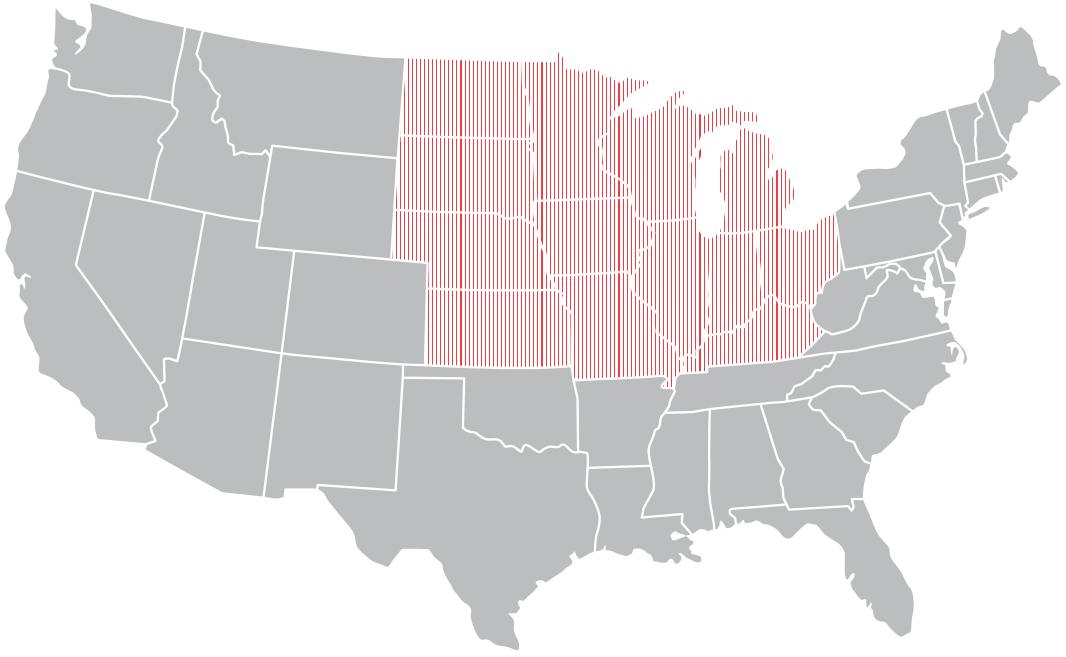


**LOW CARBON
LEADER:
MIDWEST**





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FOREWORD

The year 2007 saw real progress on climate change in the US: Congress introduced 12 climate change bills, the Supreme Court ruled that greenhouse gasses are an air pollutant (thus giving the Environmental Protection Agency the authority to regulate them), and the pace of local, state and regional action on climate change accelerated. And in the Midwest, nine states and one Canadian province signed the Midwestern Greenhouse Gas Reduction Accord to reduce greenhouse gas emissions in the region.

This climate of change will create opportunities for the Midwest. The transition to a low-carbon economy will require new technologies, new industries and new sources of energy. While there will be challenges, there will also be tremendous new opportunities.

Just look at what others have accomplished.

Since pioneering the development of commercial wind power in the 1970s, Denmark has emerged as a world leader in wind power. Almost half the world's wind turbines are made by Danish manufacturers – driving a €3 billion industry that employs 20,000 people – and roughly 20% of the country's electricity is supplied by wind power. This is one example of what can be accomplished through a combination of innovation supported by strategic public policy.

The Midwest has similar potential: the region has some of the greatest potential sources of wind power in the country. On the shores of the Great Lakes, the Steel Winds wind power project is already blowing new life into long-abandoned steel sites on the shores of Lake Erie in New York. Since 2006, Steel Winds has attracted \$40 million in investment, generated enough electricity to power about 9,000 homes and avoided over 6,600 metric tons of carbon dioxide emissions.

And this could be just a start. This kind of industrial re-development holds significant potential in the Midwest, where manufacturing innovations transformed the industrial revolution a century ago. With modern manufacturing requiring an increasingly smaller footprint than the region's heritage industries, the Midwest can develop the physical sites for small-scale energy generation and leverage the region's manufacturing and transportation infrastructure to produce and distribute low-carbon products.

Business and government in the region are already pursuing this spirit of reinvention, setting the tone for leadership on climate change.

The Dow Chemical Company is investing more than \$100 million in materials which incorporate solar generation directly into the design of new buildings – technology that could cut the cost of solar power to one-third of existing levels. Procter & Gamble has developed a cold-water laundry detergent that

helps consumers reduce energy used to clean clothes by up to 95%. If all Americans used this simple solution, it would cut household energy use by up to 3% and avoid 34 million tons of GHG emissions per year. The Midwest is also the birthplace of the Chicago Climate Exchange, the world's first voluntary greenhouse gas cap-and-trade program.

Cities and states in the Midwest are also implementing some of the most advanced energy-saving and renewable energy projects in the nation – from Chicago's three million square feet of green roofs, to Minnesota's aggressive renewable portfolio standards and St. Paul's biomass combined heat and power facility. By pursuing new markets, supporting the power of collective action and setting leading public policies, the Midwest is on the move.

These leading companies, cities and states are showing that there are tremendous, emerging opportunities in the coming low-carbon economy. As demand for low-carbon products and services grows, the emergence of new industries and "green collar" jobs may be one of the biggest opportunities for innovation and job creation this century. We can take the lead, drive the innovation and own the technology the rest of the world needs – or we can let someone else do it.

There is no competitive advantage in inaction; the Midwest does not benefit by waiting for other states to do something first, nor does the US benefit by waiting for the rest of the world to act first. The Midwest led the US economic revolution of the 20th Century through the development of mass-production. The region has the opportunity to do the same thing again and lead the transformation to the low carbon economy.



**CHRIS WALKER, NORTH AMERICAN DIRECTOR,
THE CLIMATE GROUP**



STEVE HOWARD, CEO, THE CLIMATE GROUP

GOVERNMENT / CORPORATION***TARGETS****02: THE CITY OF ANN ARBOR, MICHIGAN****CARBON FOOTPRINT:** 2,350,000 SCOPE UNDEFINED (2002)

- 30% of municipal energy use from renewable sources by 2010
- 10% reduction in fuel use by the city's fleet from 2004 levels by 2014
- 20% reduction in GHG emissions from municipal operations from 2000 levels by 2015
- 20% of city energy use from renewable sources by 2015
- 5,000 solar roofs by 2015

**03: THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN****CARBON FOOTPRINT:** 27,200,000 SCOPE 1; 10,500,000 SCOPE 2 (2006)

- Reduce GHG intensity by 2.5% per year from 2005 levels by 2015
- Reduce energy intensity by 25% from 2004 levels by 2015
- Stabilize GHG emissions below 1990 levels by 2025
- 10% of electricity from renewable sources from 2004 levels by 2025
- 50% of global energy from zero-carbon sources by 2025
- Supply 1,000MW of built-in solar photovoltaics by 2025

**04: STEELCASE, INC.
GRAND RAPIDS, MICHIGAN****CARBON FOOTPRINT:** NOT DOCUMENTED

- Reduce global GHG emissions by 25% by 2012

05: THE STATE OF MINNESOTA**CARBON FOOTPRINT:** NOT DOCUMENTED

- 15% reduction in GHG emissions by 2015, 30% reduction by 2025, and 80% reduction from 2005 levels by 2050
- Utilities must generate 25% of their energy from renewable sources by 2020 (Xcel Energy, the state's largest energy supplier, must generate 30% from renewable sources by 2020)

06: THE CITY OF ST. PAUL, MINNESOTA**CARBON FOOTPRINT:** 4,260,000 SCOPE UNDEFINED (2005)

- 20% reduction in GHG emissions from 2005 levels by 2020

**07: THE 3M COMPANY
ST. PAUL, MINNESOTA****CARBON FOOTPRINT:** 5,090,000 SCOPE 1; 1,450,000 SCOPE 2 (2005)

- Improve energy efficiency by 20% by 2010

**08: XCEL ENERGY
MINNEAPOLIS, MINNESOTA****CARBON FOOTPRINT:** 62,208,515 SCOPE 1 (2006)

- Reduce CO₂ emissions below 2003 levels by 2009
- Reduce CO₂ intensity by 7% from 2003 levels by 2012

**09: THE PROCTER & GAMBLE COMPANY
CINCINNATI, OHIO****CARBON FOOTPRINT:** 2,937,000 SCOPE UNDEFINED (2006)

- Reduce GHG intensity by 40% from 2002 levels by 2012

**10: JOHNSON CONTROLS, INC.
MILWAUKEE, WISCONSIN****CARBON FOOTPRINT:** 1,131,152 SCOPE 1; 1,366,652 SCOPE 2; 27,263 SCOPE 3 (2006)

- Reduce US GHG intensity by 30% from 2002 levels by 2012

**11: SC JOHNSON & SON, INC.
RACINE, WISCONSIN****CARBON FOOTPRINT:** NOT DOCUMENTED

- Reduce GHG emissions from all worldwide factories by 12% from 2000 levels by 2011
- Reduce US GHG emissions by 8% from 2000 levels by 2011
- 40% of global electricity from renewable sources by 2011

**12: WISCONSIN ENERGY CORPORATION
MILWAUKEE, WISCONSIN****CARBON FOOTPRINT:** 20,371,519 SCOPE 1 (2006)

- Not Documented

*Listed by Case Study Number.

