, planning balanced generation and state regulatory oversight, we minimize the risks associated with potential GHG regulations. This report also will explain how MGE Energy is already working to improve its environmental performance by reducing its GHG impacts. Before we begin discussing how MGE Energy is strategically addressing climate change, we want to explain the overall environmental issue framed by two different but related terms – global warming and climate change.

- Global warming is caused by the increased concentrations of GHG in the atmosphere and the gradual rise of the earth's average surface temperature.
- Climate change is a change in the average weather, including temperature, wind patterns and precipitation, that a region experiences.

Greenhouse effect

There is evidence that the earth's surface is becoming warmer on average because of the greenhouse effect. The greenhouse effect is a natural system that regulates the earth's temperature and supports life on the planet. Oceans and landmasses absorb most of the sun's energy that reaches the earth. The earth then radiates that energy back to space. GHGs trap that energy in the earth's atmosphere, similar to how the glass of a greenhouse traps the sun's warmth. Increased concentrations of GHGs keep the planet warmer than it would be otherwise.

GHG and sources

GHGs are any gases that contribute to the greenhouse effect. The primary GHGs are CO₂, methane, nitrous

oxide (N₂O), ozone, water vapor and halo-carbons. Both natural sources and human activities emit the three most dominant GHGs: CO₂, methane and N₂O.

- CO₂ is the most prevalent GHG. It occurs naturally and is released by human activities such as burning fossil fuels and cutting and burning forests.
- Methane is produced naturally when vegetation is burned, digested or decomposes without the presence of oxygen. Other sources of this GHG are agricultural waste, emissions from landfills and leaks from coal mining and natural gas production.
- N₂O occurs naturally in the environment and is produced by human activities such as burning fossil fuels. Chemical fertilizer used in agriculture also releases N₂O.

A balance between sources and sinks determines GHG levels in the atmosphere. Sources are processes that generate GHGs. Sinks are processes that store or remove them. Forests, oceans or croplands such as switchgrass act as natural sinks and capture CO₂.

About one-third of the CO₂ emissions in the United States comes from power plants, about one-third from industry and the remaining third from cars, trucks and residential/commercial sources, according to the Electric Power Research Institute.



Scientific and timing uncertainty

General scientific consensus attributes the increase in GHGs to human activities. The Intergovernmental Panel on Climate Change states: “There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities....¹”

Though an international scientific consensus has emerged that the earth is getting warmer, uncertainty remains regarding the rate at which the earth is warming and how much it will warm.

A team of scientists in 2000, led by David R. Easterling of NOAA’s National Climatic Data Center, said, “As our climate changes, extreme weather events such as droughts, floods, heat waves, heavy rainfall, tropical storms and hurricanes are expected to increase.²” Some scientists are pointing to massive storms, such as Hurricane Katrina, as evidence of climate change, though there is no scientific agreement.

Carbon-control technologies

Proven technology exists to reduce the emissions of some air pollution from stationary sources such as power plants or steel mills. For example, a scrubber can remove sulfur dioxide (SO₂) or a

selective catalytic reduction unit can remove nitrogen oxides (NO_x).

However, specific carbon-control technologies are still developing. For power plants, the emerging technology involves removing the CO₂ from the emissions and sequestering the CO₂ in sinks.

- Integrated gasification combined-cycle (IGCC) facilities are the next generation of clean coal plants. Today, these plants are not considered proven technology – though they hold promise for future implementation. This new technology transforms coal into a gas prior to combustion. Pollutants, including CO₂, can be stripped and captured from the gas. IGCC dramatically reduces air emissions, but questions remain about the technology’s reliability and cost.
- Carbon sequestration involves the capture and storage of CO₂. For example, after the CO₂ is captured from an IGCC plant, the CO₂ must be transported and sequestered in suitable geological formations, such as in the ocean or an underground cavern. Researchers are addressing the transportation, safety and feasibility for CO₂ sequestration.

Overall carbon dioxide regulatory landscape

Though climate change has been discussed and debated for years, the science and carbon-control technologies are still developing. Likewise, regulations to limit CO₂ or other GHGs are only beginning to take shape in the United States.

Current regulatory climate

The federal government does not currently restrict or regulate GHG emissions. Several federal programs encourage voluntary reductions of GHGs. Some states have implemented regulations that limit CO₂ emissions from power facilities. Wisconsin does not have any CO₂ limits.

Internationally, other countries have regulations to limit GHG emissions. In 2005, the European Union implemented the EU Emission Trading Scheme – a cap-and-trade program that limits or caps GHGs and establishes an emission trading market. This program helps European countries comply with commitments in the Kyoto Protocol, an international treaty that established GHG reduction targets. The United States does not participate in the Kyoto Protocol.

