

# EEN's Global Warming Briefing for Evangelical Leaders

## 1. What the World's Leading Climate Scientists Are Saying

**Summary: There is a scientific consensus that global warming is real and is being caused mainly by human activity. This consensus has existed since 1995, and evidence since then has only strengthened this conclusion.**

## 2. What the Bush Administration and its Scientists Are Saying

**Summary: The Bush Administration now agrees with the scientific consensus that global warming is happening and is being caused by human activity.**

## 3. What Business Leaders Are Saying

**Summary: Many business leaders in industries that would have to significantly reduce global warming pollution are saying it is time to take action.**

## 4. What Evangelical Leaders Are Saying

**Summary: Some evangelical leaders are saying the time for significant action is now.**

## 5. What the Public (including Evangelicals) is Saying

**Summary: Numerous nationwide polls have consistently found a large majority – including a large majority of Republicans – in favor of significant action to address global warming. 71% of evangelicals consider addressing global warming to be important.**

## 6. What the Consequences Are of Global Warming

**Summary: Millions of people could die in this century because of global warming.**

## 7. Why Urgency is Required

**Summary: (1) It's happening now. (2) The global warming pollution we create now will continue to harm our children and grandchildren throughout this century. (3) We're making long-term decisions now that will impact how much pollution we create for decades.**

## 8. What the Bible Says

**Summary: Addressing global warming is a new way to love our neighbors, to do unto others as we would have them do unto us, to protect and care for "the least of these" as if they were Jesus Christ himself.**

## 9. Personal Stories Related to Impacts of Global Warming

**Summary: While hundreds of millions will be affected by global warming in this century, each individual will have his or her own story to tell. Poor children will be hurt the most, and it is their stories we must remember when thinking and praying about global warming.**

## 10. Success Stories in Reducing Global Warming Pollution

**Summary: Positive, money-saving actions to reduce global warming pollution are being implemented across our society by major energy companies, states, churches, and individuals.**

## 11. What the Senate Has Pledged to Do

**The Senate has now pledged to “enact a comprehensive and effective national program of mandatory, market-based limits and incentives on emissions of greenhouse gases that slow, stop, and reverse the growth of such emissions ...”**

## 12. What the Climate Stewardship and Innovation Act Would Accomplish

**Voluntary efforts have been tried in the U.S. since 1990, yet our global warming pollution has risen over 13 percent. An efficient, market-based federal law requiring the growth in emissions be reduced, such as the Climate Stewardship and Innovation Act, is needed as a first step.**

## 13. What the Economic Impacts Could Be of the Climate Stewardship and Innovation Act

**Summary: The Climate Stewardship and Innovation Act would cost families approximately \$20 per year.**

## 14. The Bush Administration’s Approach

**Summary: While currently insufficient to meet the challenge of climate change, the Bush Administration’s efforts to address global warming have helped to set the stage for more significant action.**

## 15. What We Can Do

**Summary: By being good stewards of natural resources, and supporting government policies to do the same, we can reduce pollution that harms human health and causes global warming.**

## 16. Additional Benefits: National Security and Public Health

**Summary: National and economic security can be enhanced by reducing our dependence on foreign oil from unstable regions. Burning less oil and coal will also reduce pollution that harms human health, including the health of the unborn.**

## 17. Helpful Links and Resources

1. What the World’s Leading Climate Scientists Are Saying:

**There is a scientific consensus that global warming is real and is being caused mainly by human activity. This consensus has existed since 1995, and evidence since then has only strengthened this conclusion.**

**A. The Intergovernmental Panel on Climate Change (IPCC)**

The IPCC is the world’s most authoritative body of scientists and policy experts on the issue of global warming. Its first three scientific assessments, in 1990, 1995, and 2001, were chaired by Sir John Houghton, an evangelical Christian. The 2001 report stated:

“There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities.”<sup>1</sup>

<sup>1</sup> Intergovernmental Panel on Climate Change 2001, Summary for Policymakers, p.10; [http://www.grida.no/climate/ipcc\\_tar/wg1/007.htm](http://www.grida.no/climate/ipcc_tar/wg1/007.htm).

## **B. The U.S. National Academy of Sciences**

When it first came into office the Bush Administration asked the National Academy of Sciences (NAS) to review the current climate science and provide a report. In its 2001 report the NAS determined that the IPCC's basic conclusion was correct:

“The IPCC's conclusion that most of the observed warming of the last 50 years is likely to have been due to the increase in greenhouse gas concentrations accurately reflects the current thinking of the scientific community on this issue ... Despite the uncertainties, there is general agreement that the observed warming is real and particularly strong within the past 20 years.”<sup>2</sup>

## **C. G8 Academies' of Science Statement**

On June 7, 2005 the U.S. National Academy of Science joined with the Academies of Science of the other G8 nations, plus the Academies of China, India, and Brazil, to issue a joint statement on climate change. It stated:

“The scientific understanding of climate change is now sufficiently clear to justify nations taking prompt action ... Failure to implement significant reductions in net greenhouse gas emissions now, will make the job much harder in the future.”<sup>3</sup>

## **D. Arctic Climate Impact Assessment**

This report was requested by the Arctic Council, a high-level intergovernmental forum whose members include the U.S., Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, and Sweden. The U.S. was the lead country on this report. Their conclusion:

“There is an international scientific consensus that most of the warming observed over the last 50 years is attributable to human activities.”<sup>4</sup>

## **E. American Geophysical Union**

The American Geophysical Union is the premier American professional association for scientists in the areas of atmospheric and ocean sciences; solid-Earth sciences; hydrologic sciences; and space sciences. It recently issued a statement that said:

“A particular concern is that atmospheric levels of carbon dioxide may be rising faster than at any time in Earth's history, except possibly following rare events like impacts from large extraterrestrial objects ... Moreover, research indicates that increased levels of carbon dioxide will remain in the atmosphere for hundreds to thousands of years.”<sup>5</sup>

<sup>2</sup> National Research Council of the National Academy of Sciences, *Climate Change Science: An Analysis of Some Key Questions* (2001); <http://books.nap.edu/html/climatechange/summary.html>. In an interview for the 2005 Annual Report of Cinergy, a major coal-burning utility with revenue of \$4.6 billion in 2004, William Reilly, former EPA Administrator for President Bush (Sr.), provided some historical and critical perspective: “Three past Presidents have asked the National Academy of Sciences to report on global warming. Each time the Academy concluded the same thing: global warming is a serious problem and we human beings are largely to blame. The media doesn't present it that way. They add qualifiers to this accepted scientific opinion. They give the same weight to the conclusions of 2,000 scientists as they do to three or four scientific naysayers.” See Cinergy Corp. Annual Report 2004, “Global Warming: Can We Find Common Ground?” p.24; [http://www.cinergy.com/pdfs/reports/04sar/04AR07a\\_Connecting.pdf](http://www.cinergy.com/pdfs/reports/04sar/04AR07a_Connecting.pdf).

<sup>3</sup> To view the “Joint Science Academies' Statement: Global Response to Climate Change,” go to: <http://nationalacademies.org/onpi/06072005.pdf>.

<sup>4</sup> ACIA, *Impacts of a Warming Climate*, Cambridge University Press, November 2004, p.2; <http://amap.no/acia/>.

