13 Response to Climate Change



Rupert Murdoch CEO, News Corporation



No one does more to spread dangerous disinformation about global warming than Murdoch. In a year of record heat waves in Africa, freak snowstorms in America and epic flooding in Pakistan, the Fon telvork continued to dismiss climate change as nothing but a conspiracy by liberal scientists and Big Government. Glenn Beck told viewers the Earth experienced no warming in the past decade — the hottest on record. Sean Hannity declared that "global warming joken't exist" and speculated about "the true agenda of global-warming hysterics." Even Brian Klimeade, co-host of the chatty For & Friends, laughed off the threat of climate change, joking that the real problem was "too many polar bears."

1/12

Murdoch's entire media empire, it would seem, is set up to deny, deny, deny, The Wall Street Journal routinely dismisses climate change as "an apocalyptic seare," and Fox News helped gin up a fake sontroversy by relentisestly hyping the 'climategate' seandal — even though independent investigations showed that nothing in the e-mails stolen from British climate researchers undercut scientific sonclusions about global warming.

turdoch knows better. In 2007, he warned that climate change "poses clear, catastrophic threats" and

Charles and David Koch CEO and Executive VP, Koch Industries



With a combined worth of \$43 billion, these two aging, archeonservative brothers are America's leading funders of the climate-disinformation machine. By perpetuating the use of fossil fuels, they in turn further interpretation graptice of the private corporation in the country. The Kochs have contributed \$5 million to Americans for Prosperity, the driving force behind the Tea Party. They also gave nearly \$25 million to conservative think tanks like the Heritage Foundation and the Cato Institute, two of the leading players in the climate-denial racket. And to help kill climate legislation in Congress, Koch spent \$38 million so lobbying — more than any

Chevron. Last year, besides underwriting a host of conservative andidates in the midterm elections, the Koch brothers backed Proposition 23, the unsuccessful effort to end California's crackdown on climate pollution, and funded attacks against the EPA's right to regulate carbon emissions. In David Koch's twisted view, global warming is actually good for us. "The Earth will be able to support enormously more people," he says, "because a far greater land area will be available to produce food."

4 Gregory Boyce CEO, Peabody Energy



Items and the search of the way and the search of the world's largest publicly held coal company. Boyes is the darling of Wall Street, beloved for his crisp management style, nice suits and political muscle. To keep America addicted to coal, Peabody spent \$5 million on lobbying last year, arguing that any attempt to limit carbon pollution will jack up energy prices and destroy the U.S. economy. But Boyes's concern for America hashrist stopped him from going global with a vengeance, expanding operations in China and Australia, and planning a huge export terminal to ship coal to the Far East. His most self-serving moment came in September, when he unveiled the "Peabody Plan to Eliminate Energy

Poverty and Inequality. "The greatest global danger, Boyce declared, is "not a future environmental" crisis predicted by computer models" but the "human crisis" of 3,6 billion people who lack easy access to electricity. The solution? More coal, which Boyce laughably referred to as "the only sustainable fuel with the scale to meet the primary energy needs of the world's rising populations." It was the kind of statement that made sense back in 1910. A century later, it's a reciple for climate catastroptic

11 Bjørn Lomborg Author, "Cool It"

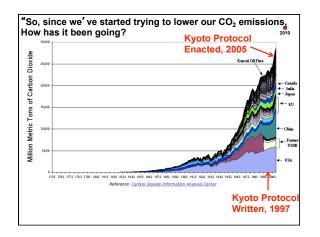


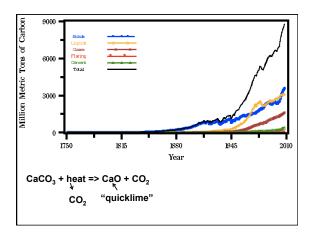
The Danish statistician, a self-proclaimed "skeptical environmentalist" who has spent the past decade downplaying the risks of global warming, has long been the darling of do-nothing politicians who cite his bogus numbers to justify their inaction on climate change. The good news is that last year Lomborg finally admitted we have a problem, arguing that world leaders should invest \$100 billion annually to develop clean energy. The bad news is that Lomborg still falls to grasp the urgency of the threat, bilithely insisting that global warming is "not the end of the world." Instead of pushing to cap carbon pollution immediately, he continues to cite research that is a decade out of date, asserting that "global sea

