
State by state

The business response to climate change across America

June 2014



About CDP and CDP Disclosure

CDP, launched in 2000 and formerly known as the Carbon Disclosure Project, administers an annual climate change questionnaire to public companies. The request is made on behalf of CDP's investor signatories, and results are made public online and in annual reports. CDP signatories are banks, investors, wealth advisors, pension funds, and other entities in the financial services sector.

In 2013, 1,000 US companies disclosed through CDP, including 334 companies from the Standard & Poor's 500. Globally, 54% of world market capital now discloses through CDP.

In 2014, CDP is collecting disclosure data on behalf of 767 investor signatories controlling \$92 trillion in assets through its climate change program. Investors become signatories to CDP's questionnaires to secure disclosure of environmental data across four separate programs—climate, water, forests, and Carbon Action. The resulting data provides the financial community with information to help drive investment toward a low-carbon and more sustainable economy.

Findings and results of 2014 disclosures will be announced from September 2014.

Measurement of emissions used throughout the report:

1 kiloton (Kt) CO₂e = 1,000 metric tons CO₂e

1 megaton (Mt) CO₂e = 1,000,000 metric tons CO₂e



Executive summary

Across the United States, major companies are taking action to manage the impacts of climate change.

Companies are integrating climate change into their business strategies and turning climate-related risks into opportunities. Climate change is already affecting operational, risk management and investment decisions. It is considered a cost of doing business. Leading companies are factoring potential regulation into their business planning. They are doing so because they see climate action as a prudent way to build competitive advantage for their firms, nationally and globally. Most companies anticipate climate change regulation, but lack of certainty surrounding its scope and application presents a material concern.

In company responses to CDP's 2013 climate change information request, companies provide direct insight on:

- how climate change management can create competitive advantage
- the business risks and opportunities climate change presents
- company reactions to current, proposed or expected regulation
- long-term, profitable investments in GHG emissions reductions

This CDP report examines the business response to climate change from companies in nine diverse US States: California, Colorado, Michigan, Minnesota, North Carolina, Ohio, Pennsylvania, Texas, and Virginia. It provides a state-by-state breakdown of key statistics and descriptions of the current state of action among US businesses on climate change, in the words of the businesses themselves.

Report highlights

Business opportunities

According to the 172 companies examined this report, nearly the same number of companies that see climate-related risks see climate-related opportunities. Companies are innovating to respond to increasing demand for energy efficient products, and this is generating revenue and economic growth. Companies in the consumer discretionary sector, particularly those based in Michigan, Ohio and North Carolina, are remaking common household goods—everything from laundry detergent to building insulation to vehicle tires—to ensure they reduce GHG emissions through the full product lifecycle. California's IT companies, like HP, are experiencing rapid growth in their "green" product lines.

Renewable energy

Other companies are focused on adopting renewable energy to achieve GHG emissions reductions and manage operational costs associated with rising energy prices. Nearly all of the 11 Texas energy companies included in this paper incorporate natural gas, wind or solar power into their energy mix. Companies like CONSOL Energy (PA) and Xcel Energy (MN) have made high value investments in renewable and alternative fuel sources. Ahead of any regulatory requirements, utilities companies like The AES Corporation (VA) and Sempra Energy (CA) are preparing for a low-carbon economy through portfolio diversification.

Risks and disruptions

Across every state covered in this paper, companies report current and near-term risks and disruptions from extreme weather. These risks incur costs associated with lost business, unstable supply of raw materials and the need to protect facilities and other assets. Businesses report that they are responding to these disruptions by investing in resilience measures to provide greater certainty around what is often unpredictable.

Regulation

All companies expect some form of regulation to manage climate change. In light of the new EPA Clean Power Plan regulations, it is encouraging to see companies already identify that regulations can catalyze reduced operational costs, aiding a successful transition to a low-carbon economy. Many also report that, to date, regulatory uncertainty has impeded their ability to adequately plan, which has an impact on their bottom line. Major national and global companies like Bank of America (NC) point to regulatory uncertainty as a factor holding back much-needed low carbon investments.

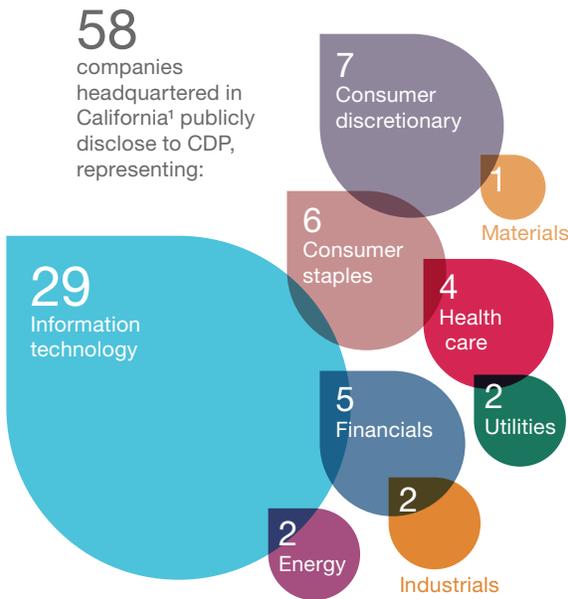
1. These states are representative of the economic regions employed by the US Bureau of Economic Analysis to classify states that share economic, demographic, cultural and social characteristics. For more information, see www.bea.gov/regional/definitions/nextpage.cfm?key=BFA%20regions.

California

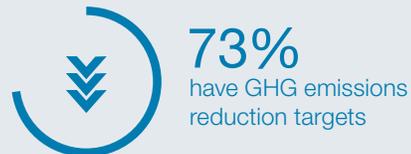
California highlights

California companies that disclose to CDP are seizing opportunities, engaging policy makers on climate change and innovating their way to a cleaner, low carbon economy.

Companies see climate change regulation as a business opportunity, and many see that opportunity translating into increased demand for existing products or potential new products. Companies that incorporate climate change into their business strategies consider themselves well-positioned to respond to regulation. California companies are also making sizeable investments in emissions reductions activities, reaping annual combined carbon pollution reductions of 619,000 t CO₂e and annual monetary savings of \$3.5 billion.



Managing climate change: The strategic rationale

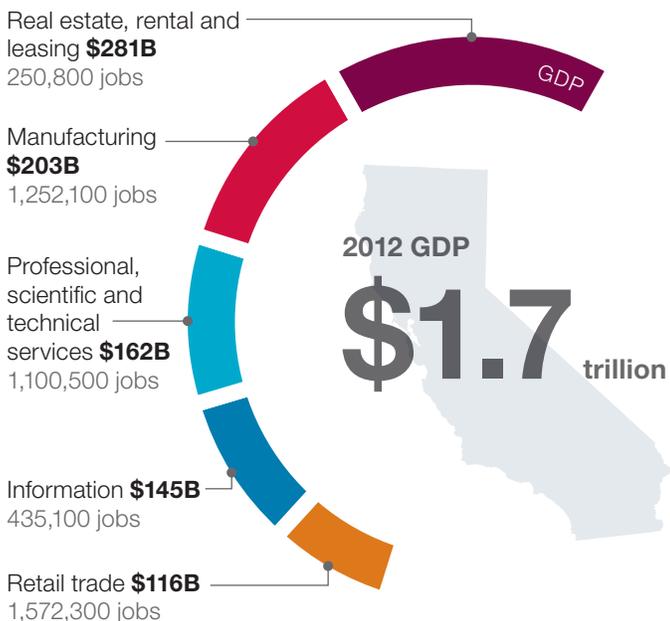


1. See complete list of reporting companies in the appendix.

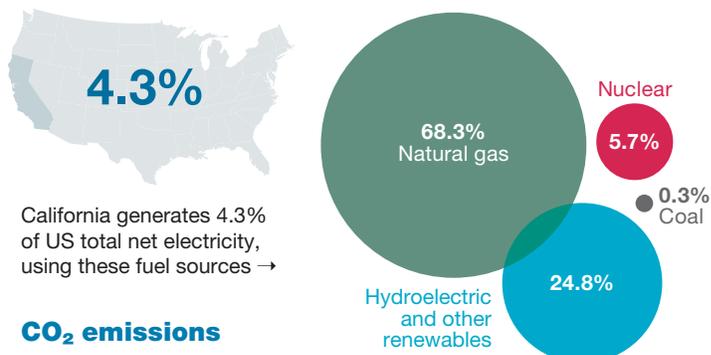
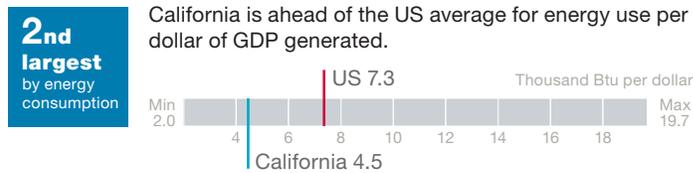
California

Economy by the numbers

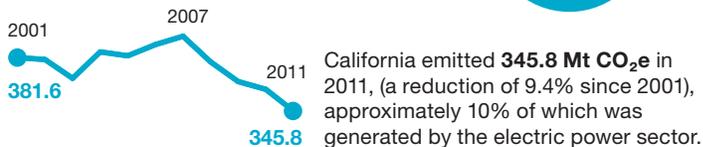
Major private industries by GDP² and the jobs they create³



Energy consumption and electricity generation⁴



CO₂ emissions



“Sempra’s low-carbon

business model offers several advantages for the company. As compared to other energy companies with portfolios that include higher-emissions generating sources, such as coal, and which are just beginning to employ energy efficiency measures, we are well positioned to deal with regulatory and other low-carbon initiatives. Because we are focused on natural gas and renewable sources of energy, our emissions rate (CO₂ per MW-hour) is well below the US national average.

Sempra Energy

“If the US Congress passes

climate change legislation ... Levi Strauss & Co will benefit from increased business certainty about energy prices and a leveled playing field for efforts to reduce emissions. We can do more, faster and cheaper with federal legislation that incentivizes utilities to work with the company to capture efficiencies and invest in renewable energy.”

Levi Strauss and Co.

“Our efforts are gaining

Wells Fargo a strategic advantage over our competitors as we have become a leading financier for “greener” buildings, renewable energy and clean technology. As such we are positioned and eager to continue to help our customers succeed in the emerging “greener” economy. When our customers and communities do well, we do well.”

Wells Fargo & Company

2. Values reflect real GDP (chained 2005 dollars). Source: [Bureau of Economic Analysis](#).

3. Source: [State of California Employment Development Department](#).

4. Sources: Energy Information Administration, US Department of Energy “California Energy Profile” updated May 15, 2014; “State CO₂ Emissions” updated February 25, 2014; “Table C12. Total Energy Consumption, Gross Domestic Product (GDP), Energy Consumption per Real Dollar of GDP, Ranked by State, 2011.”

California

Risks and opportunities

What is driving risk?



Change in precipitation extremes and droughts



Reputation



Fuel/energy taxes and regulations

What is driving opportunity?



Changing consumer behavior



Product efficiency regulations & standards



Fuel/energy taxes and regulations

“Our operations in California are

susceptible to wildfires and potential water shortages, due to drought conditions, with the last major wildfire affecting our operations occurring in 2007. According to the California Department of Water Resources, the inflow of water from the Colorado River into California reservoirs supplying water to Southern California has been below average 10 out of the last 13 years.”

Life Technologies Corp.

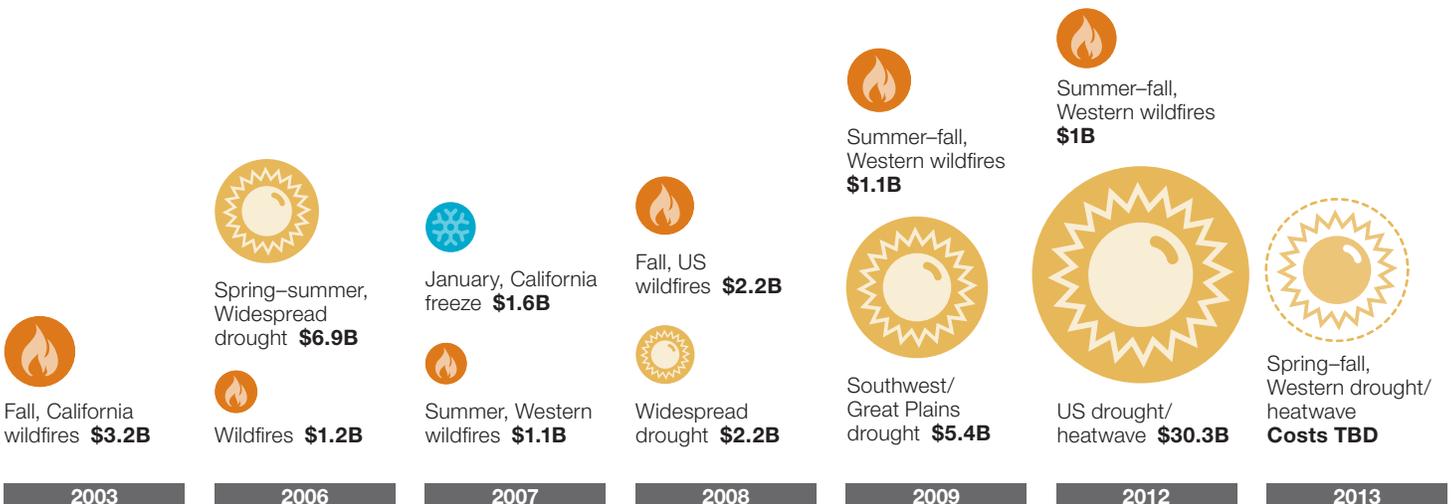
“Having to pay these taxes helps

generate a business case for addressing investing in energy efficiency and other carbon saving measures. If Symantec can effectively invest in energy efficiency, it can reduce its bottom-line expenses and be more competitive as compared to its peers, freeing up capital for other investments.”

Symantec Corporation

Billion-dollar disasters

Between 2003 and 2013, California and surrounding states shared in bearing \$56.2B in estimated costs for 12 separate “billion-dollar” weather and climate disasters.



Values reflect 2013 Consumer Price Index (CPI) cost adjusted value.
 Data source: National Climate Data Center, National Oceanic and Atmospheric Administration, [“Billion-Dollar US Weather/Climate Disasters 1980–2013.”](#)

California

Regulation drives innovation



90%

engage in activities that influence energy efficiency and climate change regulation

Companies that directly engage with policymakers most commonly support:

Energy efficiency policy

Clean energy generation

Cap and trade schemes

Impacts of regulation



Increased demand for existing products & services



Reduced operational costs



Investment opportunity

Sixty-four percent of companies consider climate regulation a business opportunity, including Yahoo! Inc., who is using regulation to drive energy efficiency and cost reductions.

“Approximately 54% of our data center electricity consumption as of 2012 came from utilities that source a significant portion of their power from fossil fuels... There is a risk of some impact to our business as a result of increased costs, but we do not currently expect the impact to be financially material... The potential financial implications are being mitigated by our aggressive approach to energy efficient design and operations of facilities, to ensure that even if the cost of energy increases, our cost per unit service provided is steady or reduced based on our energy efficiency initiatives.”

Yahoo! Inc.

60% of companies already produce goods or services that enable consumers to reduce carbon pollution



Oracle’s products, such as Cloud Computing... enable Oracle’s customers to reduce their exposure to fuel/energy related taxes by reducing their energy needs on a normalized basis.

Oracle Corporation



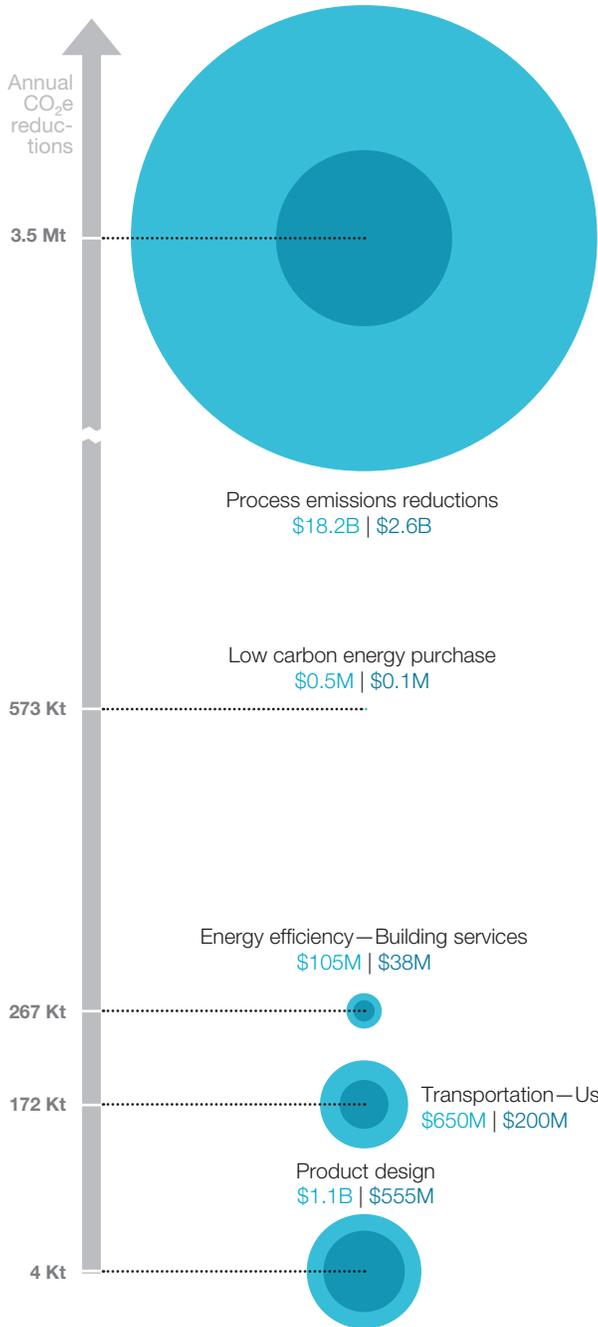
San Jose, CA
The heart of Silicon Valley

California

Investments and savings

Investment in emissions reduction activities

● Investment made ● Annual monetary savings



Total ⁶	Spend	Save annually	Reduce annually
	\$20.1B	\$3.5B	4.6 Mt CO ₂ e

Investment insight: Investments in renewable energy

“Google’s long term strategy has been to help encourage the development and deployment of more renewable energy through policy advocacy... investments in early stage companies, and investments in large scale renewable energy projects. In 2012, our investments in large scale renewable energy projects included an additional commitment of \$275M to two large wind projects, bringing our total commitments to renewable energy projects to over \$1B.

“This gains us strategic advantage over our competitors by providing stable electricity prices over the long term, lowering our operational costs, and helping to protect us from risks.”

Google Inc.

15%

Companies in California invested 15% of their combined capex in emissions reduction efforts.⁵

Investment case study: Investments with double dividends

Intel Corporation targeted the energy efficiency of all of its facilities by installing efficient lighting and system controls; boiler and chilled-water system improvements; and cleanroom heating, ventilation, air conditioning, and heat recovery improvements.

Activity: Energy efficiency—Building services

Investment reported: \$59M

Annual monetary savings: \$22M

Annual GHG reductions: 168 Kt CO₂e (5% of company’s annual Scope 1 and 2 emissions)

Anticipated return on investment: 4–10 years

5. Based on 2012 capital expenditure data available from Bloomberg and CDP as of May 20, 2014.

6. Figures reflect total reported investment and savings, only the largest of which are reflected in the graphic.

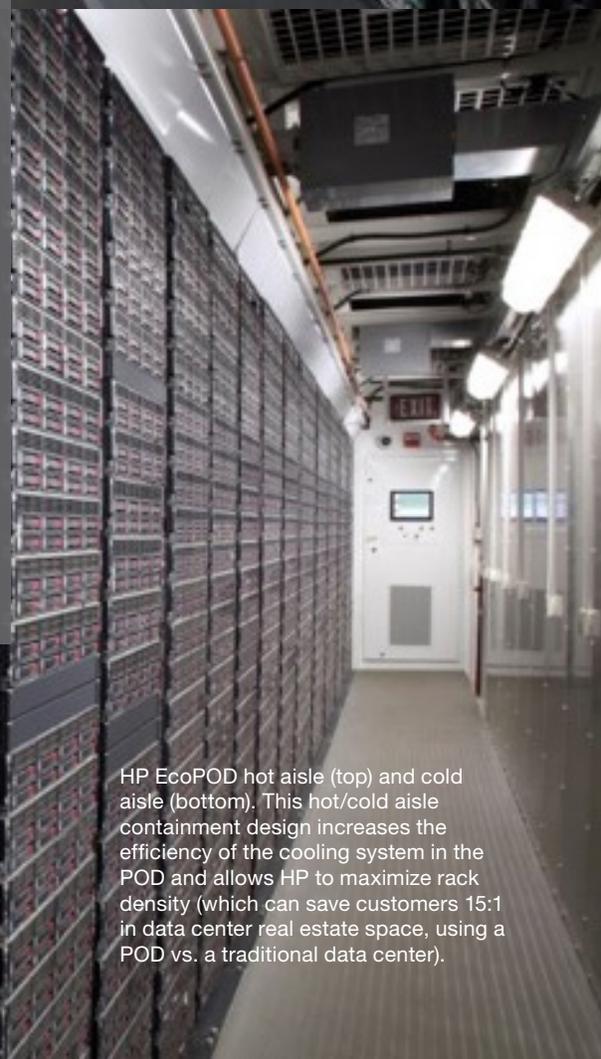
7. Only projects for which companies disclosed quantitative information for both the investment required and payback period are represented.