## 2. What the Bush Administration and its Scientists Are Saying:

### **The Bush Administration now agrees with the scientific consensus that global warming is happening and is being caused by human activity.**

At the July 2005 G8 meeting at Gleneagles, Scotland, the leaders of the G8 nations, including President Bush, issued a statement on climate change which affirmed that:

“Climate change is a serious and long-term challenge that has the potential to affect every part of the globe. We know that increased need and use of energy from fossil fuels, and other human activities, contribute in large part to increases in greenhouse gases associated with the warming of our Earth's surface. While uncertainties remain in our understanding of climate science, we know enough to act now to put ourselves on a path to slow and, as the science justifies, stop and then reverse the growth of greenhouse gases.”<sup>6</sup>

The G8 statement on climate change is in keeping with the Bush Administration's official climate science report issued in 2004. It states:

“North American temperature changes from 1950 to 1999 were unlikely to be due only to natural climate variations. Observed trends over this period are consistent with simulations that include anthropogenic forcing from increasing atmospheric greenhouse gases and sulfate aerosols.”<sup>7</sup>

“More than 80% of the species that showed changes were shifting in the direction expected on the basis of known physiological constraints of species. The balance of evidence from these studies suggests that impacts of global warming are discernible in animal and plant populations.”<sup>8</sup>

Where the Bush Administration continues to differ with the IPCC and other scientific bodies is on how much of the current warming can be attributed to human activities. They currently maintain we don't know. As stated above, the IPCC says “most of the warming observed over the last 50 years is attributable to human activities.” (Sir John Houghton says that at least 80% of the current warming is human induced.)

See Section 14 for a summary of the Bush Administration's climate program.

## 3. What Business Leaders Are Saying:

### **Many business leaders in industries that would have to significantly reduce global warming pollution are saying it is time to take action.**

*Lord John Browne*, CEO of *BP*: “We've found that an emissions trading system, which ensures that resources are applied in the right places, is the best way to keep costs down, and we've demonstrated that, far from being a cost burden, reducing emissions by eliminating waste can add value ... In fact

<sup>5</sup> See American Geophysical Union, “Human Impacts on Climate,” December 2003, [http://www.agu.org/sci\\_soc/policy/climate\\_change\\_position.html](http://www.agu.org/sci_soc/policy/climate_change_position.html).

<sup>6</sup> For the G8 climate statement, go to: <http://www.number-10.gov.uk/output/Page7881.asp>. There was also a climate “Plan of Action” statement released. See <http://www.number-10.gov.uk/output/Page7882.asp>.

<sup>7</sup> *Our Changing Planet: The U.S. Climate Change Science Program for Fiscal Years 2004 and 2005*, p.47; <http://www.usgcrp.gov/usgcrp/Library/ocp2004-5/default.htm>

<sup>8</sup> *Our Changing Planet*, p.92; <http://www.usgcrp.gov/usgcrp/Library/ocp2004-5/default.htm>

within the first three years we added \$650 million of value, for an investment of around \$20 million ... Our aspiration is to turn a threat and a risk into an opportunity.”<sup>9</sup>

*Charles O. Holliday, Jr., CEO of DuPont:* “DuPont believes that action is warranted, not further debate. We also believe that the best approach is for business to lead, not wait for public outcry or government mandates. From our experience of the past ten years, we know that integrating environmental considerations into our business strategies enhances our ability to achieve sustainable growth.”<sup>10</sup>

*Michael Morris, CEO of the U.S.’s #1 coal-burning utility and largest electricity generator, American Electric Power:* “The science debate goes on, but we know enough to move now.”<sup>11</sup>

*Business Week* Editorial: “we do know that the world is warming – the ‘90s were the warmest decade in centuries. We know that businesses can save money and increase efficiency by cutting energy costs. And we know that a national policy that cuts fossil fuel consumption converges with a geopolitical policy of reducing energy dependence on Middle East oil. Reducing carbon dioxide emissions is no longer just a ‘green’ thing. It makes business and foreign policy sense, as well.”<sup>12</sup>

*James E. Rogers, CEO of Cinergy, a utility with \$4.6 billion in annual revenue that produces 95% of its electricity from burning coal:* “... I am convinced that it is prudent to take action now to address what we do know (about climate change).”<sup>13</sup>

*Paul Anderson, CEO of Duke Energy, an electric utility:* “Personally I feel the time has come to act.”<sup>14</sup> “We will be proactive on the issue of global climate change ... Ideally, U.S. public policy should encourage a transition to a lower-carbon-intensive economy through a broad-based approach, such as a carbon tax or other mechanism which addresses all sectors of the economy.”<sup>15</sup>

<sup>9</sup> Lord John Brown, keynote address to the Institutional Investors Group on Climate Change, London, November 26, 2003; [http://www.pewclimate.org/companies\\_leading\\_the\\_way\\_belc/company\\_profiles/bp\\_amoco/browne.cfm](http://www.pewclimate.org/companies_leading_the_way_belc/company_profiles/bp_amoco/browne.cfm).

<sup>10</sup> Pew Center on Global Climate Change website, [http://www.pewclimate.org/companies\\_leading\\_the\\_way\\_belc/company\\_profiles/dupont/index.cfm](http://www.pewclimate.org/companies_leading_the_way_belc/company_profiles/dupont/index.cfm).

<sup>11</sup> *Business Week*, Aug. 16, 2004, p.69.

<sup>12</sup> *Business Week*, Aug. 16, 2004, p.108.

<sup>13</sup> Pew Center on Global Climate Change website, [http://www.pewclimate.org/companies\\_leading\\_the\\_way\\_belc/company\\_profiles/cinergy/](http://www.pewclimate.org/companies_leading_the_way_belc/company_profiles/cinergy/). Rogers has also stated that “In regard to CO<sub>2</sub>, my starting point on this issue is that one day we will live in a carbon-constrained world. So then the question becomes: What steps should we be taking today to prepare for that? One thing that we have done is to make a commitment to reduce the CO<sub>2</sub> emissions from our plants by five percent off our 2000 base level—and to achieve that by 2010. I think it’s do-able—we wouldn’t have made the commitment unless we thought that it could be done ... We can’t just shut down all the coal plants—when 52 percent of all electricity in this country comes from coal—it’s just not do-able. What’s better is to determine how to make sure all the incremental coal plants are really good, how to retrofit some and how to shut down others that are really old. That gets us on the path to cleaner air sooner—and it allows us to make real progress.” See *green@work* magazine, Winter 2004; <http://www.greenatworkmag.com/gwsubaccess/04winter/cover.html>. Like Cinergy, many companies have come to the conclusion that at some point carbon dioxide will be regulated. But when, how, and how much? Until a law is passed or a regulation promulgated, this “regulatory uncertainty” leaves them in limbo about how to make certain investment decisions. Cinergy explains their situation: “It can take from 6 to 12 years to build a large base load generating station on a new site, at a cost in excess of \$1 billion. Early in the process, we must find the optimal location, design the plant, obtain permits and finalize major engineering decisions. In an uncertain regulatory climate, these decisions must be made at the risk that they will not be optimal once the existing uncertainty is finally resolved. Cinergy works hard to manage this risk and has done so successfully for years, but clearly, the prompt adoption of a clear long-term federal environmental policy would benefit all.” See Cinergy, *Air Issues*, p.12; [http://www.cinergy.com/pdfs/AIRS\\_12012004\\_final.pdf](http://www.cinergy.com/pdfs/AIRS_12012004_final.pdf).

<sup>14</sup> Paul Nowell, Associated Press, published in *Kansas City Star*, April 7, 2005; <http://www.kansascity.com/mld/kansascity/business/11335235.htm>.