¹Climate Change 2001: The Scientific Basis

²NOAA: www.publicaffairs.noaa.gov/releases2000/sep00/noaa00r314.html

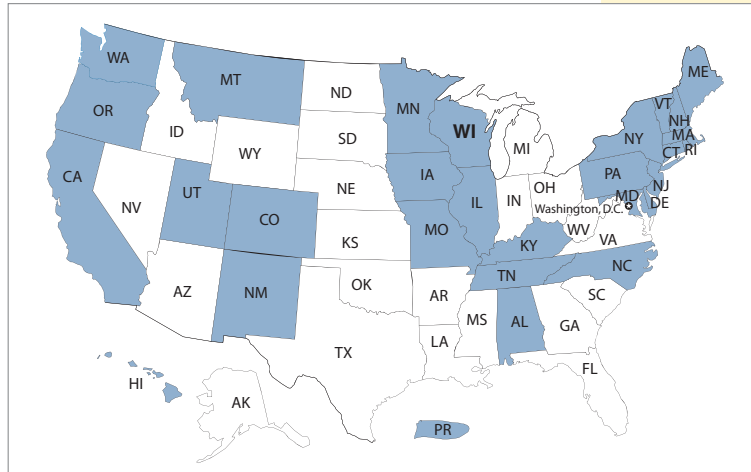
Proposed regulations

In the United States, a variety of regulations are being discussed. At the federal level, several bills to limit GHGs have been proposed in Congress. The proposed legislation ranges from mandatory cap-and-trade programs to regulations limiting emissions per dollar of gross domestic product.

Some Northeast states are developing a GHG cap-and-trade program. Starting in January 2009, emission caps will be in place for fossil fuel-fired power plants 25 megawatts (MW) or larger in those states. In the West, California is considering a load-based cap on GHG emissions and may implement a GHG performance standard for generation. California and Britain announced plans to collaborate on reducing GHG emissions.

Several states and other governmental entities brought a lawsuit to encourage the federal government to take regulatory action on GHGs. The lawsuit, which to date has been unsuccessful, claims the U.S. Environmental Protection Agency's (EPA) failure to

regulate CO₂ emissions from power plants violates the Clean Air Act. Several other states have intervened in support of the EPA's position. The U.S. Supreme Court has accepted the case on appeal.



Wisconsin was one of the first of 28 states to develop climate action plans. Wisconsin's plan established the Voluntary Emission Reduction Registry, which MGE has joined. Our state's plan focuses on voluntarily reducing GHGs through efficiency, cleaner fuels and state environmental policies.

MGE monitors potential regulations

MGE closely follows potential GHG regulations at the state and federal levels to minimize potential risks to shareholders and customers.

How we identify and track regulations

MGE conducts an environmental risk analysis to follow environmental regulatory issues. We use this analysis to plan for the future and minimize risks.

An Environmental Management System (EMS) database assists us in identifying and tracking regulations to ensure compliance with all measuring and reporting requirements. This database proactively notifies employees to allow sufficient time to meet deadlines. Another system identifies new or revised environmental requirements. MGE's Safety and Environmental Affairs Department assesses the requirement's applicability and potential impact to the company.

Potential impacts on MGE Energy

While we are uncertain what shape future GHG regulations might take, we recognize that MGE's operations may be subject to future GHG regulations. MGE Energy carefully monitors proposed federal and state environmental legislation and rules to determine potential impacts on shareholders and customers.

Future GHG regulations could take the form of an overall cap, an air emissions performance standard or some other step. Additional actions may be necessary to address any new GHG rules and our energy generation costs could increase. To date, the PSCW has found the cost of MGE's environmental efforts to be reasonable and decided those costs were appropriate for rate recovery. Going forward, we would anticipate working with the PSCW to incorporate prudently incurred expenses for GHG regulations into electric rates.

Generation planning considers potential regulations

We also factor potential regulations into our generation planning process. Planning new electric facilities and retiring old ones requires extensive lead time. Our generation planning looks forward at least 10 years. Potential regulations and new technology are among the many factors considered in planning. Thorough planning can mitigate risks and reduce the likelihood of unwise investments.

Energy 2015

In early 2006, we introduced Energy 2015. This plan lays the foundation for a balanced energy supply for the next decade and helps address GHG issues.

Specifically, the plan calls for:

- Retiring older coal generation facilities and replacing them with new, cleaner coal generation.
- Increasing renewable energy by five to 10 times.
- Putting the spotlight on conservation through new, aggressive energy efficiency programs for customers.

This three-pronged approach is projected to reduce our CO₂ rate while our generation capacity increases to meet customers' needs.

Monetization of CO₂

We also factor potential CO₂ regulation costs when planning new generation facilities. Since the early 1990s, the PSCW has required state utilities to consider economic and environmental factors when determining whether new electric generation facilities are in the public interest.

The state's method of "monetization" is used to consider factors, either economic or environmental, that are not otherwise incorporated into cost

computations. State utilities set monetized values to account for potential GHG regulations, which reduces the potential risks to shareholders and customers.

For more than a decade, MGE has considered GHG monetization when proposing or investing in new, large electric generating facilities. We used this monetization approach when developing strategies for our Energy 2015 plan. The PSCW set a monetization value of \$15 per ton of CO₂ in the early 1990s. The value has been adjusted for inflation to about \$20 currently. During the first six months of 2006, carbon credits traded between \$17 and \$35 per ton on the European Climate Exchange and from \$2 to \$4 per ton on the voluntary Chicago Climate Exchange. The exchanges provide marketplaces for reducing and trading GHG emissions.

We factor in the potential GHG costs and compare these costs to plans that include a relatively larger amount of renewable energy, energy efficiency or conservation options that emit little or no GHGs. Monetizing the risk of GHG regulations helps protect customers and shareholders by hedging against the future.