**Carbon footprint represented in metric tons of carbon dioxide equivalent.

***Table information excludes the Midwestern Greenhouse Gas Reduction Accord and The Chicago Climate Exchange.

PROGRESS / ACHIEVEMENTS

- Converted all traffic signals to LED lighting
- Working to convert 100% of downtown streetlights to LED lighting
- Replacing all 75 city buses with hybrid fleet by 2010

-
- Reduced GHG emissions by 20% from 1990-2006
 - Reduced energy intensity by 38% from 1990-2006

-
- Reduced GHG emissions by 41% from 2001-05
 - Reduced global energy use by 46% from 2001-05

-
- 4th-largest wind producer in the nation
 - Energy efficiency improvements reduced electricity sales by 0.6% per year and natural gas sales by 0.5% per year

-
- Largest hot water district heating system in North America fueled by urban wood waste instead of fossil fuels

-
- Reduced global GHG emissions by 54% from 1990 levels
 - Reduced US GHG emissions by 50% from 2002 levels
 - Reduced US energy use by 80% from 1973-2006
 - Reduced worldwide energy use by 37% from 1998-2006

-
- Reduced CO₂ emissions by 5.5% from 2000-06
 - Avoided 350,000 tons of CO₂ emissions per year through customer energy efficiency programs

-
- Reduced GHG emissions by 7.6% from 2002-07

-
- Reduced US GHG intensity by 25% from 2002-06
 - Helped clients reduce GHG emissions by over nine million tons since 2000

-
- Reduced US GHG emissions by 17% from 2000-05
 - Reduced fossil fuel use by 24% from 2000-05
 - Reduced GHG emissions from seven largest factories by 34% from 2000-05

-
- Reduced GHG emissions by 40 million tons from 1995-2006
 - Reduced GHG emissions by approximately 7,900 tons from 2000-06 through use of renewable energy
 - Provides renewable energy to 17,000 customers

BENEFITS / INVESTMENTS

- Saved \$7 million in energy costs through energy efficiency projects since 1988
- LED streetlight program will save \$160,000 in energy costs per year and reduce GHG emissions by 2,200 tons per year
- Hybrid bus conversion is expected to save \$2.5 million in fuel and maintenance costs over 12 years

-
- Will invest over \$100 million in building integrated photovoltaic roofing and siding building materials, technology that is anticipated to reduce the cost of solar power to one-third of 2005 costs

-
- Not Documented

-
- Not Documented

-
- Avoids 960,000 tons of CO₂e per year
 - Saves \$59 million in energy costs per year

-
- Saved \$25.6 million in energy costs in 2006

-
- Will invest approx. \$3-4 billion in renewable energy initiatives through 2020
 - Will invest approx. \$1 billion in clean coal technology through 2020

-
- Not Documented

-
- Saved \$7.1 billion in energy costs from 1990-2005 through energy efficiency projects implemented in its own operations and for its customers

-
- Saves millions of dollars in energy costs each year from cogeneration turbines at Waxdale manufacturing plant in Sturtevant, Wisconsin

-
- Investing in \$10 million carbon-capture project at Pleasant Prairie Power Plant in Kenosha County, Wisconsin

GOVERNMENT / CORPORATION*

13: THE STATE OF ILLINOIS

CARBON FOOTPRINT: NOT DOCUMENTED

TARGETS

- 2% reduction in state energy use by 2015
- Reduce GHG emissions to 1990 levels by 2020, 60% below 1990 levels by 2050
- 2% of state energy from renewable sources by 2008, 25% from renewable sources by 2025
- 75% of renewable electricity from wind generation by 2025

14: THE CITY OF CHICAGO, ILLINOIS

CARBON FOOTPRINT: 34,800,000 SCOPE UNDEFINED (2000)

- 20% of city energy from renewable sources by 2010

16: BAXTER INTERNATIONAL INC. DEERFIELD, ILLINOIS

CARBON FOOTPRINT: 245,000 SCOPE 1; 486,000 SCOPE 2 (2006)

- Reduce GHG emissions intensity by 20% per unit sales from 2005 levels by 2010

17: MOTOROLA, INC. SCHAUMBURG, ILLINOIS

CARBON FOOTPRINT: 13,386 SCOPE 1; 369,754 SCOPE 2 (2006)

- Source 10% of electricity from renewable sources by 2008
- Reduce GHG intensity by 15% from 2005 levels by 2010

*Listed by Case Study Number.

**Carbon footprint represented in metric tons of carbon dioxide equivalent.

***Table information excludes the Midwestern Greenhouse Gas Reduction Accord and The Chicago Climate Exchange.



01: MILWAUKEE, WISCONSIN
HOST OF THE 2007 MIDWESTERN GOVERNORS ASSOCIATION (MGA)
ENERGY SECURITY AND CLIMATE CHANGE SUMMIT.

01: MIDWESTERN GREENHOUSE GAS REDUCTION ACCORD

On November 15, 2007, governors from nine Midwestern states (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Ohio, South Dakota and Wisconsin) and the Canadian province of Manitoba signed the Midwestern Greenhouse Gas Reduction Accord during the Midwestern Governors Association (MGA) Energy Security and Climate Change Summit in Milwaukee, Wisconsin. The Accord places the Midwest among a growing list of states and regions committed to progressive action to reduce greenhouse gas (GHG) emissions.

Over the next 30 months, participating states will work to fully develop and begin implementation of the objectives of the Accord, which aims to establish GHG reduction targets and a multi-sector cap-and-trade system.

The preliminary platform of the Accord calls for states to reduce natural gas and electricity sales through energy efficiency improvements by 2% annually by 2015 and by an additional 2% annually thereafter through energy efficiency improvements. In addition, the platform calls for 50% of all transportation energy consumed in the region to come from locally produced biofuels and other low carbon fuels by 2025; for 30% of the region's energy to be generated from renewable sources by 2030; and for all of the region's coal power plants to use carbon capture and sequestration (CCS) technology by 2050.

PROGRESS / ACHIEVEMENTS

- 305MW of installed wind capacity
- More than 137,000 tons of CO₂e emissions reductions through biological sequestration offset projects (valued at over \$233,000)
- More than three million square feet of green roofs
- Nearly 2MW of installed solar capacity
- Reduced GHG emissions by approximately 2,000 metric tons from 2004-06
- Reduced Scope 1 GHG intensity to 20% below 2005 levels in 2006
- Reduced energy intensity at major sites to 14% below 2005 levels in 2006

BENEFITS

- Not Documented
- City Hall's green roof saves \$5,000 in energy costs per year
- Use of solar energy avoids more than 1,361 tons of CO₂e per year
- Invests \$1 million in a centralized energy management program per year
- Saved \$28.4 million in energy costs from 2003-06
- Not Documented

02: THE CITY OF ANN ARBOR, MICHIGAN

BUDGET: \$292 MILLION (2007)

POPULATION: 114, 024 (2000)

Located 35 miles west of Detroit and home to the University of Michigan, Ann Arbor is the most environmentally progressive city in the state. The city adopted an Energy Challenge initiative in 2005, which requires 30% of energy used by municipal operations to come from renewable sources by 2010 and 20% of the entire city's energy use to come from renewable sources by 2015. The plan also calls for a 20% reduction in GHG emissions from 2000 levels by 2015.