<sup>15</sup> Paul M. Anderson, “Letter to Shareholders” in the 2004 Annual Report for Duke Energy, March 15, 2005; [http://www.duke-energy.com/investors/publications/annual/ar\\_2004/chairman/letter.asp](http://www.duke-energy.com/investors/publications/annual/ar_2004/chairman/letter.asp). In their policy statement on climate change, Duke Energy states: An appropriate policy on climate change should:

*Jeffrey R. Immelt*, CEO of *General Electric* (the country's largest company), in announcing GE's "Ecomagination" efforts: "I think [global warming] is something we need to start figuring out and taking proactive steps to make improvements on."<sup>16</sup>

*James Baker*, former Secretary of State: "It may surprise you a little bit, but maybe it's because I'm a hunter and a fisherman, but I think we need to pay a little more attention to what we need to do to protect our environment ... When you have energy companies like Shell and British Petroleum ... saying there is a problem with excess carbon dioxide emissions, I think we ought to listen."<sup>17</sup>

#### 4. What Evangelical Leaders Are Saying:

##### **Some evangelical leaders are saying the time for significant action is now.**

*Christianity Today* Editorial: "the scientific data have grown increasingly solid ... The real danger is to wait until the data are undeniable ... With each passing year, we lose the ability to slow and minimize the effects of global warming. This is our Father's world, and it is filled with our brothers and sisters. Christians should make it clear to governments and businesses that we are willing to adapt our lifestyles and support steps toward changes that protect our environment."<sup>18</sup>

The National Association of Evangelicals' Richard Cizik in the *Wall Street Journal*: "Even George Bush supporters believe you have to offer something more here than simply voluntary measures."<sup>19</sup>

The Oxford Declaration: "There is now high confidence in the scientific evidence of human influence on climate as detailed by the Intergovernmental Panel on Climate Change (IPCC) and endorsed by 18 of the world's leading Academies of Science ... Human induced climate change poses a great threat to the common good, especially to the poor, the vulnerable and future generations."<sup>20</sup>

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"reduce greenhouse gas emissions gradually over a long time horizon, beginning the effort in the near term; be economically efficient, sending price signals for lowering carbon intensity through energy conservation, fuel selection, technological innovation and new capital investment; have a broad scope, applying to all sectors of the economy and to multiple greenhouse gases; align with other energy policy objectives and recognize the value of a diverse energy supply; and provide benefits independent of reducing greenhouse gas emissions."

<sup>16</sup> Greg Schneider, *Washington Post*, Tuesday, May 10, 2005; Page E02 <http://www.washingtonpost.com/wp-dyn/content/article/2005/05/09/AR2005050901169.html>. "The company pledged to spend \$1.5 billion a year on [environmental] research by 2010, more than double the \$700 million it spends today. Immelt said GE also aims to double the revenue goal over that period for products that provide better environmental performance, to \$20 billion a year, and expects more than half of its product revenue to come from such products by 2015. At the same time, GE promised to reduce the greenhouse gas emissions of its factory operations 1 percent by 2012. Without the initiative, those emissions were expected to increase 40 percent, the company said." Immelt has also recently co-authored with Jonathan Lash, President of the World Resources Institute, a Washington Post op-ed entitled "The Courage to Develop Clean Energy." They state: "We have the technology. We have the economic incentives. What is missing is the will to follow through. For a nation such as ours -- which has always seized new opportunities, created new markets and developed new technologies -- our failure to close the deal on clean power is as puzzling as it is nonpartisan." See <http://www.washingtonpost.com/wp-dyn/content/article/2005/05/20/AR2005052001332.html>. Published Saturday May 21, 2005, A19.

<sup>17</sup> Reuters, "U.S. Must Address Global Warming, Bush Ally Says," March 3, 2005; <http://abcnews.go.com/US/wireStory?id=549441>.

<sup>18</sup> Christianity Today editorial, Oct. 2004 (Vol. 48, #10), pp. 26-27; <http://www.christianitytoday.com/ct/2004/010/10.26.html>.

<sup>19</sup> John J. Fialka, *Wall Street Journal*, Wed. May 19, 2004, A2.

<sup>20</sup> <http://www.climateforum2002.org/statement.cfm>. On July 17, 2002, the Oxford Declaration on Global Warming was issued by attendees of Climate Forum 2002. Here is a description from the website: "More than 70 leading climate scientists, policy-makers and Christian leaders from across 6 continents gathered for 'Climate Forum 2002' in Oxford, England to address the growing crisis of human-induced climate change. The Forum recognizes the reality and the urgency of the problem, which particularly affects the world's poorest peoples and the very fabric of the biosphere. The Forum also recognizes that the Christian community has a special obligation to provide moral leadership and an example of caring service to people and to all God's creation."

## 5. What the Public (including Evangelicals) is Saying:

**Numerous nationwide polls have consistently found a large majority – including a large majority of Republicans – in favor of significant action to address global warming. 71% of evangelicals consider addressing global warming to be important.**

### **A. Evangelicals and Global Warming**

A recent poll of evangelicals found that 40% considered “Combating global warming and other environmental threats” to be extremely or very important, while 31% considered it somewhat important. Thus, 71% of evangelicals consider addressing global warming to be somewhat to extremely important.<sup>21</sup>

### **B. Hunters and Anglers**

A June 2004 poll of hunters and anglers (68% of whom voted for Bush in 2000) found that 63% believe global warming has or will have an impact on hunting and fishing conditions. 75% agree that the U.S. should reduce global warming pollution, and 74% agree that we should take actions such as investing in renewable energy.<sup>22</sup>

### **C. Growth in Awareness about Scientific Consensus; Willing to take High-Cost Steps**

A national poll conducted in June 2005 found that the perception of a scientific consensus about the reality of global warming grown sharply (by nine points) when compared to the same poll taken in 2004, but it is still barely more than half at 52 percent. Sixty-two percent of Democrats perceived a consensus, as compared to just 41% of Republicans.

However, for Republicans there has been a sharp 11 point rise in the perception of a scientific consensus (30% in 2004 but 41% in 2005).

Those who believe that there is a scientific consensus about the reality of climate change are far more likely to favor taking high-cost steps. When asked to assume that there is such a consensus, the percentage willing to take high-cost steps jumps from one third to a majority (34% to 56%).<sup>23</sup>

### **D. Understanding of Threat to Future Generations, but Not Why Action Required Now**

A June 2005 ABC News-Washington Post poll suggests there could be a problem with the public understanding the need for urgency.<sup>24</sup> (See Section 7 of this briefing for why urgency is required.) It found that:

- 33% believe it is a threat in their lifetime (41% Democrats, 40% Independents, 19% Republicans);
- 79% believe it is a threat to future generations (90% Ds, 82% I, 65% Rs);

<sup>21</sup> Greenberg Research for *Religion and Ethics Newsweekly*, April 2004, question 38; <http://www.pbs.org/wnet/religionandethics/week733/release.html>.

<sup>22</sup> Bellwether Research, poll for the National Wildlife Federation, July 12, 2004; <http://www.nwf.org/nwfwebadmin/binaryVault/ExecutiveSummary.pdf>.

<sup>23</sup> Program on International Policy Attitudes (PIPA)/Knowledge Networks Poll, July 5, 2005, p.5; [http://www.pipa.org/OnlineReports/ClimateChange/Report07\\_05\\_05.pdf](http://www.pipa.org/OnlineReports/ClimateChange/Report07_05_05.pdf).

<sup>24</sup> For the ABC-Post poll, go to <http://abcnews.go.com/Technology/PollVault/story?id=850438>.

- 38% believe that it is "an urgent problem that requires immediate government action" (47% Ds, 44% I, 24% Rs) while 58% believe it is "a longer-term problem that requires more study before government action is taken." (This finding contrasts somewhat with B and C above. A third option here for respondents to choose such as "a long-term problem that we must start addressing now" would have presented a more nuanced view of public opinion.)