Working with the state

We also participate at the state level in monitoring new technologies and developing new approaches for a responsible future energy supply. This involvement helps convey our interests to state regulators and policymakers. It also helps educate us about new technology so we can make more informed choices in the future. Here are two examples:

- **Next generation of clean coal** – MGE participated in a State of Wisconsin study group that recently released a draft report on the benefits, costs and future of IGCC. This new technology transforms coal into a gas prior to combustion. Pollutants, including CO₂, can be stripped and captured from

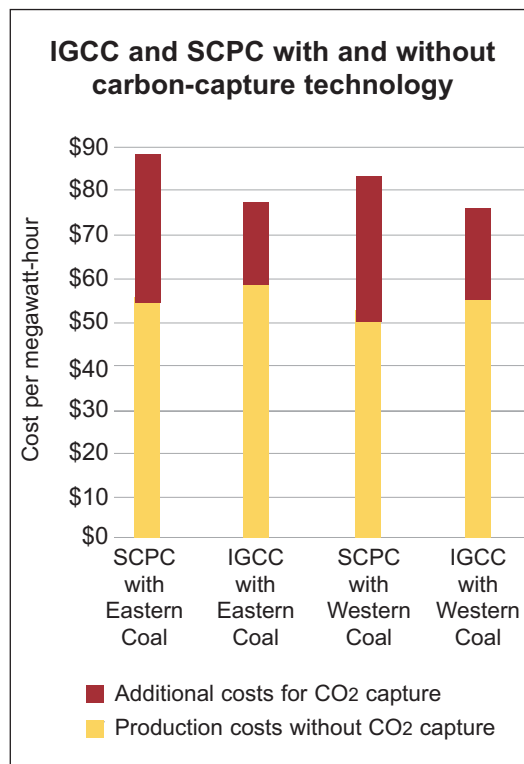
the gas. IGCC dramatically reduces air emissions, water use and industrial waste, but there are unanswered questions about the technology's reliability and cost.

After the CO₂ is captured, it must be transported and sequestered. Current research is investigating CO₂ storage in depleted oil fields, coal beds or saline (salt) aquifers. Because Wisconsin does not have natural storage reservoirs, CO₂ transportation is an issue to be addressed. The state's study found that IGCC is more expensive than supercritical pulverized coal technology (SCPC). However, if CO₂ becomes a regulated emission, the cost to operate an IGCC plant with carbon-control technology could be approximately 10% less per megawatt-hour (MWH) than an SCPC plant.

The study concludes that Wisconsin decision-makers face a future question of timing with IGCC: "Build now and risk reliability problems and high construction costs as an early adopter or wait to learn from the experience of other projects and risk obsolete conventional coal technology and further environmental degradation."³ MGE will continue to monitor developments of this new technology. As one of the smaller investor-owned utilities in the country, MGE carefully balances the risks of new technology against our obligations to customers and investors.

<http://psc.wi.gov/CleanCoal/index-cleanCoal.htm>

- **Wisconsin's renewable energy portfolio** – Earlier this year, Wisconsin enacted the Energy Efficiency and Renewables Act that focuses on three areas: increasing the use of renewable energy in Wisconsin, promoting the development of renewable energy technologies and strengthening the state's energy efficiency programs.



This graph compares the cost of supercritical pulverized coal technology (SCPC) and integrated gasification combined-cycle technology (IGCC). With carbon-capture capability, IGCC is the lower-cost option. Without carbon capture capability, IGCC is the higher-cost option (State of Wisconsin IGCC Draft Report, June 2006 Executive Summary).

MGE served on Gov. Jim Doyle's Task Force on Energy Efficiency and Renewables that developed the recommendations and framework resulting in the new legislation. These efforts will help Wisconsin and MGE reduce GHG emissions in the future and mitigate the economic impacts of potential GHG regulations.

This new legislation requires that by 2015, 10% of the electricity used in the state be generated from renewable resources. This is enough to supply the needs of 850,000 homes each year and avoid more than 5.5 million tons of GHG by 2015. Additionally, by 2011, the state will leverage its buying power to purchase 20% of the renewable energy

³Wisconsin IGCC Draft Report, June 2006

for state facilities. As part of this initiative, MGE plans to add additional renewable energy

resources – primarily from new wind farms – to its generation portfolio.

Options to comply with future GHG regulations

MGE takes its environmental performance seriously and is voluntarily reducing its CO₂ rates even without regulations. If potential GHG regulations are enacted, MGE will have already laid the groundwork to manage its CO₂ impacts and minimize risks through Energy 2015, CO₂ monetization and monitoring new technology and approaches.

The company will examine a combination of mitigation options to respond to potential CO₂ regulations. Options include:

- Reducing CO₂ emissions by changing generation approaches, such as switching to more renewable energy, a lower CO₂-emitting fossil fuel or a facility with greater generation efficiency. Energy 2015 calls for more renewable energy resources and replacing old coal generation with new, more efficient, cleaner coal options.
- Implementing technologies to control CO₂ emissions from current generation facilities. Proven control technologies to prevent CO₂ emissions from escaping to the atmosphere are still developing. Carbon capture and sequestration is one potential approach.
- Decreasing energy use to reduce GHG impacts. MGE made a strong conservation commitment decades ago that goes beyond state mandates and programs. Now, under Energy 2015, MGE is taking that commitment even further with a comprehensive energy efficiency initiative that touches every one of our residential customers.
- Offsetting GHGs by using emission trading. Many proposed regulations include market-based emission trading approaches.
- Securing a purchased power contract for nuclear energy. Using nuclear power to generate electricity produces no CO₂ emissions. Currently, MGE does not have any nuclear energy in its generation portfolio. The company divested its nuclear holdings in 2000. However, we could reconsider nuclear energy if CO₂ emissions become regulated and it is financially prudent.



