

# *The Economic Toll of Global Warming is Real— and Growing*

*Few challenges facing America—and the world—are more urgent than combating climate change.”*

- President Barack Obama, Address to Governors  
Global Climate Summit, November 18, 2008



President Barack Obama has said that it is urgent that we implement a cap and trade program to help stabilize our climate. **The costs of not acting to head off global warming’s toll on the economy are growing larger every day we wait.**

## *Global warming is already draining our economy*

**We have already lost billions because of climate change.**

- **\$1.3 billion** – the amount of damage associated with crop loss from Georgia’s drought in 2007.<sup>1</sup>
- **\$85 billion** – reconstruction costs for homes damaged or destroyed by Hurricane Katrina.<sup>2</sup>
- **\$1 trillion** – the risk to tax-payers from damage insured through the National Flood Insurance Program has quadrupled since 1980.<sup>3</sup>

## *Waiting to act will only cost us more*



**Four global warming impacts alone** – hurricane damage, real estate losses, energy costs, and water costs – will come with a price tag of 1.8 percent of U.S. gross domestic product (GDP), or almost **\$1.9 trillion annually** (in today’s dollars) by 2100,<sup>4</sup> costing every man, woman, and child in the US more than \$6,260 a year.

**Invest a dollar and you will save five.** According to Sir Nicholas Stern, former chief economist, World Bank, the cost of acting to stop global warming from reaching dangerous levels would be about one percent of the world’s GDP by the year 2050. The cost of inaction would lead to damage costing much more, Stern warned - at least five percent and perhaps more than 20 per cent of global GDP.<sup>5</sup>

**Delaying just two years will require twice the effort.** An analysis of 2008 climate legislation shows that waiting just two years to tackle global warming would require more than double the annual cuts in emissions to achieve the same cumulative goal to prevent a 2° C warming – 4.3 percent in annual cuts versus 2 percent.<sup>6</sup>

**We should not delay investment and job creation.** Companies are waiting for new rules before they invest billions in new power plants and other projects. Once companies know how their carbon emissions will be limited, they will know the rules and be free to invest - creating new manufacturing jobs, such as making steel for wind turbines.

**Climate Breakdown Leads to Economic Breakdown.** According to testimony before Congress by the Reinsurance Association of America, “the sheer magnitude of climate change could impact a large number of industries to such an extent that sustainable insurability may ultimately be put into question.” As we have seen with the financial system in 2008-09, the failure of the reinsurance industry can lead to crisis in the U.S. economic system.<sup>7</sup> Additionally, the nation’s public lands are estimated to provide up to \$3.9 trillion annually in important services such as cleaning the air we breathe and the water we drink, treating wastes and affording recreational opportunities.<sup>8</sup> Failing to address global warming puts these natural assets at risk, along with our health and economic wellbeing.

**Losses will be massive to state economies.** In **Florida**, for example, the impact of global warming on tourism, electric utilities and real estate, together with hurricane damage, would **shrink state GDP by an estimated 5 percent** by the end of the century, according to a report from Tufts University.<sup>9</sup> In **California**, estimates also show that the Central Valley could lose up to \$2.2 billion in crop revenue and between 60,000 and 80,000 jobs due to drought and water restrictions.<sup>10</sup>

## ***Damage from global warming grows more deadly***

Science shows that climate measures are needed now more than ever.

**Intense hurricanes.** Warming ocean temperatures increase the risk of more powerful hurricanes.<sup>11</sup> While the science linking today’s hurricane activity to greenhouse gas emissions remains uncertain, there is widespread agreement that global warming is likely to increase the average intensity of hurricanes and increase the average rainfall rates from these powerful storms, leading to more loss of life and property.



**Increasing drought.** Higher temperatures are evaporating water at a rapid pace, putting water supplies, livestock and crops in danger. Severe drought conditions began damaging wide swaths of North America, southern Europe and southern and central Asia at the turn of the century and in 2004, the Western U.S. experienced the most severe drought in 80 years and one of the most severe in 500 years.<sup>12</sup>

**More frequent and severe wildfires.** As the climate warms, hot, dry summers are creating tinderbox conditions ideal for wildfires. “Since 1986,” Steven W. Running reported in *Science* magazine in August 2006, “longer, warmer summers have resulted in a fourfold increase of major [U.S.] wildfires and a sixfold increase in the area of forest burned, compared to the period from 1970 to 1986.”<sup>13</sup>



**Accelerated flooding and coastal erosion.** Rising sea levels, caused by global warming, not only flood the land but also erode more coastline<sup>14</sup> with higher ocean waves, threatening coastal populations and habitats. Over the 20th century, the seas rose between four and eight inches – ten times the average rate of the last 3,000 years. If sea level continues to rise, thousands of square miles of land in densely populated areas such as the eastern U.S. may be lost in a century or two. In northern Alaska, the cost of relocating Shishmaref village, population just over 350, comes with a price tag of at least

\$180 million to the federal government.<sup>15</sup> And, according to the Government Accountability Office, dozens of Alaska Native villages are similarly susceptible to climate-related flooding and erosion caused by declining shore ice during storm seasons.<sup>16</sup>

### ***Cutting emissions now is a bargain***

In present-value terms, the median projected impact of climate policy is **less than one-half of one percent of U.S. GDP** for the period 2010-2030, and under three-quarters of one percent through the middle of the century.<sup>17</sup>

According to the Congressional Budget Office, the net cost of capping greenhouse gases per American household will amount to **just \$175 a year in 2020**.<sup>18</sup>

Considering the very high cost of delay or inaction, and the clear benefit to future generations if we act now, the time has come to support legislation that provides new clean, green jobs and energy choices, and ends the free dumping of global warming pollution into the atmosphere.