So, the **good news** from the poll to build on is:

- 79% believe it's a threat to future generations (including 65% Rs)
- 61% believe human activities are a significant cause (54% Rs)

But the areas for improvement are that:

- only 19% of Republicans (Rs) consider it a threat in their lifetime. (This contrasts with the fact that impacts are already starting to be felt.)
- only 42% of Rs think that it is happening.
- only 24% of Rs think it is an urgent problem requiring action now.

#### **D. Evangelicals and "Strict Environmental Regulations."**

More broadly, a 2004 poll by John Green of the University of Akron for the Pew Forum has shown that 52% of evangelicals are in favor of "strict environmental regulations." (That is a high hurdle.)<sup>25</sup>

## 6. What the Consequences Are

### **Millions of people could die in this century because of global warming.**

Global warming is projected to hit the poor the hardest, and such impacts are already starting to occur.

- A heat wave in Europe in 2003 due primarily to global warming killed at least 20,000. Such summers are projected to be the average by the middle of this century.<sup>26</sup>
- Agricultural output in many poorer countries could be significantly reduced. An additional 80-90 million poor people could be at risk of hunger and malnutrition later in the 21<sup>st</sup> century.<sup>27</sup>
- Poorer countries are much less able to withstand the devastation caused by extreme weather events, and climate change is likely to increase such events. For example, global warming could increase the number of people impacted by flooding by 20-50 million.<sup>28</sup>
- Hundreds of millions of people will be at increased risk of malaria, dengue fever, yellow fever, encephalitis, and other infectious diseases because of global warming.<sup>29</sup>

<sup>25</sup> John Green, "The American Religious Landscape and Political Attitudes: A Baseline for 2004, Tables 10 and 11 on pp.22-25; <http://pewforum.org/publications/surveys/green-full.pdf> Green's research coincides with Presidential elections, and he began asking this environmental question in 1992. In that year and in 1996 50% of Evangelical Protestants were in favor of "strict environmental regulations." In 2000 this dropped to 45% (probably as a sign of displeasure with Democratic candidate Al Gore, a prominent environmentalist). However, in 2004 it rose to 52%. Prof. Green breaks Evangelical Protestants into three subcategories: modernist, centrist, and traditional. Of the 52% in 2004 who favored "strict environmental regulations," 57% of "Modernist Evangelicals," 52% of "Centrist Evangelicals" and 52% of "Traditionalist Evangelicals" were in favor. (FYI, in 2000, Traditionalist Evangelicals accounted for 12.6% of the total population, Centrist Evangelicals were 10.6%, and Modernist Evangelicals were 2.9%.)

<sup>26</sup> Presentation by Sir John Houghton to the Board of the National Association of Evangelicals, March 11, 2005; <http://www.creationcare.org/resources/climate/houghton.php>.

<sup>27</sup> Intergovernmental Panel on Climate Change's *Climate Change 2001: Impacts, Adaptation, and Vulnerability* (2001): section 19.4.2, Box 19-3; [http://www.grida.no/climate/ipcc\\_tar/wg2/674.htm](http://www.grida.no/climate/ipcc_tar/wg2/674.htm).

<sup>28</sup> IPCC's *Climate Change 2001: Impacts, Adaptation, and Vulnerability* (2001): section 7.2.2.2, [http://www.grida.no/climate/ipcc\\_tar/wg2/310.htm#72214](http://www.grida.no/climate/ipcc_tar/wg2/310.htm#72214).

<sup>29</sup> IPCC's *Climate Change 2001: Impacts, Adaptation, and Vulnerability* (2001): section 9.7.1.1, [http://www.grida.no/climate/ipcc\\_tar/wg2/360.htm](http://www.grida.no/climate/ipcc_tar/wg2/360.htm).

- Each of these stressors increases the likelihood of environmental refugees and violent conflicts.
- Although the U.S. will likely have the resources to adapt to the impacts of global warming, the poor in the U.S. will also suffer disproportionately. For example, large cities in the U.S. may experience, on average, several hundred extra deaths per summer.
- Up to 37% of God's land-based species could be committed to extinction by 2050, making global warming the largest single threat to biodiversity.<sup>30</sup>

## 7. Why Urgency is Required

**There are three basic reasons for urgency: (1) It's happening now. (2) The global warming pollution we create now will continue to harm our children and grandchildren throughout this century. (3) We're making long-term decisions now that will impact how much pollution we create for decades.**

A key educational objective is to help people understand why it is urgent that we begin to address this long-term problem now.

(1) Global warming is happening now. Impacts are already starting to be felt, e.g., a 2003 heat wave in Europe that killed approximately 20,000 people.

(2) The oceans only warm slowly, creating a lag in experiencing the consequences. Much of the climate change to which we are already committed will not be realized for several decades. The consequences of the pollution we create now will be visited upon our children and grandchildren.

(3) As individuals and as a society we are making long-term decisions today that will determine how much carbon dioxide we will emit in the future, such as whether to purchase energy efficient vehicles and appliances that will last for 10-20 years, or whether to build more coal-burning power plants that last for 50 years rather than investing more in energy efficiency and renewable energy. To phase things in, we must begin now.

## 8. What the Bible Says

**Addressing global warming is a new way to love our neighbors, to do unto others as we would have them do unto us, to protect and care for "the least of these" as if they were Jesus Christ himself.**

"Love the Lord your God with all your heart and with all your soul and with all your mind and with all your strength" and "Love your neighbor as yourself" (Mk. 12:30-31; see also Mt. 22:37-40; Lk. 10:25-28; Rom. 13:9; Gal. 5:14; Jas. 2:8; Dt. 6:5; Lev. 19:18.)

"Do to others as you would have them do to you" (Lk. 6:31; Mt. 7:12).

"The King will reply, 'I tell you the truth, whatever you did for one of the least of these brothers of mine, you did for me ... whatever you did not do for one of the least of these, you did not do for me'" (Mt. 25:40, 45).

## 9. Personal Stories Related to Impacts of Global Warming

<sup>30</sup> Chris D. Thomas et al, Nature 427, (January 8, 2004): pp.145-148.

**While hundreds of millions will be affected by global warming in this century, each individual will have his or her own story to tell. Poor children will be hurt the most, and it is their stories we must remember when thinking and praying about global warming.**

Twelve year old **Galib Mahmud** had to get to school. There was just one problem. The streets in his hometown of Dhaka, Bangladesh were flooded. While flooding in Bangladesh is a normal occurrence, last summer the flooding was extreme, causing \$6.7 billion in damage and resulting in over 2,000 deaths across the region. Even though it was quite dangerous for him, Galib waded to school in his crisp white shirt through waist-high dirty water, carrying his shoes and his books in a bag above his head.<sup>31</sup>

Extreme. Dangerous. These are words that go with a problem much of the world is starting to face up to. The problem is global warming or global climate change, which will bring extreme flooding, extreme drought, extreme weather events of various shapes and sizes. And with these extremes come dangers.