MGE offsets coal use and CO₂ by burning a pre-consumer waste of paper and plastic at its Blount Station power plant. We also save landfill space because this paper and plastic waste cannot be recycled.

State oversight further mitigates risks

In addition to a variety of options to comply with potential GHG regulations, Wisconsin's strong regulatory environment further minimizes financial risks. Unlike some other states, Wisconsin has strict utility oversight through its PSCW. Our response to potential regulations falls under the purview of the PSCW. The commission works to protect customers' interests and the state's energy infrastructure while ensuring publicly held utilities remain financially strong.

Wisconsin utilities regulated through rate cases

The PSCW's authority extends to most aspects of MGE's business including rates, issuance of securities and siting and construction of facilities. Through the "rate case" process, MGE may apply to change rates on a going-forward basis – generally every one or two years. The PSCW reviews MGE's applications and sets new rates following a thorough review.

Prudent expenses for environmental compliance are factored into MGE's rates. The PSCW has approved costs to comply with changes in environmental regulations such as reductions in SO₂ and NO_x. In the future, should MGE and other Wisconsin utilities incur additional costs to comply with GHG legislation, we expect to work with the PSCW to incorporate necessary and reasonable expenses into electric rates.

In addition, MGE and the PSCW regularly monitor our ongoing costs for fuels such as coal and natural gas. Potential GHG legislation or other factors may impact the costs of these fuels. MGE's electric fuel costs are subject to the PSCW's "fuel rules." If electric fuel costs fall outside a narrow bandwidth set by the PSCW, MGE can apply for a fuel surcharge or a fuel credit to its customers. This further mitigates the economic risks to MGE of fluctuating fuel costs that could result if new GHG legislation significantly affects fuel markets.

MGE's sound environmental approach

This report has covered many of the issues concerning climate change, potential regulations and MGE Energy's response. Now, the focus will turn to MGE Energy's commitment to sustainability, generation and CO₂ profiles, environmental performance and specific steps to reduce GHGs. Our environmental approach and strategy are key to the way we do business.

MGE's environmental approach

As we provide a reliable energy supply, environmental stewardship and responsibility are important to us. Over the company's history, we have implemented numerous initiatives to improve environmental performance, diversify MGE's energy portfolio and minimize negative environmental impacts. We communicate openly regarding our environmental performance as we work to go beyond compliance where sound science and cost-effective technologies exist.

We take responsibility to provide information and education to our customers and stakeholders. MGE serves a highly motivated population that wants to make informed decisions. We educate customers today to help inform their energy decision-making. We also educate tomorrow's stakeholders so they can help plan our energy future.

Environmental Management System

Our Environmental Management System (EMS) is the backbone of sound environmental management. The EMS builds environmental accountability into our daily business operations by establishing goals and measuring performance with audits reviewed by senior management. The company focuses on employee training, specific procedures, checklists and communications.

Voluntary actions at Blount Station

MGE's Blount Station was the first power plant in Wisconsin to receive ISO 14001



Through voluntary actions, MGE has improved the environmental performance of Blount Station – the first power plant in Wisconsin to earn ISO 14001 environmental certification.

certification. MGE voluntarily sought this environmental certification. The ISO 14001 standard is considered the best management practice for an EMS. Blount's EMS was successfully implemented and certified by an independent third-party auditor in September 2004. The EMS continually reviews potential impacts, sets priorities and establishes goals. MGE employees are involved in approving and implementing programs, tracking progress and ensuring success. As each program is completed, additional programs begin – establishing a cycle of continual improvement.

In another voluntary step, MGE was one of the first companies in Wisconsin to enroll in the Department of Natural Resources' Environmental Cooperative Agreement (ECA) program. This program encourages Blount to go beyond compliance – documenting emission reductions not required by law. In exchange, the DNR has allowed alternative methods to demonstrate compliance.

Under the EMS and ECA, MGE is working to reduce waste, improve air emissions and save natural resources.

www.mge.com/environment/agreement

Other voluntary actions and programs

MGE recognizes its responsibility to improve

our environment. To maximize the potential of environmental efforts, we partner with government, community groups and other businesses. We look for steps we can take voluntarily. See pages 16 to 20 for examples.

MGE's balanced generation mix

MGE provides a reliable, affordable energy supply that reflects the needs and values of our customers and shareholders. Our energy mix includes coal, natural gas and renewable energy. Customer conservation helps offset the amount of electricity needed for our system. Balance is important because there are advantages and disadvantages to each type of fuel generation.

Current generation facilities and fuels

Coal-fueled power

MGE owns Blount Station and a portion of the coal-fired Columbia Energy Center that provide a majority of the power for our customers. Blount is also fueled at times by natural gas and pre-consumer waste. While coal is the most affordable fuel, it has significant environmental impacts.

Natural gas-fueled power

MGE Energy's newest power plant came on-line in 2005. The natural gas-fired West Campus Cogeneration Facility (WCCF) is one of the cleanest and most efficient fossil-fuel plants in the Midwest when operating in cogeneration mode. The facility provides electricity for our customers and heating and cooling for the University of Wisconsin-Madison campus.

MGE's other natural gas-fired facilities include the West Marinette turbine and five combustion turbines. Natural gas-fired facilities produce substantially lower emissions than coal-fired plants. However, natural gas is typically more expensive, and prices are subject to

greater market volatility. In 2005, natural gas cost four times more than coal to generate power at Blount.