HP is well positioned to help our customers adapt to the rapidly changing climate-related regulatory landscape and we are betting on game changing technologies that have the potential to drastically reduce the environmental footprint of large-scale computing. For example, The HP POD 240a—also known as the HP EcoPOD—is a self-contained, modular, ultra-efficient data center that uses a fraction of the energy of traditional brick-and-mortar data centers while achieving 10 times the information technology (IT) capacity.

Any changes in fuel or energy regulation, carbon taxes or product efficiency standards that result in an increased cost to doing business, either directly (carbon tax) or indirectly (energy tax), will present an opportunity for HP through our ability to help our customers reduce and manage their IT related energy demand. HP enables customers to operate their IT systems more efficiently and effectively, supporting both their business and sustainability goals.

Hewlett-Packard



HP EcoPOD hot aisle (top) and cold aisle (bottom). This hot/cold aisle containment design increases the efficiency of the cooling system in the POD and allows HP to maximize rack density (which can save customers 15:1 in data center real estate space, using a POD vs. a traditional data center).

Colorado

Colorado highlights

Colorado companies that disclose to CDP are responding to climate change by addressing energy efficiency within operations, in products and throughout global supply chains.

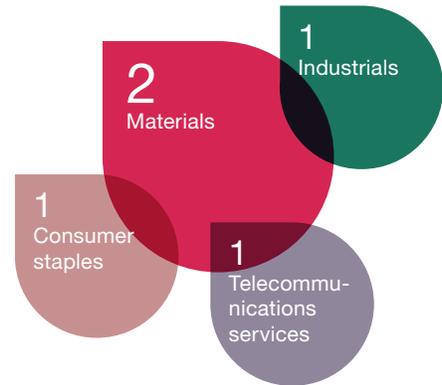
Increased capital expenditure has been necessary to adapt to physical climate risks such as wildfires and drought. Business strategy in response to climate change has been driven by changing customer attitudes and, to the extent that there is certainty, climate change policy.

100%  set GHG emissions reduction targets. 

100%  integrate climate change into their risk management process. 

5

companies headquartered in Colorado¹ publicly disclose to CDP, representing:



What is driving risk?



Change in precipitation extremes and droughts



Reputation



Cap and trade schemes

What is driving opportunity?



Changing consumer behavior



Reputation



Cap and trade schemes

Companies are actively managing their GHG emissions through target setting and are observing tangible impacts of utilities using renewable energy sources.

“Energy efficiency and GHG emission reduction targets lead to energy efficiency improvements, which are the basis for cost efficiency and a competitive advantage.”

Ball Corporation

“[Our] emissions reduction was 5% which is attributable to energy efficiency measures and changes in utility emissions factors which may be due in part to increased use of renewable energy sources by utility providers.”

Level 3 Communications, Inc.

Physical climate risks not only impact operating costs but also require significant capital expenditures to safeguard the stability of business operations.

“Nearly all climate change models predict that most regions of the world will experience an increase in severe weather events. Severe weather is a threat to Newmont’s productivity, existing equipment, and worker safety... Capital costs may increase 10–20 percent for structural designs that withstand severe weather.”

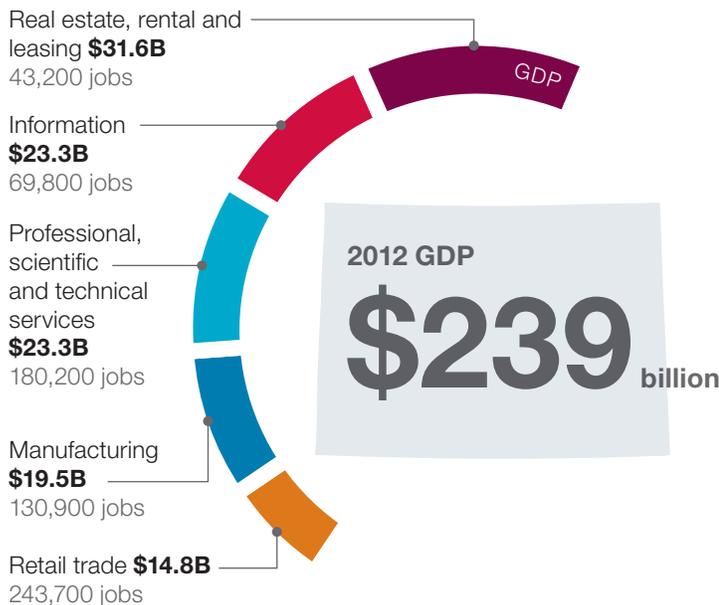
Newmont Mining Corporation

¹. See complete list of reporting companies in the appendix.

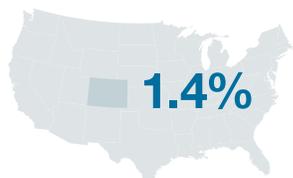
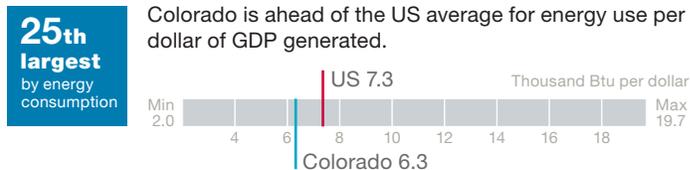
Colorado

Economy by the numbers

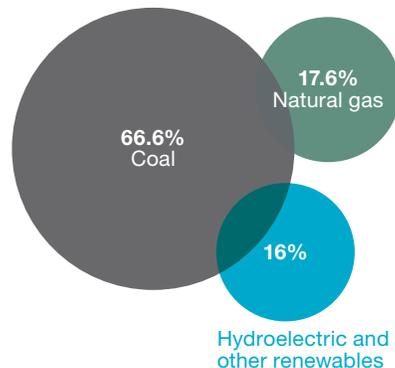
Major private industries by GDP² and the jobs they create³



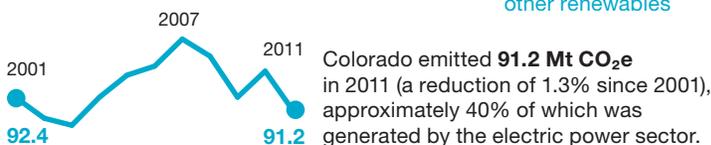
Energy consumption and electricity generation⁴



Colorado generates 1.4% of US total net electricity, using these fuel sources →



CO₂ emissions

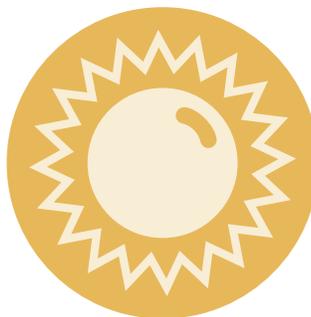


Billion-dollar disasters

Between 2003 and 2013, Colorado and surrounding states shared in bearing \$47.8B in estimated costs for 10 separate "billion-dollar" weather and climate disasters.



US drought/heatwave **\$30.3B**



September Colorado floods **Costs TBD**



Spring-fall Western drought/heatwave **Costs TBD**

2006

2008

2011

2012

2013

Values reflect 2013 Consumer Price Index (CPI) cost adjusted value. Data source: National Climate Data Center, National Oceanic and Atmospheric Administration, "Billion-Dollar US Weather/Climate Disasters 1980-2013."

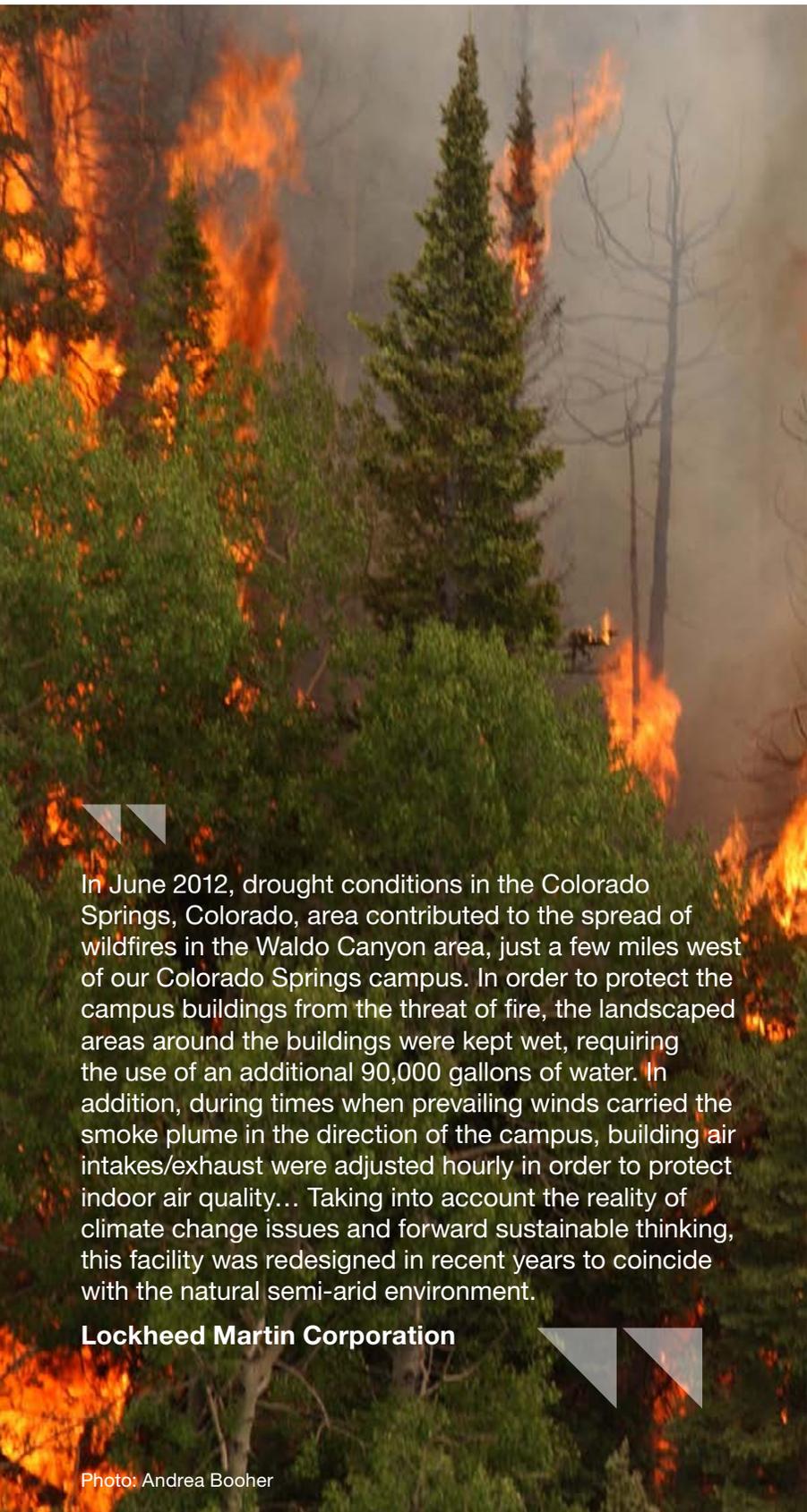
2. Values reflect real GDP (chained 2005 dollars). Source: Bureau of Economic Analysis.

3. Source: Colorado LMI Gateway, Colorado Department of Labor and Employment, "2012 Current Employment Statistics (CIS) Data, Not Seasonally Adjusted, in Colorado."

4. Sources: Energy Information Administration, US Department of Energy: "Colorado State Energy Profile," updated May 15, 2014; "State CO₂ Emissions," updated February 25, 2014; "Table C12. Total Energy Consumption, Gross Domestic Product (GDP), Energy Consumption per Real Dollar of GDP, Ranked by State, 2011."

Colorado

The business response to climate change



In June 2012, drought conditions in the Colorado Springs, Colorado, area contributed to the spread of wildfires in the Waldo Canyon area, just a few miles west of our Colorado Springs campus. In order to protect the campus buildings from the threat of fire, the landscaped areas around the buildings were kept wet, requiring the use of an additional 90,000 gallons of water. In addition, during times when prevailing winds carried the smoke plume in the direction of the campus, building air intakes/exhaust were adjusted hourly in order to protect indoor air quality... Taking into account the reality of climate change issues and forward sustainable thinking, this facility was redesigned in recent years to coincide with the natural semi-arid environment.

Lockheed Martin Corporation

Photo: Andrea Booher

Molson Coors engages with its entire value chain, including Ball Corporation, to integrate sustainability into all of its business operations.

Suppliers: Molson Coors “embed[s] sustainability in to how we purchase the goods and services we rely upon... Suppliers are required to demonstrate compliance against our environmental expectations.”

Customer: “Many of our customers request specific environmental data in tender processes, and we complete CDP’s supply chain module at the request of Wal-Mart.”

Consumer: “Our brands’ consumers want to know about the responsible behaviour of the brands they choose.”



Ball Corporation considers the impact of climate change on the global value chain as central to its business strategy.

“A priority of our business strategy is to be close to our customers... As a supplier, we recognize the importance of leveraging our expertise to aid our customers in meeting their sustainability targets by lowering our own energy consumption and greenhouse gas emissions. Our customers look to us as a supplier who consistently provides innovative products that create market value and reduce the carbon footprint of their product.”



Colorado

The business response to climate change

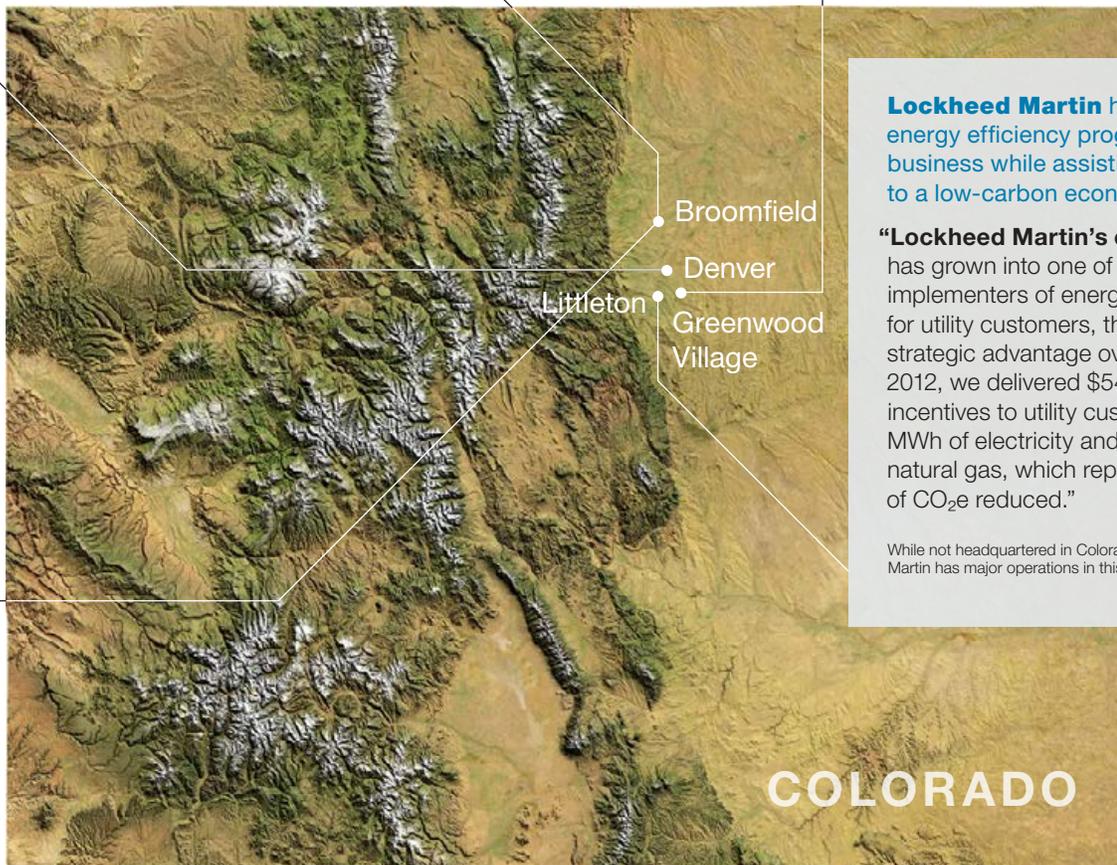
Climate regulation presents **Level 3 Communications** with new markets for low-carbon-pollution products and services, helping customers adapt to increased fuel and energy costs.

“As fuel and energy prices rise and regulations become more restrictive, many consumers will seek to reduce their consumption. The services that Level 3 offers can help these consumers reduce carbon emissions by enabling business to business and business to consumer commerce, teleworking and teleconferencing, and reduction in shipping of documents and other media.”



By integrating climate change into the core of its business strategy, **Newmont Mining** has identified innovative solutions to ensure its future profitability.

“A carbon constrained future will be a challenge to our energy-intensive industry... requiring a new, comprehensive strategy that includes new business practices and investments. Being well prepared for these challenges will create a strategic advantage for our business by minimizing risks and capitalizing on potential opportunities... Regulatory risks of climate change drove Newmont’s decision to explore producing our own carbon-neutral biodiesel, developing our own renewable energy credits at our 2 MW Bridal Veil Hydro Plant versus buying them from the electric utility, and building our own solar plant.”



Lockheed Martin helps utilities implement energy efficiency programs, generating new business while assisting others in the transition to a low-carbon economy.

“Lockheed Martin’s energy services practice has grown into one of the nation’s largest implementers of energy efficiency programs for utility customers, thus providing us with a strategic advantage over our competitors. In 2012, we delivered \$54 million in energy savings incentives to utility customers and saved 670,000 MWh of electricity and 10.7 million therms of natural gas, which represents 443,000 metric tons of CO₂e reduced.”

While not headquartered in Colorado, Lockheed Martin has major operations in this state.



Michigan

Michigan highlights

Michigan companies that disclose to CDP are developing energy efficient products that meet growing consumer demand for goods that will help them transition to a low-carbon economy.

An overwhelming number of Michigan companies see opportunities arising from regulation, particularly around product efficiency and fuel or energy efficiency standards. Companies are considering the full carbon lifecycle of their products, such as building materials, vehicles and household appliances, and are prepared to help consumers access the emissions reductions and cost saving potential of their products.

93%

say climate regulation presents a business opportunity; of those, 50% say regulation could increase demand for new or existing products and services, and 42% say regulation could reduce operating or capital costs.



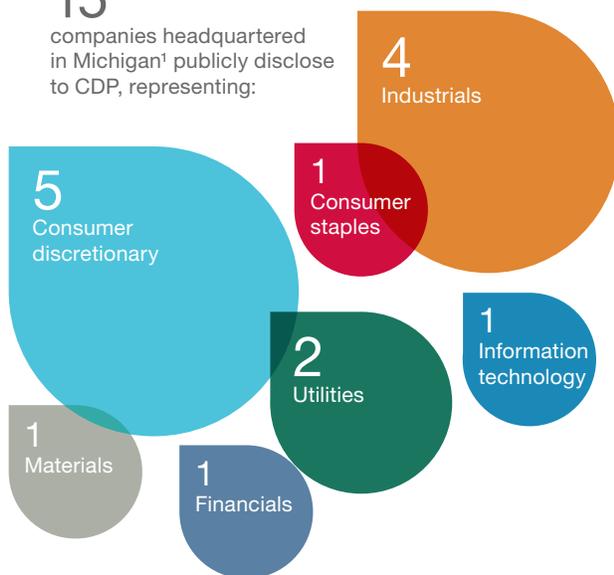
73%

already produce goods and services that enable consumers to reduce carbon pollution.



