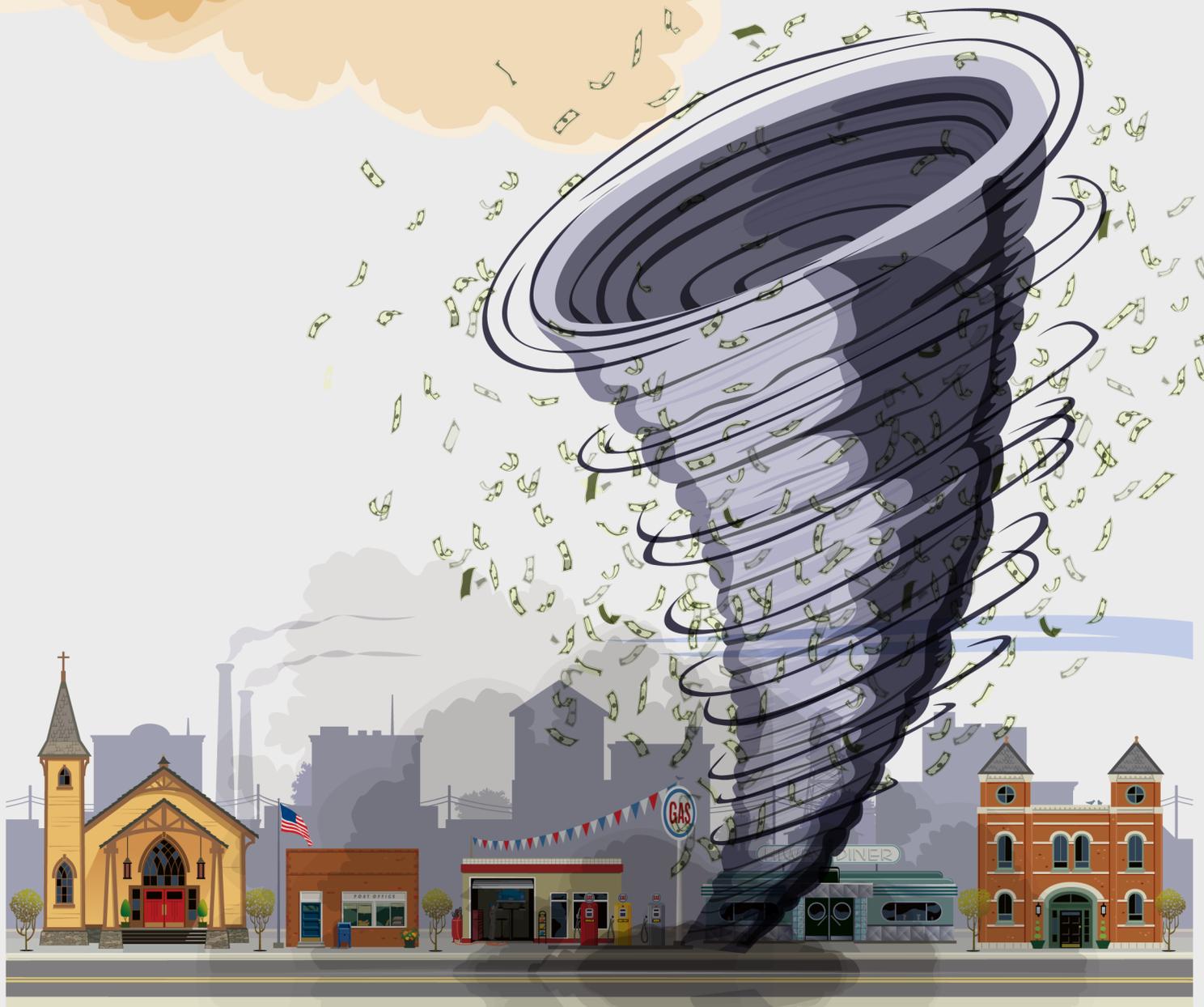


THE TOLL EXTREME WEATHER TAKES ON SMALL BUSINESS & THE ECONOMY



March 4, 2014

Introduction

The years 2011 and 2012 were the two most extreme years on record for destructive weather events, causing more than \$170 billion in damages, much of that to businesses.ⁱ 2012 was one of the 10 warmest years on record, and the National Oceanic and Atmospheric Administration (NOAA) reports heat waves like those we saw in 2012 now occur four times more often, compared to averages before 1970, due to the effects of climate change. In addition to heat waves, the U.S. suffered from 25 extreme weather events in 2011 and 2012, each one causing billions of dollars in damage to homes, roads, schools and businesses. Research shows small businesses are especially at risk from the effects of climate change and the extreme weather events it causes. In fact, an estimated 25% of small to mid-sized businesses do not reopen following a major disaster.ⁱⁱ When one considers that small businesses employ an estimated 60 million Americans (about half of all private sector employees), it becomes readily apparent why it is so crucial to educate entrepreneurs about their vulnerability to these changing climate conditions and the role they can play in national climate preparedness.ⁱⁱⁱ

Most small businesses have a single branch or location making them more vulnerable to loss than larger businesses with backup resources at multiple facilities. As such, small businesses are more heavily impacted by power outages, the absence of employees, supply chain interruptions, rising insurance costs and more. Because small businesses are uniquely threatened by extreme weather events, steps must be taken to ensure they have the resources to survive catastrophes.

Small business owners are voicing their support for clean energy standards because they believe they will help curb the effects of climate change and extreme weather, which have devastating impacts on their businesses and the economy. As the nation's largest job creators, small businesses can contribute in a meaningful way to the advancement of our nation's clean energy economy. The majority of small business owners support renewable energy policies because they're not only good for the environment, but because they also make business sense. Many small businesses already are instituting measures to reduce energy waste in order to help improve their bottom lines, but there is more that can be done to help entrepreneurs become energy efficient and support climate change preparedness.

This paper will examine the negative impacts extreme weather has on our nation's economy and outline the ways in which small businesses are affected by climate change. It will discuss small business support for clean energy policies that can help curb the effects of climate change and steps that can be taken to help small businesses become more energy efficient and prepare for natural disasters.

This paper will also provide recommendations about how small business owners can integrate strategies into their business plans that will help them be more energy efficient and prepare for natural disasters caused by climate change.