Alternative fuels and renewable resources

MGE has a variety of alternate fuel and renewable energy resources, which are better for the environment than fossil fuels. However, alternate fuels and renewable resources are often more expensive and do not provide round-the-clock reliability:

- MGE's wind farm in northern Keweenaw County has 17 turbines that produce about 21,000,000 kilowatt-hours (kWh) annually. As the prices of other fuels increase, wind power becomes a more economical option.
- Methane or landfill gas is a substantial portion of our renewable generation. Methane would normally be burned off into the atmosphere. Instead methane from a local landfill is used to power generators. In 2005, we were able to serve 3,235 homes from methane-produced electricity. The amount of power generated by methane has nearly doubled since 2001.
- Blount Station has been converting other waste to watts since the late 1970s. Our current alternate fuel of preconsumer waste consists of primarily nonrecyclable paper and plastics. In 2005, we used alternate fuel to displace 14,374 tons of coal and thereby avoided more than 8,400 tons of CO₂ emissions.



- Clean energy from the sun comes from photovoltaic systems we installed on all high schools in our electric service area. We also own or help to maintain seven additional solar systems. While the total energy contribution is small, our solar installations serve as educational tools and ways to encourage the development of this clean, although expensive, energy technology.

Energy efficiency and conservation

Conservation can reduce CO₂ because less electric generation is needed. Through our extensive conservation programs, MGE electric customers have saved more than 454,000 MWH since 1987. MGE gas customers also have saved enough natural gas to heat 44,000 homes a year. From 1987 to 2005, gas and electric customers saved 659,000 tons of CO₂.

Planned generation facilities and Energy 2015 target fuels

MGE plans to retire 90 MW of older coal generation at Blount Station in 2011.

This will reduce Blount’s total CO₂ emissions by about 85% compared to emissions in 2005.

To partially replace the retired generation and meet growing demand, we have invested in the new, cleaner coal power plants in Oak Creek and plan to purchase power from other cleaner coal plants. We Energies is building two new baseload, cleaner coal-fired generation units in Oak Creek along Lake Michigan.

MGE Energy will own 8.3% or 100 MW by the time the plant is scheduled for completion in 2010. The new Oak Creek units will be approximately 25% to 30% more efficient than Blount’s coal-fired units.

MGE’s Energy 2015 plan also includes plans to increase our wind or other renewable energy resources by five to 10 times and help customers achieve aggressive conservation goals. We expect these actions to reduce MGE’s CO₂ emission rates.

MGE’s carbon dioxide profile

This report now turns to the company’s CO₂ profile. MGE tracks its CO₂ emissions and can project approximate future CO₂ reductions. Our strategic Energy 2015 plan is expected to significantly reduce the rate of our CO₂ emissions while total customer electric sales increase.

MGE system CO₂ emission measure and key assumptions

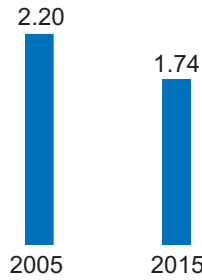
To calculate emission rates for 2005, MGE included emissions and generation from facilities that it owns, leases or has under contract for purchased power. MGE owns all or portions of Blount Station (187 MW), Columbia Energy Center (226 MW), Fitchburg Generating Station (44 MW), Sycamore Generating Station (35 MW), Nine Springs Generating Station (15 MW), West Marinette (80 MW), Madison area backup generators (44 MW) and a wind farm in Kewaunee County (11 MW).

The WCCF (150 MW) is leased from MGE Energy.

Purchased power facilities currently supplying electricity to MGE are operated by Calpine (Riverside Energy Center) (75 MW), El Paso Marketing, L.P. (50 MW), and Constellation (50 MW).

We measure CO₂ emissions using continuous emissions monitoring systems (CEMS) whenever available. CEMS were installed on electric generating units greater than 25 MW as required by the 1990 Clean Air Act to monitor SO₂ and NO_x emissions. The EPA requires measuring and reporting CO₂ emissions annually. If the facility is not required to have CEMS, then fuel data and EPA emission factors are used to calculate CO₂ emissions.

**Projected MGE system*
CO2 emission rate**
(lbs. per kilowatt-hour)



* Owned, leased and purchased power agreement generation

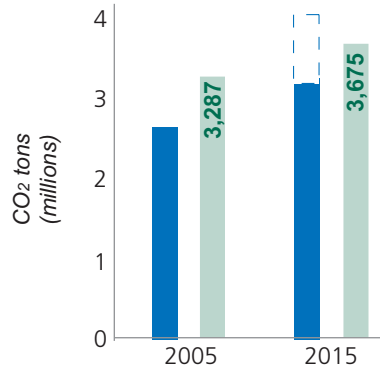
CO2 emission rates

MGE's Energy 2015 plan is expected to reduce the company's CO2 emission rate over the next 10 years.

The CO2 emission rate for generating power is projected to drop by 21% from 2.20 lbs./kWh in 2005 to 1.74 lbs./kWh in 2015. Over the same period, we project 12% growth in total customer electric sales.

For 2015, we project 3.2 million tons of CO2 emissions from MGE's system. Without the Energy 2015 plan, we calculate that CO2 would have increased to 4 million tons in 2015.