Young **Anna Nangolol** lives in Northwest Kenya in one of the harshest landscapes on the planet. Her nomadic tribe had been well-adapted to this fierce environment. However, over the past 30 years the droughts there have been extreme and dangerous. Consistent with what climate change models predict, there has been 25% less rainfall. Their herds are reaching the tipping point of their existence. “This drought has been very bad,” explains Anna. “Past droughts have been short and rains have come. This one seems never to finish and our goats and cattle are not multiplying. Even if the rains do finally come now, it will take a long, long time for us to get back all of our animals.” Indeed in Kenya over 3 million people are in need of food aid because of the extreme drought – nearly double the number receiving aid even just a few years ago.<sup>32</sup>

## 10. Success Stories in Reducing Global Warming Pollution

**Positive, money-saving actions to reduce global warming pollution are being implemented across our society by major energy companies, states, churches, and individuals.**

### **A. Companies**

#### 1. Energy Companies with Climate-Friendly Policies

Energy companies with climate-friendly policies are significantly more competitive than their peers. Such oil and gas companies outperformed their peers by 7 percent over a 3-year period. Electric utilities with climate-friendly policies outperformed their peers by 50% over a 5-year period.<sup>33</sup>

#### 2. BP

BP is the largest oil and gas producer in the United States and one of the largest marketers of motor fuels. In 2001, BP achieved its initial goal, set in 1998, of reducing its global warming pollution to 10

<sup>31</sup> From AP wire reports, including a story by Parveen Ahmed ; <http://www.journalstar.com/articles/2005/02/22/nation/10052989.txt>

<sup>32</sup> New Economics Foundation, *Up in Smoke? Threats from, and Responses to, the Impact of Global Warming on Human Development*, Oct. 2004p.7; [http://www.itdg.org/docs/advocacy/up\\_in\\_smoke.pdf](http://www.itdg.org/docs/advocacy/up_in_smoke.pdf)

<sup>33</sup> EPA, “Climate Leaders Success Stories, June 2004, p.7; [http://www.epa.gov/climateleaders/pdf/risks\\_opps.pdf](http://www.epa.gov/climateleaders/pdf/risks_opps.pdf).

percent below 1990 levels, nine years ahead of schedule. As of 2002, BP committed to maintaining its net emissions at these reduced levels through 2012, which the firm believes equates to a 40 percent reduction in emissions compared with business as usual.<sup>34</sup>

BP has invested over half a billion dollars in renewable energy<sup>35</sup> and is now the world's second largest producer of solar panels,<sup>36</sup> with a generated revenue of \$300 million in 2003.<sup>37</sup>

### 3. Shell

In 1998 Shell set a target to reduce their global warming pollution by 10% from 1990 levels by 2002, which they achieved. They plan on keeping their emissions to 5% below 1990 levels by 2010, even while growing their business.<sup>38</sup>

Shell has also spent roughly \$1 billion on renewable energy technologies.<sup>39</sup>

### 4. Alcoa

Alcoa, the world's largest producer of aluminum (an incredibly energy-intensive product) has identified projects potentially capable of delivering \$66 million in energy savings. Nearly \$6 million of these savings have been realized by June 2004.<sup>40</sup> Alcoa has pledged to reduce its global warming pollution "to 25% below the 1990 baseline on a worldwide basis by 2010, with the potential for significant additional reductions through major technology improvements."<sup>41</sup>

## B. States

- Eighteen states have requirements that a certain percentage of electricity be produced by renewable sources.<sup>42</sup>
- Twenty-two states have public funds to support energy efficiency projects.<sup>43</sup>
- Electric utilities in 34 states offer customers the option to purchase electricity produced by renewable sources.<sup>44</sup>

<sup>34</sup> Environmental Protection Agency, "Climate Leaders Success Stories, June 2004, p.3; [http://www.epa.gov/climateleaders/pdf/risks\\_opps.pdf](http://www.epa.gov/climateleaders/pdf/risks_opps.pdf); see also BP's website:

<http://www.bp.com/sectiongenericarticle.do?categoryId=2011560&contentId=2016944>.

<sup>35</sup> John Mogford of BP, Speech to World Renewable Energy Congress VIII (2004), [http://www.w3w3.com/BP/BP\\_mogford-wrec.htm](http://www.w3w3.com/BP/BP_mogford-wrec.htm)

<sup>36</sup> Representative Roscoe Bartlett (R-MD), Congressional Record, March 14, 2005, page H1412; [http://frwebgate.access.gpo.gov/cgi-bin/getpage.cgi?position=all&page=H1412&dbname=2005\\_record](http://frwebgate.access.gpo.gov/cgi-bin/getpage.cgi?position=all&page=H1412&dbname=2005_record)

<sup>37</sup> World Business Council for Sustainable Development, "Solar Slowly Emerges from the Shadows," March 7, 2005; <http://www.wbcsd.org/plugins/DocSearch/details.asp?type=DocDet&ObjectId=MTM0Njk>

<sup>38</sup> Shell website: [http://www.shell.com/home/Framework?siteId=royal-en&FC2=/royal-en/html/iwgen/environment\\_and\\_society/key\\_issues\\_and\\_topics/issues/climate\\_change/zzz\\_lhn.html&FC3=/royal-en/html/iwgen/environment\\_and\\_society/key\\_issues\\_and\\_topics/issues/climate\\_change/shells\\_approach\\_to\\_climate\\_change.html](http://www.shell.com/home/Framework?siteId=royal-en&FC2=/royal-en/html/iwgen/environment_and_society/key_issues_and_topics/issues/climate_change/zzz_lhn.html&FC3=/royal-en/html/iwgen/environment_and_society/key_issues_and_topics/issues/climate_change/shells_approach_to_climate_change.html).

<sup>39</sup> Shell website: [http://www.shell.com/home/Framework?siteId=shellsolar&FC3=/shellsolar/html/iwgen/about\\_shell/who\\_we\\_are\\_0129.html&FC2=/shellsolar/html/iwgen/leftnavs/zzz\\_lhn2\\_0\\_0.html](http://www.shell.com/home/Framework?siteId=shellsolar&FC3=/shellsolar/html/iwgen/about_shell/who_we_are_0129.html&FC2=/shellsolar/html/iwgen/leftnavs/zzz_lhn2_0_0.html).

<sup>40</sup> EPA, "Climate Leaders Success Stories, June 2004, p.3; [http://www.epa.gov/climateleaders/pdf/risks\\_opps.pdf](http://www.epa.gov/climateleaders/pdf/risks_opps.pdf).

<sup>41</sup> Alcoa website: [http://www.alcoa.com/global/en/environment/position\\_papers/climate\\_change.asp](http://www.alcoa.com/global/en/environment/position_papers/climate_change.asp).

<sup>42</sup> Pew Center on Global Climate Change, "Learning from State Action on Climate Change," p.6; <http://www.pewclimate.org/docUploads/States%5FInBrief%2Epdf>

<sup>43</sup> Pew, "Learning From State Action," p.7.

<sup>44</sup> Pew, "Learning From State Action," p.8.

- Nine states in the Northeast and the Mid-Atlantic regions are developing a cap-and-trade program for carbon dioxide (CO<sub>2</sub>) emissions.
- The Governors of California, Oregon, and Washington have established the “West Coast Governors’ Initiative, and have agreed to a variety of measures to reduce global warming pollution including the collective purchase of hybrid vehicles, energy efficient building codes, energy efficiency standards for appliances, increased state-wide purchase of renewable electricity.<sup>45</sup>
- In September 2004 California adopted regulations requiring a 30% reduction in global warming pollution from SUVs, minivans, and light trucks by 2016. It is now being challenged in court. Other states are allowed by law to adopt California’s vehicle standards, and seven are poised to do so, including New York. If upheld, and these eight states implement the regulation, it could affect 30% of the market.<sup>46</sup>

### C. Churches, Schools, Shelters

#### 1. Solana Beach Presbyterian Church

In 2000 the Solana Beach Presbyterian Church implemented a plan to reduce pollution and be better stewards of both financial and natural resources. The 66,146 square foot church installed: (1) efficient lights, (2) occupation sensors to turn off lights in unoccupied rooms, (3) highly efficient LED exit signs, and (4) highly efficient air conditioning and heating units.