15

companies headquartered in Michigan¹ publicly disclose to CDP, representing:



Managing climate change: The strategic rationale



93%

integrate climate change into their business strategy



73%

have a climate change risk management process



87%

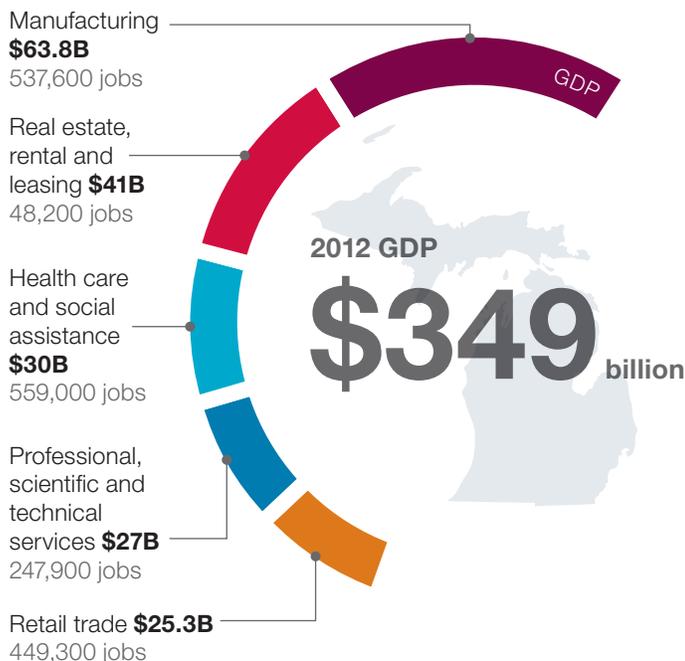
have GHG emissions reduction targets

1. See complete list of reporting companies in the appendix.

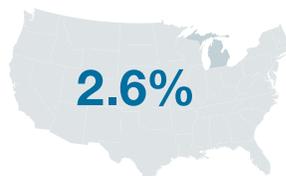
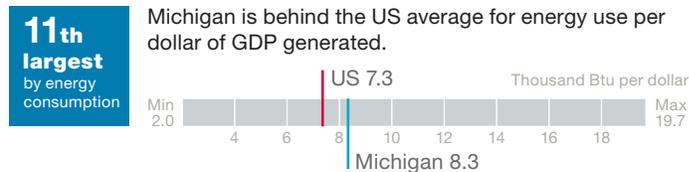
Michigan

Economy by the numbers

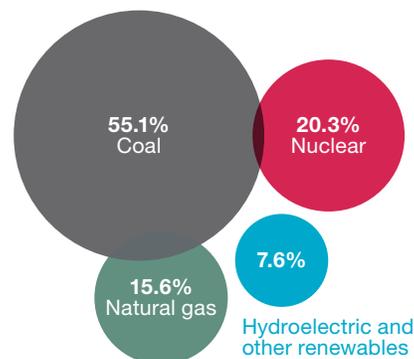
Major private industries by GDP² and the jobs they create³



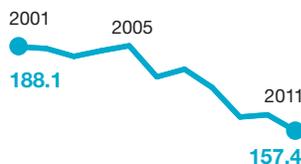
Energy consumption and electricity generation⁴



Michigan generates 2.6% of US total net electricity, using these fuel sources →



CO₂ emissions



Michigan emitted **157.4 Mt CO₂e** in 2011 (a reduction of 16.3% since 2001), approximately 40% of which was generated by the electric power sector.

“Reputational and market opportunities exist as Kellogg further communicates to our customers and consumers our efforts to ensure a sustainable food supply and promote sustainable agriculture, production and packaging. As we implement initiatives supporting our commitment to reducing our company’s impact on the environment, there are potential opportunities to enhance our reputation with our consumers and increase our market share. As more consumers recognize the importance of sustainable practices, companies such as ours will see the accompanying reputational and investment benefits.”

Kellogg Company

“At Whirlpool Corporation, we believe that working to reduce energy and water usage and greenhouse gas emissions is not only the right thing to do, it also is an outcome of our business strategy to provide the best products and services that meet consumer needs and manage our global operating platform in the best way possible... Our greenhouse gas emission target focuses not only on reducing the emissions from our operations, but also on the emissions created by an appliance during its in-home use.”

Whirlpool Corporation

“We have a comprehensive, science-based global strategy to reduce greenhouse gas (GHG) emissions from our products and processes while working cooperatively with the public and private sectors to advance climate change solutions.

“We are taking a holistic approach to the issue, recognizing that it affects all parts of our business and is interconnected to other important issues, from water availability and energy security to human rights.”

Ford Motor Company

2. Values reflect real GDP (chained 2005 dollars). Source: [Bureau of Economic Analysis](#).

3. Source: Michigan Department of Technology, Management & Budget, [“Industry Employment \(CES\) 2012, not seasonally adjusted.”](#)

4. Sources: Energy Information Administration, US Department of Energy: [“Michigan State Energy Profile,”](#) updated May 15, 2014; [“State CO₂ Emissions,”](#) updated February 25, 2014; [“Table C12. Total Energy Consumption, Gross Domestic Product \(GDP\), Energy Consumption per Real Dollar of GDP, Ranked by State, 2011.”](#)

Michigan

Risks and opportunities

What is driving risk?



Uncertainty surrounding new regulation



Changing consumer behavior



Fuel/energy taxes and regulations

What is driving opportunity?



Changing consumer behavior



Product efficiency regulations & standards



Fuel/energy taxes and regulations

“Uncertainty associated with lack of

cohesive regulatory strategy and unclear goals... may create a fractured demand for various technologies, some of which Visteon may not be well positioned to provide technologies for.”

Visteon

“Consumer preferences are expected

to follow a trend toward more environmentally friendly, advanced technology products. This may represent an opportunity for us to sell more of our vehicles that have incorporated advanced technologies such as hybrid/electric vehicles and fuel cells, and other environmental features (such as recycled and recyclable materials) and to appeal to carbon conscious consumers through our wider carbon reduction initiatives.”

General Motors Company



Tornado damage in Lapeer, MI

Billion-dollar disasters

Between 2003 and 2013, Michigan and surrounding states shared in bearing \$37B in estimated costs for 5 separate “billion-dollar” weather and climate disasters.



September
Hurricane Ike
(wind and flooding)
\$29.2B



Summer–Fall
Plains/Eastern
drought/heatwave
\$5.6B



June
Midwest/Mid-Atlantic
severe weather
(tornadoes and thunderstorms)
\$1.2B



July
Rockies and
Midwest severe
weather **\$1B**



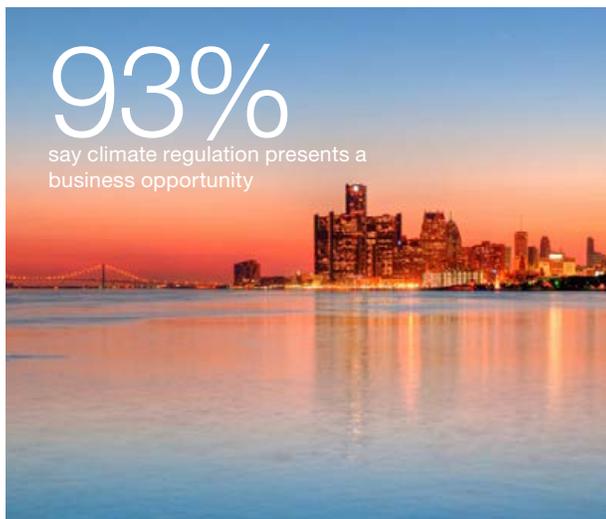
November
Ohio Valley
tornadoes
Cost TBC

2007	2008	2011	2013
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Values reflect 2013 Consumer Price Index (CPI) cost adjusted value.
Data source: National Climate Data Center, National Oceanic and Atmospheric Administration, [“Billion-Dollar US Weather/Climate Disasters 1980–2013.”](#)

Michigan

Climate regulation presenting opportunities for new products and business



93%

say climate regulation presents a business opportunity

“Visteon has the capabilities

to provide both new and existing technologies to its customers that reduce fuel/energy use in vehicles. As taxes and regulations increase the need for these technologies Visteon may be well positioned to offer a wider array of these products.”

Visteon

“Mandated requirements

for renewable energy production may result in more secure supplies of energy in the future and increased access to alternative energy options for our plants... Regulatory activity that promotes the use of renewable energy for production and transportation could prove advantageous for our company's climate change initiatives and energy supply sustainability.”

Kellogg Company

Impacts of regulation



Increased demand for existing products & services



Reduced operational costs



Investment opportunity

73%

of Michigan companies already produce goods or services that enable consumers to reduce carbon pollution

DTE Energy: Energy Optimization (EO) program, saving over 1,700 gigawatt hours for electric customers, and 3,800 million cubic feet for gas customers since in 2009.

Dow Chemical: Insulation products with estimated GHG avoided emissions of 283 million t CO₂e in 2012.

Emerson Electric: Ceiling fans with efficient motors. LED lighting. Climate control technologies. Efficient power supplies for data centers.

Ford: Fuel-efficient vehicles with EcoBoost® gasoline engines. Alternative-fueled vehicle including, hybrids, plug-in hybrids and all-electric vehicles.

GM: Chevrolet Volt, a mass-produced electric vehicle, reduces GHG emissions by 45,740 tons of CO₂ compared to a conventional vehicle.

Herman Miller: LED task lighting in place of more energy intensive overhead lighting.

Masco: Energy efficient windows that can reduce home energy costs by 20%. Environments assist builders to construct energy-efficient homes, with a goal of reducing 4 Mt CO₂e during the use phase of new homes by 2015.

Visteon: Heat pump systems and lightweight electric compressors for electric vehicles. “Zero-leak” fitting designed to eliminate refrigerant leakage in vehicle air conditioning systems.

Whirlpool: Energy-efficient appliances, with estimated CO₂e reduction of more than 13 Mt per year since 2006.

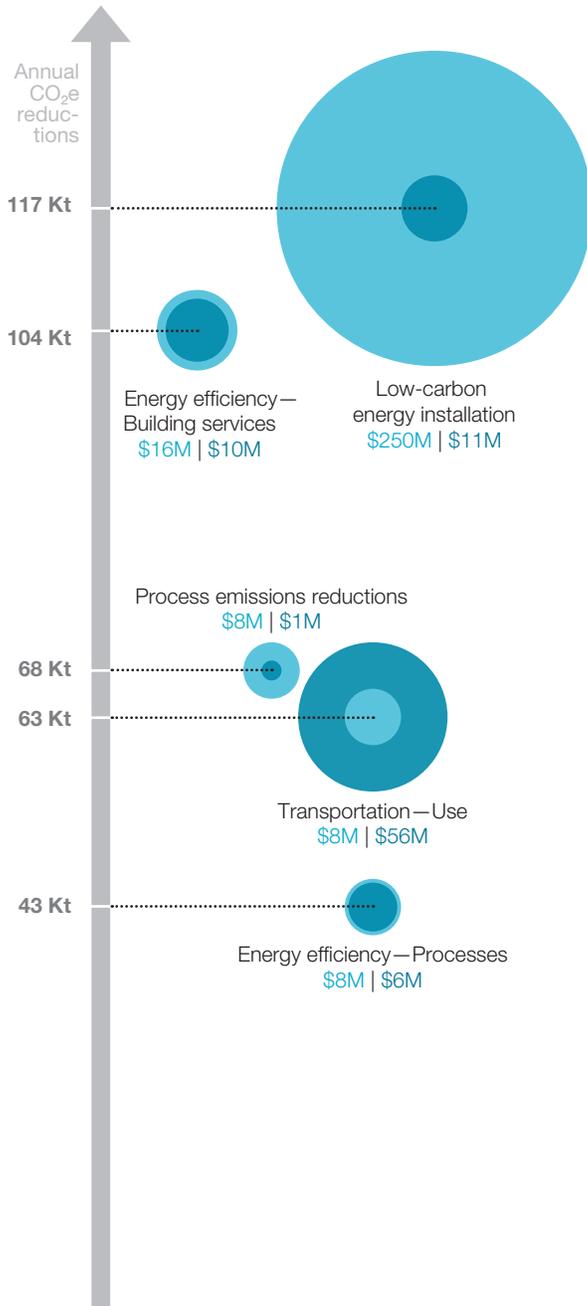
CMS Energy: Energy optimization programs to reduce electricity and natural gas usage, with approximately 1.6 Mt of avoided GHG emissions annually by 2015.

Michigan

Investments and savings

Investment in emissions reduction activities

● Investment made ● Annual monetary savings



Investment insight: Investments in product design

“Dow has committed approximately 20 percent of its \$1.7 billion R&D investment to focus harnessing the power of chemistry to make the world safer, cleaner, and greener for generations to come.”

Dow Chemical

1.4%

Companies in Michigan invested 1.4% of their combined capex in emissions reduction efforts.⁵

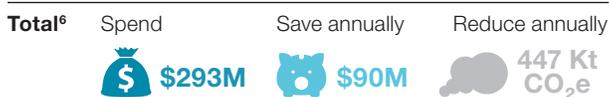
Investment case study: Investments that boost emissions reductions capabilities in operations and products

General Motors Company is investing in low-carbon energy installation, low-carbon energy purchases and energy efficiency building services from LED lighting to HVAC optimization.

In its product design, GM is investing in increased roll-out of start/stop systems, engine downsizing and a wide portfolio of liquefied petroleum gas (LPG)/Compressed Natural Gas (CNG) vehicles.

GM is also investing in energy efficiency processes in both vehicle painting and casting operations. Finally, GM is investing in efficiencies and reductions in upstream transportation.

Activities: Energy Efficiency—Building Services. Energy Efficiency—Processes. Low Carbon Energy Installation. Low Carbon Energy Purchase. Behavioral Change. Transportation—Fleet. Product Design.
Investment reported: \$25.8M
Annual monetary savings: \$73.5M
Annual GHG reductions: 218 Kt CO₂e (3% of company’s annual Scope 1 and 2 emissions)
Anticipated return on investments: 3 years or less



5. Based on 2012 capital expenditure data available from Bloomberg and CDP as of May 20, 2014.

6. Figures reflect total reported investment and savings, only the largest of which are reflected in the graphic.

7. Only projects for which companies disclosed quantitative information for both the investment required and payback period are represented.



Reducing Dow's overall energy usage and GHG emissions will reduce the potential impact of all [regulatory] risks. Dow supports energy efficiency and energy conservation with a long history of improvements where absolute energy use has decreased by 20% since 2005.

Any regulatory action that results in increased energy prices provides Dow with the opportunity to increase sales of its Building and Construction products, particularly those insulation products that can help the end users reduce energy consumption. To further develop these opportunities Dow is actively working to expand existing products and to develop new products that will allow customers to better meet the regulatory requirements.

Dow Chemical



Responding to climate change with energy-efficient operations and processes

Minnesota

Minnesota highlights

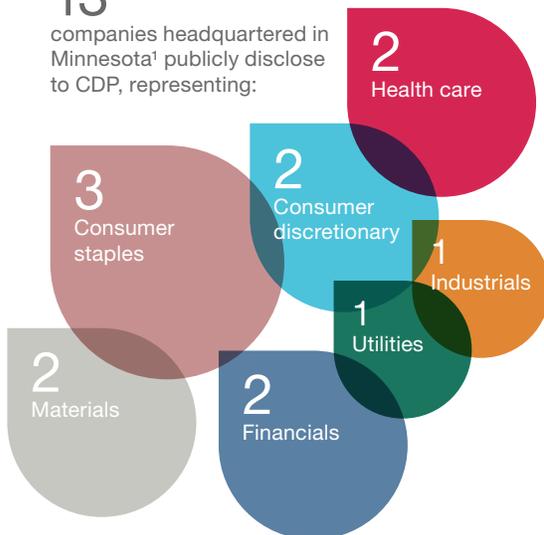
Minnesota companies that disclose to CDP envision a low-carbon economy in which growth in revenue is decoupled from reliance on carbon-intensive energy sources.

Companies are setting targets for carbon pollution reductions and investing in a variety of activities to achieve those reductions—now and for the long term. Companies see even greater potential costs savings and business value through climate change regulation—and they are turning to policy makers for certainty.



13

companies headquartered in Minnesota¹ publicly disclose to CDP, representing:



Managing climate change: The strategic rationale

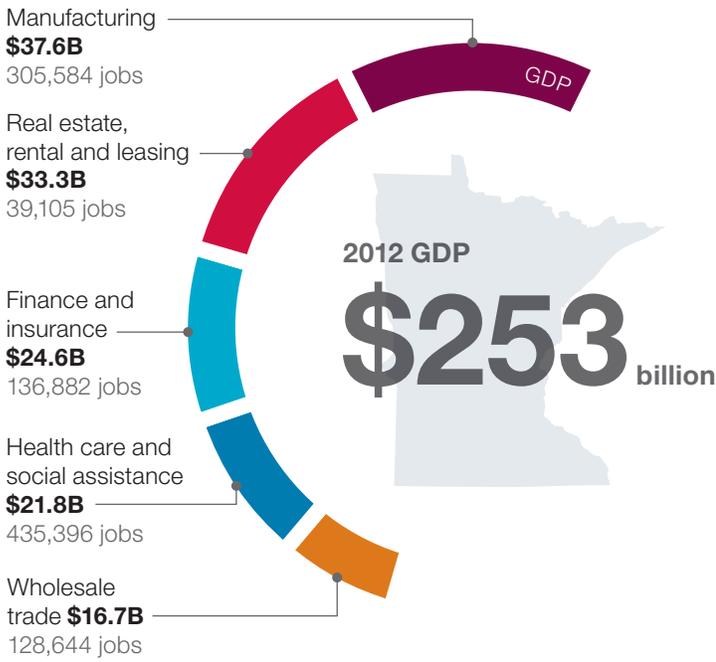


1. See complete list of reporting companies in the appendix.

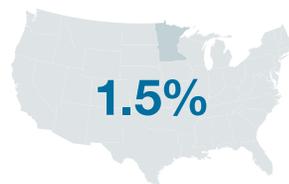
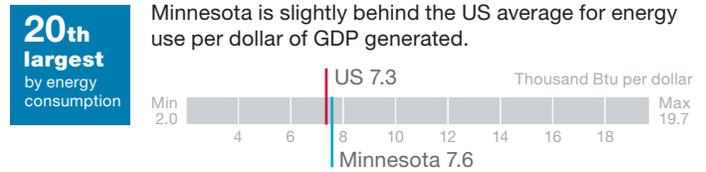
Minnesota

Economy by the numbers

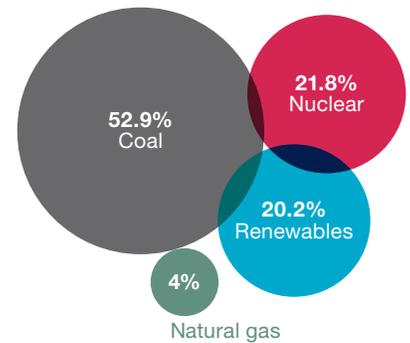
Major private industries by GDP² and the jobs they create³



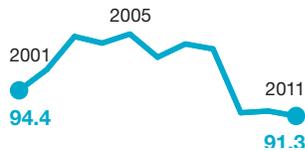
Energy consumption and electricity generation⁴



Minnesota generates 1.5% of US total net electricity, using these fuel sources →



CO₂ emissions



Minnesota emitted **91.3 Mt CO₂e** in 2011 (a reduction of 3.3% since 2001), approximately 30% of which was generated by the electric power sector.

“Due to the financial implications of increasing energy costs and possible carbon/energy taxes, Mosaic is committed to continuously working to improve our use of energy, lower our emissions and prepare for potential climate change and associated regulation. Mosaic has a broad strategic business plan designed to help us meet or exceed production and profitability requirements.”

The Mosaic Company

“Our customers are setting aggressive environmental goals, and our ability to help them meet those goals is a competitive advantage. We are committed to developing products and services that help our customers provide clean environments for their customers and employees, run their businesses efficiently, optimize their water and energy use, and reduce waste.”

Ecolab Inc.

“Climate change is a serious issue with broad implications for agriculture and the world’s food supply. We see a clear role for responsible companies to help mitigate the risk of climate change. Our primary focus is reducing our GHG emissions in our operations through improved energy efficiency and the use of low-carbon energy sources.”

General Mills Inc.

2. Values reflect real GDP (chained 2005 dollars). Source: [Bureau of Economic Analysis](#).

3. Source: Minnesota Department of Employment and Economic Development, [“Quarterly Census of Employment and Wages \(QCEW\) 2012.”](#)

4. Sources: Energy Information Administration, US Department of Energy [“Minnesota State Energy Profile”](#) updated May 15, 2014; [“State CO₂ Emissions”](#) updated February 25, 2014; [“Table C12. Total Energy Consumption, Gross Domestic Product \(GDP\), Energy Consumption per Real Dollar of GDP, Ranked by State, 2011.”](#)

Minnesota

Risks and opportunities

What is driving risk?



Change in precipitation extremes and droughts



Changing consumer behavior



Carbon taxes

“Our supply chain may be vulnerable to climate change impacts of extreme weather events, especially in coastal regions, as our raw materials may rely on refining capacity that resides on the coast. The interconnectedness of the chemical supply chain means that shortages of critical basic materials (e.g., ethylene oxide) could have far-reaching consequences for finished chemical products.”

Ecolab Inc.

What is driving opportunity?



Product efficiency regulations & standards



Other regulatory drivers



Reputation

“To address environmental issues and reduce risk, we have been able to invest in environmental initiatives that create a fair return on our investments, and reduce regulatory uncertainty and regulatory lag in recovering our investments.”