MGE customer sales and projected CO2 savings



■ CO2 emissions
 □ CO2 savings from Energy 2015
 ■ Total customer electric sales (million kilowatt-hours)

Three major initiatives in the Energy 2015 plan are expected to account for the savings:

- Replacing older, less efficient coal and natural gas generation with power from new, more efficient coal and natural gas-fired units.
- Increasing renewable generation by five to 10 times.
- Redoubling our energy efficiency programs.

Carbon dioxide reduction actions

MGE pursues clean options and continuous improvement to reduce our environmental footprint. We take voluntary actions and form partnerships when possible to improve our environment. This report now explores some actions we are already taking to reduce CO2 impacts and further mitigate risks associated with potential GHG regulations.

Burning natural gas

In 2005, natural gas was used for 14% of generation at Blount Station. Using this amount of natural gas rather than coal saved 41,500 tons of CO2. On average, natural gas combustion emits about half of the CO2 emissions compared to coal. In early 2006, MGE announced plans to stop using coal at Blount in 2011 and continue operating on 100 MW of natural gas.

Bio-diesel for MGE fleet

Bio-diesel is a fuel produced from a number of renewable resources such as vegetable oil, soybean oil and animal fats. Bio-diesel is renewable and biodegradable. Plants grown for bio-diesel, such as corn or soybeans, provide a GHG sink that offsets CO₂ in the atmosphere. Since 1999, MGE has used bio-diesel fuel for fleet vehicles and off-road equipment. In 2005, we used 12,686 gallons of bio-diesel fuel and avoided approximately 140.5 tons of CO₂.

www.biodiesel.org



MGE offset CO₂ by using bio-diesel fuel in its fleet and off-road equipment in 2005.

Dane County Clean Air Coalition

MGE was one of the founding members of the voluntary Dane County Clean Air Coalition – established in 2003 to address the emissions that contribute to ground-level ozone. Dane County currently meets all state and federal air-quality standards for ozone. However, the Clean Air Coalition takes proactive steps to ensure that our air remains healthy as Dane County continues to grow. This is an example of how we actively

pursue voluntary solutions to mitigate potential air-quality issues.

In 2005, MGE reduced its CO₂ emissions by 202 tons by fulfilling various commitments when Clean Air Action Days are called. For example, Blount Station temporarily switches from coal (*its primary fuel*) to natural gas. We also take other ozone-reducing steps and encourage employees to use alternate transportation.

www.cleanairdane.org



As a founding member of the Dane County Clean Air Coalition, MGE has an incentive program to encourage employees to use alternate transportation.

Blount Station improvements

Recent boiler improvements at Blount are expected to help combustion efficiency and thus reduce emissions of CO₂, particulate matter, NO_x and volatile organic compounds. With increased combustion efficiency, we may be able to further reduce CO₂ emissions by using more pre-consumer waste and less coal.

Compressed natural gas fleet vehicles

We have used CNG as fuel for some of our fleet vehicles since 1983, and offer use of our CNG refueling station to other local or traveling fleets since the late 1980s. In 2005, our CNG refueling station supplied roughly the equivalent of 5,000 gallons of gasoline. This saved 10 tons of CO₂ over the use of gasoline.

Fly ash reuse

Wisconsin concrete manufacturers use fly ash from the Columbia Energy Center to build stronger concrete highways and buildings. Reusing the fly ash saved 717,000 tons of CO₂ over the last five years. MGE owns 22% of Columbia in partnership with two other utilities.

Fly ash replaces cement and makes concrete more durable. Every ton of cement not manufactured saves a ton of CO₂ generated in the cement production process. Reusing fly ash also saves landfill space. In Wisconsin, we reuse about 80% of coal ash – primarily in the construction industry. Only 38% of coal ash is reused nationally.

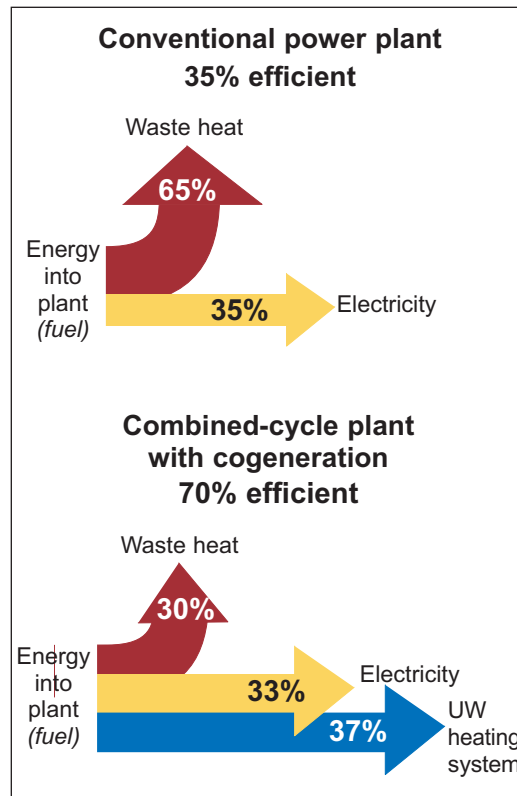
The cleaner coal Oak Creek plants also plan to recycle fly ash for concrete production. In 2011, when the new units are in their first full year of production, MGE's portion is estimated to offset 20,000 tons of CO₂ from ash recycling.