To meet its goals, Ann Arbor will coordinate the numerous GHG reduction projects through the city's Energy Office. Since its inception in 1988, the office has saved the city over \$7 million in energy costs and successfully managed over \$2 million in federal and state grants for local energy projects.

FACT:
ANN ARBOR IS THE FIRST US CITY TO ANNOUNCE IT WILL CONVERT 100% OF ITS DOWNTOWN STREETLIGHTS TO LED TECHNOLOGY

One of the city's most well-recognized programs is its light emitting diode (LED) lighting project. In 1998, Ann Arbor converted all of its traffic signals to LED lights and plans to convert 100% of its downtown streetlights to LED technology over the next two years. Once completed, these efforts will save the city an estimated \$160,000 per year in energy costs and will reduce the city's annual GHG emissions by approximately 2,200 tons.

In addition, Ann Arbor's Green Fleets program aims to reduce the city's fuel use by 10% from 2004 levels by 2014 through the purchase of fuel-efficient and alternative-fuel vehicles. Additionally, the city is replacing all 75 city buses with a hybrid fleet that is 30% more fuel efficient by 2010. The new fleet will save the city approximately \$2.5 million in fuel and maintenance costs over its expected 12-year life span.

In July 2007, the US Department of Energy (DOE) selected Ann Arbor as a Solar America City, to serve as a model for integrating solar energy into a community. The city will receive \$200,000 in federal funds to implement a \$432,000 community-wide program to promote solar energy. In addition, the city hopes to complete 5,000 residential and commercial solar installations (mainly solar hot water systems) by 2015.



03: THE DOW CHEMICAL COMPANY
THE DOW CHEMICAL COMPANY'S STYROFOAM™ HAS A VARIETY OF ENERGY-SAVING APPLICATIONS, INCLUDING HOME INSULATION AND ROOFING.

03: THE DOW CHEMICAL COMPANY

SALES: \$49.124 BILLION (2006)

EMPLOYEES: 42,578 (2006)

As the largest US chemical producer and one of the world's biggest industrial energy users, The Dow Chemical Company is addressing global climate change through the development of chemistry-based sustainable technologies.

Dow is investing more than \$100 million to develop building integrated photovoltaic materials for roofing and siding which allow solar generation to be incorporated directly into the design of new buildings. The technology is intended to reduce the cost of solar power to one-third of 2005 costs.

In addition, Dow is developing products that help consumers save energy and reduce GHG emissions. For example, Dow STYROFOAM™ is used in a variety of energy-saving applications, from home insulation to roofing. Each year, hundreds of millions of metric tons of carbon dioxide (CO₂) emissions are averted through the use of STYROFOAM™ products alone.

In its manufacturing processes, Dow is looking for cleaner ways to produce basic chemical feedstocks, such as propylene and ethylene. The company has begun using a renewable form of propylene glycol, derived from sugar-based glycerin, in the place of traditional petrochemicals. Similarly, Dow plans to begin producing ethylene from sugar cane ethanol, instead of from naphtha or natural gas. By substituting renewable feedstocks for traditional hydrocarbon-based feedstocks, Dow will be able to significantly reduce the GHG emissions associated with its chemical production.

Dow has leveraged its expertise in energy-efficient technologies to reduce its own GHG emissions by 20% from 1990-2005, saving the company approximately \$5 billion in energy costs. In 2005, the company announced its 2015 Sustainability Goals, which call for Dow to reduce its GHG intensity by 2.5% annually (per pound of product) from 2005 levels. The goals also include halting the growth of absolute emissions by 2025 and deriving 50% of global energy from non-carbon-emitting sources by 2050.

“COMPANIES LIKE OURS HAVE A RESPONSIBILITY TO APPLY THE SCIENCE FROM OUR LABORATORIES TO THE IMPROVEMENT OF THE HUMAN CONDITION BEYOND THE FENCES OF OUR COMPANY”

**ANDREW N. LIVERIS,
CHAIRMAN AND CEO, THE
DOW CHEMICAL COMPANY**



04: STEELCASE, INC.

THE MICHIGAN ALTERNATIVE AND RENEWABLE ENERGY CENTER AT GRAND VALLEY STATE UNIVERSITY IN MUSKEGON, MICHIGAN, IS THE FIRST COMMERCIAL BUILDING IN THE US TO RECEIVE 100% OF ITS ENERGY FROM RENEWABLE AND ALTERNATIVE SOURCES, INCLUDING PHOTOVOLTAIC SOLAR PANELS ON THE BUILDING'S ROOF.

04: STEELCASE, INC.

SALES: \$3.097 BILLION (2007)

EMPLOYEES: 13,000 (2007)

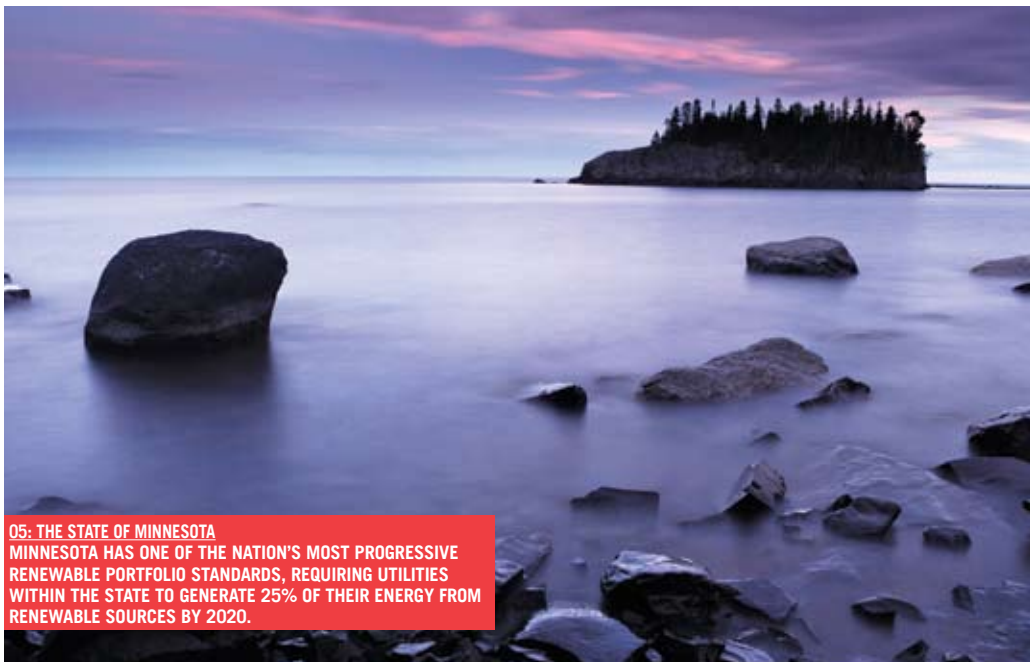
As it designs the next generation of office space, Steelcase is paying increased attention to sustainability. From walls that are almost entirely recyclable to motion-sensor power controls that save electricity, the company is developing a range of products that help reduce the GHG emissions associated with commercial buildings.

Through its involvement with Workstage, a real estate developer specializing in sustainable buildings, Steelcase has helped build 2.5 million square feet of energy-efficient office space. For example, in 2003, Workstage designed the Michigan Alternative and Renewable Energy Center (MAREC) at Grand Valley State University in Muskegon, Michigan – the first commercial building in the US to receive 100% of its energy from renewable and alternative sources. The building design also includes under-floor air distribution (requiring less fan energy than forced air from ceiling systems), windows that add natural light and sensor-controlled interior lighting, helping make MAREC one of only 19 buildings in the country to qualify for the US Green Building Council's Leadership in Energy and Environmental Design (LEED) Gold rating.

Additionally, in 2001 the company became the first in the world to receive LEED certification for a manufacturing facility – its wood manufacturing plant in West Michigan – setting a precedent for energy efficiency in the industry.

Use of renewable energy and energy-efficient facility design have helped Steelcase reduce its GHG emissions by 41% since 2001, while increasing sales over the past three years. By 2012, the company plans to reduce absolute global emissions by an additional 25%.