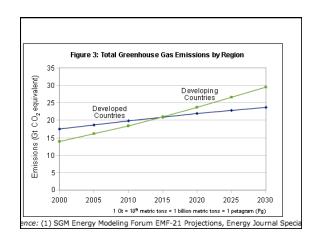
CD_ADRIAN DENNIS/AFF/Getty levels are not likely to rise more than about 20 inches by 2100." In fact, the latest research shows that sea levels are not likely trise more than about 20 inches by 2100." In fact, the latest research shows that sea levels will likely rise by three to six feet. Lomborg is also wrong when he claims that most polar bears aren't threatened by global warming, that the lives saved by warmer winters will outnumber the deaths caused by heat waves and drought, and that the breakup of the Larsen B Ice Shelf in Antarctica is unrelated to rising temperatures. "He's a performance artist disguised as an academic," says Howard Friel, an independent researcher who has systematically debunked Lomborg's work.

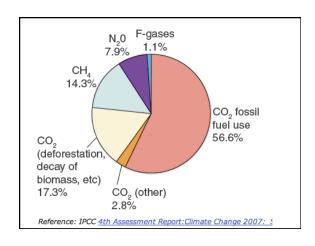
Response to Climate Change

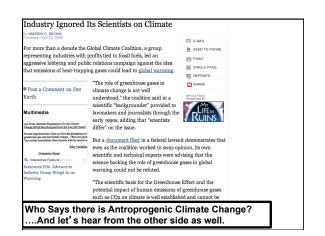
- IPCC: What's Going On? (Science)
 Physical Effects
 Biological Effects
- COP/MOP What Should We Do About It? (Policy)
- Role of the USA