### ***For more information, please contact:***

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Photo Credits: U.S. National Parks Service, NOAA, FEMA, Department of Interior, the State of Arkansas., Shishmaref Erosion and Relocation Coalition.

<sup>1</sup> Center for Integrative Environmental Research. 2007. “The US Economic Impacts of Climate Change.” University of Maryland. Available from: <http://www.cier.umd.edu/climateadaptation/>

<sup>2</sup> Ibid.

<sup>3</sup> GAO. 2007. “Report to the Committee on Homeland Security and Governmental Affairs, U.S. Senate. Climate Change: Financial Risks to Federal and Private Insurers in Coming Decades are Potentially Significant.” Available from: <http://www.gao.gov/new.items/d07285.pdf>

<sup>4</sup> Ackerman, Frank and Elizabeth Stanton. 2008. “The Cost of Climate Change. What We’ll Pay if Global Warming Continues Unchecked.” NRDC. Available from: <http://www.nrdc.org/globalWarming/cost/contents.asp>

<sup>5</sup> Stern, Sir Nicholas. 2006. “The Stern Review: The Economics of Climate Change.” U.K Office of Climate Change. Available from: [http://www.hm-treasury.gov.uk/sternreview\\_index.htm](http://www.hm-treasury.gov.uk/sternreview_index.htm)

<sup>6</sup> Kechane, Nathaniel and Peter Goldmark. 2008. “What Will it Cost to Protect Ourselves from Global Warming? The Impacts on the U.S. Economy of a Cap-and-Trade Policy for Greenhouse Gas Emissions.” Environmental Defense Fund. Available from: [http://www.edf.org/documents/7815\\_climate\\_economy.pdf](http://www.edf.org/documents/7815_climate_economy.pdf) Pgs 2-3.

<sup>7</sup> Testimony of Franklin Nutter before the House Select Committee on Energy Independence and Global Warming, US Congress, Washington, DC. May 3, 2007. Available from <http://globalwarming.house.gov/tools/assets/files/0087.pdf>

<sup>8</sup> Esposito, Valerie, Boumans, Roelof, Moulert, Azur. Phillips, Spencer and Jennifer Boggs. 2009. “Research Summary: Climate Change and Ecosystem Services: The contribution of and impacts on Federal Public Lands in the United States.” University of Vermont and The Wilderness Society. In review.

<sup>9</sup> Stanton, Elizabeth and Frank Ackerman. 2007. “Florida and Climate Change. The Cost of Inaction.” Tufts University. Available from: <http://ase.tufts.edu/gdae/Pubs/rp/FloridaClimate.html> Table: pg. iii.

<sup>10</sup> McKinley, Jesse. 2009. “Drought Adds to Hardships in California.” The New York Times. 21 February 2009. Available from: <http://www.nytimes.com/2009/02/22/us/22mendota.html?pagewanted=1&sq=california%20central%20valley&st=cse&scp=3>

<sup>11</sup> See, e.g., Knutson, Thomas, 2008, “Global Warming and Hurricanes.” NOAA. Available from [http://www.gfdl.noaa.gov/~tk/glob\\_warm\\_hurr\\_webpage.html#section1](http://www.gfdl.noaa.gov/~tk/glob_warm_hurr_webpage.html#section1)

<sup>12</sup> Wang, James and Bill Chameides. 2005. “Global Warming’s Increasingly Visible Impacts.” Environmental Defense Fund. Available from: [http://www.edf.org/documents/4891\\_GlobalWarmingImpacts.pdf](http://www.edf.org/documents/4891_GlobalWarmingImpacts.pdf)

<sup>13</sup> Running, Steven W.. 2006. “Is Global Warming Causing More, Larger Wildfires?” *Science Magazine*, Vol. 313, No. 5789, pp. 927-28.

<sup>14</sup> Environmental Defense Fund. “Rising Waters Imperil Coastal Property.” Available from: <http://fightglobalwarming.com/page.cfm?tagID=246>

<sup>15</sup> US Army Corps of Engineers. 2004. “Shishmaref Partnership: Shishmaref Relocatin and Collocation Study. Preliminary Costs of Alternatives.” Available from: <http://www.poa.usace.army.mil/en/cw/shishmaref/relocation.pdf>

<sup>16</sup> GAO. 2003. “Alaska Native Villages: Most Are Affected by Flooding and Erosion but Few Qualify for Federal Assistance.” Available from: <http://www.gao.gov/new.items/d04142.pdf>

<sup>17</sup> Kechane, Nathaniel and Peter Goldmark. 2008.

<sup>18</sup> Congressional Budget Office. 2009. “The Estimated Costs to Households From the Cap-and-Trade Provisions of H.R. 2452.” 19 June 2009. Available from: <http://www.cbo.gov/ftpdocs/103xx/doc10327/06-19-CapAndTradeCosts.pdf>