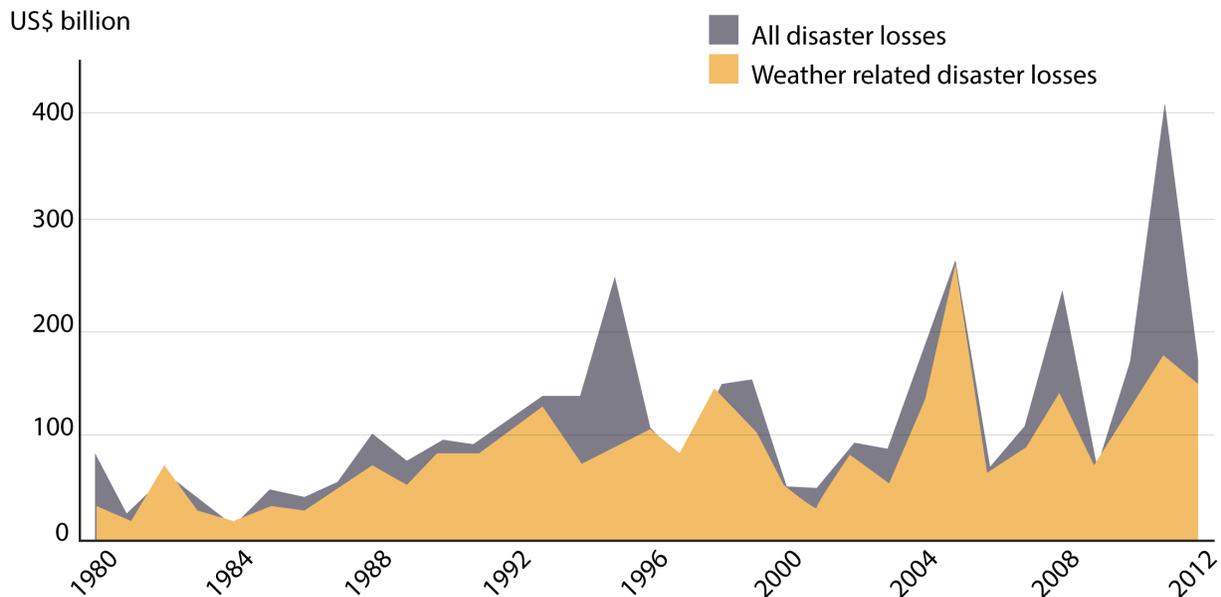


25% of small to mid-sized businesses don't reopen following a major disaster. Small businesses employ 60 million Americans, so it's crucial entrepreneurs are educated about their vulnerability to these changing conditions and the role they can play in national climate preparedness.

Impact of extreme weather events on U.S. economy

Climate change and the extreme weather events it causes are having a growing impact on nations across the globe, but they've been particularly devastating right here in the U.S. The World Bank reports that global economic losses caused by extreme weather events have risen to nearly \$200 billion a year over the last decade, and are expected to increase as climate change worsens.^{iv} This number is particularly troubling for our own economy, as natural disasters in the U.S. accounted for more than half of global economic losses in 2012.^v

Figure 1: Losses due to disasters worldwide (1980–2012)



Data shows 2011 and 2012 saw some of the most devastating losses from weather events on record. In 2011 alone, the U.S. suffered from a record 14 extreme weather events, each of which caused at least \$1 billion in damages.^{vi} This climate trend continued into 2012, with 11 weather events that also caused at least \$1 billion each in losses, totaling more than \$110 billion in damages.^{vii} The most damaging event in 2012 was Superstorm Sandy, which cost the U.S. a staggering \$65 billion and is estimated to be the second costliest natural disaster on record.^{viii} What's more, this storm, combined with a yearlong drought, also accounted for two-thirds of all insurance losses worldwide in 2012.^{ix}

Reinsurance company Swiss Re found that 2012 cost the insurance industry \$77 billion, the third most expensive year for the insurance industry on record.^x Its report found these losses were largely affected by extreme weather events. In addition, a recent study by Munich Re, the world's largest reinsurance firm, found that North America in particular is experiencing a

tremendous rise in extreme weather disasters. In fact, they report that over the past three decades, there is a nearly fivefold increase in these events.^{xi}

A study conducted by the American Meteorological Society found at least half of the extreme weather events from 2012 were likely caused by or intensified as a result of climate change. For example, the floodwaters from Superstorm Sandy were made worse by rising sea levels, and the chances of a similar disaster hitting New York City again have increased by 50% in recent years.^{xii}

The federal government is taking note of recent weather events and their destructive effects on the economy. In response to the many extreme weather events in 2011 and 2012, the U.S. Government Accountability Office determined last year that climate change poses a serious financial risk to the federal government itself, and as a result, climate change has been added to its 2013 High Risk list. This list identifies those federal agencies and program areas that are

deemed to be high risk due to their vulnerabilities.^{xiii} The federal government is now taking steps to prepare itself for future extreme weather events.

These weather-related events don't just cause damage to insurance companies and the federal government. They destroy lives, homes and infrastructure and pose particular risk to our

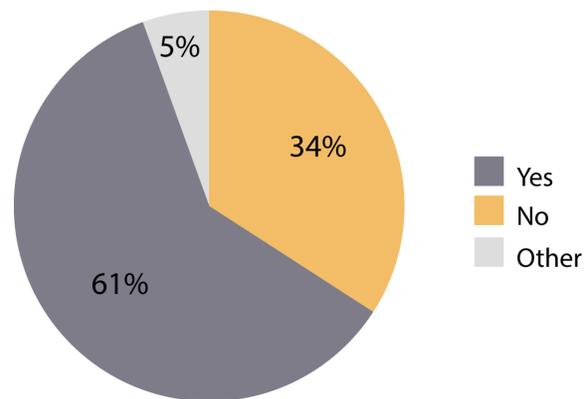
nation's 28 million small businesses—the country's biggest job creators and the backbone of our economy. In order to mitigate the damaging effects of extreme weather on our economy, it's important to understand the ways in which small businesses are particularly vulnerable.