FACT:
BASED ON EPA GREEN POWER PARTNERSHIP ESTIMATES, STEELCASE IS THE SECOND-LARGEST PURCHASER OF RENEWABLE POWER IN THE STATE OF MICHIGAN (2006)



05: THE STATE OF MINNESOTA
MINNESOTA HAS ONE OF THE NATION'S MOST PROGRESSIVE RENEWABLE PORTFOLIO STANDARDS, REQUIRING UTILITIES WITHIN THE STATE TO GENERATE 25% OF THEIR ENERGY FROM RENEWABLE SOURCES BY 2020.

05: THE STATE OF MINNESOTA

BUDGET: \$26.2 BILLION (2007)

POPULATION: 4,919,479 (2000)

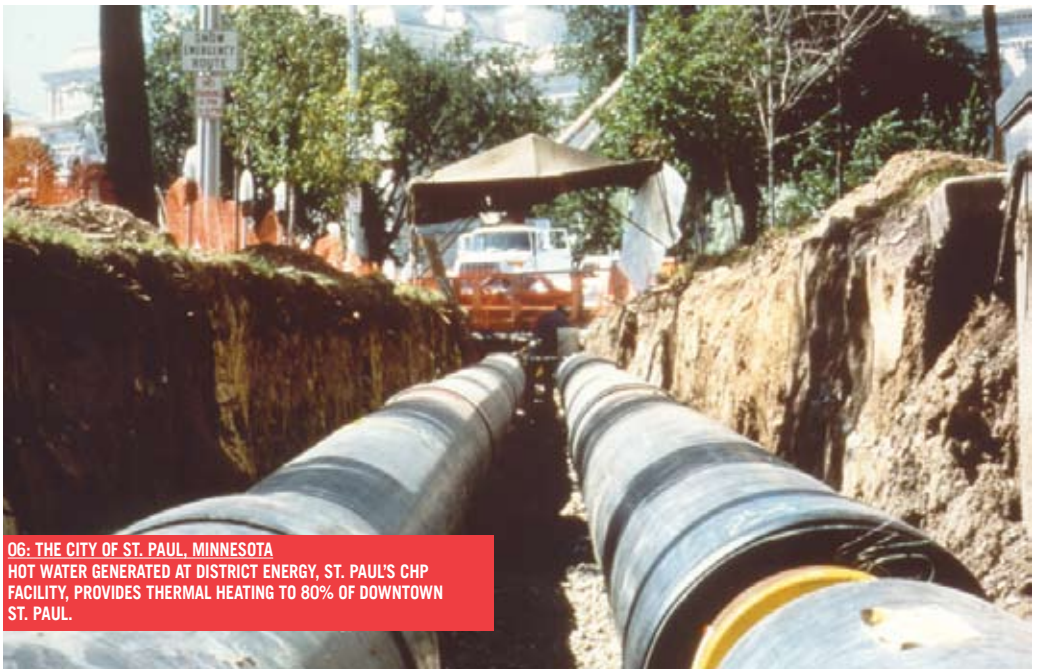
Minnesota, known for its vast wilderness and numerous lakes, recently announced one of the nation's most ambitious plans to reduce GHG emissions and increase renewable energy capacity. During the 2007 session, the Minnesota legislature passed The Global Warming Mitigation Act, which requires GHG reductions of 15% by 2015, 30% by 2025 and 80% by 2050 for industries ranging from utilities and transportation to agriculture and waste management.

FACT:
MINNESOTA IS THE NATION'S 4TH-LARGEST WIND ENERGY PRODUCER, WITH NEARLY 1,000MW OF INSTALLED CAPACITY

In addition, the state's Renewable Energy Standard requires utilities within the state to generate 25% of their energy from renewable sources by 2020. Xcel Energy, the state's largest energy supplier, must generate 30% of its energy from renewable sources by 2020. Wind energy will comprise a significant portion of the 5,000–6,000 megawatts (MW) of energy needed to meet the state's target. Minnesota currently ranks fourth among the nation's wind energy-producing states with nearly 1,000MW of installed capacity.

In April 2007, Governor Tim Pawlenty convened the Minnesota Climate Change Advisory Group (MCCAG) to steer the state's climate change efforts. The MCCAG is comprised of multi-industry stakeholders and is responsible for developing a Climate Mitigation Action Plan. The plan will outline the strategies needed to meet the state's GHG reduction targets; if the state has failed to enact a comprehensive global warming emissions law by August 2009, a set of predetermined regulations will take effect. These regulations prohibit the construction of new coal power plants within the state, the importation of energy from new coal power plants outside the state and new long-term utility contracts that increase emissions in the electric sector.

The state's new Demand Efficiency Act requires a 1.5% annual reduction in natural gas and electricity sales to achieve a 25% reduction in energy sales by 2025. This regulation is expected to spur \$2.78 billion worth of energy efficiency investment over the next 12 years.



06: THE CITY OF ST. PAUL, MINNESOTA
HOT WATER GENERATED AT DISTRICT ENERGY, ST. PAUL'S CHP FACILITY, PROVIDES THERMAL HEATING TO 80% OF DOWNTOWN ST. PAUL.

06: THE CITY OF ST. PAUL, MINNESOTA

BUDGET: 528.5 MILLION (2006-2007)

POPULATION: 287,151 (2000)

St. Paul is the capital of Minnesota and the second largest city in the state. In 1993, the city created the Environmental-Economic Partnership Project (E-EPP) to implement the city's Urban CO₂ Reduction Plan. Since the formation of E-EPP, the city's GHG reduction projects have avoided the release of 960,000 tons of CO₂e each year, with annual cost savings exceeding \$59 million. Additionally, the city aims to reduce its GHG emissions by 20% from 2005 levels by 2020. To meet its GHG reduction targets, the city will take a comprehensive approach that includes the use of biofuels, energy efficiency programs and improvements in mass transit.

St. Paul also has the largest hot water district heating system in North America. District Energy, St. Paul's combined heat and power (CHP) facility is fueled by urban wood waste and generates enough energy to power 20,000 homes as well as to heat and cool 80% of downtown buildings. By using clean wood waste rather than fossil fuel, the CHP facility avoids 283,000 tons of CO₂e emissions and saves the city \$15.6 million in energy costs each year.

Participation in the state's Conservation Improvement Program, which includes city-wide energy conservation and retrofit projects, has avoided the release of 81,497 tons of CO₂e per year and saved the city \$7.9 million. In addition, St. Paul plans to invest \$1 million over the next several years in a new Energy Conservation Investment Fund. The fund will invest in energy efficiency improvements for city government buildings with paybacks of less than 10 years. The city expects significant energy and CO₂e reductions and annual savings in excess of \$500,000.

FACT:
ST. PAUL HAS THE LARGEST HOT WATER DISTRICT HEATING SYSTEM IN NORTH AMERICA, WHICH IS FUELED BY URBAN WOOD WASTE

To increase its mass transit capacity, the Metropolitan Council plans to construct a \$930 million light rail transit system connecting downtown St. Paul with downtown Minneapolis and the University of Minnesota. The rail system will provide an efficient and economical transportation alternative for city residents while reducing vehicular congestion and GHG emissions.

08: XCEL ENERGY

XCEL ENERGY IS THE NATION'S LARGEST PROVIDER OF WIND ENERGY, WITH 1,300MW OF INSTALLED CAPACITY AND AN ADDITIONAL 1,500MW TO BE OPERATIONAL BY THE END OF 2007.



07: THE 3M COMPANY

SALES: \$22.923 BILLION (2006)

EMPLOYEES: 75,333 (2006)

3M produces a wide range of products, from Scotch® tape to medical supplies. And with operations in over 60 countries, its reach is truly global.

To reduce operating costs, 3M has placed energy efficiency at the heart of its business strategy. Its Energy Management Department monitors energy use at each business unit, evaluating individual managers on their efficiency and tying compensation to performance. The results have been significant. From 2000-05, the company reduced its energy intensity (indexed to net sales) by 29%. In 2005 alone, energy use fell an additional 11%, saving \$25.6 million in energy costs.

In addition, 3M has committed to purchasing a portion of its electricity from renewable sources. For example, 3M facilities in Prairie du Chien, Wisconsin, derive 11% of their energy from livestock-derived methane.