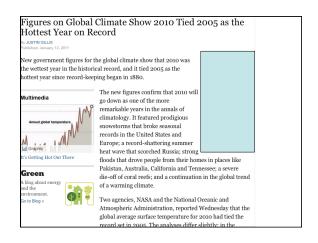


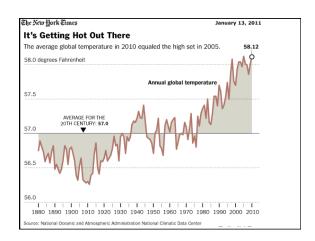


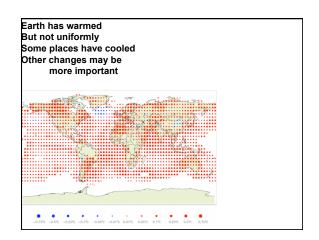




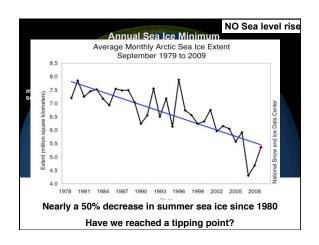


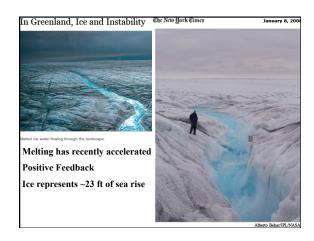


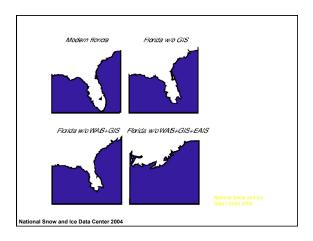




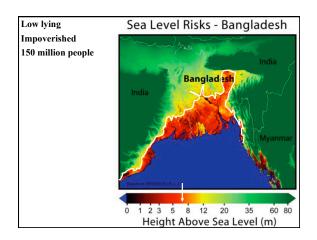


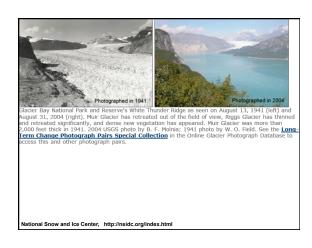


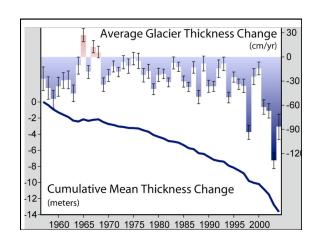


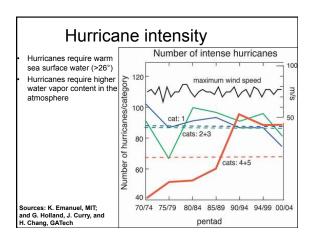


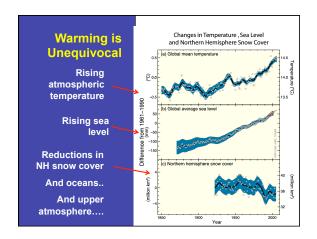


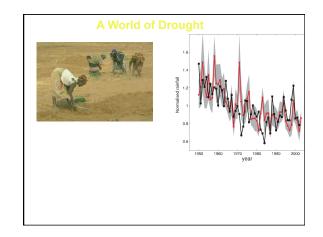












IPCC: International Panel on Climate Change

Conducts no Research

Issues reports based on Peer Reviewed Literature Intergovernmental and Policy Neutral

- 1) Human-Induced Climate Change
- 2) Impacts of Human-Induced Climate Change
- 3) Mitigation and Adaptation

1988: Established under United Nations (UN)

1990: First Report

1997 (Dec. 11) 1992: Supplement

1995: Second Assessment Report (SAR) **Kyoto Protocol**

2001: Third Assessment Report (TAR)

2007: Forth Assessment Report (AR4)

2005 (Feb. 16) Kyoto 2007: Nobel Peace Prize (with Al Gore)

Protocol enacted

2007 (Dec) Bali **Post Kyoto Debated**

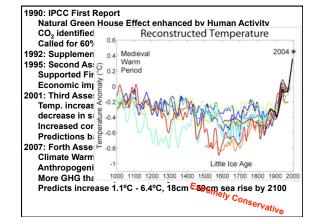
The IPCC Sequence of Key Findings.....

IPCC (1990) Broad overview of climate change science, discussion of uncertainties and evidence for warming.

IPCC (1995) "The balance of evidence suggests a discernible human influence on global climate."

IPCC (2001) "Most of the warming of the past 50 years is likely (>66%) to be attributable to human activities."

IPCC (2007) "Warming is unequivocal, and most of the warming of the past 50 years is very likely (90%) due to increases in greenhouse gases.'



And More....

- Forcing: Greenhouse gases are at unprecedented levels, and are forcing the climate to change.
- Beyond global warming: Discernible human influences on other aspects of climate including heat waves, wind patterns, drought, and more...this is the first 'earth system' IPCC report.
- Commitment: Already committed to more warming (next few decades), with choices about emissions affecting the longer term more and more.
- Expected future earth system changes: likely to virtually certain: more extremes, wet in some places, dry in others,
- · Long term: Sea level rise is inexorable and will continue, and the face of the planet will change. By how much? How fast?

Signs of Global Warming

Increasing temperatures are only one sign of global

In addition: Rising sea level. Shrinking glaciers.

- Melting permafrost.
- Northern latitude growing season has increased by 1 week. Scandinavian forest are migrating north.
- Tropical species are migrating north.
- Siberia and Canada are "greener" as seen from space.
- Reduced snow cover.
- Increasing strength of hurricanes.
- Tree rings.
- Marine sediments.
- shrinking of arctic ice coral bleaching.
- Extinctions

Physical Consequences predicted by Climate Models

- 1) Rising Sea Level
- 2) Increased Deserts
- 3) Loss of Snow Pack (flood protection, summer water supply)
- 4) Increased Storm Intensity

Models disagree only on how soon, and how severe.

Nicholas Stern, Economic Report

- 1) 1 % of world GDP necessary to stop worst Climate Change
- 2) Failure to slow climate change will cost world 5%-20% GDP

Transition to carbonless society results in economic GAIN?

1992, June, 1992 Rio de Janiero

Earth Summit (UN) - we should do something, no enforcement

1997, Dec 11: Kyoto Protocol

Third Conference of the Parties (COP 3)

CO2 identified as most responsible (+ methane, CFCs, NO2) Called for 60% reduction in GHG (Greenhouse Gasses) US under Clinton doesn't ratify it, Bush admin. rejects it Annex I and Annex II countries versus Developing Countries Flexibility: Carbon Cap and Trade: Sets up Carbon Market Clean Development Mechanism (CDM)

2009, Dec 7-18: "Hopenhagen" Copenhagen
Third Conference of the Parties (COP 15 / MOP 5)

2011: Durban South Africa,

2012: Qatar

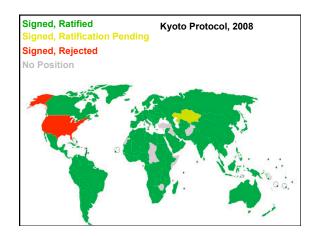




"My own country, the United States, is principally responsible for obstructing progress here in Bali."