Climate change preparedness and the small business sector

Small Business Majority's scientific opinion polling found nearly six in 10 small businesses agree climate change and extreme weather events are a problem that can hurt the economy and small employers. Considering the damaging effects extreme weather events have had on our country in recent years, it is not surprising that small businesses are taking note. Small Business Majority's research shows it is becoming increasingly common for small businesses to be impacted by extreme weather. In fact, a third of American small businesses have personally seen extreme weather impact their business. Even more concerning is that, as stated earlier, an estimated 25% of small to mid-sized businesses do not reopen following a major disaster.^{xiv}

Figure 2: One-third of small firms have personally seen examples of extreme weather impacting their small business

Have you personally seen examples of extreme weather impacting your small business or those around you, or not?



The failure rates were even higher for those businesses affected by Hurricane Sandy. The Hartford surveyed small businesses in New York, New Jersey and Connecticut affected by Hurricane Sandy and found more than half of businesses lost revenue and about three-fourths were forced to close their business for a length of time.^{xv} What's more, it is estimated that up to 30% of all small businesses affected by Hurricane Sandy have failed as a direct result of the storm.^{xvi}

Todd Saunders, Chief Sustainability Officer for Saunders Hotel Group, is one of the thousands of business owners affected by Hurricane Sandy and other extreme weather events along the Eastern Seaboard. In recent years, two extreme

weather events caused separate weeklong power outages at one of Saunders Hotel Group's hotels in New Haven, Conn. The first outage, caused by Hurricane Irene in 2011, cost nearly \$5,000 in guest refunds. The second outage, caused by Superstorm Sandy, involved damage to the property and cost a total of \$33,940.

"In the travel industry we cannot simply resume selling our product when the lights come back on," Saunders said. "The risks to our business are more complex—advance notice of a storm will prompt increased cancellations, and past storm-related experiences can prevent future travel. In the tourism industry, the old adage of 'time is money' could not be truer, and downtime

from extreme weather has an even more profound negative financial impact.”

One major factor contributing to the high failure rates of entrepreneurs post-natural disaster is that, unlike larger corporations, extreme weather events can completely destroy the business operations of a small business. According to the Small Business Administration, up to 90% of small businesses receive the majority of their business from within two miles of their front doors. This means when a business is forced to close during a major storm, it is also affected by the immediate damage suffered by their customers, employees and neighbors. It’s not surprising then that the median cost of downtime from a small business affected by an extreme weather event is \$3,000 per day.^{xvii}