By incorporating energy efficiency and renewable energy into its business strategy, 3M has been able to cut its US GHG emissions in half while increasing net sales by 40% in just four years (2002-06).

3M's goal to improve energy efficiency by 20% from 2005 levels by 2010 has the company on track for even more emissions reductions and cost savings.

FACT:
3M HAS REDUCED ITS GLOBAL GHG EMISSIONS BY 54% SINCE 1990

08: XCEL ENERGY

SALES: \$9.840 BILLION (2006)

EMPLOYEES: 5,411 (2006)

Xcel Energy serves 3.3 million electric and 1.8 million natural gas customers throughout the West and Midwest. To address its GHG emissions, the company is investing in renewable and other clean energy technologies such as CCS.

FACT:
XCEL ENERGY IS THE LARGEST UTILITY PROVIDER OF WIND ENERGY IN THE COUNTRY

With more than 1,300MW of wind capacity in place and 1,500MW expected to be on line by the end of 2007, Xcel Energy is the largest utility provider of wind energy in the country. In addition to providing wind power to its customers, the company is using its wind expertise to host a wind-to-hydrogen demonstration project that will use off-peak wind energy to make hydrogen.

In 2006, the company also launched one of the largest solar programs in the country, with over 1,000 customers participating, and an additional 8MW photovoltaic facility in southwest Colorado was activated in 2007. Furthermore, the company is working with the National Renewable Energy Laboratory to develop computer software that will help residential solar installers optimally site photovoltaic equipment.

In addition, Xcel Energy's Smart Grid program uses emerging technologies to support increased use of renewable energy sources. The program is currently demonstrating an interactive web portal that will allow customers to control and



09: THE PROCTER & GAMBLE COMPANY
 PROCTER & GAMBLE'S TIDE COLD WATER LAUNDRY DETERGENT IS SPECIFICALLY DESIGNED FOR WASHING CLOTHES IN COLD WATER, REDUCING THE AMOUNT OF ENERGY USED TO CLEAN CLOTHES BY UP TO 95%.

select their energy use, a wind-to-battery storage test and a demonstration of plug-in hybrid electric vehicles that can charge from and discharge to the main power grid.

Increased use of renewables has helped Xcel Energy to reduce its GHG emissions by 5.5% from 2000-06. And through the management of some of the largest demand-side energy efficiency programs in the country, the company has helped its customers reduce their GHG emissions by over 350,000 tons each year.

Beyond renewables, Xcel Energy is considering the development of a clean-coal facility that combines integrated gasification combined cycle (IGCC) technology with CCS and is involved in additional research projects with the DOE to explore carbon storage options in the Midwest.

Xcel's latest energy plans in Minnesota and Colorado propose a mix of energy sources that will allow the utility to reduce its CO₂ emissions by up to 20% by 2020. And by 2009, the company plans to reduce its GHG emissions to below 2003 levels, resulting in a total reduction of 12 million tons CO₂e.

“OUR FOCUS IS ON PROVIDING PRODUCTS AND SERVICES THAT DON'T REQUIRE CONSUMERS TO MAKE CHOICES BETWEEN SUSTAINABILITY AND THEIR NEEDS FOR PERFORMANCE AND VALUE”

A.G. LAFLEY, CHAIRMAN OF THE BOARD AND CEO, THE PROCTER & GAMBLE COMPANY

09: THE PROCTER & GAMBLE COMPANY

SALES: \$76.476 BILLION (2007)

EMPLOYEES: 138,000 (2007)

As the world's largest producer of household products, Procter & Gamble (P&G) is helping to reduce home energy use by designing new, energy-saving products.

For example, the company has developed a new detergent, Tide® Coldwater, which enables consumers to effectively wash their laundry at low temperatures. P&G estimates that in North America, energy used to heat wash water in a washing machine can account for up to 95% of the total energy used by the machine. If all Americans lowered their wash temperatures to the cold-water setting, it would reduce total household energy use by up to 3%, avoiding 34 million tons of GHG emissions per year.

In addition, P&G's Braun® electric shaving systems feature Smart Plugs that use 64% less energy than standard electric shavers. In the US alone, these savings avoid 5,583 metric tons of CO₂ emissions each year, the equivalent of removing 1,073 cars from the road.

P&G has also joined with other multinational companies to encourage their suppliers to report GHG emissions and climate change mitigation strategies. The information will help P&G assess the emissions associated with its entire supply chain as well as to identify its most efficient suppliers.

Through improvements in energy efficiency throughout its facilities, P&G reduced its own absolute GHG emissions by 7.6% while increasing sales by \$37 billion over the past five years.



10: JOHNSON CONTROLS, INC.
JOHNSON CONTROLS WILL REALIZE ENERGY AND OPERATIONAL SAVINGS OF MORE THAN \$4.2 MILLION OVER 10 YEARS THROUGH LEED INITIATIVES AT THE BRENGEL TECHNOLOGY CENTER (PICTURED) AND ITS ENTIRE HEADQUARTERS COMPLEX.

10: JOHNSON CONTROLS, INC.
SALES: \$32.235 BILLION (2006)
EMPLOYEES: 136,000 (2006)

Johnson Controls has been in the energy efficiency business for over a century. Since introducing the electric room thermostat in 1885, the company has continued to find new ways to help its customers reduce and manage their energy use.

Its Building Efficiency group helps thousands of hospitals, schools, industrial plants, universities and office buildings reduce their energy consumption through the adoption of energy-efficient technologies (such as enhanced heating, ventilating and air conditioning (HVAC) equipment, lighting controls and electronic control systems) and the installation of on-site renewable energy projects. Its services have enabled hundreds of clients to achieve ENERGY STAR and LEED certification for their buildings, reducing their CO₂ emissions by over nine million tons since 2000. The company has also developed software that makes LEED certification simpler and less expensive by allowing facility owners to assess their buildings, evaluate return on investment and submit the LEED certification applications online.

Driving innovation in transportation, the Johnson Controls Power Solutions group is developing two advanced battery technologies involving nickel metal hydride and lithium-ion for hybrid-electric vehicles. Additionally, its Interior Experience group is working on lighter vehicle interiors to enhance fuel efficiency and more recyclable materials to reduce landfill waste.

Through a combination of energy efficiency and process changes, Johnson Controls has been able to reduce its US GHG emissions intensity by 25% from 2002-06. For example, the company's battery manufacturing group is replacing natural gas-fired grid casting

machines with new PowerFrame™ technology that is more energy efficient and significantly reduces the use of natural gas. The company's future targets include reducing US GHG emissions intensity by 30% from 2002 levels by 2012.

11: SC JOHNSON & SON, INC.
SALES: \$7 BILLION (2006)
EMPLOYEES: 12,000 (2006)

SC Johnson, one of the world's largest producers of consumer packaged goods, has a history of environmental accomplishments. In 1975, the company removed chlorofluorocarbons (CFCs) from its products three years ahead of the US mandate and in 2001 it developed the Greenlist™ process to classify raw materials considered for use in its products according to their impact on the environment.

FACT:
SC JOHNSON REDUCED ITS US GHG EMISSIONS BY 17% FROM 2000 TO 2005

Today, the company is taking a number of steps to reduce its GHG emissions through the use of renewable energy and improvements in energy efficiency. In 2005, it began using two cogeneration turbines, fueled by natural gas and waste methane from a local public landfill, to power its largest manufacturing plant (Waxdale) in Sturtevant, Wisconsin. In addition to providing the plant with 6.4MW of electricity and 40,000 pounds of plant steam per hour, the turbines avoid 52,000 tons of GHG and save the company millions of dollars in energy costs each year.



12: WISCONSIN ENERGY CORPORATION
 WE ENERGIES IS HOSTING A PILOT PROJECT AT ITS PLEASANT PRAIRIE POWER PLANT IN KENOSHA COUNTY, WISCONSIN, THAT DEMONSTRATES A HIGHLY EFFICIENT TECHNOLOGY TO CAPTURE CO₂ EMISSIONS FROM A COAL-FUELED GENERATING FACILITY.

By using 100% renewable energy, SC Johnson will be able to display the Green-e™ logo on its products, helping consumers identify its use of renewable energy. The success of the Waxdale project has encouraged the company to consider using renewable power at other facilities, including wind turbines in Europe and a burner/boiler system that runs on palm shells in Indonesia.