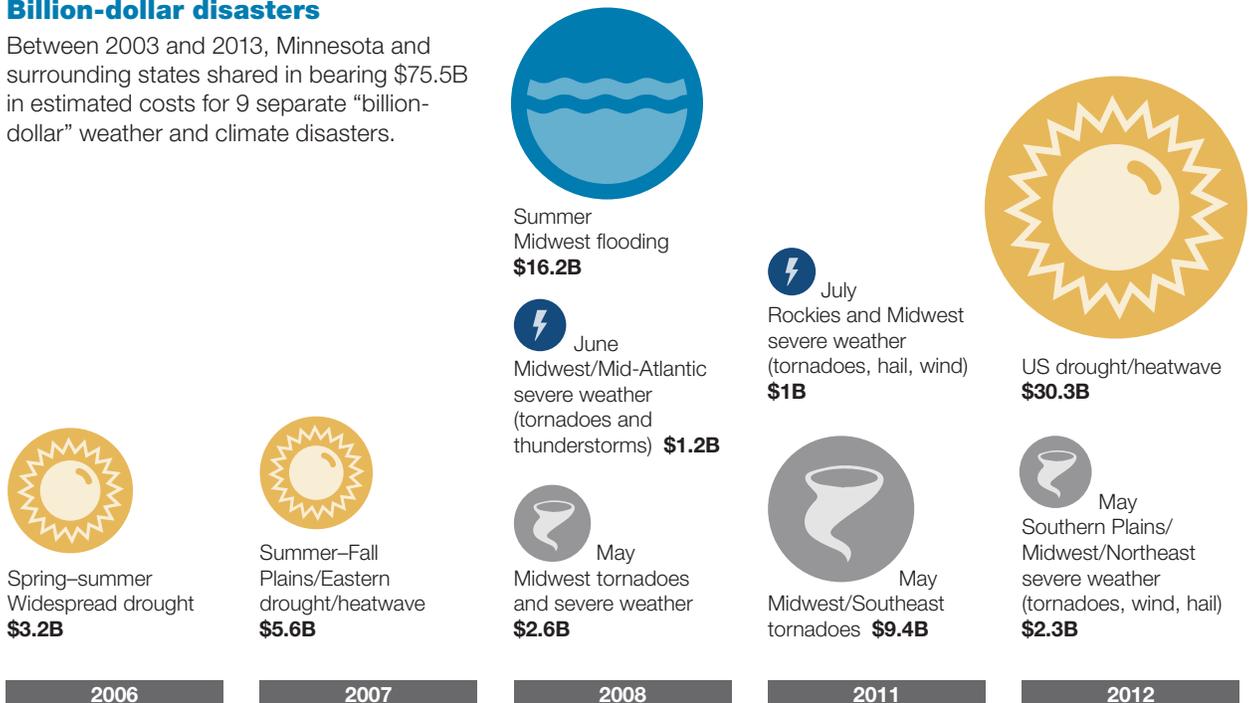
Xcel Energy Inc.

“Investors are also looking to invest more in companies with strong reputations and success.”

U.S. Bancorp

Billion-dollar disasters

Between 2003 and 2013, Minnesota and surrounding states shared in bearing \$75.5B in estimated costs for 9 separate “billion-dollar” weather and climate disasters.



Values reflect 2013 Consumer Price Index (CPI) cost adjusted value.
 Data source: National Climate Data Center, National Oceanic and Atmospheric Administration, [“Billion-Dollar US Weather/Climate Disasters 1980–2013.”](#)

Minnesota

Regulation for energy efficiency and business advantage

69%

of Minnesota companies identify climate regulation as driving opportunities

“3M has made significant reductions in GHG emissions.

As regulations are established, we may have an advantage over our competitors in our ability to comply with emerging regulations... By being able to better manage our compliance with global regulations, we may be able to have lower compliance costs and be able to offer our products at more competitive pricing.”

3M Company

“Multiple federal and regional efforts have emerged that

seek to put a price on carbon...The end objective of policymakers is to reduce the price disparity between carbon-based and alternative energy sources [and] establish increased certainty for future energy prices and regulations... In addition to the certainty that would come from the establishment of significant carbon regulations, we believe that Target could benefit...

“Over 10 years of substantial investments in energy efficiency will position Target well to compete in an economy where energy costs increase. Strategies that de-couple our business operations from carbon-based energy sources will reduce our exposure to price fluctuations and help the organization to manage expense.”

Target Corporation



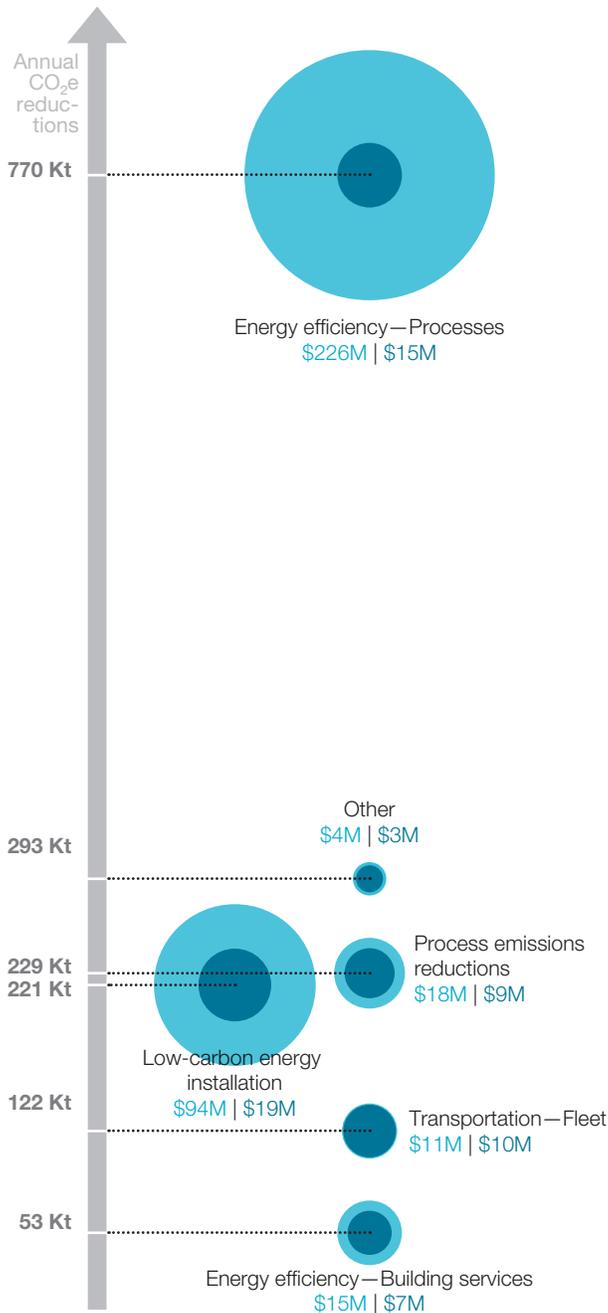
Minnesota State Capitol in St. Paul, MN

Minnesota

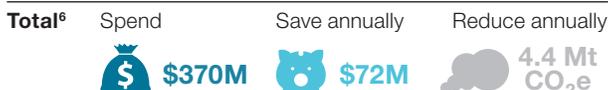
Investments and savings

Investment in emissions reduction activities

● Investment made ● Annual monetary savings



“Other” includes wind energy purchase, employee monetary incentives, and packaging redesign.



Investment insight: Investing in low-carbon assets to guard against fuel volatility

“The most important short and long term strategies that have been influenced by climate change [include] continuing to acquire renewable energy... For example, our recent wind acquisitions have allowed us to obtain wind at a price competitive with fossil generating resources while providing a long-term price hedge against fuel volatility. It also helps provide a diverse portfolio of resources which prevents over reliance on one form of energy production.”

Xcel Energy Inc.

2.3%

Companies in Minnesota invested 2.3% of their combined capex in emissions reduction efforts.⁵

Investment case study: Converting operations with low-carbon assets

The Mosaic Company undertook a number of voluntary low carbon energy projects, such as an 11 MWh turbine generator and new transmission electricity lines, reducing energy needs and associated GHG emissions for the long term.

Activity: Low-carbon energy installation
Investment reported: \$15M
Annual monetary savings: \$4.9M
Annual GHG reductions: 175 Kt CO₂e (4% of company’s annual Scope 1 and 2 emissions)
Anticipated return on investment: 4–10 years

5. Based on 2012 capital expenditure data available from Bloomberg and CDP as of May 20, 2014.

6. Figures reflect total reported investment and savings, only the largest of which are reflected in the graphic.

7. Only projects for which companies disclosed quantitative information for both the investment required and payback period are represented.



At the center of our operational strategy is an absolute carbon reduction goal... The primary drivers in establishing this goal was the recognition of the risks posed to the enterprise by increasing energy costs and a belief that exploring and developing business opportunities in a low carbon economy will generate value for the enterprise. In particular, we believe that deepening our understanding of clean energy technologies and engaging in renewable energy purchases will provide long-term business advantage in the consumer electronics industry.

We believe there is strategic advantage in creating and providing customer value propositions that help customers live more sustainable lives, which drives growth and profitability for our company.

Best Buy Inc.



**Growing business
in a low-carbon
economy**



North Carolina

North Carolina highlights

North Carolina companies that disclose to CDP are acutely aware of climate change risks presented by extreme weather.

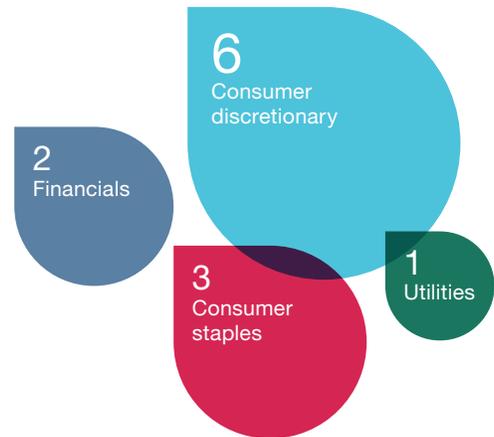
Companies that are reliant upon a stable supply of natural resources, such as apparel companies whose primary inputs include raw materials, are looking to manage physical and other risks by integrating climate change into core strategies and risk processes. Businesses are viewing disruptions caused by climate change as a “macro-level” issue that could have a multi-sector impact.

92% integrate climate change into their business strategy.

83% have a climate change risk management process.

12

companies headquartered in North Carolina¹ publicly disclose to CDP, representing:



What is driving risk?

Uncertainty surrounding new regulation

Uncertainty of physical risks

Reputation

Physical climate change risks could affect availability, quality and cost of raw materials, potentially having a significant impact on companies that rely on them for their products.

“Weather changes may affect the ability of [US Cotton] to source cotton for our products... Changes in temperature and rainfall may reduce the supply of cotton and increase our product unit cost.”

US Cotton

“Decreased water availability and extreme weather events on agriculture could increase supplier costs... [leading to a] reduction/disruption in production capacity.”

Golding Farm Foods

What is driving opportunity?

Changing consumer behavior

Renewable energy regulation

Reputation

Businesses are proactively managing climate change risks and opportunities by embedding them into their business strategies.

“Climate change...is one of the largest macro-level issues facing our industry. As a result, it significantly influences our business strategies... One concrete example is in planning for new power plants to meet future customer demand—we directly incorporate climate change risk by evaluating a range of future prices on CO₂ emissions.”

Duke Energy Corporation

1. See complete list of reporting companies in the appendix.

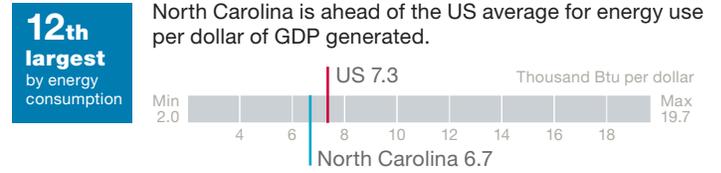
North Carolina

Economy by the numbers

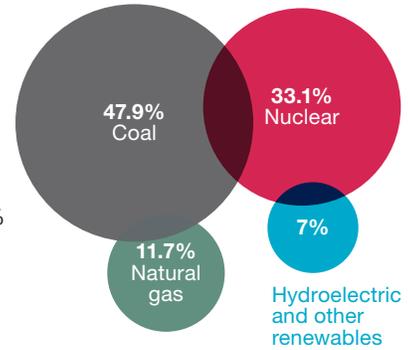
Major private industries by GDP² and the jobs they create³



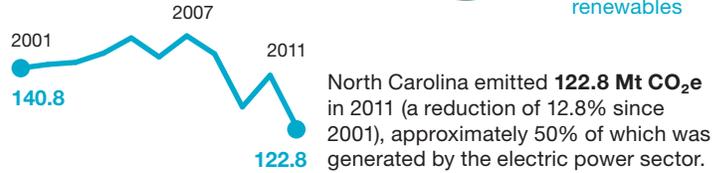
Energy consumption and electricity generation⁴



North Carolina generates 3.2% of US total net electricity, using these fuel sources →

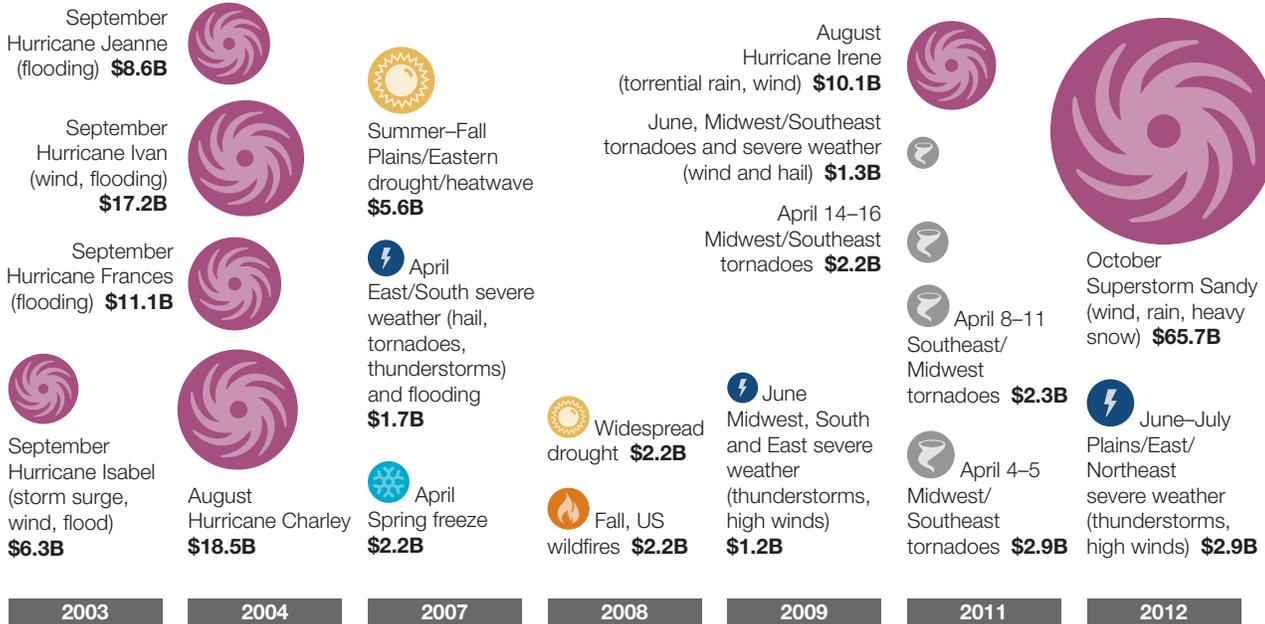


CO₂ emissions



Billion-dollar disasters

Between 2003 and 2013, North Carolina and surrounding states shared in bearing \$164.2B in estimated costs for 18 separate "billion-dollar" weather and climate disasters.



Values reflect 2013 Consumer Price Index (CPI) cost adjusted value. Data source: National Climate Data Center, National Oceanic and Atmospheric Administration, "Billion-Dollar US Weather/Climate Disasters 1980-2013."

2. Values reflect real GDP (chained 2005 dollars). Source: Bureau of Economic Analysis. 3. Source: Labor and Economic Analysis Division, N.C. Department of Commerce, "Current Employment Statistics (CES) September 2012, unadjusted." 4. Sources: Energy Information Administration, US Department of Energy "North Carolina State Energy Profile," updated May 15, 2014; "State CO₂ emissions," updated February 25, 2014; "Table C12. Total Energy Consumption, Gross Domestic Product (GDP), Energy Consumption per Real Dollar of GDP, Ranked by State, 2011."



For our society to meaningfully address climate change, total annual clean energy investment needs to average \$500 billion annually by 2020. However, [in 2012] the level dropped by 11% to \$268 billion, driven partly by ongoing regulatory uncertainty in Europe and the United States. This unpredictable regulatory environment is likely to continue, at least in the short term. Regulatory uncertainty presents specific risks to our participation in the global transition to a low-carbon economy...

The price of carbon is seen as potentially providing the incentive necessary for investment to facilitate the transition to low-carbon technologies. The price of carbon can be impacted significantly by a lack of regulatory clarity so that the financial incentive is not sufficiently powerful to effect change, slowing the level of investment in clean technologies. The impact of legislative uncertainty on carbon markets is pervasive and affects all aspects of carbon markets—as they are by their nature policy-driven.

Bank of America



Regulatory certainty is a necessary element to drive investments in low-carbon solutions

Bank of America
Charlotte, NC

Image courtesy Skidmore, Owings & Merrill
Photo Jon Miller © Hedrich Blessing

North Carolina

The business response to climate change

Hanesbrands Inc is achieving annual cost reductions through energy efficient practices that improve Hanesbrands' profitability.

"The steps that Hanesbrands has taken to conserve natural resources through conservation, recycling and expanded use of sustainable materials are a part of the company's key strategy to reduce costs and reduce our impact on the environment...

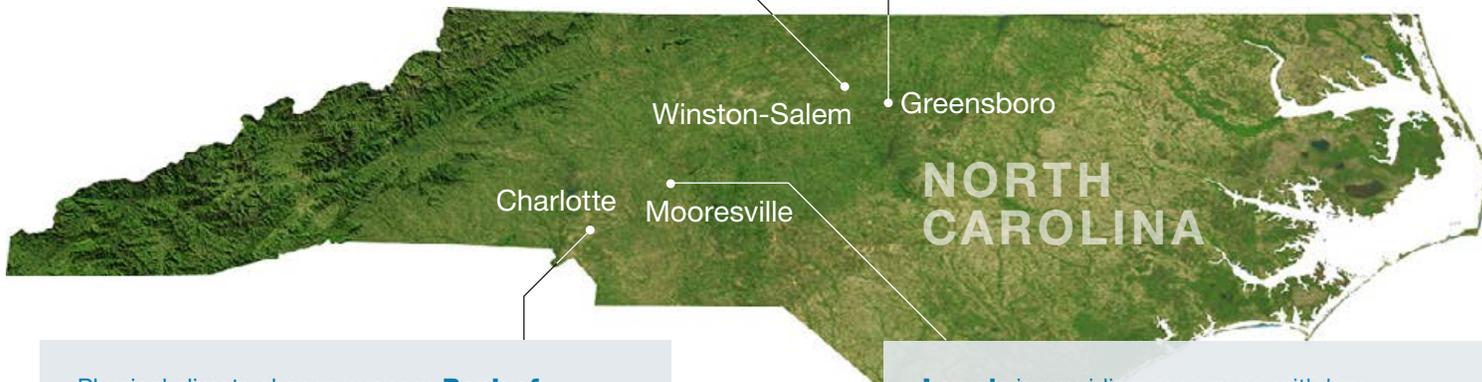
"These reductions may provide opportunities in the marketplace as a result of cost reduction and potential increased consumer preference for our products. Cost reductions as a result of energy conservation efforts are approximately \$20 million annually and contribute to improved earnings."



VF Corporation is pursuing low-carbon strategies to remain competitive in its industry and attractive to its customers.

"Outdoor and action sports lifestyle products comprise a large percentage of our business. The demographic that defines this consumer shows they are concerned with sustainability issues. Therefore, we understand in order to stay relevant and competitive with these consumers, we must actively pursue strategies to reduce our carbon and overall environmental footprint...

"We have conducted numerous life cycle assessments and are identifying ways to improve the environmental performance of many of our products."



Physical climate change exposes **Bank of America** and its customers to a multitude of risks.

"We are exposed to the impacts our clients face from physical climate changes, particularly in vulnerable sectors such as water resources, agriculture, energy, transportation and tourism... A business customer's profitability and viability could be affected by the physical impacts of climate change in a range of ways, from changing market conditions affecting supply and demand, increasing operational, capital maintenance and insurance costs, to reduced staff health, safety and productivity and increased asset depreciation rates.

"If the profitability or viability of a customer, or worse, a group of customers in a particular location, is adversely affected, this could have an adverse economic effect on banks such as ours that provide investment and other financing services to the customer(s)."



Lowe's is providing consumers with low-carbon, low-cost household products.

"We recognize our unique opportunity to engage with suppliers and customers to offer exceptional products promoting energy efficiency and environmental sustainability... In 2012 Lowe's sold enough ENERGY STAR® products to eliminate greenhouse gases equivalent to the emissions from nearly 1.8 million cars over the lifetime of the products, or save consumers more than \$1.7 billion in utility costs over the lifetime of the products, versus the use of products that are not ENERGY STAR® qualified."



Ohio

Ohio highlights

Ohio companies that disclose to CDP are helping consumers reduce carbon pollution and cut costs by producing smarter household items that use less energy and emit less CO₂e in the full lifecycle of the product.

Reputation and changing consumer behavior are considered top-rated risks—as well as opportunities. Companies see the chance to grow profits in new and existing products if consumers judge them to be responsible on climate change. Companies are doing what they can to manage, mitigate and profitably get ahead:

- through innovation, by redesigning everyday consumer goods for a low-carbon economy; and
- by embedding energy efficiency into their operations and products to help consumers save money and lower their energy bills.

72%

who see opportunities arising from reputation or changing consumer behavior say they expect increased demand for existing or new goods and services within the next 5 years.