Cogeneration facility

The new natural gas-fired cogeneration plant at the University of Wisconsin-Madison campus cuts GHG emissions 15% compared to separate heating and cooling facilities. The plant produces 150 MW of electricity for MGE customers and heating and cooling for the university. In cogeneration mode, WCCF is one of the most efficient and cleanest plants in the Midwest because it uses heat that would



Madison's Monona Terrace Community and Convention Center is earning a "green building" certification with help from MGE.



be wasted in two separate plants, one for electricity and another for heat and air-conditioning. The plant began service in 2005.

Working with the community

Before the WCCF was constructed, MGE worked with the community to voluntarily make sure the plant went above and beyond current state and federal regulations. We signed memorandums of understanding with various groups. These agreements ensured that MGE offset the WCCF's emissions of NO_x, particulate matter and SO₂ through mitigating activities at other energy-producing facilities or elsewhere in the area. Through these mitigating activities, we also reduced CO₂ last year by nearly 13,000 tons. www.mge.com/about/powerplants/cogen

Energy Partnership for a Green Capital City

MGE has partnered with the City of Madison to fund eligible projects that will improve Madison's energy efficiency and environmental quality. MGE plans to help fund and work with the city on

energy conservation and efficiency projects, renewable resources and projects to improve air quality. One of the projects funded in 2005 provided ultra-low sulfur diesel fuel for Madison Metro Transit buses. We also helped identify and implement energy efficiency retrofits for several city facilities – including the city’s landmark convention center that is earning “green building” certification.

Power Tomorrow

Energy conservation makes sense from a number of perspectives. MGE’s conservation and energy efficiency programs protect the environment, save energy, preserve resources and save money for customers. One of the most effective ways to reduce CO₂ and other GHGs is to avoid producing them in the first place.



We work directly with our customers to teach them how to use energy wisely. Since 1987, customers have saved more than 454,000 MWH of electricity, or enough to energize over 63,000 homes for a year. Our customers’ efforts have also cut electric demand by nearly 100 MW, equal to a small generating plant. Our customers saved enough natural gas to heat 44,000 homes a year. Together, gas and electric customers saved 659,000 tons of CO₂ since 1987.

A major part of our Energy 2015 plan is a new Power Tomorrow energy efficiency initiative. In 2006, every MGE residential customer received a Power Tomorrow mailing with tools to help them be more energy efficient. Over the next two years, all residential customers will be invited to meet with MGE energy experts at Power Tomorrow workshops to learn how they can become even more energy efficient.

Our customers’ conservation efforts play a growing role in MGE’s plan to provide affordable, reliable and environmentally responsible power over the next 10 years. Conservation currently offsets 15.4% of MGE’s generation needs. Our Energy 2015 plan projects 19.6% will be offset by conservation and efficiency.



MGE owns an 11-MW wind farm in northern Wisconsin and plans to increase its wind energy portfolio by five to 10 times.

Alternate fuel and renewable energy

From 1996 to 2005, MGE saved 346,000 tons of CO₂ by generating electricity from alternate fuel and renewable energy instead of coal. The company’s renewable power sources include an 11 MW wind farm, several solar installations, burning alternate fuel at Blount Station and methane at local landfills.

www.mge.com/environment/renewable

Voluntary emission reductions

The Wisconsin Voluntary Emission Reduction Registry lists reductions of GHG and air contaminant emissions that result from voluntary actions taken to reduce emissions. The reductions must be real, demonstrable and voluntary, either because they are not required by law or because they go beyond legal requirements. MGE began quantifying our emission reductions and placing them on the registry in 2002.

www.dnr.state.wi.us/org/aw/air/registry

MGE voluntary emission reductions (tons)				
	2002	2003	2004	2005
NO _x	805	1,217	1,198	2,226
SO ₂	669	612	747	696
CO ₂	121,350	99,396	112,635	121,391

Demonstrate new technologies

To educate ourselves and provide information for our customers, MGE has launched several demonstration projects.

Small-scale landfill gas

We are the first utility in North America to use a Stirling engine at a landfill site. This demonstration project tackles the challenge of economically producing electricity from smaller-scale landfills. It takes methane that would normally be burned off and turns it into electricity. www.mge.com/images/PDF/Electric/other/LandfillGasToEnergy.pdf

Carbon-neutral power production demonstration project

In the world's first demonstration project of its kind, MGE invested with Virent Energy Systems Inc. to generate electricity fueled by plant sugars using a carbon-neutral process. The Virent system converts corn, soybean and other plant by-products into hydrogen that in turn powers an electric generator. The hydrogen-based energy feeds into MGE's electric grid.



Virent believes its patented system “will play a significant role in accelerating the adoption of biomass-based renewable energy solutions by providing cost-competitive distributed generating systems.” Virent is an ag-biotech firm with laboratory and offices in the Madison T.E.C. Center Incubator supported by MGE. www.virent.com
www.ecw.org/biomass2power



Research Scientist Dr. Chris Kucharik at the University of Wisconsin-Madison's Center of Sustainability and Global Environment conducted the prairie grass study, the first of its kind in the state.

Carbon sequestration research

The Madison Gas and Electric Foundation took the lead in funding a three-year study of the potential for prairie grasses to offset CO₂ emissions from power plants. The grasses take CO₂ from the air and store carbon in the soil for long periods. The innovative study looked into the feasibility of electric utilities becoming part of a Wisconsin carbon credit program to mitigate global warming, increase ecosystem sustainability, produce another source of farm income and improve the local economy.