SC Johnson is also working to make its buildings more energy efficient by pursuing LEED certification for new construction. Its Childcare Learning Center in Racine, Wisconsin, includes a solar-heated hot water system and is one of the first LEED-registered new construction buildings in the state.

12: WISCONSIN ENERGY CORPORATION

SALES: \$3.996 BILLION (2006)

EMPLOYEES: 5,303 (2006)

Through its two main utilities, We Energies and Wisconsin Gas, the Wisconsin Energy Corporation serves 1.1 million electric and one million natural gas customers in Wisconsin and Michigan's Upper Peninsula. To address its GHG emissions, the company is increasing its use of renewable energy and clean coal technology.

The company maintains more than 140MW of renewable energy capacity from wind, hydro and landfill methane projects throughout Wisconsin. And in 2007, it began construction of an additional 145MW wind farm located in northeast Fond du Lac County. The energy from these projects is used to support the company's Energy for Tomorrow® program, which offers We Energies customers the option of purchasing 25%, 50% or 100% of their electricity from renewable sources. By the end of 2007, more than 17,000 Wisconsin businesses and residents were participating

in the program and, in 2006, it was awarded the US Environmental Protection Agency's (EPA) Green Power Beacon Award for reducing its premiums during a time of rising energy prices.

At its Pleasant Prairie Power Plant in Kenosha County, Wisconsin, the company is hosting a pilot project that demonstrates a highly efficient technology to capture CO₂ emissions from a coal-fueled generating facility. Developers expect that the technology will substantially reduce the cost of removing CO₂ from pulverized coal power plants.

FACT:
MORE THAN 17,000 WE ENERGIES CUSTOMERS PURCHASE RENEWABLE ENERGY

In addition to increasing the use of renewable energy and employing carbon capture technologies, the company replaced its coal-fueled generators at the Port Washington Power Plant with two 545MW natural gas combined cycle units. Integrating these solutions enabled the company to reduce its GHG emissions by 40 million tons since 1995.



13: THE STATE OF ILLINOIS
THE ILLINOIS CONSERVATION AND CLIMATE INITIATIVE, A GOVERNMENT PARTNERSHIP WITH THE CHICAGO CLIMATE EXCHANGE AND THE DELTA INSTITUTE, WORKS WITH STATE LANDOWNERS AND FARMERS TO IMPLEMENT BIOLOGICAL SEQUESTRATION PROJECTS SUCH AS REFORESTATION, GRASS PLANTING AND NO-TILL FARMING.

13: THE STATE OF ILLINOIS

BUDGET: \$51.5 BILLION (2007)

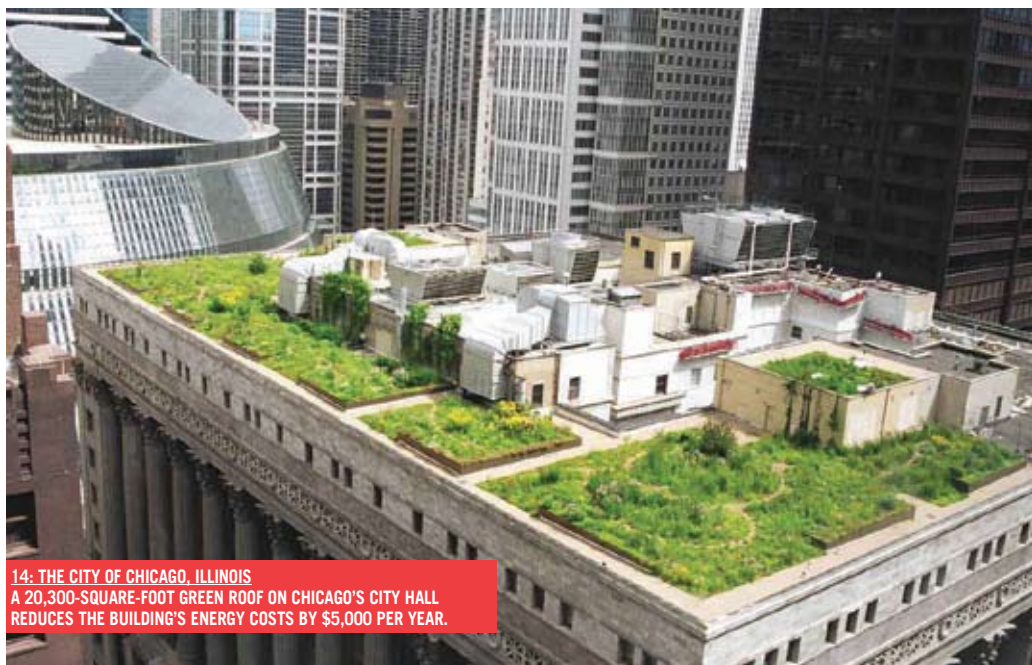
POPULATION: 12,419,293 (2000)

Illinois State Governor Rod Blagojevich recently announced a goal to cut the state's GHG emissions to 1990 levels by 2020 and to 60% below 1990 levels by 2050. The governor convened a Climate Change Advisory Group, comprised of business leaders, scientists, labor unions, the energy and agricultural industries, and environmental and consumer groups from throughout the state to identify cost-effective measures to meet the state's GHG reduction goals.

In addition, the state's Renewable Energy Standard (RES) mandates that utilities increase their production of power from renewable sources to 2% by 2008 and 25% by 2025. Seventy-five percent of the electricity used to meet the renewable standard must come from wind generation. In addition, Governor Blagojevich announced a commitment to purchase wind power for 141 government facilities in Springfield, the state's capital. The state currently has 305MW of installed wind capacity with an additional 85MW under construction and more than 1500MW proposed.

“THE IMPACT OF GLOBAL WARMING IN ILLINOIS AND AROUND THE GLOBE COULD BE DEVASTATING AND WE CAN'T WAIT FOR THE FEDERAL GOVERNMENT TO ACT”
GOVERNOR ROD BLAGOJEVICH, STATE OF ILLINOIS

In an innovative approach to reducing state-wide carbon emissions, the Illinois government recently partnered with the Chicago Climate Exchange (CCX) and the Delta Institute to develop the Illinois Conservation and Climate Initiative. This new program works with state landowners and farmers to implement biological sequestration projects such as no-till farming, reforestation and grass planting. The projects are verified by the local Soil and Water Conservation District, aggregated by The Delta Institute and sold as Carbon Financial Instruments (CFIs) on CCX. The profits from the sale of the CFIs are given back to the land owners (minus The Delta Institute's 8% aggregation fee and CCX's \$0.20 per ton trading fee). The Delta Institute's portfolio consists of 729 projects covering over 143,000 acres. The projects have generated more than 137,000 tons of emissions reductions, valued at over \$233,000.



14: THE CITY OF CHICAGO, ILLINOIS
A 20,300-SQUARE-FOOT GREEN ROOF ON CHICAGO'S CITY HALL
REDUCES THE BUILDING'S ENERGY COSTS BY \$5,000 PER YEAR.

14: THE CITY OF CHICAGO, ILLINOIS

BUDGET: \$5.7 BILLION (2007)

POPULATION: 2,896,016 (2000)

Chicago is America's third-largest city and the economic center of the Midwest. In response to climate change, Chicago Mayor Richard Daley formed the Chicago Climate Task Force to develop a plan to drastically reduce the city's GHG emissions.

The plan, to be launched later in 2008, is the most comprehensive city climate change plan in the US focusing on adaptation, mitigation and financing. It will include the use of CCS for new carbon-emitting power plants, the construction of an intercity high speed rail system and an increase in mixed zoning neighborhoods in which residents can easily walk from their homes to stores, schools, recreation areas and public transportation. By lessening the need to drive, these neighborhoods will enable residents to save money and reduce their environmental impact. Currently several Chicago mortgage lenders offer special Location Efficient Mortgages®, which allow potential homeowners to increase their borrowing power in light of the expected savings from living in an efficient community.