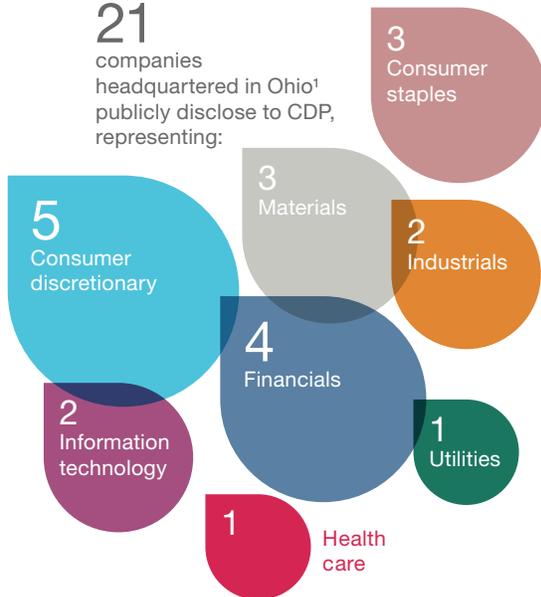
57%

are already producing goods or services that enable consumers to reduce carbon pollution.



21

companies headquartered in Ohio¹ publicly disclose to CDP, representing:



Managing climate change: The strategic rationale



76%

integrate climate change into their business strategy



81%

have a climate change risk management process



67%

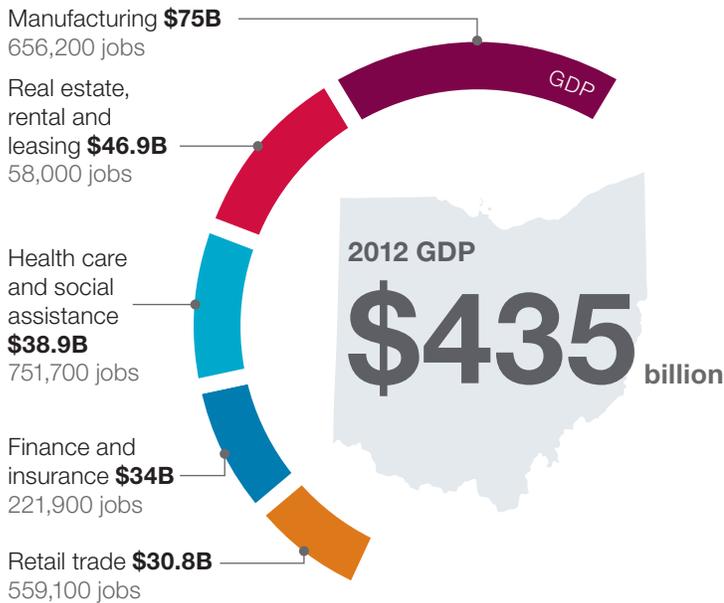
have GHG emissions reduction targets

1. See complete list of reporting companies in the appendix.

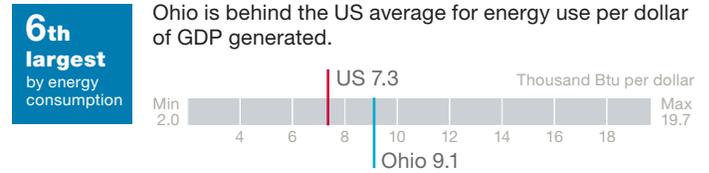
Ohio

Economy by the numbers

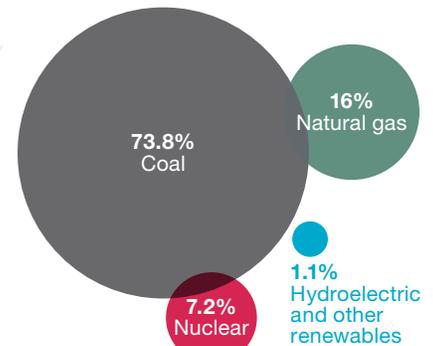
Major private industries by GDP² and the jobs they create³



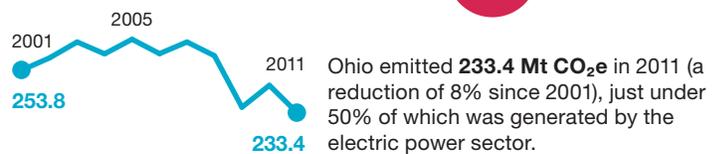
Energy consumption and electricity generation⁴



Ohio generates 3.5% of US total net electricity, using these fuel sources →



CO₂ emissions



“We believe that our

customers, associates and shareholders expect us to engage in our communities, reduce our impacts on the environment and continue to create positive economic value over the long term, which translates into customer loyalty, increased sales and a strategic advantage over our competitors.”

Kroger

“To the extent we outperform

competitors in recognizing risks and opportunities related to climate change, we can better serve all stakeholders... We can offer our insurance policyholders new products, such as coverage for green buildings, allowing them to rebuild damaged buildings so they become more energy efficient despite potential changes in temperature extremes. To the extent that our insurance underwriting and pricing is appropriate we can grow our business with adequate profitability to benefit our insurance agencies and shareholders.”

Cincinnati Financial Corporation

“Parker Hannifin

produces products that are strategically designed to help reduce energy use, emissions and resource use (such as fuel and water) that are likely to be impacted by climate change in the future. This has given Parker Hannifin a clear advantage against our market segment competitors for several years.”

Parker-Hannifin Corporation

2. Values reflect real GDP (chained 2005 dollars). Source: [Bureau of Economic Analysis](#).

3. Source: Ohio Labor Market Information, Ohio Department of Jobs and Families, “[Employment by Industry, Not Seasonally Adjusted, Average 2012](#).”

4. Sources: Energy Information Administration, US Department of Energy “[Ohio State Energy Profile](#),” updated May 15, 2014; “[State CO₂ Emissions](#)” updated February 25, 2014; “[Table C12. Total Energy Consumption, Gross Domestic Product \(GDP\), Energy Consumption per Real Dollar of GDP, Ranked by State, 2011](#).”

Ohio

Risks and opportunities

What is driving risk?



Reputation



Changing consumer behavior



Uncertainty surrounding new regulation

“The Sherwin-Williams Company is

sensitive to its stakeholders’ perceptions and works hard to earn its reputation as a conscientious community participant... Failure to accept our responsibility and reduce our emissions and impact on climate change may result in reduced demand for our goods and services.”

Sherwin-Williams Company

What is driving opportunity?



Reputation



Changing consumer behavior



Fuel/energy taxes and regulations

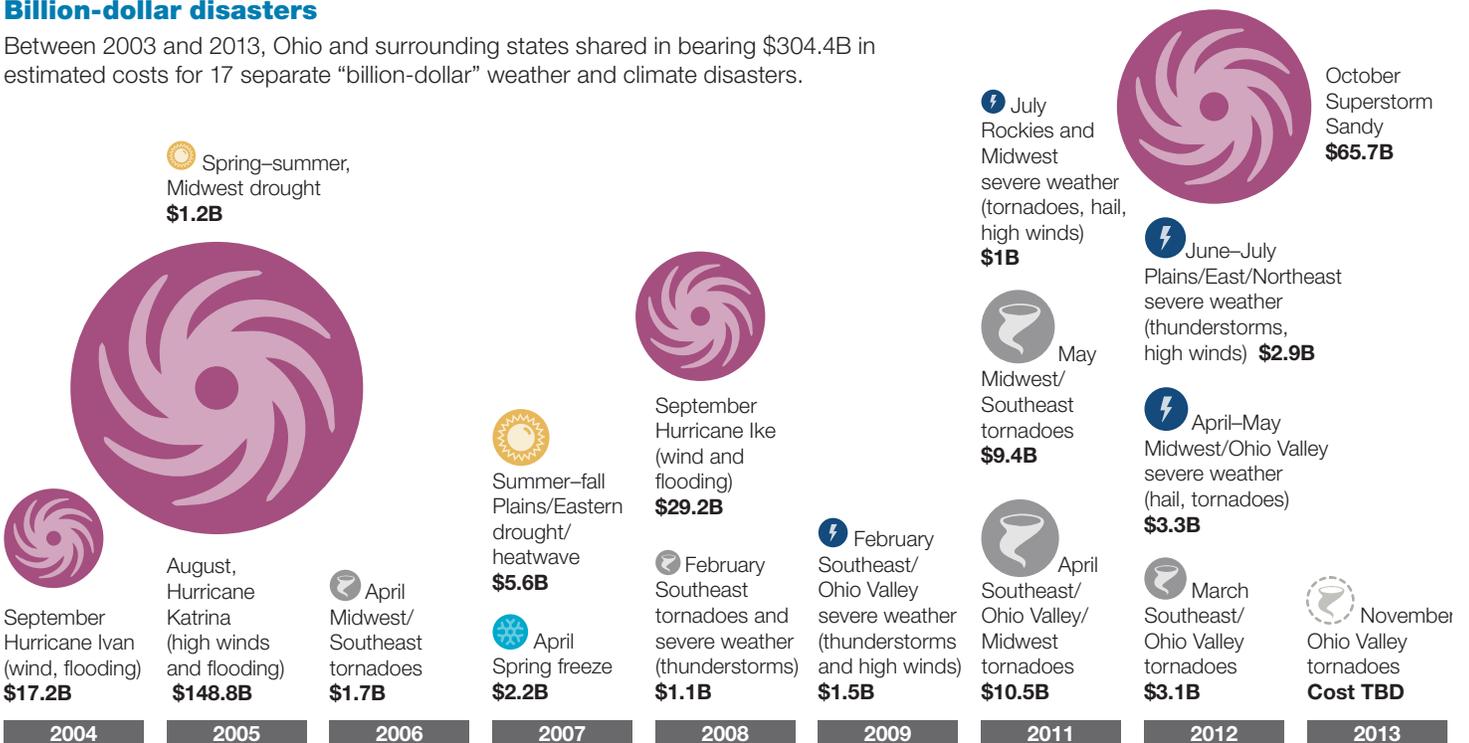
“Fuel/energy taxes and regulations are

already implemented in many regions and industries and may increase as a result of climate change regulation. As Parker manufactures products that could help other business be more efficient and use less fuel, increased fuel/energy taxes can increase the demand for our products and services in many geographic regions and industries.”

Parker-Hannifin Corporation

Billion-dollar disasters

Between 2003 and 2013, Ohio and surrounding states shared in bearing \$304.4B in estimated costs for 17 separate “billion-dollar” weather and climate disasters.



Values reflect 2013 Consumer Price Index (CPI) cost adjusted value. Data source: National Climate Data Center, National Oceanic and Atmospheric Administration, [“Billion-Dollar US Weather/Climate Disasters 1980-2013.”](#)

Ohio Innovation

57%

of Ohio companies already produce goods or services that enable consumers to reduce carbon pollution.

“By designing laundry products that can work effectively

at low temperatures the consumer can wash in “cold” water. During the laundry life cycle, 70% of energy consumption happens during the product’s use, heating the water needed to wash. Eliminating the need to heat the water cuts energy use dramatically.”

Procter & Gamble Company

“Our continued innovation in tire technology has reduced

the tire weight by 19% [and] improved the rolling resistance by a significant 25% since 2005.... Lighter tires mean significant saving in our carbon footprint from a raw materials perspective, a lower fuel consumption during the transportation of new tires from manufacturing to a dealer, less end-of-life material to be recycled and lastly a major contributor to reduced fuel [consumption] in use phase...The savings per vehicle, fitted with four low rolling resistance tires, can amount to 1,950 pounds of CO₂ saved during the life of the set of tires.”

Goodyear Tire & Rubber Company

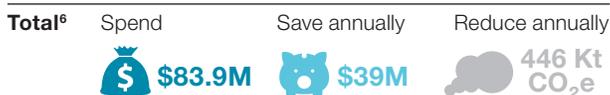
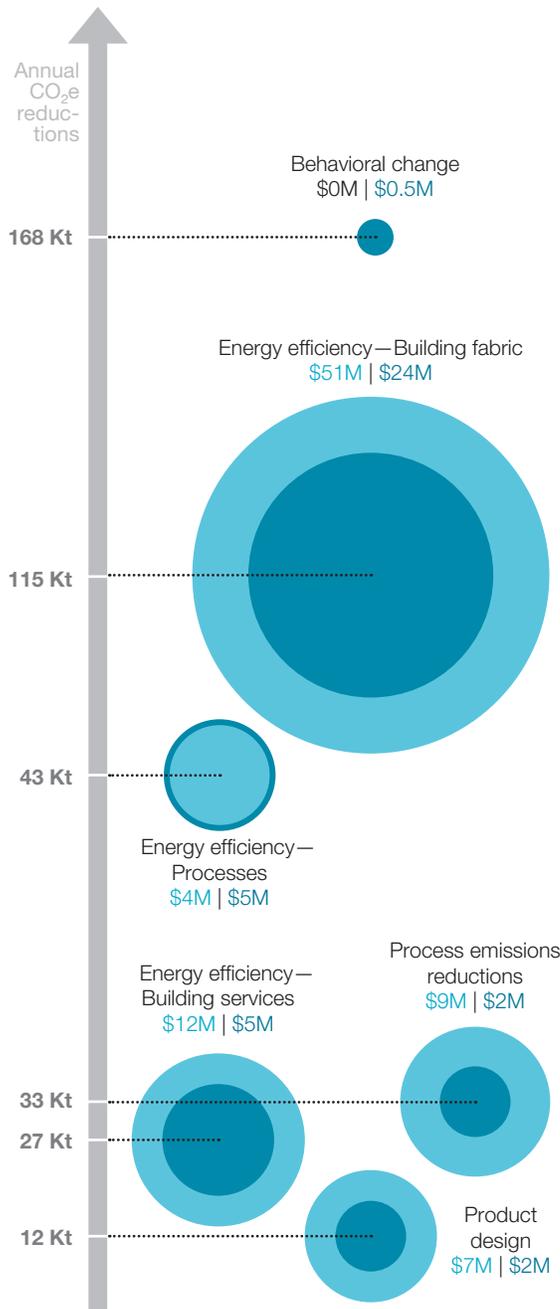


Ohio

Investments and savings

Investment in emissions reduction activities

● Investment made ● Annual monetary savings



Investment insight: Investing in energy efficiency projects...

“Key has invested significant amounts of capital during the past few years to improve energy efficiency in its retail and corporate office portfolio... Key must consume less energy and use energy more efficiently. Otherwise, our energy costs will rise, thus making us less competitive.” —**KeyCorp**

...and encouraging others to do so too

“Our endorsement of [energy efficiency] projects encourages those who are contemplating project investments, but have an uninformed bias that the cost will be impractical. Our willingness to often lead the way has often been a convincing motivator for potential investors.” —**KeyCorp**

0.5%

Companies in Ohio invested 0.5% of their combined capex in emissions reduction efforts.⁵

Investment case study: Energy efficiency investments that benefit shareholders and consumers

Kroger’s investments in emissions reduction activities are in part driven by its compliance with regulatory requirements and standards. \$47.6 million was invested in lighting retrofitting, improving refrigeration units and product design in Kroger’s 2,424 supermarkets and multi-department stores spread across 31 US states.

Activities: Product design. Energy efficiency—Building fabric.

Investment reported: \$48M

Annual monetary savings: \$16M

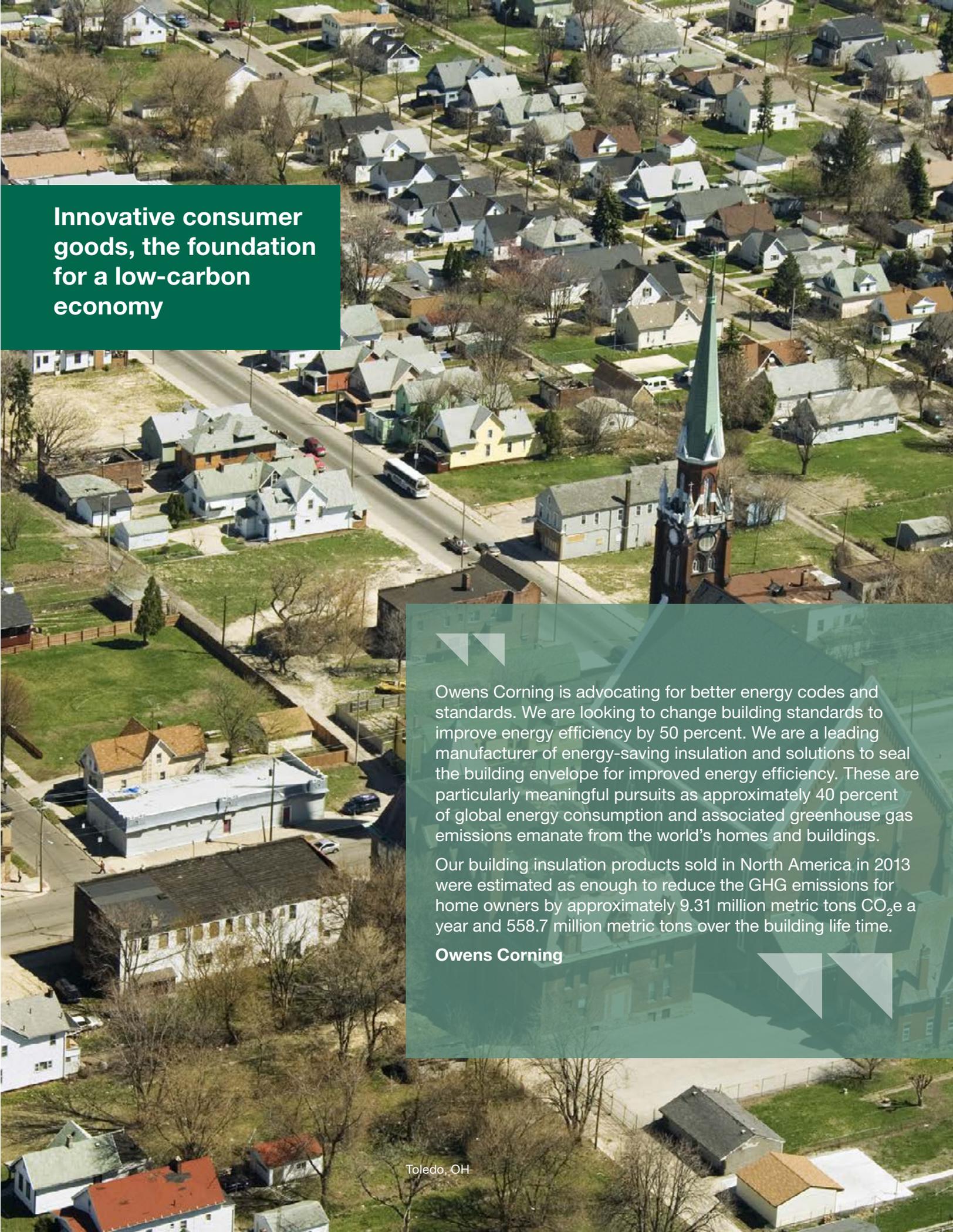
Annual GHG reductions: 110 Kt CO₂e (2% of company’s annual Scope 1 and 2 emissions)

Anticipated return on investment: Various (1–3 years and 4–10 years)

5. Based on 2012 capital expenditure data available from Bloomberg and CDP as of May 20, 2014.

6. Figures reflect total reported investment and savings, only the largest of which are reflected in the graphic.

7. Only projects for which companies disclosed quantitative information for both the investment required and payback period are represented.



Innovative consumer goods, the foundation for a low-carbon economy

Owens Corning is advocating for better energy codes and standards. We are looking to change building standards to improve energy efficiency by 50 percent. We are a leading manufacturer of energy-saving insulation and solutions to seal the building envelope for improved energy efficiency. These are particularly meaningful pursuits as approximately 40 percent of global energy consumption and associated greenhouse gas emissions emanate from the world's homes and buildings.

Our building insulation products sold in North America in 2013 were estimated as enough to reduce the GHG emissions for home owners by approximately 9.31 million metric tons CO₂e a year and 558.7 million metric tons over the building life time.

Owens Corning

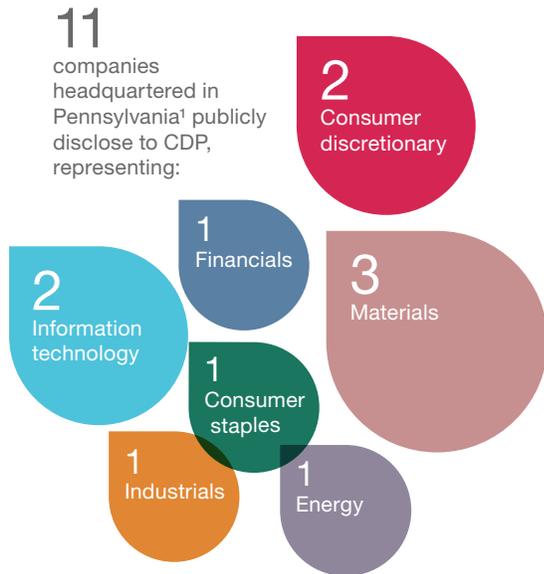
Pennsylvania

Pennsylvania highlights

Pennsylvania companies that disclose to CDP are recasting their relationship with traditional fuel and energy sources and helping consumers do the same through low-carbon product lines.

Companies are investing in projects that reduce reliance on the electricity grid, such as improving energy efficiency of buildings and changing production processes.