The results:

- Annual Savings: \$6,620
- Annual Energy Savings: 95,000 kWh
- Payback period: 11 months
- Pollution Prevented: 120,000 lbs. of global warming pollution per year<sup>47</sup>

#### 2. Hebron Baptist Church

To care for creation as well as the bottom line, Hebron Baptist Church, in Dacula, Georgia, implemented a program to replace inefficient lighting. After receiving almost a thousand new energy-efficient lamps, their monthly loan payment for the new lighting was approximately \$1,300, but their utility bill savings were over \$2,700 per month.

The results:

- Annual Savings: \$32,000
- Annual Energy savings: 450,000 kWh
- Pollution Prevented: 1 million pounds of global warming pollution per year<sup>48</sup>

#### 3. Doorstep Homeless Shelter

The 60,000 square foot **Doorstep Homeless Shelter** in the Detroit area (Highland Park, MI) provides food, shelter, and medical treatment for the less fortunate. By replacing inefficient lighting and an

<sup>45</sup> “West Coast Governors’ Global Warming Initiative,” <http://www.ef.org/westcoastclimate/>

<sup>46</sup> Danny Hakim, “CA Backs Plan of Big Cut in Global Warming Emissions,” New York Times, September 25th; <http://whatwouldjesusdrive.org/blog/archive/2004/9>.

<sup>47</sup> [http://www.energystar.gov/index.cfm?c=sb\\_success.sb\\_successstories\\_solana](http://www.energystar.gov/index.cfm?c=sb_success.sb_successstories_solana).

<sup>48</sup> [http://www.energystar.gov/index.cfm?c=sb\\_success.sb\\_successstories\\_hebron](http://www.energystar.gov/index.cfm?c=sb_success.sb_successstories_hebron).

inefficient boiler they are also saving money and reducing pollution. The cost to upgrade the lighting system was \$7,500, but the shelter will save \$5,073 per year, while the new boiler cost \$25,100, but it saves \$11,200 per year in heating costs.

The results:

- Annual Savings: \$16,293
- Annual Energy Savings: 72,414 kWh
- Payback Period: 2.5 years
- Pollution Prevented: 93,783 pounds of global warming pollution per year<sup>49</sup>

#### 4. Sligo Adventist School

By upgrading to efficient lighting throughout their 46,000 square foot facility, the Sligo Adventist School in Takoma Park, Maryland, has actually improved the quality of their lighting and has added outdoor lighting, making employees feel safer at night.

The results:

- Annual Savings: \$ 11,136.00
- Payback Period: 18 Months<sup>50</sup>

#### D. Individuals

The Rev. Dr. Richard Cizik, VP of Governmental Affairs for the National Association of Evangelicals, recently purchased a Toyota Prius, a hybrid electric vehicle that gets about 55 miles to the gallon.

Dr. Bob Andringa, President of the Council for Christian Colleges and Universities (CCCU), owns a hybrid Honda Civic that gets about 45 miles to the gallon.

The Rev. Jim Ball, Ph.D., Executive Director of the Evangelical Environmental Network, has owned a Toyota Prius hybrid electric vehicle since 2002. This is his family's sole vehicle. He telecommutes and takes public transportation to work.

## 11. What the Senate Has Pledged To Do

**The Senate has now pledged to “enact a comprehensive and effective national program of mandatory, market-based limits and incentives on emissions of greenhouse gases that slow, stop, and reverse the growth of such emissions ...”**

On June 22, 2005, the Senate passed a non-binding resolution or “Sense of the Senate” offered by Sen. Bingaman (D-NM).<sup>51</sup> In it the Senate recognized for the first time ever both that (1) global warming caused by human beings is happening, and (2) voluntary measures are inadequate and a mandatory market-based approach is required to address this serious problem. It stated:

“Congress should enact a comprehensive and effective national program of mandatory, market-based limits and incentives on emissions of greenhouse gases that slow, stop, and reverse the growth of such emissions ...”

<sup>49</sup> [http://www.energystar.gov/index.cfm?c=sb\\_success.sb\\_successstories\\_doorstep](http://www.energystar.gov/index.cfm?c=sb_success.sb_successstories_doorstep).

<sup>50</sup> [http://www.energystar.gov/index.cfm?c=sb\\_success.sb\\_successstories\\_sligo](http://www.energystar.gov/index.cfm?c=sb_success.sb_successstories_sligo).

<sup>51</sup> To view the Bingaman climate resolution in the *Congressional Record*, go to: [http://frwebgate.access.gpo.gov/cgi-bin/getpage.cgi?dbname=2005\\_record&page=S7033&position=all](http://frwebgate.access.gpo.gov/cgi-bin/getpage.cgi?dbname=2005_record&page=S7033&position=all).

While the Bingaman resolution is non-binding, it is nevertheless significant because 53 Senators are now on record supporting a mandatory market-based approach to reducing global warming pollution. **The 10 new Senators taking such a stand are:** Alexander (R-TN), DeWine (R-OH), Domenici (R-NM), Graham (R-SC), Specter (R-PA), Warner (R-VA), Byrd (D-WV), Landrieu (D-LA), Lincoln (D-AR), and Pryor (D-AR). These 10 are to be commended for their commitment to seriously address climate change, and encouraged to fulfill their commitment.

A notable Senator who didn't support the resolution was Sen. Brownback (R-KS). Because he is a conservative Republican, Sen. Brownback is to be commended for acknowledging that human-induced global warming is happening. But unfortunately he did not take the next step in leadership and stand up for a mandatory market-based approach to reducing greenhouse gases. Hopefully, he will be ready to support significant action when the time comes.

## 12. What the Climate Stewardship and Innovation Act Would Accomplish

**Voluntary efforts have been tried in the U.S. since 1990, yet our global warming pollution has risen over 13 percent.<sup>52</sup> An efficient, market-based federal law requiring the growth in emissions be reduced, such as the Climate Stewardship and Innovation Act, is needed as a first step.**

The Senate is now on record (see Section 11 above) as supporting a market-based approach that will “slow, stop, and reverse the growth of” global warming pollution.

The McCain-Lieberman Climate Stewardship and Innovation Act will do just that. It has been described by *Christianity Today* as “an excellent starting point for whatever plan the Congress and the administration will eventually develop.”<sup>53</sup>

Cinergy, one of the largest coal-burning electric utilities, states: “The bill offers a promising sign in that it includes most industrial sectors and allows for trading within and between sectors ...”<sup>54</sup>

The Climate Stewardship and Innovation Act would cover 85% of U.S. emissions and by 2010 it would bring emissions back to 2000 levels. This would be accomplished through a business-friendly

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<sup>52</sup>Environmental Protection Agency, *Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks*, Executive Summary, page ES-3, line 16.

[http://yosemite.epa.gov/oar/globalwarming.nsf/UniqueKeyLookup/RAMR69V528/\\$File/05executivesummary.pdf](http://yosemite.epa.gov/oar/globalwarming.nsf/UniqueKeyLookup/RAMR69V528/$File/05executivesummary.pdf).

<sup>53</sup> Christianity Today editorial, Oct. 2004 (Vol. 48, #10), pp. 26-27; <http://www.christianitytoday.com/ct/2004/010/10.26.html>.

<sup>54</sup> Cinergy Corp., Air Issues Report to Stakeholders: An Analysis of the Potential Impact of Greenhouse Gas and Other Air Emission Regulations on Cinergy Corp., December 2004, p.16; [http://www.cinergy.com/pdfs/AIRS\\_12012004\\_final.pdf](http://www.cinergy.com/pdfs/AIRS_12012004_final.pdf).

cap-and-trade program<sup>55</sup> that would spur investments in energy efficiency and renewable energy, making the U.S. economy more efficient and reducing our dependence on foreign sources of energy.