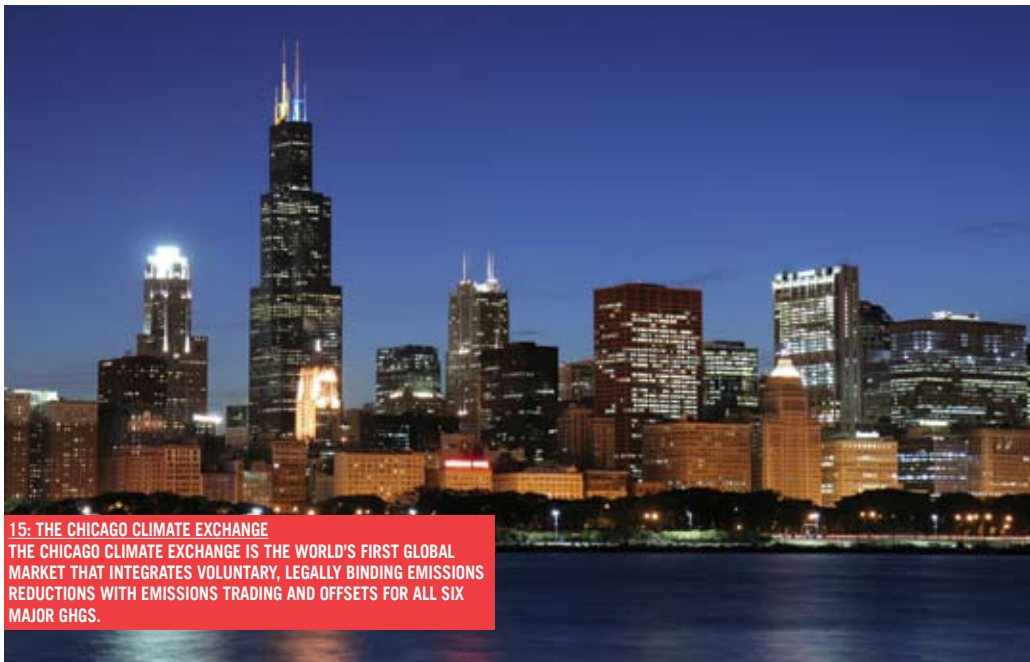
The city is also broadening existing efforts including green roofing projects, solar power initiatives and energy-efficient retrofits of city buildings.

Currently, Chicago boasts over three million square feet of green roofs, more than all other US cities combined. These green roofs reduce building utility costs, help keep the city's temperature regulated and decrease the amount of storm water directed to the city's sewer system. In 2001, the city completed a 20,300-square-foot green roof on City Hall, reducing the building's energy costs by \$5,000 per year.

The city aims to receive 20% of its energy from renewable sources by 2010. The Chicago Solar Partnership, a public-private consortium with members from business, government and civil society, is helping Chicago meet its renewable energy goal by increasing the city's solar generating capacity. With a \$12 million commitment from the Exelon Corporation, the city's energy provider, and support from the DOE, the Chicago Solar Partnership has directed the installation of nearly 2MW of solar energy, which has reduced the city's CO₂ emissions by more than 1,361 tons annually.

Furthermore, Chicago is nearing its goal of retrofitting 15 million square feet of public buildings with efficient equipment for heating and cooling, lighting and ventilation. The initiative includes police stations, libraries, fire stations, park facilities, transit facilities, health centers, community centers and city colleges. Once completed, the city expects annual savings in excess of \$6 million and reductions in CO₂ emissions of 30,000 tons per year. As part of its commitment with The Clinton Climate Initiative, Chicago is supporting projects to retrofit private buildings with energy efficiency technologies including the Merchandise Mart, the world's largest commercial building, and the Sears Tower, the tallest building in the US.

FACT:
CHICAGO HAS MORE THAN 3 MILLION SQUARE FEET OF GREEN ROOFS, MORE THAN ALL OTHER US CITIES COMBINED



15: THE CHICAGO CLIMATE EXCHANGE
THE CHICAGO CLIMATE EXCHANGE IS THE WORLD'S FIRST GLOBAL MARKET THAT INTEGRATES VOLUNTARY, LEGALLY BINDING EMISSIONS REDUCTIONS WITH EMISSIONS TRADING AND OFFSETS FOR ALL SIX MAJOR GHGS.

15: THE CHICAGO CLIMATE EXCHANGE

In the absence of a federally mandated cap-and-trade program, the Chicago Climate Exchange (CCX) provides companies with a way to reduce their GHG emissions at low cost.

Membership in CCX is voluntary, but the Exchange requires that an emitting entity or company sign a legally binding contract to cap and reduce its GHG emissions. Members may meet their reduction target through internal emission reduction projects or by purchasing emission reduction allowances from other members who have exceeded their reduction commitment. Thus, companies that can reduce at relatively lower cost can do so and sell their excess emissions allowances to companies whose cost of reduction is higher. The market then ensures that the cheapest, most efficient emission reductions are implemented.

In its first phase, from 2003 through 2006, CCX set the cap at an amount 4% lower than members' average annual GHG emissions from 1998-2001. Subsequently, over 14 million metric tons of CO₂e were bought and sold on the Exchange. In Phase II, from 2007 through 2010, the cap will gradually increase from 4% to 6% below members' 1998-2001 average.

As more companies recognize the need to manage their GHG emissions, the Exchange continues to grow. Beginning with 13 members in 2003, it now includes over 400 members and, since the start of Phase II in 2007, total volume on the Exchange (program to date) has more than tripled to over 53 million metric tons of CO₂e.

In addition, CCX is developing the framework for an eventual nationwide cap-and-trade program. CCX members are gaining the skills and human capital needed to effectively manage their emissions, reducing the risk associated with future regulation. Companies are gaining expertise in trading GHGs and carbon offset suppliers are learning how best to finance their emission reduction projects in accordance with market prices.

The Exchange itself has also matured. In 2006, Baxter International transferred emissions credits from its account in the EU Emissions Trading Scheme (EU ETS) to its CCX account, demonstrating links between US and global GHG markets that could increase overall efficiency.

By building the foundation for a nationwide GHG trading program, CCX has strengthened the case for a market-based solution to climate change in the US.



16: BAXTER INTERNATIONAL, INC.
BAXTER INTERNATIONAL PURCHASED GREEN-E™ CERTIFIED RENEWABLE ENERGY CERTIFICATES EQUIVALENT TO 15.5 MILLION KWH OF ELECTRICITY, MAKING ITS DEERFIELD, ILLINOIS, CORPORATE HEADQUARTERS CARBON NEUTRAL.

16: BAXTER INTERNATIONAL, INC.

SALES: \$11.3 BILLION (2007)

EMPLOYEES: 45,000 (2007)

Baxter International, Inc. is a global biotechnology, medical device and specialty pharmaceutical company. To address climate change, the company has established a multidimensional GHG reduction strategy that includes energy conservation and renewable energy. And, as one of the 13 founding members of CCX, Baxter was also one of the first US companies to demonstrate the viability of emissions trading.

By purchasing Green-e™ certified renewable energy certificates from wind generation, Baxter has been able to offset 100% of the emissions associated with electricity use at its headquarters in Deerfield, Illinois. The company has also purchased carbon credits to offset the emissions of its two corporate jets and to offer its customers carbon neutral medical products like AVIVA, a premium line of intravenous solutions.

Baxter was also the first company to purchase carbon credits from Illinois farmers and landowners through the Illinois Conservation and Climate Initiative and the first company to transfer emissions credits between the European Union Emissions Trading Scheme (EU ETS) and CCX, demonstrating a link between the two trading systems.

Through the combination of energy-efficiency programs, renewable energy purchases and carbon trading, Baxter reduced its absolute GHG emissions by 2,000 metric tons between 2004 and 2006 and achieved an energy savings of \$15 million. Going forward, Baxter plans to reduce its GHG intensity (per unit of sales) by 20% from 2005 levels by 2010 and is considering a new global GHG reduction goal through 2015 or 2020.

17: MOTOROLA, INC.

SALES: \$42.879 BILLION (2006)

EMPLOYEES: 66,000 (2006)

Motorola is a founding member of CCX and the first member to include all of its worldwide manufacturing sites in its CCX commitment. By expanding its commitment, Motorola will be required to reduce its global GHG emissions by 6% from 2000 levels by 2010.