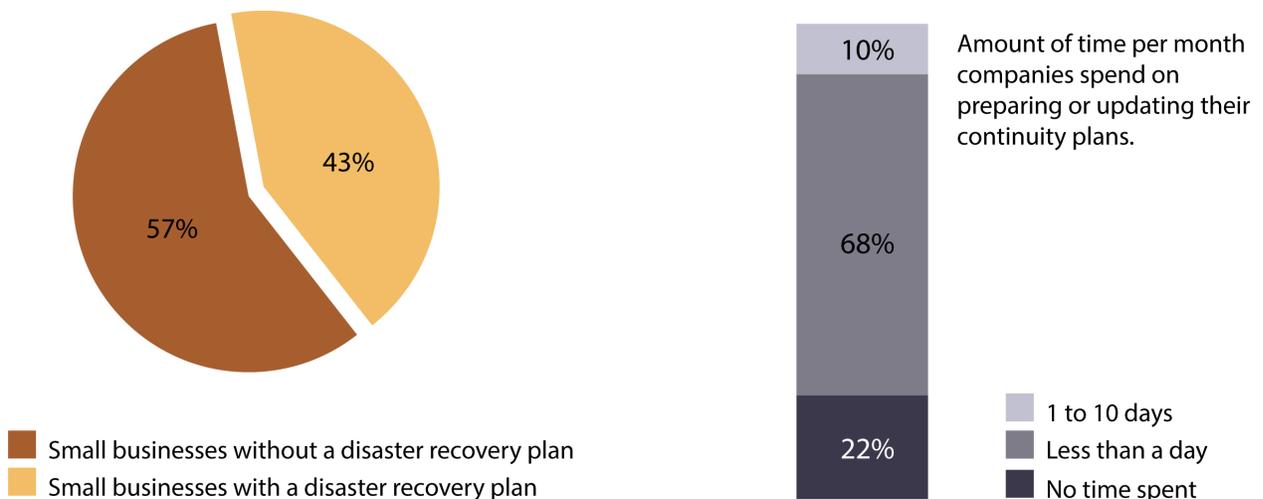
Small businesses are more vulnerable to lasting economic damage from storms because they lack the access to the capital and resources of large corporations. Not only do they rely on business from within their immediate vicinity, but the majority of small businesses have a single physical location. This means they lack the backup resources, organizational structures and geographic diversity that large companies have and allows them to more easily recover from a major event. Due to a lack of backup resources, small businesses suffer more from indirect damages from major storms, such as power outages, supply chain disruptions, loss of work hours and more.

Sandra Bridges, owner of Palmetto Hammock and Resort Shoppe in Charleston, S.C., is one of many entrepreneurs concerned about the effects of climate change on her business. Due to rising sea levels along South Carolina’s coastline, the building that houses her retail store is projected to have four feet of seawater at high tide at the end of the century.

“Every small business can survive small, occasional issues over the course of the year,” Bridges said. “Currently, the flooding we experience in Charleston is a small nuisance, but it’s not enough to cause major damage to our business. However, if flooding became more severe and more frequent as a result of sea level rise, Palmetto Hammock could reach a point where we are not able to survive the cumulative economic impacts of damaged merchandise, property damage and lost revenue during a flood event.”

The risk of extreme weather events to small businesses is exacerbated by the fact that the majority of small businesses have not closely examined potential economic losses from climate-related risks, partly because they lack the time and resources to do so. In fact, 57% of small businesses have no disaster recovery plan, and for those small businesses that do have continuity, or risk management plans, 90% spend less than one day a month preparing and maintaining them. Unless steps are taken to help small employers prepare for extreme weather events, small businesses will continue to suffer and the U.S. economy will continue to see billions of dollars in damages as a result.