Further, from building products to industrial processes to financial services, Pennsylvania companies are seizing the competitive advantages available by acting early in the transition to a low-carbon economy.



Managing climate change: The strategic rationale

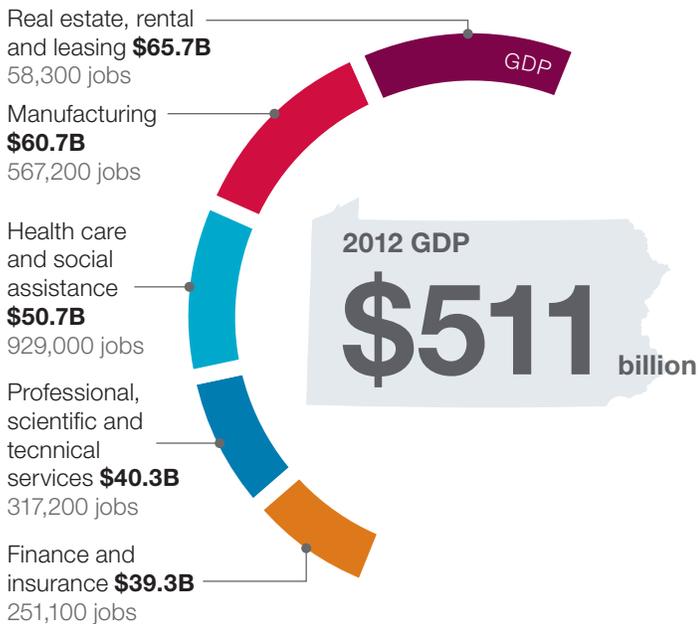


1. See complete list of reporting companies in the appendix.

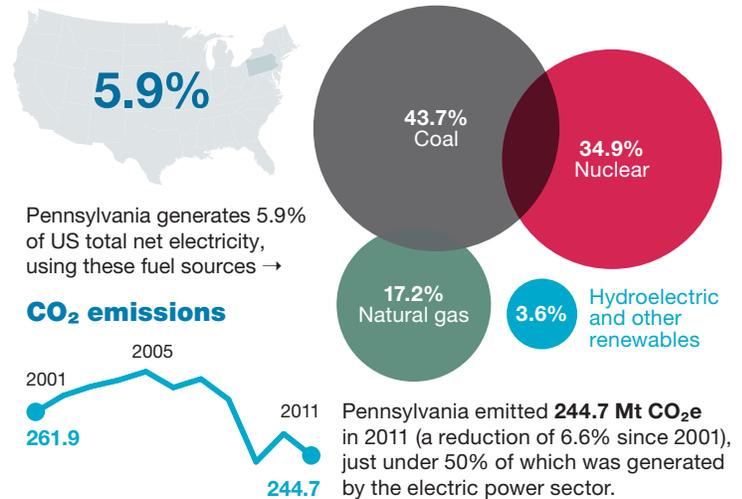
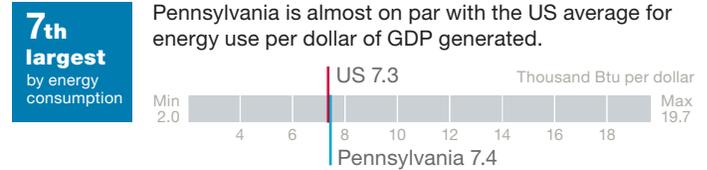
Pennsylvania

Economy by the numbers

Major private industries by GDP² and the jobs they create³



Energy consumption and electricity generation⁴



“CONSOL Energy made a strategic and transformative entry into the natural gas market to meet the energy needs of the country and adapt to new regulatory norms. By diversifying into natural gas production, CONSOL Energy created long-term value for our shareholders in the face of the continued decline in US coal-fired generation and the increased reliance on natural gas as a clean burning fuel for the future. CONSOL Energy recognizes that GHG emissions are a material concern for our company.”

CONSOL Energy

“Air Products’ strategy for responding to climate change is straight forward—identify opportunities where our core technology and product strengths bring cost-effective solutions that enable our customers to reduce their overall supply-chain environmental impact, while using innovation and efficiency improvements to reduce GHG emissions and the potential cost impacts of a carbon-constrained energy supply on our operations. These opportunities can drive top-line growth, particularly as the company applies its growth strategy of serving energy, environmental and emerging markets.”

Air Products & Chemicals, Inc.

“Energy costs and GHG emissions are of great importance to PPG...the supply and cost of natural resources has a huge impact on our businesses. Therefore, integrating opportunities related to climate change is the responsibility of each PPG strategic business unit’s annual business planning process and long-term strategic planning, guided by the corporation’s commitment to operate in a sustainable manner.”

PPG Industries, Inc.

2. Source: [Bureau of Economic Analysis](#).

3. Source: Center for Workforce Information and Analysis, Pennsylvania Department of Labor and Industry, [“2012 Current Employment Statistics \(CES\) data, Not Seasonally Adjusted, in Pennsylvania.”](#)

4. Sources: Energy Information Administration, US Department of Energy [“Pennsylvania State Energy Profile,”](#) updated May 15, 2014; [“State CO₂ Emissions”](#) updated February 25, 2014; [“Table C12. Total Energy Consumption, Gross Domestic Product \(GDP\), Energy Consumption per Real Dollar of GDP, Ranked by State, 2011.”](#)

Pennsylvania

Risks and opportunities

What is driving risk?



Change in temperature extremes



Reputation



Cap and trade schemes

“Higher mean temperatures can

potentially impact agricultural growing seasons and disease control for our primary crop ingredients such as cocoa, sugar, and nut crops... Higher mean temperatures of up to 2 degrees Celsius will intensify dry periods (to which cocoa is very vulnerable), increase evaporative rates from trees, and alter the ideal suitable areas for cocoa production.”

The Hershey Company

“Regulation of GHG emissions from

coal-fired power plants creates opportunities for fuel-switching to natural gas to meet energy demands... As downward pressure from environmental and carbon regulation is applied to the electric generating sector, increased demand for clean natural gas is on the rise... CONSOL Energy’s natural gas division has experienced a 600% increase in the past six years, and is on pace to see an increase of 8–15% in 2013 over 2012. In 2013, we have committed approximately \$800 million in capital for gas production.”

CONSOL Energy Inc.

What is driving opportunity?



Fuel/energy taxes and regulations



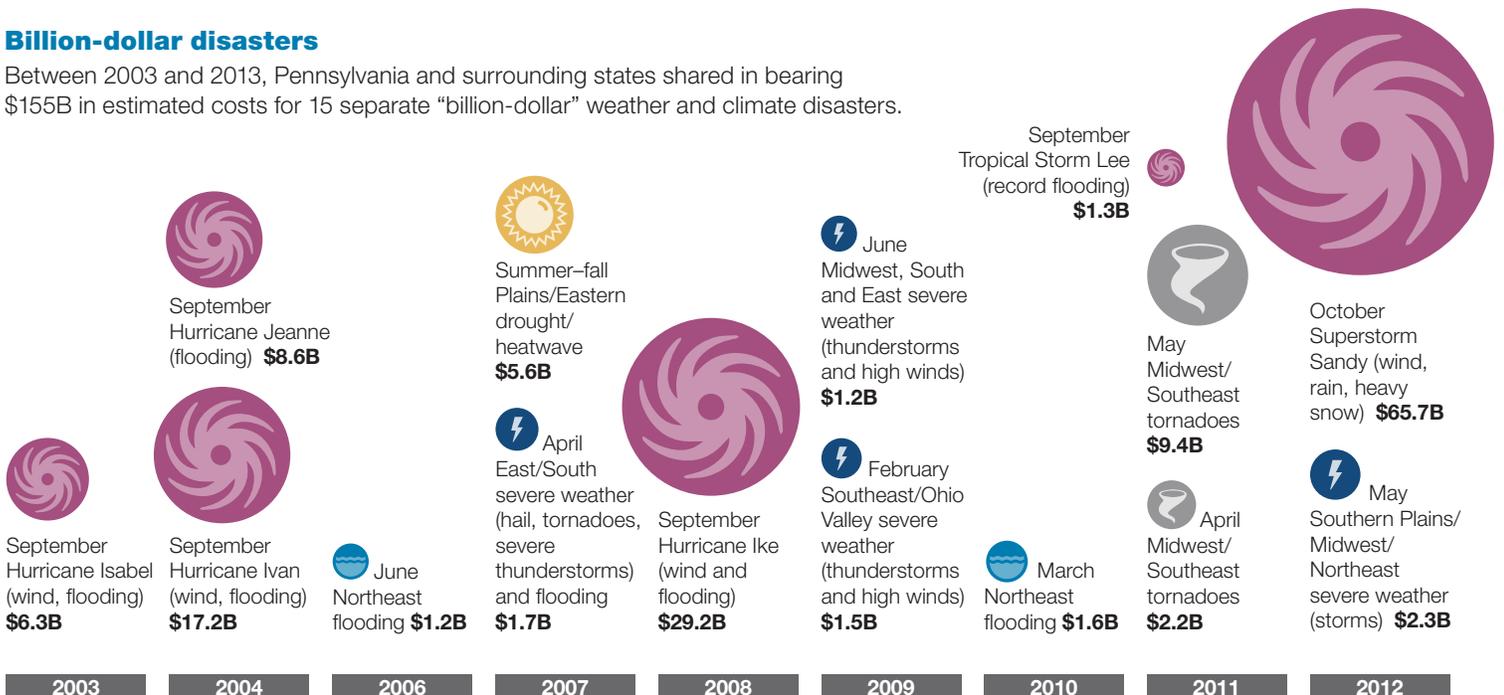
Reputation



Product efficiency regulations & standards

Billion-dollar disasters

Between 2003 and 2013, Pennsylvania and surrounding states shared in bearing \$155B in estimated costs for 15 separate “billion-dollar” weather and climate disasters.



Values reflect 2013 Consumer Price Index (CPI) cost adjusted value.
 Data source: National Climate Data Center, National Oceanic and Atmospheric Administration, [“Billion-Dollar US Weather/Climate Disasters 1980–2013.”](#)

Pennsylvania Innovation

73%

of Pennsylvania companies already produce goods or services that enable consumers to reduce carbon pollution.

Low-CO₂ goods and services

VWR: Products constructed with corn-based resins packaged in 100% recycled fibres. Consolidated shipping options using Smart-Way transportation carriers.

Wesco: LED lighting products. Fabric innerduct used in the telecommunications industry, producing 86.6% less GHG emissions in life-cycle than competitor product.

PNC: Financial products supporting low carbon investments in energy and water efficiency projects. Low impact banking tools.

Air Products & Chemicals, Inc.:

Oxy-fuel applications technology in combustion process, such as cement kilns, reducing 1 million MT/yr CO₂e. H₂ fuel stations for fuel cell zero emission vehicles; a single fuel station avoids 79 MT CO₂e.

PPG: Low-emission glass to retain furnace and solar heat in residential and commercial buildings. Material coatings with infrared-reflective pigments that deflect solar energy away from buildings, enabling them to stay cooler and consume less energy.

United States

Steel: High-strength steel products for automobiles to achieve CAFE standards for fuel efficiency.



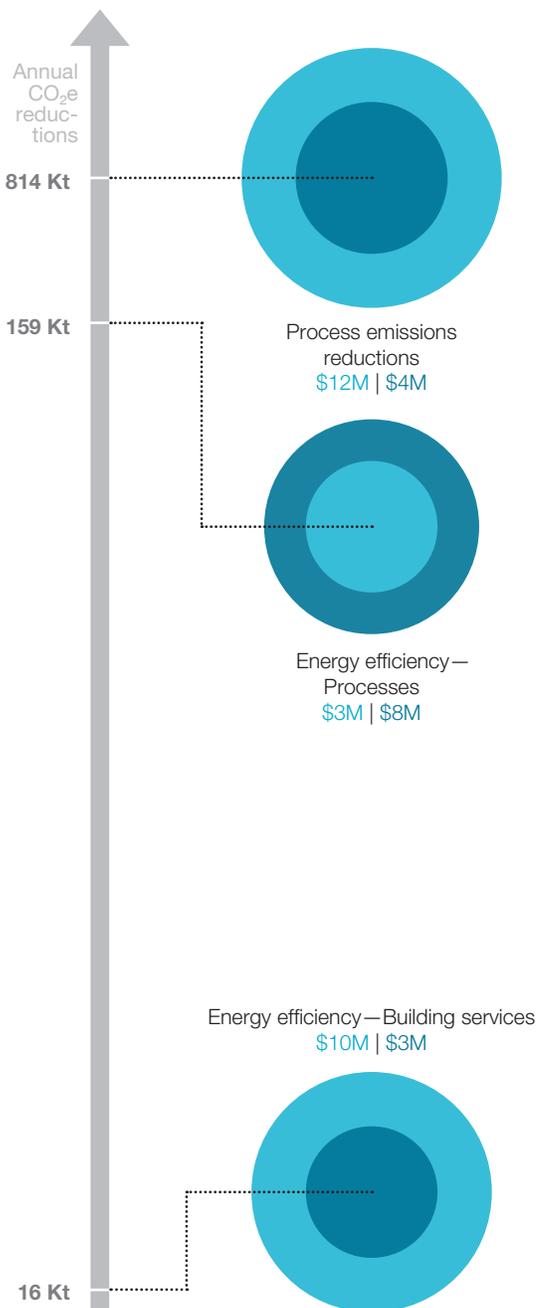
Pittsburgh, PA

Pennsylvania

Investments and savings

Investment in emissions reduction activities

● Investment made ● Annual monetary savings



Investment insight: Investing in high-performance, low-carbon assets

“Over the past three years, [PNC’s] key initiatives to reduce emissions from building energy use include high performance new construction, \$32 million investment in lighting upgrades, and improvements to HVAC equipment... [PNC constructed] a 4,900 square foot net-zero energy bank branch to reduce PNC’s Scope 1 emissions from refrigerants, and Scope 2 emissions from purchased electricity. The building expects to generate 84,000 kWh per year through on-site solar panels. Expected lifetime: 20 or more years.”

PNC Financial Services Group, Inc.

0.4%

Companies in Pennsylvania invested 0.4% of their combined capex in emissions reduction efforts.⁵

Investment case study: Smart investments to achieve reduced emissions and operating costs

Air Products and Chemicals, Inc undertook projects to reduce Scope 1 and 2 emissions, consisting of redesign, replacement or upgrade of equipment; changes to manufacturing processes; and facility improvements.

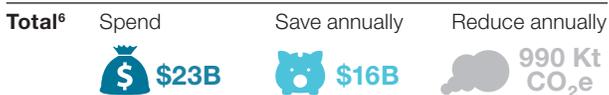
Activities: Energy efficiency—Processes and Process emissions reductions

Investment reported: \$780,000

Annual monetary savings: \$10.4M

Annual GHG reductions: 431 Kt CO₂e (2% of company’s annual Scope 1 and 2 emissions)

Anticipated return on investment: Less than 1 year



5. Based on 2012 capital expenditure data available from Bloomberg and CDP as of May 20, 2014.

6. Figures reflect total reported investment and savings, only the largest of which are reflected in the graphic.

7. Only projects for which companies disclosed quantitative information for both the investment required and payback period are represented.



Responding to climate change with energy-efficient operations and processes

Costs and regulations that impact availability of energy and fossil fuels provide an opportunity for Hershey to identify and develop projects that result in reduced energy usage so that we are positioned to comply with future regulations and reduce our overall energy costs from utility and fuel providers who may pass increased costs onto the customer.

The Hershey Company

Texas

Texas highlights

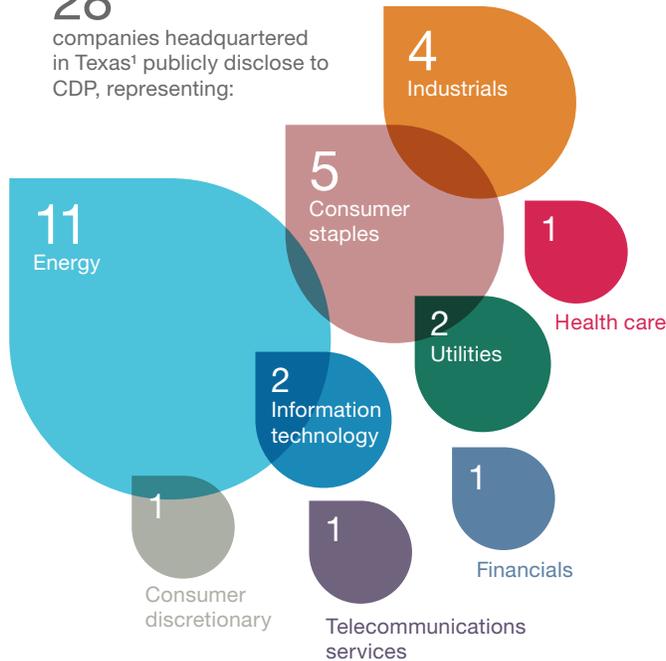
Texas companies that disclose to CDP see climate change regulation as an incentive to invest in carbon pollution reduction activities and for consumers to switch to low-carbon goods.

Energy companies are already diversifying their energy mix to prepare for regulation designed to reduce carbon pollution. As significant energy consumers, major companies are implementing efficiency projects to meet the challenges of increasing energy costs and to create a competitive advantage. Companies in Texas are showing resilience by continuing to operate as usual in the face of other climate-related risks, including the 32 separate “billion-dollar” weather and climate disasters that have impacted Texas since 2003.



28

companies headquartered in Texas¹ publicly disclose to CDP, representing:



Managing climate change: The strategic rationale

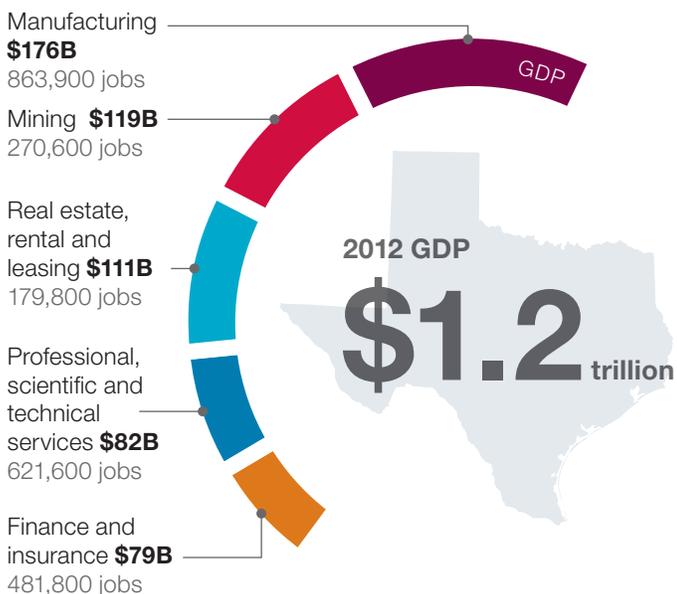


1. See complete list of reporting companies in the appendix.

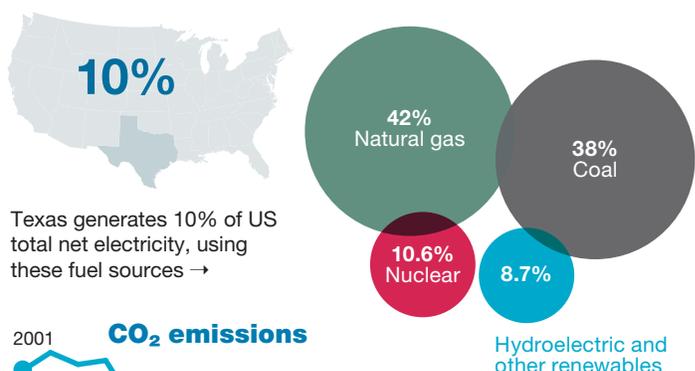
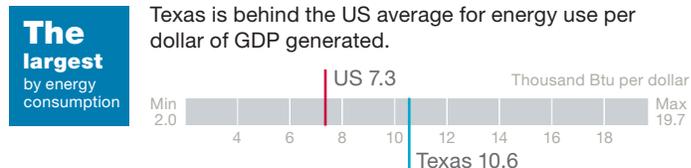
Texas

Economy by the numbers

Major private industries by GDP² and the jobs they create³



Energy consumption and electricity generation⁴



“Anadarko also has a competitive advantage in having learned and adapted to new emission-reducing technologies so that when laws and regulations that require their use are promulgated and finalized, Anadarko is strategically positioned to continue business as usual.”

Anadarko Petroleum Corporation

“Attaining a competitive advantage is a driver of our sustainability efforts. By reducing our energy use—which is our primary source of emissions—we are able to reduce costs associated with it, which ultimately benefits our bottom line. Being more resilient to natural disasters and ensuring continuity of operations makes our service more attractive to our customers and potential customers.”

AT&T Inc.

“Because of the costs associated with our GHG emissions, we have included our efforts to reduce our carbon intensity into our tactics to become a more efficient processor... To drive this strategy deeper into our organization, we are using carbon footprint data to help identify areas where we can reduce both GHG emissions and costs at the same time. We believe GHG reduction and cost reduction go hand in hand.”