The company is also working to make its products more energy efficient and climate friendly. Motorola is the first major phone manufacturer to redesign all its new mobile phone chargers to be ENERGY STAR qualified. In addition, the company trialed a wind and solar-powered base station in Namibia, demonstrating that renewable energy can provide a cost effective and climate friendly solution.

Motorola's internal emission reduction goals include reducing its normalized carbon footprint (includes direct GHG emissions and indirect emissions from electricity use) by 15% from 2000 levels by 2010 and increasing its purchase of renewable energy from 5.2% in 2006 to 10% by 2008.

FACT:
MOTOROLA HAS REDUCED THE AVERAGE STANDBY POWER OF ITS CHARGERS BY AT LEAST 70%

FOCUS ON CLIMATE CHANGE IMPACTS

The Fourth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC), released in 2007, predicts a 1.8-5.4°F increase in average annual temperatures throughout the Midwest region between 2010 and 2039. Average annual precipitation rates and variability are also expected to rise. Some examples of expected climate changes and their potential impacts include:

- An increase in intensity and frequency of extreme heat days and heat waves, especially in urban centers.

In 1995, from July 12-14, 465 people died from heat-related causes during a heat wave in Chicago. Extreme temperatures will also put pressure on power infrastructure through greater demand and physical stress. In July 2003, a massive four-day power failure cut power to nearly one-seventh of the US population, including residents of Michigan and Ohio. A joint US and Canadian government report on the event suggests that hot summer temperatures were a contributing factor to the blackout and estimates total economic losses between \$4 and \$10 billion.

- A decrease in water levels in the Great Lakes due to warmer winters, reduced ice cover and increased evaporation.

An estimated 240 million tons of cargo travels across the Great Lakes each year. In 2007, the 63 US ships circulating the Great Lakes lost 8,000 tons of cargo capacity for every inch of water the lakes had fallen below normal water levels. (8,000 tons of iron ore can produce 6,000 cars or, in terms of coal, can produce enough electricity to power Detroit for three hours.)

- An increase in severe weather events including flash floods and droughts.

The Midwest produces 88% of the nation's corn. Between 1951 and 1998, heavy rainfalls were responsible for damaging US corn crops by an average of \$3 billion per year. In the Corn and Wheat Belt of the US, yields of corn and soybeans from 1982 to 1998 were negatively impacted by warm temperatures, decreasing 17% for each 1.8°F of warm-temperature anomaly.

FOCUS ON CARBON CAPTURE AND SEQUESTRATION

In 2007, more than 87% of US energy came from coal, oil and natural gas. For as long as the country continues to rely on these energy sources, technology to capture and store the CO₂ they emit can help reduce their impact on the climate.

In 2007, the DOE launched two CCS projects in the Midwest, which it estimates have the potential to store approximately 723 billion metric tons of CO₂ in underground geological formations.

In October, the DOE announced that it will hold one of the first large-scale geological CO₂ storage projects in the Williston Basin in North Dakota. Led by the Plains CO₂ Reduction Partnership, a collaboration of over 65 stakeholders throughout the Midwest and three Canadian provinces, the \$135 million project will capture CO₂ from a coal-fired power plant in the region and inject it into an underground formation within the Basin to test its use in enhanced oil recovery (EOR).

A second project, in collaboration with the Midwest Geological Sequestration Consortium, will inject one million tons of CO₂ in the Mount Simon Sandstone Formation, which stretches throughout Illinois, Kentucky, Indiana and portions of Ohio, and has the potential to store more than 100 years of CO₂ emissions from major point sources in the region. The \$84 million project will test the effectiveness and permanence of sequestration in the formation, providing the foundation for future CCS opportunities in the region.

Each of these projects make up a key component in the DOE's effort to commercialize CCS technology.

BASELINE EMISSIONS

Any datum against which change is measured. A current baseline represents observable, present-day conditions. A future baseline is a projected future set of conditions without additional actions, here efforts to reduce GHG emissions.

BIOFUEL

Gas or liquid fuel made from plant material (biomass).

CAP-AND-TRADE

An emissions trading scheme that sets an overall limit on the emission of a certain pollutant and allows participating entities to trade emission allowances.

CARBON NEUTRALITY

A balance between the amount of carbon released and the amount sequestered from a specific entity, project, product or process. It can refer to reducing the quantity of GHGs released from burning fossil fuels, e.g. by reducing energy use; implementing energy efficiency measures; using renewable energy; carbon offsetting by funding carbon projects that remove or sequester GHGs; and/or buying carbon credits to retire them through carbon trading.

CARBON FOOTPRINT

A carbon footprint is the total amount of CO₂ and other GHGs emitted over the full life cycle of a product or entity. The definition for this publication is the total net (i.e., including land-use, land-use change and forestry – LULUCF) amount of GHGs emitted by the entity.

CARBON OFFSETTING

The act of mitigating GHG emissions by purchasing credits from an investment fund or carbon development company that has aggregated the credits from individual carbon projects.

CCS

Carbon capture and sequestration. The uptake and storage of CO₂ in biomass (such as trees and plants) or geologic formations.

CFC

Chlorofluorocarbon. Any of a number of halocarbon compounds consisting of carbon, hydrogen, chlorine and fluorine.

CHP

Combined heat and power. A generalized term for onsite power generation technologies that simultaneously produce electrical or mechanical energy and useful thermal energy.

CO₂

Carbon dioxide, a GHG.

CO₂e

Carbon dioxide equivalent. A unit, measured in tons, that allows emissions of non-CO₂ GHG emissions to be expressed as if they were CO₂ emissions, using global warming potential coefficients to make the conversion.

DOE

The United States Department of Energy.

E85

An alcohol fuel mixture that contains 85% denatured fuel ethanol and gasoline or other hydrocarbon by volume.

ENERGY STAR

Voluntary labeling program jointly run by the EPA and DOE to identify energy-efficient products and buildings.

EPA

The United States Environmental Protection Agency.

GHG

Greenhouse gas(es). A group of gases that absorb and re-emit infrared radiation. These gases occur through both natural and human-influenced processes and include: carbon dioxide, nitrous oxide, methane, sulphur hexafluoride, hydrofluorocarbon and perfluorocompounds.

HVAC

Heating, ventilation and air conditioning systems. Comprehensive climate control systems used primarily in medium-to-large industrial and office buildings.

IGCC

Integrated gasification combined cycle. Coal production plant where coal is turned into gas and can assist in the separation and sequestration of CO₂ at a lower cost than conventional coal plants.

INTENSITY (GHG/ENERGY)

The ratio of GHG or energy to another activity, usually sales or unit of product.

KWH

Kilowatt-hour of energy (1,000 watt-hours).

LED

Light emitting diode. Semiconductor diode that emits visible or infrared light when current passes through it.

LEED

Leadership in Energy and Environmental Design. The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction and operation of high performance green buildings.

MW

Megawatt of power (one million watts).

PHOTOVOLTAIC (PV)

Solar power technology that uses solar cells to convert light from the sun directly into electricity.

RPS (RES)

Renewable Portfolio Standard (Renewable Energy Standard). State policies mandating a state to generate a percent of its electricity from renewable sources.

SCOPE 1 EMISSIONS

Direct GHG emissions from sources owned or controlled by a company (owned vehicle fleet, chemical production, furnaces). www.ghgprotocol.org

SCOPE 2 EMISSIONS

Indirect GHG emissions resulting from purchased electricity for operational and non-operational purposes. www.ghgprotocol.org

SCOPE 3 EMISSIONS

Other indirect GHG emissions not covered under scope 2 (emissions from use of sold products and services, non-owned travel emissions). www.ghgprotocol.org

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ABOUT THE CLIMATE GROUP

The Climate Group is an independent, nonprofit organization that works with government and business leaders to advance climate change solutions and accelerate the transition to a low-carbon economy.

Its coalition of leaders in government, business and other nonprofit organizations has demonstrated that the emissions reductions needed to slow climate change can be achieved while boosting profitability and competitiveness. Companies, states, regions and cities around the world are realizing there are significant economic as well as environmental advantages to taking decisive action now. The Climate Group was founded in 2004 and has offices in the UK, USA, China, India and Australia.

For more information about The Climate Group, please visit www.theclimategroup.org

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We are also grateful for the ongoing commitment of our members. For a full list of our members please visit The Climate Group's website at www.theclimategroup.org

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