Figure 3: Small businesses are not prepared for extreme weather events

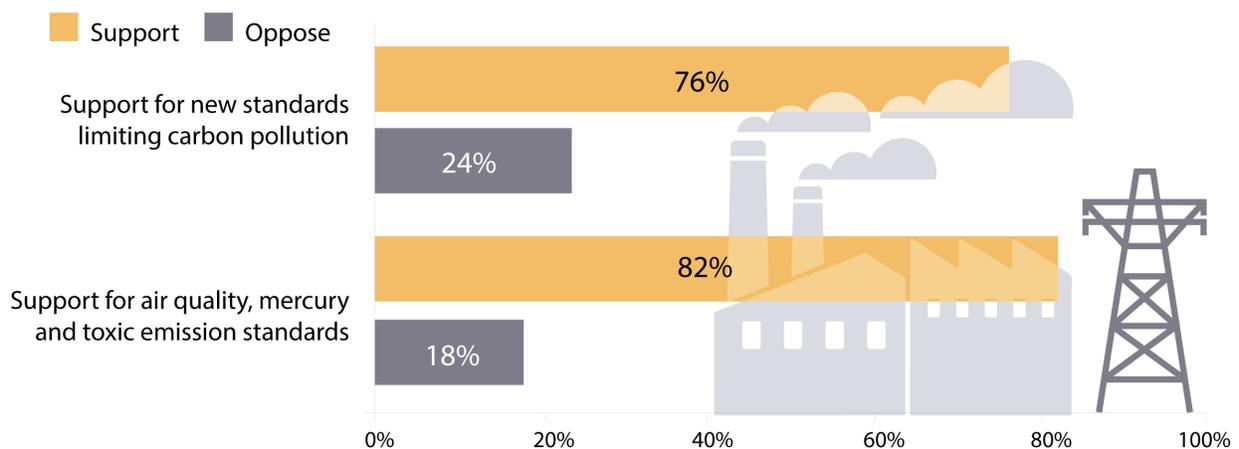


Small business support for clean energy policies

Increasingly, entrepreneurs are seeing real-life impacts to their businesses from climate change and the extreme weather events it causes, and they want to see steps taken that will help curb these effects. Since a third of them have personally been impacted by extreme weather, it's not surprising that many believe climate change is a problem that can hurt small businesses and disrupt the economy. Stronger clean energy standards will not only help curb the effects of climate change, but research shows small business owners believe strong standards will spur innovation, create market opportunities and save them money by cutting down on energy costs. That's why they believe immediate action is necessary to form bold policies that will prompt innovation and stimulate small business and the economy.

Small Business Majority's opinion polling shows small business owners support strong national standards to increase energy innovation. In fact, a vast 87% of small business owners agree improving innovation and energy efficiency are good ways to increase prosperity for small businesses. What's more, small business owners also overwhelmingly support the Environmental Protection Agency, or EPA, limiting carbon pollution. Three-fourths support the EPA's limits on carbon pollution that causes climate change. More than half of all small businesses support the EPA limiting carbon pollution from existing power plants, and 76% are in favor of requiring new power plants to reduce carbon pollution. Additionally, a vast 82% support EPA rules to reduce mercury and other toxic emissions from new and existing power plants.

Figure 4: Small business owners support regulating carbon, mercury and other toxic emissions from power plants



“EPA regulation of carbon emissions would directly affect my business by encouraging investments in renewable energy,” said Stefanie Penn Spear, president of Expedite Renewable Energy in Chagrin Falls, Ohio. “In addition, the economic uncertainty small business owners experience today would decline, since regulation of carbon emissions would stabilize the market place, and entrepreneurs would have concrete goals for the future and begin to innovate accordingly.”

Entrepreneurs believe stronger clean energy standards will not help protect their businesses from the damaging effects of climate change and extreme weather events, but that they will help spur innovation and create jobs. They support clean energy measures because they are good for the environment, the economy and their bottom lines.

Recommendations

In order to help mitigate the damaging effects of climate change and extreme weather events on small businesses and the economy, we recommend the following:

Congress should pass the Sensible Accounting to Value Energy (SAVE) Act:



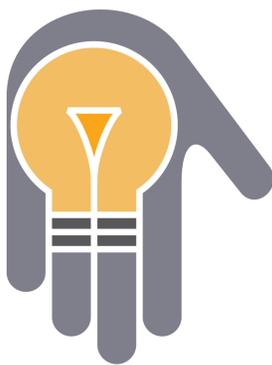
The SAVE Act would instruct federal loan agencies to assess a borrower's expected energy costs when financing a house. This legislation would benefit the small business community and self-employed individuals who work from home by enabling better mortgage underwriting, reducing utility bills, providing affordable financing for home energy improvements, and driving business and job growth in the housing industry. What's more, this legislation would make these improvements all at no cost to taxpayers.