### 13. What the Economic Impacts Could Be of the Climate Stewardship and Innovation Act

#### **The Climate Stewardship and Innovation Act would cost families approximately \$20 per year.**

Senator John McCain: “A recent MIT study estimated that the McCain-Lieberman bill would cost approximately \$20 per household per year, and analysts predict that the impact on our nation's GDP would be no more than 0.01%.”<sup>56</sup>

Cinergy, one of the largest coal-burning electric utilities: “Using MIT assumptions, the final version of the McCain-Liebermann bill could be considered moderate, with CO2 prices not exceeding \$14/ton CO2 by 2020.”<sup>57</sup>

A national poll in June 2005 found that 68% (including 67% of Republicans) favored the McCain-Lieberman Climate Stewardship Act, even if it cost \$15 a month per household.<sup>58</sup>

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<sup>55</sup>Here is some background on cap-and-trade, as explained by Cinergy, one of the largest coal-burning utilities in the country: “In the 1990 CAA Amendments, Congress replaced command and control regulations in certain air emissions programs with a newer mechanism – ‘cap and trade.’ Cap and trade uses the market to produce a far more efficient, least-cost approach to achieving a prescribed level of emissions reductions. Cap and trade imposes a cap on the level of permissible emissions, yet offers companies flexibility by recognizing the large number of technical and operational differences in regulated facilities. This flexibility allows generators to make decisions based on economic and environmental factors and provides incentives to reduce emissions below threshold requirements. An emissions ‘cap’ is achieved, but the exact reductions occur where they are most economic. Emissions ‘credits’ are traded with units where reductions are not as easily or economically achieved. The result, proven over the last 14 years, is improved air quality at less cost to electric customers than under command and control regulation.” From Cinergy’s perspective, any required CO2 reductions “must be based on market-based cap and trade principles, which have proven to be the most cost-effective means of achieving environmental goals.” See *Air Issues Report to Stakeholders: An Analysis of the Potential Impact of Greenhouse Gas and Other Air Emission Regulations on Cinergy Corp.*, December 2004, pp.1, 9; [http://www.cinergy.com/pdfs/AIRS\\_12012004\\_final.pdf](http://www.cinergy.com/pdfs/AIRS_12012004_final.pdf).

<sup>56</sup> Senator John McCain Op-Ed, Wall Street Journal, Oct. 30, 2003.

<sup>57</sup> Cinergy, Air Issues, p.38; [http://www.cinergy.com/pdfs/AIRS\\_12012004\\_final.pdf](http://www.cinergy.com/pdfs/AIRS_12012004_final.pdf). They go on to state on p. 30 that if a mandatory program like McCain-Lieberman becomes law, Cinergy should be well positioned ...” On page 9 Cinergy also laid out the following policy principles for addressing global warming:

“Any reduction programs must be based on market-based cap and trade principles, which have proven to be the most cost-effective means of achieving environmental goals. Those market principles should follow existing law where no specific fuel is provided any advantage. Compliance flexibility, including off-system reductions such as reforestation projects and cross sector trading, is critical to finding a least-cost solution. The ability to source reductions internationally is a vitally important prerequisite to longer term, more stringent targets. However, we are supportive of the idea that this does not need to occur within the context of a Kyoto-like structure. A successful approach may ultimately emerge through bi-lateral or regional agreements. To minimize the risk of economic disruption brought on by unexpectedly high CO2 prices, an escalating price cap on carbon allowance prices should be considered during the first 15 or 20 years of the program. The economy is best served by establishing a glide path that first stops the growth in GHG emissions, and then gradually reduces them, with steeper reductions when new technologies are ready for deployment.”

<sup>58</sup> Program on International Policy Attitudes (PIPA)/Knowledge Networks Poll, July 5, 2005, p.7;

[http://www.pipa.org/OnlineReports/ClimateChange/Report07\\_05\\_05.pdf](http://www.pipa.org/OnlineReports/ClimateChange/Report07_05_05.pdf). These results were quite similar to the 2004 results. In an October 21, 2003 national poll by Zogby, 75% supported the McCain-Lieberman Climate Stewardship Act. See <http://www.climate-network.org/uscanweb/csadocs/zogby.pdf>.

## 14. The Bush Administration's Approach

### **While currently insufficient to meet the challenge of climate change, the Bush Administration's efforts to address global warming have helped to set the stage for more significant action.**

In February 2002 President Bush initiated a plan to slow ever so slightly the growth of global warming pollution in the U.S. The Administration put forward a goal “to reduce the greenhouse gas **intensity** of the American economy (how much we emit per unit of economic activity) by 18 percent by 2012.”<sup>59</sup> It is important to note that this is **not a reduction of global warming pollution** by 18 percent, but rather greenhouse gas intensity. Under the Administration's plan global warming pollution will continue to rise significantly.

An analysis of the Bush plan by the U.S. Government Accounting Office (GAO) highlighted that on its own the economy is projected to have achieved a 14 percent reduction in greenhouse gas **intensity** by 2012. Thus, the Administration's efforts, if successful, will **only reduce greenhouse gas intensity by 4 percent**. The GAO analysis found that there were 30 elements to the plan. Only 11 were initiatives that would help achieve the goal, and only three of these 11 were new. The GAO analysis concluded that it is unclear how the Administration's plan “will contribute to the goal of reducing emissions, and thus emissions intensity, by 2012.” Finally, the GAO noted that the Administration had no plan to review progress on achieving its goal before 2012.<sup>60</sup>

To achieve its goal, the Administration is relying primarily on voluntary commitments from industry, along with a small 1.5 miles per gallon increase by 2007 in fuel economy standards for SUVs, minivans, and light trucks.<sup>61</sup>

While the Bush Administration's voluntary approach towards emissions reductions is quite insufficient, the Administration has continued to fund climate science programs at a reasonable level.<sup>62</sup> In addition, the Administration's funding of research and development (R&D) in the areas of energy efficiency and renewable energy has kept the federal contribution fairly steady (although significantly less than Japan and Germany).<sup>63</sup> Finally, the Administration's initiatives on hydrogen are important and forward-looking. Of course, all of these areas could use significant increases in funding. Nevertheless, by not allowing the U.S. to fall too far behind, the efforts by the Bush Administration have helped to set the stage for significant, meaningful action to address climate change: a federal requirement that the growth in global warming pollution be reduced, such as the Climate Stewardship Act.

<sup>59</sup> U.S. Department of State Fact Sheet, released by the White House, Nov. 19, 2004; <http://www.state.gov/g/oes/climate/rmks/2004/39437.htm>.

<sup>60</sup> U.S. Government Accounting Office, “Preliminary Observations on the Administration's February 2002 Climate Initiative,” testimony of John Stephenson to the Senate Commerce Committee, October 1, 2003; <http://www.state.gov/g/oes/climate/rmks/2004/39437.htm>. The General Accounting Office, the audit, evaluation and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government.

<sup>61</sup> U.S. Department of State Fact Sheet, released by the White House, Nov. 19, 2004; <http://www.state.gov/g/oes/climate/rmks/2004/39437.htm>.

<sup>62</sup> For a somewhat critical review of the Bush Administration's climate change science program by the National Academy of Sciences, including a call for more funding to adequately meet the needs of its own program, go to: <http://www4.nationalacademies.org/news/nsf/isbn/0309088755?OpenDocument>.