"I would ask the United States, we ask for your leadership," he said. "But if for some reason you're not willing to lead, leave it to the rest of us. Please get out of the way." Kevin Conrad, Papua New Guinea, USA





Green: Committed to Reduction Yellow: Committed to 0% change

Red: Not Committed

E.P.A. Clears Way for Greenhouse Gas Rules

ASHINGTON — The Environmental Protection Agency on Friday rmally declared carbon dioxide and five other heat-trapping gases be pollutants that endanger public health and welfare, set s that will lead to the regulation of the gases for the t time in the United State

the proposed endangerment finding was "compelling and overwhelming." The ruling initiates a 60-day comment period before any proposals for regulations governing emissions of heat-trapping gases are published.

Although the finding had been expected, supporters and and their this article, critics said its issuance was a significant moment in the debate on global warming. Many Republicans in Congress and industry spokesmen warned that regulation of carbon sissions would raise energy costs and dill jobs; Democrats and environment said the decision was long overdue and would bring long-term social and successful.

he E.P.A. administrator, <u>Lisa P. Jackson</u>, said: "This finding confirms that greenhouse as pollution is a serious problem now and for future generations. Fortunately, it follow resident Obama's call for a low-carbon economy and strong leadership in Congress on ean energy and climate legislation."

AB 32: Assembly Bill (GHG reduction) 32: California reduces GHG emissions to 1990 level by 2020, 25% reduction from BAU.

Arnold originally fought against AB 32, but made himself a champion of it: "The Debate is Over... We have the muscle..."; "Bush is late to the postparty party", Schwarzenegger made "foreign policy" with Northeast US

and Tony Blaire.
"if any of this still matters in 2020, then we failed" – Dan Kammen, Berkeley

(C)ARB: (California) Air Resources Board - empowered by AB 32 to legislate how to achieve GHG emission reductions.

Title 24: California Regulation that new buildings and rennovations must be energy efficient

RPS: Renewable Portfolio Standard - State determined portion of electricity sold to consumers - PUC collaborates with IOUs.

Command and Control versus Market Based Mechanisms

Command and Control:

Title 24, Energy Star Efficiency, Restrictions on incandescent Carbon Cap and Trade vs Tax: Both are market based imposing increased costs on unwanted behavior.

Carbon Cap and Trade: Establishes carbon market on tradable emissions

CDM: Clean Development Mechanism - under Kyoto Protocol, Developed Countries help develop technologies in developing countries that are low carbon / carbon free. The developed country retains the tradable carbon credits.

Environmental Tax Shifting: Income tax => Resource, Pollution Tax

Incentive: We tax for two reasons: State Revenue, and public incentive or disincentive ("sin taxes")

Capitalism: We should make money, we shouldn't waste

Present Taxes: tax income and savings, subsidize extraction, consumption (energy, water, etc.)

Proposal: Every commodity sold in US will receive "environment" index number (EIN) indicating life cycle environmental impact: Extraction damage, pollution (including CO₂). Opportunity Cost

\$150/Ton ~ \$1.65/gal, double cost of NG and NGCC electricity (triple

10% reduction in income taxes each year:

Impose production tax based on EIN (Environmental Impact)

Economist: In order for a market to work, the buyer must be charged the full cost (to society) – internalizing the external costs.

Effect: Less Energy Use, shift to cleaner energy, better efficiency, better use of natural resources, recycling, change in lifestyle

SHIFTING TAXES From Chapter 12. Building a New Economy Lester R. Brown, Plan B 2.0: Rescuing a Planet Under Stress and a Civilization in Trouble (NY: W.W. Norton & Co., 2006). The need for tax shifting - lowering income taxes while raising levies on environmentally destructive activities - in order to get the market to tell the truth has been widely endorsed by economists. For example, a tax on coal that incorporated the increased health care costs associated with breathing polluted air, the costs of damage from acid rain, and the costs of climate disruption would encourage investment in renewable sources of energy such as wind or geothermal. With this concept in hand, it is a short step to tax shifting. A number of countries in Western Europe are already shifting taxes in a process known there as environmental tax reform, to achieve the environmental goals outlined in preceding chapters