Lawmakers should enact the Strengthening the Resiliency of our Nation on the Ground (STRONG) Act:



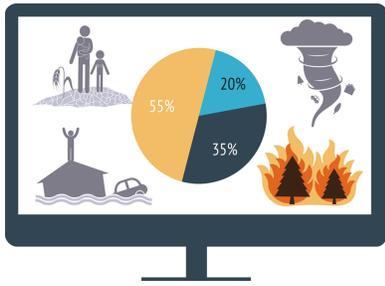
This legislation would build upon existing extreme weather resiliency efforts to provide state and local planners with the tools and information they need to develop and improve local extreme weather resiliency efforts. The STRONG Act would help small businesses in the aftermath of an extreme weather event by coordinating existing federal efforts to ensure the federal government is better equipped to support state and local governments in their preparedness efforts. By giving state and local planners the resources they need to prepare for extreme weather events, this legislation would help mitigate the effects of damaging storms on local businesses, communities and economies.

Congress should pass the Energy Savings and Industrial Competitiveness Act:



Small business owners want to see Congress enact the Energy Savings and Industrial Competitiveness Act (or Shaheen-Portman bill), which would promote energy conservation and cut energy waste. Business owners think this bill is good for their bottom line because it would strengthen energy efficiency requirements in housing and commercial building codes, incentivize industrial energy efficiency, encourage energy-efficient supply chains and provide energy efficiency training for engineers, architects, and building construction workers. In fact, Small Business Majority's opinion polling found 52% of small business owners support this legislation.

The Small Business Administration should assess the effects of climate change on the small business community:



We need more information about the effects of climate change and extreme weather on the small business community to better educate small employers and lawmakers on this issue. The Small Business Administration should start finding ways to assess the impact of climate change and extreme weather on our nation's small businesses in order to help inform entrepreneurs and policymakers about the importance of climate change mitigation.

Congress should allow the Environmental Protection Agency (EPA) to continue to set carbon pollution standards for power plants through provisions of the Clean Air Act:



Small business owners support the EPA's standards limiting carbon pollution from power plants and believe clean energy standards are good for their businesses and the economy. Small Business Majority's opinion polling found more than half of all small businesses support the EPA limiting carbon pollution from existing power plants, and 76% of small business owners are in favor of requiring new power plants to reduce carbon pollution. Additionally, a vast 82% support EPA rules to reduce mercury and other toxic emissions from new and existing power plants.

Small business owners also support state renewable energy policies and the EPA's clean air standards because they believe it will help curb the effects of climate change and extreme weather that have devastating impacts on small businesses and the economy. Some lawmakers are attempting to repeal the EPA's proposed carbon limits for new power plants and establish restrictive rules for how the EPA should set future standards. Congress should support entrepreneurs by continuing to allow the EPA to set clean energy standards that are good for small businesses and the economy.

We also recommend that the Obama Administration take the following steps, based on priorities set by the Center for American Progress,^{xviii} to reduce the effects of climate change on our nation's environment, economy and small businesses:

- Establish an ambitious 2025/2030 national climate pollution reduction goal.
- Extend wind, solar and other renewable energy tax incentives through 2020.
- Establish a carbon pollution reduction plan to guide the management and conservation of America's public lands.

Conclusion

A recent report from the Center for American Progress found that extreme weather events in the U.S. caused up to \$188 billion in combined total damages during 2011 and 2012.^{xix} If climate change continues to fuel extreme weather events, these numbers could increase over the coming years. It's important to take steps now to mitigate the effects of these events on our economy, and small businesses need to be part of the discussion surrounding climate change and extreme weather.

Climate change and extreme weather events are not only damaging to our economy but they are particularly destructive to small businesses. Since many small businesses lack the resources to quickly recover from a storm, damage such as power outages, closed roads and property damage can quickly cause extreme financial repercussions. Since they also lack the resources to integrate disaster planning into their business plans, it's important to help entrepreneurs prepare for the next extreme weather event. Small employers see a connection between mitigating the effects of extreme weather and climate change and smart energy efficiency policies, and as a result, a majority supports our nation enacting strong clean energy standards. With stronger clean energy policies in place, small businesses can help contribute to the economy rather than worrying about rising energy costs and how to recover from the next hurricane, flood or drought.

Resources

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