Dean Foods Company

2. Values reflect real GDP (chained 2005 dollars). Source: [Bureau of Economic Analysis](#).

3. Source: Labor Market & Career Information Department, Texas Workforce Commission, “[Employment Estimates \(CES\) 2012, not seasonally adjusted, number of jobs.](#)”

4. Sources: Energy Information Administration, US Department of Energy “[Texas State Energy Profile](#),” updated May 15, 2014; “[State CO₂ Emissions](#)” updated February 25, 2014; “[Table C12. Total Energy Consumption, Gross Domestic Product \(GDP\), Energy Consumption per Real Dollar of GDP, Ranked by State, 2011.](#)”

Texas

Risks and opportunities

What is driving risk?



Uncertainty surrounding new regulation



Changing consumer behavior



General environmental regulations

What is driving opportunity?



Reputation



Fuel/energy taxes and regulations



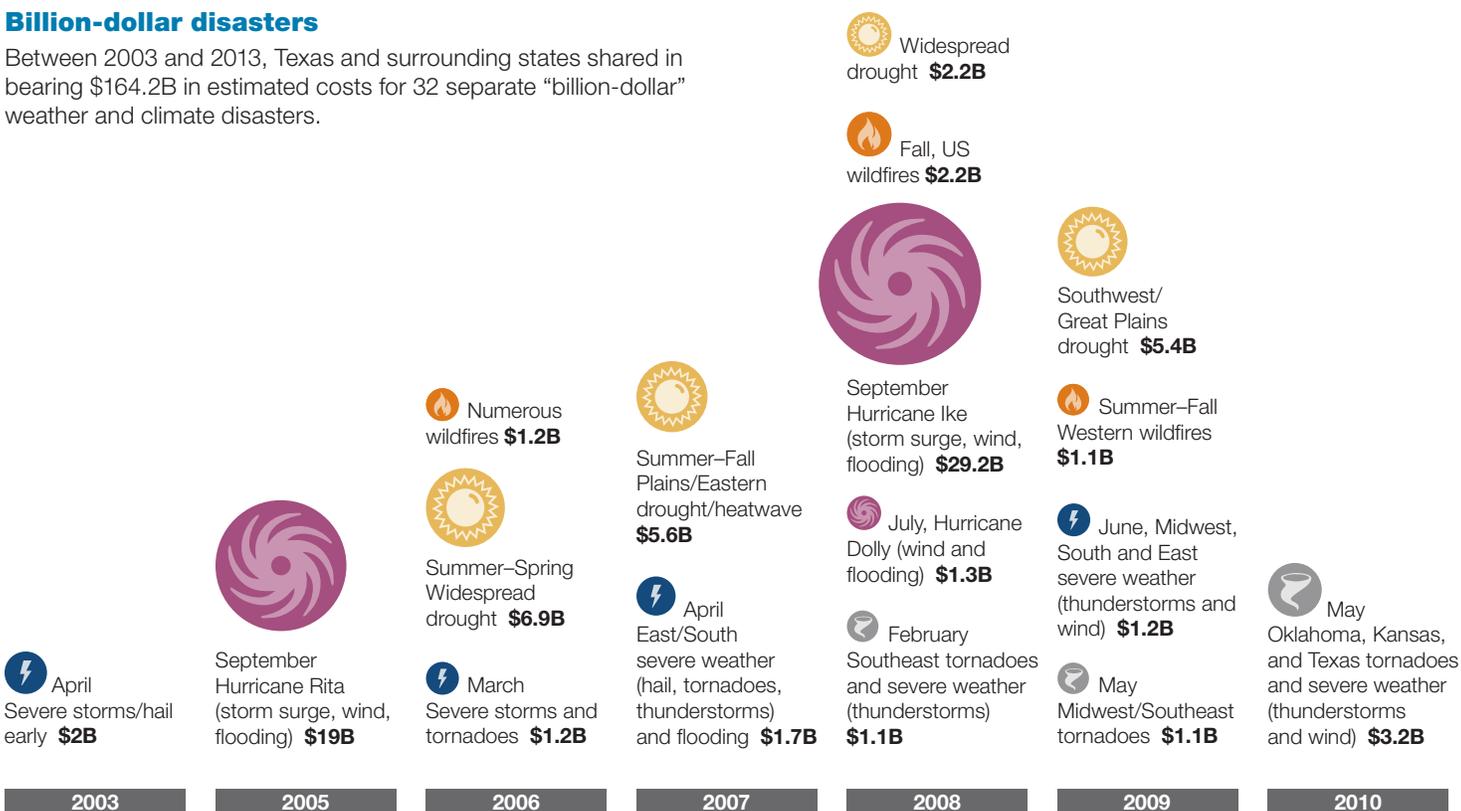
General environmental regulations

“Kimberly-Clark continues to be concerned with respect to continued regulatory uncertainty regarding climate change issues on global basis. At this time, Kimberly-Clark has concluded that the current status of climate change requirements and regulations around the world represent a manageable commercial and business risk to the company. It is very important that regulatory and legislative requirements be fairly applied across businesses.”
Kimberly-Clark Corporation

“Proposals that would impose mandatory requirements on GHG emissions continue to be considered by policy makers in the countries where we operate, or they have been enacted in States and Provinces where we operate. Laws enacted that directly or indirectly affect our production, distribution, packaging, cost of raw materials, fuel, ingredients, and water could all impact our business and financial results. Any regulatory mechanisms may provide a higher ROI and short payback periods for efficiency and process improvements we have implemented.”
Dr Pepper Snapple Group Inc

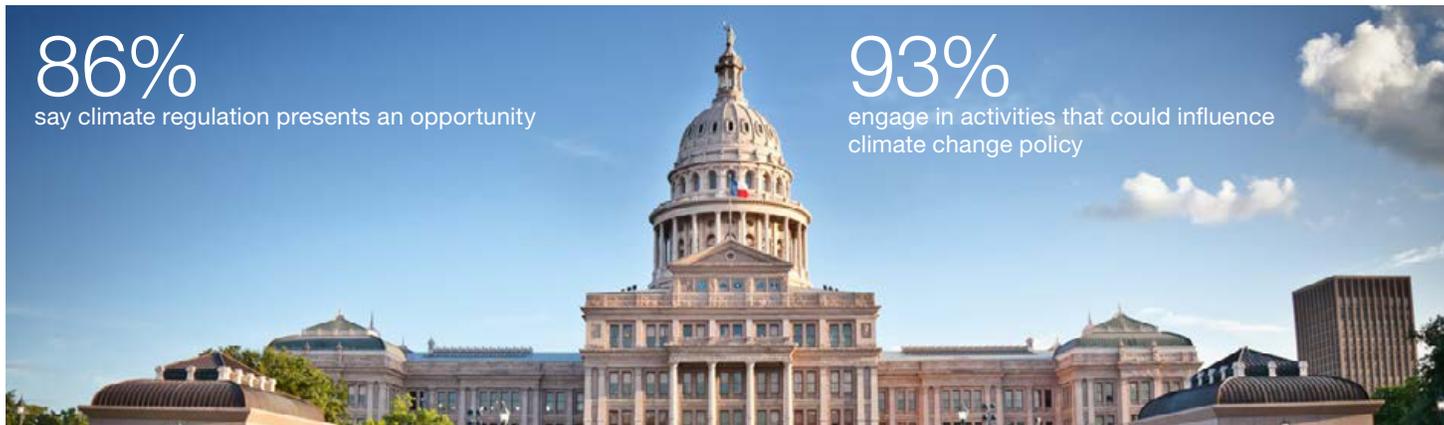
Billion-dollar disasters

Between 2003 and 2013, Texas and surrounding states shared in bearing \$164.2B in estimated costs for 32 separate “billion-dollar” weather and climate disasters.



Texas

Regulation and business opportunity



Texas State Capitol, Austin, TX

Impacts of regulation



Increased demand for existing products and services



Reduced operational costs



Investment opportunity

 Summer–Fall Texas, New Mexico, Arizona wildfires **\$1B**

 Spring–Summer Southern Plains/Southwest drought and heatwave **\$12.4B**

 June, Midwest/Southeast tornadoes and severe weather **\$1.3B**

 May Midwest/Southeast tornadoes **\$9.4B**

 April Southwest/Ohio Valley/Midwest tornadoes **\$10.5B**

 April Midwest/Southeast tornadoes **\$2.2B**

 April Southeast/Midwest tornadoes **\$2.3B**

 US drought/heatwave **\$30.3B**

 June, Rockies/Southwest severe weather (storms and hail) **\$2.6B**

 May, Southern Plains/Midwest/Northeast severe weather (storms and tornadoes) **\$2.3B**

 April–May Midwest/Ohio Valley severe weather (tornadoes and hail) **\$3.3B**

 April, Texas tornadoes **\$1B**

 Spring–Fall Western drought/heatwave **Cost TBC**

 May Midwest/Plains/Northeast tornadoes **Cost TBC**

 May Midwest/Plains/East tornadoes **Cost TBC**

“Spectra Energy has identified infrastructure growth opportunities resulting from regulation that may require the conversion of electric generation power plants to clean, lower-carbon natural gas from coal or oil. Along Spectra Energy’s Texas Eastern pipeline system, there are more than 90 coal-fired units representing about 20,000 megawatts of electric generating capability, all within 30 miles of our pipes. As many of these aging plants convert to clean-burning natural gas, the company is well positioned to deliver the needed fuel. Capturing 10 percent of this generation load, would mean a 20 percent increase in demand in Spectra Energy’s market areas.”

Spectra Energy Corp

“State renewable energy incentives are essential means to address climate change by encouraging renewable, low carbon substitutes... Each state should provide renewable energy incentives as consistent with state environmental priorities and finances.”

Waste Management, Inc.

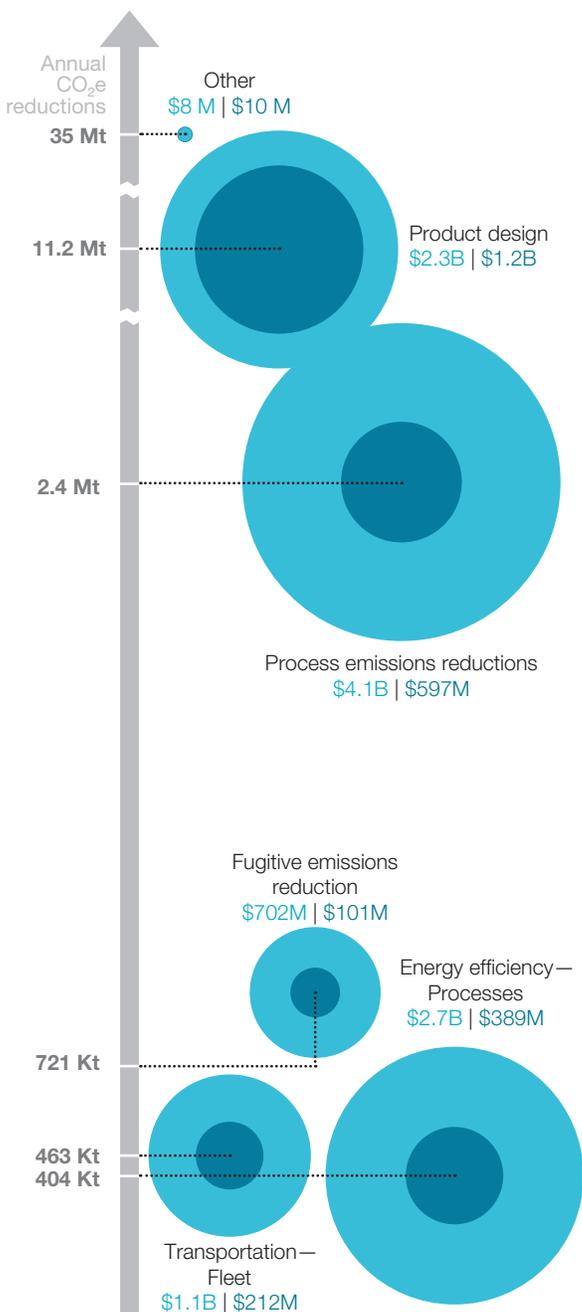
Values reflect 2013 Consumer Price Index (CPI) cost adjusted value. Data source: National Climate Data Center, National Oceanic and Atmospheric Administration, [“Billion-Dollar US Weather/Climate Disasters 1980–2013.”](#)

Texas

Investments and savings

Investment in emissions reduction activities

● Investment made ● Annual monetary savings



"Other" includes product efficiencies and waste management.

Total ⁶	Spend	Save annually	Reduce annually
	\$11B	\$2.6B	52 Mt CO ₂ e

Investment insight: Regulation and investments

"We believe that policy frameworks which establish price signals for carbon will encourage investments in both energy efficiency and in the types of technologies needed to drive the transition to a low-carbon future."

Comerica Incorporated

10%

Companies in Texas invested 10% of their combined capex in emissions reduction efforts.⁵

Investment case study: Investments with double dividends

Waste Management Inc. is increasing fleet efficiency and reducing its carbon pollution by 15 percent over the next 10 years. They are implementing a range of technologies to make their trucks more efficient, including controlling emissions, using alternative fuels and optimizing truck design.

Activity: Transportation—Fleet
Investment reported: \$500M
Annual monetary savings: \$100M
Annual GHG reductions: 350 Kt CO₂e (2% of company's annual Scope 1 and 2 emissions)
Anticipated return on investment: 1–3 years

5. Based on 2012 capital expenditure data available from Bloomberg and CDP as of May 20, 2014.

6. Figures reflect total reported investment and savings, only the largest of which are reflected in the graphic.

7. Only projects for which companies disclosed quantitative information for both the investment required and payback period are represented.



A carbon tax is also the most efficient means of reflecting the cost of carbon in all economic decisions—from investments made by companies to meet their fuel needs to the product choices made by consumers. Its cost is more uniform, predictable, and transparent to companies and consumers providing more incentive for emissions reduction investments by companies and lower emission choices by consumers.

Exxon Mobil Corporation



Investing in a low-carbon economy



Virginia

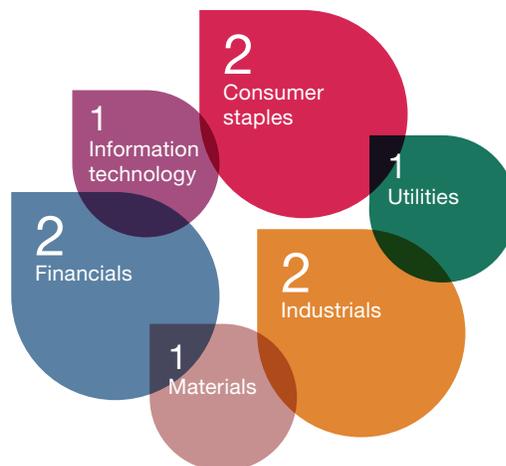
Virginia highlights

Of the companies in Virginia that disclose to CDP, more see climate-related opportunities than climate-related risks.

Companies are actively responding to climate change in a number of ways, such as setting emissions reduction targets and directly engaging with policy makers to support a range of policies, including clean energy generation and energy efficiency.



9 companies headquartered in Virginia¹ publicly disclose to CDP, representing:



What is driving risk?

Change in precipitation extremes and droughts

Reputation

Carbon taxes

Virginia has endured 16 “billion-dollar” weather and climate disasters since 2003. Companies like Meadwestvaco are aware of their vulnerability to physical climate change risks.

“Twenty-two Meadwestvaco manufacturing facilities are currently identified as being in risk locations for catastrophic wind storms and/or flooding. The replacement value of these facilities is about US\$8.7 billion which is about 75% of the total replacement value for Meadwestvaco’s manufacturing facilities.”

Meadwestvaco

What is driving opportunity?

Reputation

Cap and trade schemes

Renewable energy regulation

78% of Virginia companies integrate climate change into their business strategy. For Norfolk Southern, this approach is achieving a competitive advantage.

“A carbon-constrained business environment could lead to increased demand for carbon-efficient transportation... Enhancing capacity on our rails and refining our carbon-efficient operations will further distinguish us from other freight transport providers and enable us could drive top-line growth.”

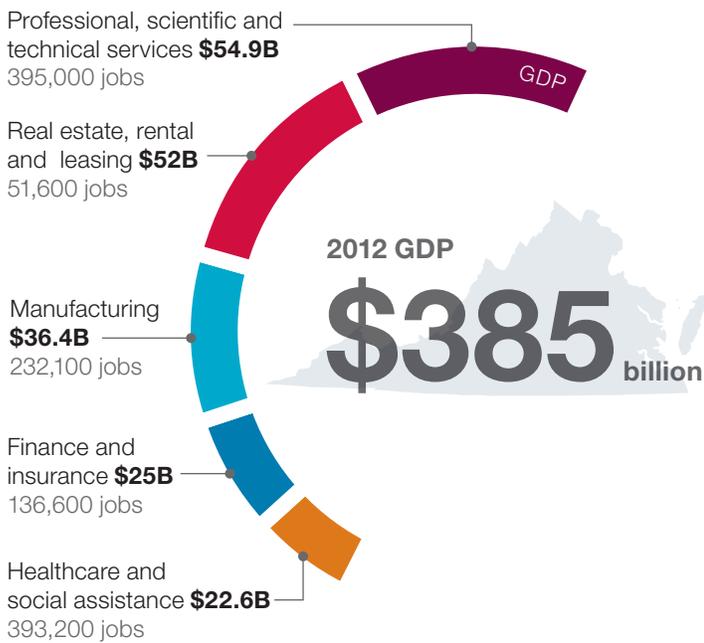
Norfolk Southern

¹. See complete list of reporting companies in the appendix.

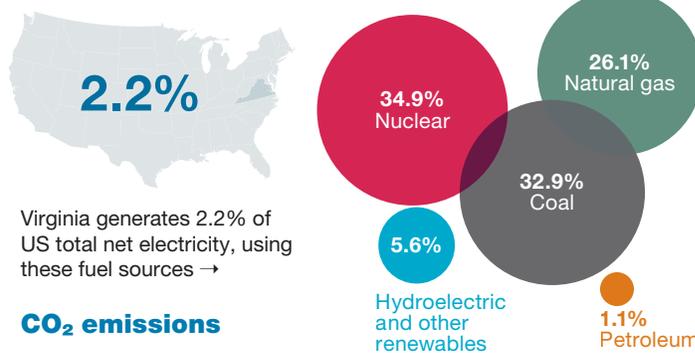
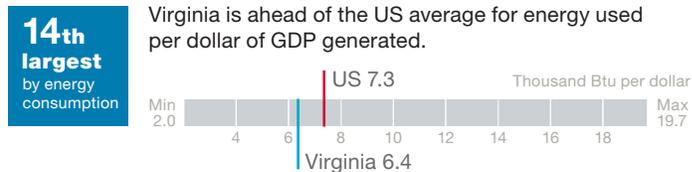
Virginia

Economy by the numbers

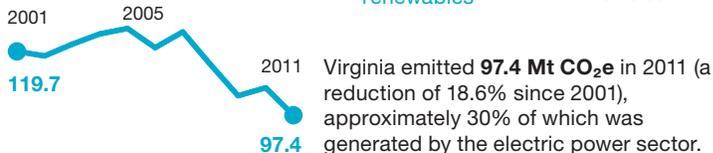
Major private industries by GDP² and the jobs they create³



Energy consumption and electricity generation⁴

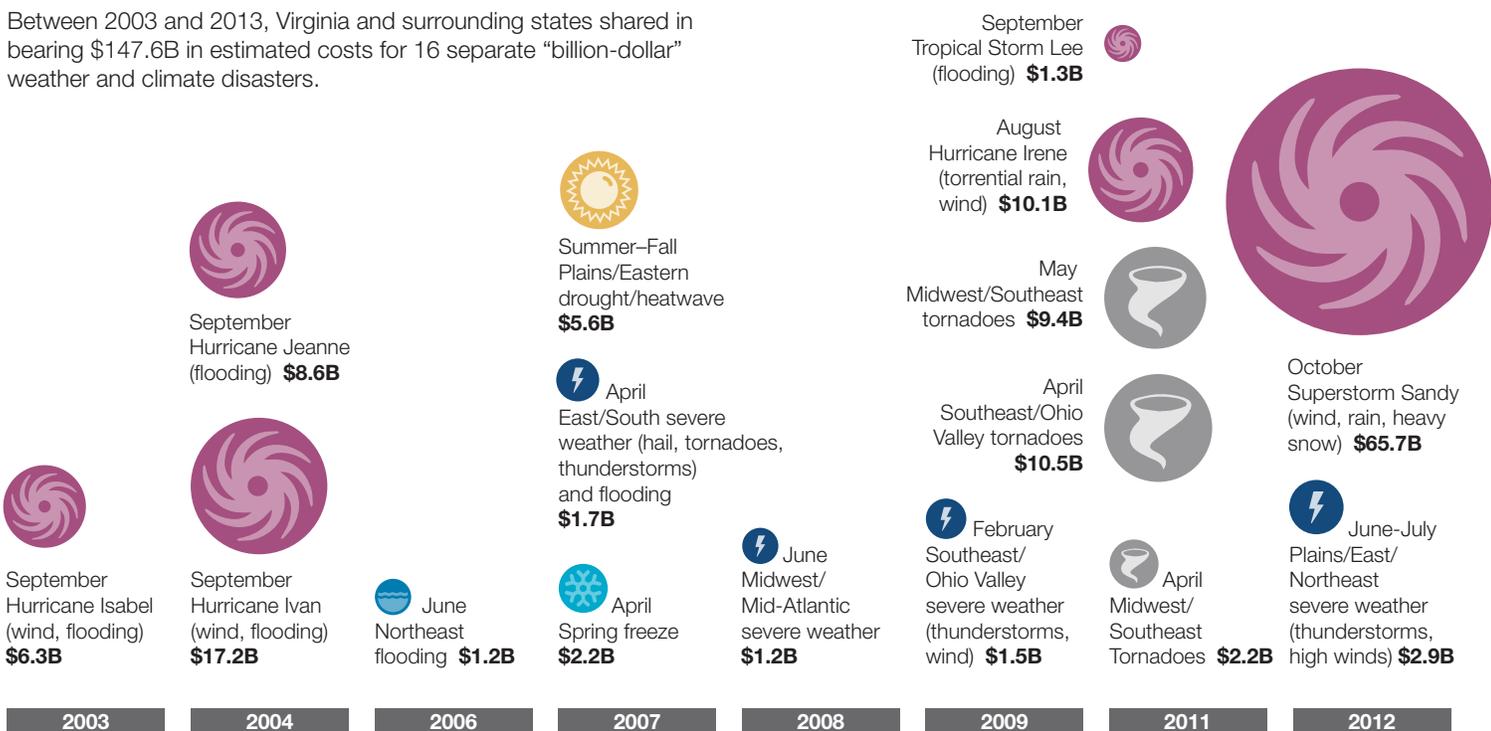


CO₂ emissions



Billion-dollar disasters

Between 2003 and 2013, Virginia and surrounding states shared in bearing \$147.6B in estimated costs for 16 separate "billion-dollar" weather and climate disasters.