<sup>63</sup> See a recent Administration budget analysis from the Solar Energy Industries Association (SEIA): <http://www.seia.org/news/releases.asp?id=43>. For the future of renewable energy and the important role of government R&D, see Janet Sawin, Mainstreaming Renewable Energy in the 21<sup>st</sup> Century, Worldwatch Paper 169 (May 2004); <http://www.worldwatch.org/pubs/paper/169/>.

## 15. What We Can Do

**By being good stewards of natural resources, and supporting government policies to do the same, we can reduce pollution that harms human health and causes global warming.**

Burning one gallon of gasoline produces 20 pounds of carbon dioxide (the major greenhouse gas). In 1,000 years 3-4 pounds of this global warming pollution will still be warming the planet.

What we as individuals can do springs from one central idea: reduce our consumption of fossil fuels (oil and coal) and support efforts by government and businesses to do the same. Reducing our burning of oil and coal can be achieved by using energy more efficiently and by switching to alternative forms of energy such as solar, wind, and biomass.

Here are some suggested actions:

- Organize your life so that it is easier and more desirable to walk, bike, car pool and use public transportation.
- When a new passenger vehicle is required, purchase the most fuel efficient and least polluting vehicle that truly meets your needs.
- Keep your car's engine tuned up and the tires properly inflated. Both save gas.
- Weatherize your home to conserve energy.
- Purchase compact fluorescent light bulbs and energy efficient appliances. (Look for the "Energy Star" label.)
- Choose electricity produced from renewable sources if available in your area.
- Encourage your church to make its buildings more energy efficient, its vehicles more fuel efficient, to establish a car pool program for attendance at church services and activities, and to choose electricity produced from renewable sources if available in your area.
- Donate a significant portion of the money you save from fuel savings and energy efficiency measures to missions.
- Write a letter to the editor of the local paper about a Christian perspective on global warming.
- Contact government officials and let them know that as a Christian you are concerned about global warming's impact on the poor.
- Support businesses that are reducing their global warming pollution.
- If you are a business leader, encourage your employees to use public transportation and participate in ride-share programs, avoid subsidizing parking, and purchase fuel-efficient business vehicles. Make sure your buildings and appliances are energy efficient.

## 16. Additional Benefits: National Security and Public Health

**National and economic security can be enhanced by reducing our dependence on foreign oil from unstable regions. Burning less oil and coal will also reduce pollution that harms human health, including the health of the unborn.**

### **A. National and Economic Security**

- We currently import 55% of our oil, and up to 75% of the world's oil reserves are in the Middle East.<sup>64</sup>

<sup>64</sup> Department of Energy, <http://www.fueleconomy.gov/feg/oildep.shtml>.

- By 2020 oil imports are projected to be 64%.<sup>65</sup>
- “Oil price shocks and price manipulation by the OPEC cartel from 1979 to 2000 cost the U.S. economy about \$7 trillion ... Each major price shock of the past three decades was followed by an economic recession in the United States.”<sup>66</sup>
- We spend approximately \$50 billion a year in defense outlays to secure the flow of Middle East oil.<sup>67</sup>
- Oil imports cost our economy an additional \$300 billion a year in defense costs, loss of jobs, and loss of tax revenue. This is the equivalent of adding over \$3 to a gallon of gas.<sup>68</sup>
- Our military presence in the Middle East to secure the flow of oil has led to anti-Americanism. Al Qaeda’s pronouncements against the U.S. have highlighted the presence of troops in Saudi Arabia.

## B. Human Health

Solving global warming means reducing our consumption of coal and oil, which will also reduce air pollution.

- Currently more than one in three Americans lives in areas with unhealthy outdoor air, and in many areas it is getting worse, especially in poorer neighborhoods.
- Air pollution not only exacerbates health problems such as asthma. A recent study found that unhealthy air leads to healthy, active children becoming 3-4 times more likely to develop asthma.<sup>69</sup>
- The unborn are also being harmed. Air pollution has also been linked to birth defects, low birth weight, premature births, stillbirths and infant deaths.<sup>70</sup>
- One in six babies are born with harmful levels of mercury in their blood,<sup>71</sup> and coal-burning power plants are the largest source of domestic mercury pollution.<sup>72</sup>

## 17. Helpful Links and Resources

A basic introduction for Christians to climate change by Sir John Houghton, world renowned climate expert and evangelical Christian, is available on EEN’s global warming webpage at <http://www.creationcare.org/resources/climate/>.

<sup>65</sup> David Friedman, Testimony before the Senate Commerce Committee (November 6, 2001): 2, <http://www.epa.gov/oar/aqtrnd01/summary.pdf>. Calculations made using data from the Department of Energy's Energy Information Administration's Annual Energy Outlook 2001, <http://www.eia.doe.gov/oiaf/aeo/>.

<sup>66</sup> Department of Energy, <http://www.fueleconomy.gov/feg/oildep.shtml>. For more detail see a report for the Department of Energy by the Oak Ridge National Laboratory, “Costs of Oil Dependence: A 2000 Update,” [http://www-cta.ornl.gov/cta/Publications/pdf/ORNL\\_TM\\_2000\\_152.pdf](http://www-cta.ornl.gov/cta/Publications/pdf/ORNL_TM_2000_152.pdf).

<sup>67</sup> This comes from a report by the National Defense Council Foundation, “The Hidden Costs of Imported Oil”; for a summary, see <http://www.iags.org/n1030034.htm>.

<sup>68</sup> <http://www.iags.org/n1030034.htm>.

<sup>69</sup> Rob McConnell et al., "Asthma in Exercising Children Exposed to Ozone: A Cohort Study," *The Lancet*, 359, #9304 (2002): 386f, <http://www.thelancet.com/search/search.isa>.

<sup>70</sup> Beate Ritz, et al., "Ambient Air Pollution and Risk of Birth Defects in Southern California," *American Journal of Epidemiology*, 155 (2002): 17-25; Gary Polakovic, "Air Pollution Harmful to Babies, Fetuses, Studies Say," *Los Angeles Times*, December 16, 2001, [http://www.latimes.com/news/local/la-121601smog\\_story?null](http://www.latimes.com/news/local/la-121601smog_story?null).

<sup>71</sup> This figure comes from a recent presentation from the EPA's top mercury scientist, Kathryn R. Mahaffey, found at <http://www.epa.gov/waterscience/fish/forum/2004/presentations/monday/mahaffey.pdf>. See also Kathryn R. Mahaffey et al., "Blood Organic Mercury and Dietary Mercury Intake: National Health and Nutrition Examination Survey, 1999 and 2000," *Environmental Health Perspectives*, 112, #5 (April 2004): <http://ehp.niehs.nih.gov/members/2003/6587/6587.html>.

<sup>72</sup> For more information on mercury and the unborn, see the EEN and NAE fact sheet at [http://www.creationcare.org/resources/mercury/mercury\\_unborn.php#sdendnote2sym](http://www.creationcare.org/resources/mercury/mercury_unborn.php#sdendnote2sym).

An educational DVD of Sir John Houghton discussing climate change from a Christian perspective is available from EEN. Contact us at [een@creationcare.org](mailto:een@creationcare.org) or 202-554-1955.

The Pew Center on Global Climate Change has helpful FAQ pages on the science, economics, policies, and solutions of climate change. Go to: [http://www.pewclimate.org/global-warming-basics/faq\\_s/index.cfm](http://www.pewclimate.org/global-warming-basics/faq_s/index.cfm).

The Environmental Protection Agency's global warming website has basic information for all aspects of the climate change problem. Go to: <http://yosemite.epa.gov/OAR/globalwarming.nsf/content/index.html>.

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