The University of Wisconsin research produced the first data on carbon sequestration rates in numerous prairies and soils. www.sage.wisc.edu/pages/agriculture.html

Conclusion

MGE Energy's regulated utility MGE maintains its focus on environmental issues – including emissions that may be restricted in the future. Currently, neither the federal or our state government regulates GHGs. We realize that GHGs – particularly the CO₂ from power plants – may face future regulations. We will continue to monitor potential GHG legislation and rules.

MGE is taking voluntary actions now to minimize CO₂ impacts through a combination of generation strategies and voluntary actions. We are prepared for potential regulations because of our strategic planning, Energy 2015 plan, voluntary actions and Wisconsin's strong regulatory oversight of utility operations.

Strategic planning

MGE has the strategic planning and balanced generation approaches in place to respond to future regulations. Through environmental risk analyses and tracking systems, we closely monitor potential regulations. We have an obligation to reliably serve one of the fastest-growing areas of Wisconsin. MGE's generation plans call for diminishing our CO₂ rates as our electric load and capacity grow.

Energy 2015 plan

Energy 2015 establishes a balanced 10-year plan to provide an affordable and reliable energy supply while protecting the environment and delivering value to our shareholders. It also demonstrates MGE's commitment and current strategies for reducing and mitigating GHG emissions. The plan includes:

- Eliminating coal burning at Blount Station by the end of 2011 and replacing it with power from new, cleaner coal plants.
- Significantly multiplying the amount of renewable energy in our generation mix.

- Redoubling our efforts to help customers to increase their energy efficiency.

The electric generation changes in Energy 2015 are projected to lower our CO₂ emissions rates significantly from 2005 to 2015. Taking our energy efficiency and generation program to a higher level is expected to offset additional CO₂.

Voluntary actions

Voluntary actions in our day-to-day utility operations offset GHGs, such as using different fleet fuels and recycling fly ash. Through environmental partnerships, working with customers and other programs, we also help reduce emissions. MGE's overall voluntary actions are part of our commitment to strategically go above and beyond compliance.

Regulatory oversight

Wisconsin has strong regulatory oversight of state utilities to help protect customers and shareholders. The PSCW reviews MGE's expenses including those for environmental compliance. In the future, should MGE incur additional costs to comply with GHG regulations, we would work with the PSCW to incorporate necessary and reasonable expenses into our rate recovery.

Future steps

We will continue to monitor developing environmental regulations that may impact our business, evaluate strategies to improve our environmental performance and implement proven technologies that are economically prudent. Above all, we remain committed to preserve and protect our environment, provide reliable energy to MGE's customers and deliver financial performance for the shareholders of MGE Energy.

Corporate profile

MGE Energy is the parent company of Madison Gas and Electric Co. (MGE) and its divisions, which serve natural gas and electric customers in south-central and western Wisconsin.

MGE electric services

Generation and distribution

Customers: 136,000

Population: 286,000

Area: 250 square miles

Communities served: Cross Plains, Fitchburg, Madison, Maple Bluff, Middleton, Monona and Shorewood Hills.

Generating facilities:

Blount Station, West Campus Cogeneration Facility, combustion turbines, backup generators and solar units at Madison, the Columbia Energy Center at Portage, a natural gas combustion turbine at Marinette and the MGE Wind Farm at Kewaunee County.

MGE natural gas services

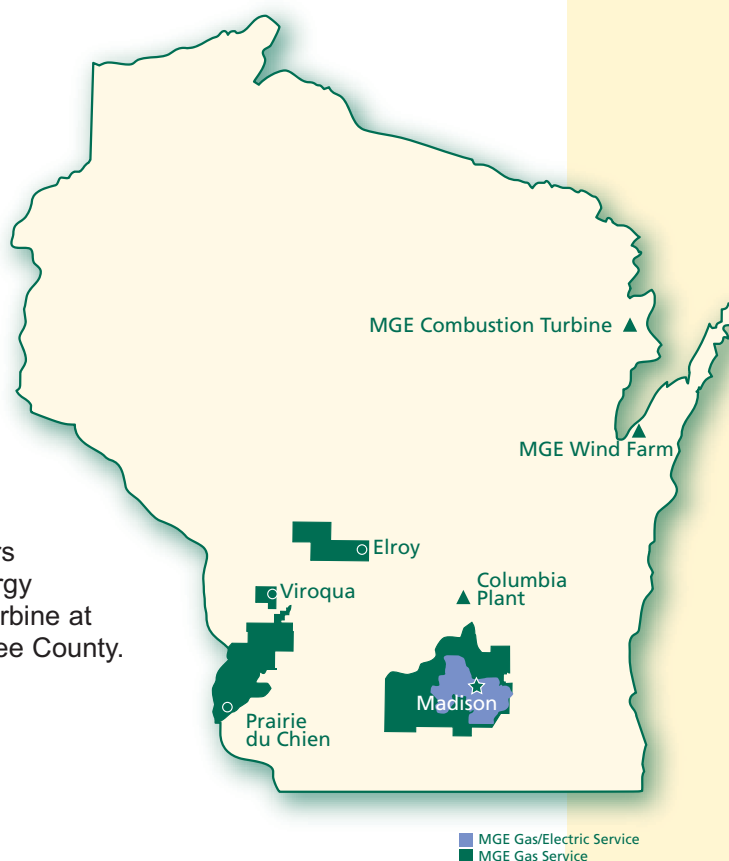
Purchase and distribution

Customers: 137,000

Population: 397,000

Area: 1,350 square miles

Counties served: Columbia, Crawford, Dane, Iowa, Juneau, Monroe and Vernon.



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