Values reflect 2013 Consumer Price Index (CPI) cost adjusted value.
Data source: National Climate Data Center, National Oceanic and Atmospheric Administration, "Billion-Dollar US Weather/Climate Disasters 1980-2013."



Regulatory risk is managed through various means including diversification of our portfolio and direct and indirect lobbying and stakeholder engagement efforts in jurisdictions impacted by the proposed changes... The AES Corporation produces approximately 60% of its generation at no or low emissions having a gross power generation mix breakdown which includes 26% from renewable energy sources (hydro, wind, solar, landfill gas, biomass) and 34% from natural gas facilities...

The EPA intends to move forward with regulating GHG under the Clean Air Act in the absence of legislative action. We believe Section 111 of the CAA is the most appropriate tool to implement a reasonable transitional GHG emission reduction plan pending more comprehensive congressional action.

The AES Corporation



Regulation is a tool to help companies transition to a low-carbon economy

Virginia

The business response to climate change

Northrop Grumman's business strategy addresses the needs of customers who face climate-related issues such as energy and water security.

"Northrop Grumman's business strategy has been influenced [by]... customer needs in strategic areas such as water and energy security... Northrop Grumman has dedicated efforts to developing, and adapting capabilities to evaluate, identify, and prioritize risks related to energy and water security for domestic and international customers. Related to these efforts, Northrop Grumman is...support[ing] customer needs in evaluating and understanding energy efficiency implications of decision alternatives, including renewable energy development and/or location."



Regulatory uncertainty and unpredictability of climate change risks are limiting **Capital One's** ability to prepare for the impacts of climate change.

"The majority of evidence indicates that climate change will have significant impacts in the coming decades on the cost and availability of energy, severity of storms, water shortages, etc. This will likely have impacts on our global economy, which, in turn, may have impacts on our customers and operations. As a financial services company, these potential impacts may present risks and opportunities for our business units. However, at this stage, the lack of specific US climate-change legislation and predictable risks creates uncertain top-line business growth."



SAIC is providing products and services to help customers adapt to a low-carbon economy.

"At SAIC, we develop innovative, integrated solutions to meet our customers' energy, environmental, and infrastructure challenges. We formulate solutions to complex challenges by aligning capabilities to meet the changing needs of our customers and transfer knowledge across disciplines. SAIC's broad capabilities help enable our customers to advance their capital program, reduce costs, and operate more effectively, often reducing or avoiding GHG emissions... The potential for GHG-related regulation and impact of increased energy prices enhances the value of SAIC's expert services."



Meadwestvaco is diversifying its energy mix and setting carbon pollution reduction targets.

"Our US\$265 million investment in a biomass boiler in Virginia (US) is the most significant emissions reduction contributor. It will reduce direct and indirect emissions by about 550,000 tonnes annually when it comes on line in late 2013... We plan to continue investing in energy efficiency and switching to renewable fuels to achieve our target of a 25% reduction in both GHG emissions and fossil fuel use by the end of 2015 from a 2010 baseline. Meeting this target will significantly reduce Meadwestvaco's exposure to a future carbon tax by reducing emissions by an estimated 750,000 tonnes per year."



Appendix

Table of scores, emissions, and targets

Scoring

The 2013 score is composed of the disclosure score number (1–100) and performance score letter (A–E). The disclosure score reflects the potential quality and completeness of the disclosure. A high disclosure score suggests good internal data management and understanding of the risks and opportunities climate change presents to the company's business. Performance points are awarded where a company highlights that it is undertaking, or has undertaken, a 'positive' climate change action in the reporting year. A positive action is one that contributes to climate change mitigation, adaptation and transparency. Only companies that scored higher than 50 for disclosure were scored for performance.

Eligibility for inclusion in the Climate Disclosure Leadership Index (CDLI)

The CDLI comprises the top disclosure scoring companies within a sample. For example, the S&P 500 defined its CDLI as the top 10% in 2013. Disclosure scores can be compared across samples, but inclusion in the CDLI is relative to the scores of other companies within the sample.

Eligibility for inclusion in the Climate Performance Leadership Index (CPLI)

In 2013, the CPLI composed of all companies who achieved an "A" performance band. The CPLI differs from the CDLI, as the criteria to enter the CPLI are the same

for all samples. To achieve an A, a company must have achieved a performance score sufficient to get into the A band, and the following criteria must also have been met;

- The response must be publicly available and submitted using CDP's ORS;
- Maximum performance points must have been achieved for question CC12.1a (scope 1 & 2 emissions reduction); and
- The company must have disclosed gross global Scope 1 and Scope 2 figures and score maximum performance points for verification/assurance of Scope 1 and Scope 2 (questions CC8.6a or CC8.6b if appropriate, and CC8.7a).

Who will be scored using this methodology?

CDP targets samples such as the S&P 500 and Global 500 for its climate change request on behalf of Investors. In 2013, most of the samples targeted in the climate change request were scored on the comprehensiveness of their disclosure and on aspects of their company's performance in relation to climate change. CDP also targets companies on behalf of purchasing authorities through the supply chain request. All companies responding to the supply chain request are scored, but these scores are available only to the responding company and their purchasing authority. Some companies self select to respond to CDP despite not being officially requested to respond by investors or a purchasing authority. CDP does not score self-selected companies.

		GIC sector	2013 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported
California						
▼	Adobe Systems	Information technology	97 A	2,744	22,995	abs
	Advanced Micro Devices, Inc	Information technology	67 C	41,175	158,805	abs, int
	Agilent Technologies Inc.	Information technology	94 B	14,049	108,100	abs
	All Access Apparel Inc.	Consumer discretionary	SC	39	217	abs
	Allergan, Inc.	Health care	91 B	49,128	52,049	abs, int
	Altera Corp.	Information technology	57 D	1,934	12,094	
	Amgen, Inc.	Health care	76 B	119,968	286,679	abs
▼	Autodesk, Inc.	Information technology	99 A	2,169	3,400	abs, int
	Avery Dennison Corporation	Materials	85 C	160,558	367,087	int
	Broadcom Corporation	Information technology	92 B	3,598	51,426	int
▼	CBRE Group, Inc.	Financials	98 C	35,214	31,082	abs
▼	Chevron Corporation	Energy	97 A	58,559,220	3,849,319	abs
	Chicken of the Sea Intl	Consumer staples	SS	6,746	8,194	abs
▼	Cisco Systems, Inc.	Information technology	100 A	65,832	628,164	abs
	Clorox Company	Consumer staples	82 B	69,481	255,973	int
	Crown Prince	Consumer staples	SC	5	50	abs
	Del Monte Foods	Consumer staples	SC	176,614	181,148	int
	DIRECTV	Consumer discretionary	91 B	106,060	88,145	Abs
	eBay Inc.	Information technology	75 D	14,374	225,952	Abs, Int

Legend

- ▼ CDLI leader
- ▼ CPLI leader
- AQL answered questionnaire late
- SC supply chain company
- SS self-selected company
- information not available

Targets

- abs absolute
- int intensity

Appendix

Table of scores, emissions, and targets

	GIC sector	2013 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported
California continued					
	Financial Statement Services, Inc	Industrials	SC	2,060	16.2 int
	Franklin Resources, Inc.	Financials	86 C	8,175	29,552
	Gap Inc.	Consumer discretionary	77 B	18,897	429,865 abs
	Google Inc.	Information technology	93 B	37,187	1,149,988 int
▼	HCP Inc.	Financials	97 A-	28,940	216,887 abs, int
▼ ▼	Hewlett-Packard	Information technology	99 A	246,000	1,643,000 abs
	Integrated Device Technology, Inc.	Information technology	SS	971	16,449
	Intel Corporation	Information technology	85 B	794,759	2,331,048 abs, int
	Intuit Inc.	Information technology	85 B	7,559	36,281 abs
▼	JDS Uniphase Corp.	Information technology	88 A	5,117	38,715 abs
	Juniper Networks, Inc.	Information technology	81 B	6,312	108,067 int
	KLA-Tencor Corporation	Information technology	AQL	1,540	11,049
	Levi Strauss & Co.	Consumer discretionary	SS	11,115	52,839 abs, int
	Life Technologies Corp.	Health care	81 B	35,979	52,211 int
	LSI Corporation	Information technology	89 B	3,505	46,739 int
	Mattel, Inc.	Consumer discretionary	56 D	12,669	184,008 int
	NetApp Inc.	Information technology	87 C	8,695	135,517
	NVIDIA Corporation	Information technology	87 B	2,084	44,500 int
	Occidental Petroleum Corporation	Energy	61 E	14,270,000	5,600,000
	OPI Products Inc.	Consumer staples	SC	1	226
	Oracle Corporation	Information technology	79 C	16,481	440,773 int
	Pericom Semiconductor Corp.	Information technology	42	870	115
	PG&E Corporation	Utilities	93 B	3,447,026	1,206,920 abs
	Prologis	Financials	83 B	1,907	5,827 abs
	Qlogic Corp.	Information technology	41	0	10,601
	QUALCOMM Inc.	Information technology	56 D	64,782	49,216
	Safeway Inc.	Consumer staples	72 C	1,655,023	2,148,512
	salesforce.com	Information technology	90 C	2,350	29,429
	SanDisk Corporation	Information technology	82 B	3,486	95,576 int
	Sanyo Denki America Inc	Information technology	14	None disclosed	int
▼	Sempra Energy	Utilities	97 B	7,679,688	367,885 abs, int
	SunPower Corporation	Industrials	62 C	1,768	212,063 int
▼	Symantec Corporation	Information technology	98 B	8,310	163,479
	Varian Medical Systems Inc	Health care	84 C	42,650	20,831 int
	Walt Disney Company	Consumer discretionary	78 C	867,353	899,027 abs
▼ ▼	Wells Fargo & Company	Financials	96 A	93,904	1,333,372 abs
	Western Digital Corp	Information technology	56 D	11,796	440,918
	Wondertreats	Consumer discretionary	SC	-	-
	Yahoo! Inc.	Information technology	91 B	4,002	333,291 int

Legend

- ▼ CDLI leader
- ▼ CPLI leader
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- information not available

Targets

- abs absolute intensity
- int intensity

	GIC sector	2013 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported
Colorado					
	Ball Corporation	Materials	78 B	375,306	934,948 int
	Level 3 Communications, Inc.	Telecommunication Services	83 B	16,689	563,930 abs
▼	Lockheed Martin Corporation	Industrials	91 A	249,491	985,006 abs
▼	Molson Coors Brewing Company	Consumer Staples	97 A-	380,118	466,599 abs, int
	Newmont Mining Corporation	Materials	92 B	4,016,150	1,182,740 abs

Appendix

Table of scores, emissions, and targets

		GIC sector	2013 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported
Michigan						
		CMS Energy Corporation	Utilities	93 C	15,824,184	44,597 abs, int
		Compartico	Industrials	SS	115	135 int
		Compuware Corp.	Information technology	87 B	1,627	17,714
		Dow Chemical Company	Materials	90 B	27,429,000	8,403,000 abs, int
		DTE Energy Company	Utilities	82 C	35,220,000	2,330,000 int
		Emerson Electric Co.	Industrials	10	264,967	None disclosed
		Ford Motor Company	Consumer discretionary	72 C	1,698,799	3,440,338 int
		General Motors Company*	Consumer discretionary	100 A-	2,454,755	5,531,380 int
		Herman Miller	Consumer discretionary	SS	16,881	59,914 abs
		Izzy+	Industrials	SS	1247	3,550 abs
		Kellogg Company	Consumer staples	84 B	536,069	671,729 int
		Masco Corporation	Industrials	68 C	86,679	297,364 int
		Trendway Corporation	Financials	SS	2,982	3,583 abs
		Visteon	Consumer discretionary	69 C	51,894	275,686 int
		Whirlpool Corporation	Consumer discretionary	53 D	344,805	518,107 abs
Minnesota						
		3M Company	Industrials	70 D	4,540,000	2,230,000
		Ameriprise Financial, Inc.	Financials	0	-	-
		Best Buy Co., Inc.	Consumer discretionary	98 A	209,179	542,121 abs
		Cargill	Consumer staples	70 C	9,091,543	6,055,322 int
		Ecolab Inc.	Materials	91 B	336,258	199,296 int
		General Mills Inc.	Consumer staples	78 B	259,400	737,000 int
		Hormel Foods	Consumer staples	68 D	777,845	668,484 abs, int
		Medtronic, Inc.	Health care	61 D	31,460	170,685 int
		Target Corporation	Consumer discretionary	91 B	527,047	2,489,866 int
		The Mosaic Company	Materials	97 A	2,904,196	1,605,383 abs, int
		U.S. Bancorp	Financials	78 C	38,055	370,672
		UnitedHealth Group Inc	Health care	98 B	8,694	104,200 int
		Xcel Energy Inc.	Utilities	91 B	54,472,480	1,189,959 abs
North Carolina						
		Bank of America	Financials	98 A	116,666	1,421,829 abs
		Bernhardt Design a Division of Bernhardt Furniture Company	Consumer discretionary	SS	623	3,213 abs
		Bernhardt Residential a Division of Bernhardt Furniture Company	Consumer discretionary	SS	580	4,247
		Bernhardt Transportation a Division of Bernhardt Furniture Company	Consumer discretionary	SS	3,999	267 abs
		Duke Energy Corporation	Utilities	67 C	123,430,000	None disclosed abs, int
		Golding Farms Foods	Consumer staples	SC	345	541 abs
		GRANT THORNTON	Financials	65 C	1,320	12,315
		Hanesbrand inc.	Consumer discretionary	70 C	86,074	160,586 abs, int
		Lowe's Companies, Inc.	Consumer discretionary	85 D	303,721	2,552,740
		Reynolds American Inc.	Consumer staples	70 B	107,093	167,402 abs
		US Cotton	Consumer staples	SC	1,973	21,857
		VF Corporation	Consumer discretionary	87 B	85,950	168,660 int

* In 2013, Generals Motors Company was in the CDP Global 500 sample but not the S&P 500

Appendix

Table of scores, emissions, and targets

	GIC sector	2013 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported
Ohio					
Abercrombie & Fitch Co.	Consumer discretionary	93 B	6,754	120,384	abs
American Electric Power Company, Inc.	Utilities	68 D	121,927,400	–	abs
Big Lots, Inc.	Consumer discretionary	28	–	408,699	
Cardinal Health Inc.	Health care	71 D	151,357	209,745	
Cincinnati Financial Corporation	Financials	71 C	16,989	19,420	
Cliffs Natural Resources Inc	Materials	72 C	5,461,737	3,280,636	
Diebold	Information technology	52 E	80,293	26,080	abs
Goodyear Tire & Rubber Company	Consumer discretionary	78 B	1,229,586	1,680,202	int
Health Care REIT, Inc.	Financials	88 D	5,665	118,372	
Huntington Bancshares Incorporated	Financials	69 C	8,488	76,573	int
The J.M. Smucker Company	Consumer staples	88 B	138,024	219,041	int
▼ KeyCorp	Financials	96 A	12,584	71,662	abs
Kroger	Consumer staples	53 D	1,889,971	4,215,860	
Limited Brands, Inc.	Consumer discretionary	80 B	29,939	286,083	abs
Macy's, Inc.	Consumer discretionary	23	–	–	
Owens Corning	Industrials	SS	2,731,202	1,862,830	int
Owens-Illinois	Materials	31	4,805,000	–	abs
Parker-Hannifin Corporation	Industrials	88 B	78,749	589,183	int
Procter & Gamble Company	Consumer staples	47	2,799,000	3,028,000	int
Sherwin-Williams Company	Materials	72 C	241,734	280,996	int
Teradata Corp.	Information technology	45	502	21,548	int

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Targets

- abs absolute
- int intensity

	GIC sector	2013 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported
Pennsylvania					
▼ Air Products & Chemicals, Inc.	Materials	99 B	14,767,209	10,563,030	int
CONSOL Energy Inc.	Energy	78 C	11,854,060	2,171,960	
The Hershey Company	Consumer staples	82 B	115,382	257,032	int
KNOLL INC	Industrials	53 C	14,536	38,158	abs
PNC Financial Services Group, Inc.	Financials	89 B	47,606	398,414	abs
PPG Industries, Inc.	Materials	60 D	4,053,000	1,810,000	int
SunGard	Information technology	42	0	475,767	
Unisys Corporation	Information technology	47	347	134,270	
United States Steel Corporation	Materials	78 B	42,729,786	5,036,625	abs
VWR International LLC	Consumer discretionary	63 E	6,932	14,210	
Wesco International	Consumer discretionary	46	19,121	29,707	int

Appendix

Table of scores, emissions, and targets

		GIC sector	2013 score	Scope 1 emissions	Scope 2 emissions	Target(s) reported
Texas						
		AMR Corporation	Industrials	64 D	26,715,000	462,000 int
		Anadarko Petroleum Corporation	Energy	75 C	5,056,818	535,843
		Apache Corporation	Energy	70 C	10,766,000	1,314,000 abs
		AT&T Inc.	Telecommunication services	96 B	948,441	7,894,626 abs
		Baker Hughes Incorporated	Energy	90 B	516,000	425,000 int
		CenterPoint Energy, Inc.	Utilities	51 E	2,676,373	–
		Comerica Incorporated	Financials	94 A	6,950	74,784 abs
		ConocoPhillips	Energy	83 B	24,171,000	1,638,000 abs, int
		Dean Foods Company	Consumer staples	89 B	759,423	673,338 abs, int
		Dell Inc.	Information technology	77 B	38,738	407,556 abs, int
		Dr Pepper Snapple Group Inc	Consumer staples	88 B	252,616	159,917 int
		Exxon Mobil Corporation	Energy	80 B	132,000,000	14,000,000 int
		Fluor Corporation	Industrials	48	16,291	56,390
		GenOn	Utilities	SS	26,917,038	–
		Halliburton Company	Energy	65 D	4,211,808	839,363 int
		jcpenny	Consumer discretionary	76 B	81,624	962,061 int
		Kimberly-Clark Corporation	Consumer staples	72 C	2,461,675	2,967,804 abs
		Newfield Exploration Co	Energy	84 C	641,984	27,363
		Noble Energy, Inc.	Energy	76 C	2,078,600	61,630
		Rowan Companies Inc	Energy	28	–	–
		Schlumberger Limited	Energy	83 C	2,200,000	550,000 int
		Southwest Airlines Co.	Industrials	93 B	18,232,474	46,783 int
		Spectra Energy Corp	Energy	98 A	8,381,680	608,390 abs, int
		Sysco Corporation	Consumer staples	66 C	788,200	336,857
		Tenet Healthcare Corporation	Health care	19	–	–
		Texas Instruments Incorporated	Information technology	64 D	827,274	1,588,466 int
		Waste Management, Inc.	Industrials	89 B	19,350,040	262,992 abs, int
		Whole Foods Market, Inc.	Consumer staples	62 C	314,141	403,239
Virginia						
		Altria Group, Inc.	Consumer staples	75 C	283,926	236,169 abs
		Capital One Financial	Financials	71 C	14,501	194,433 abs
		Genworth Financial, Inc.	Financials	71 D	165	13,938
		MeadWestvaco Corp.	Materials	98 B	2,830,432	564,034 abs, int
		Norfolk Southern Corp.	Industrials	90 B	4,925,238	252,854 int
		Northrop Grumman Corp	Industrials	99 A	151,378	487,508 int
		SAIC Inc	Information technology	78 C	3,155	94,583 abs
		Smithfield Foods, Inc.	Consumer staples	70 C	412,359	775,245 int
		The AES Corporation	Utilities	66 C	78,912,213	414,924 abs

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Targets

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