



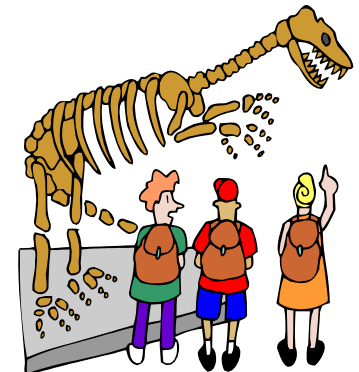
RESPONDING TO CLIMATE CHANGE IMPACTS: CAN TAX AND OTHER FISCAL MEASURES ADVANCE ADAPTATION EFFORTS

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Will humans go the way of the dinosaur? Extinct? Or will we (can we!) adapt?
Those subject to the adverse effects of climate change, will only survive by *adapting* to changes in their environment.



SEVERITY OF CLIMATE CHANGE

- Climate change brings heightened occurrences of **extreme events** such as floods, tropical cyclones, tornados, storm surges, landslides, droughts, heat stress, disease epidemics and sea level rise.
- A 2010 report from the United Nations Conference on Trade and Development (UNCTAD) found that the frequency and intensity of extreme weather events (e.g. droughts, extreme temperatures and floods) have been increasing, with five times as many such incidents occurring during the period 2000–2010 as during the period 1970–1979.
- The number of people in the LDCs affected by these extreme events has almost doubled, rising from 100 million during the period 1970–1979 to 193 million over the period 2000–2010.

EXPLANATION OF CLIMATE CHANGE ADAPTATION

- “Adaptation is the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.” Intergovernmental Panel on Climate Change (IPCC)
- “Adaptation is a process by which strategies to moderate, cope with and take advantage of the consequences of climate events are enhanced, developed and implemented.” United Nations Development Programme (UNDP)

EXISTING ADAPTATION PLANS DEVELOPED BY SEVERAL DIFFERENT SOURCES AND AT DIFFERENT STAGES OF IMPLEMENTATION

- Over the last decade, significant developments in **monitoring, detecting, analyzing, forecasting and the warning** of weather-, water- and climate-related hazards have led to significant opportunities for reducing the impacts of related disasters.
- For example, over the last 25 years there has been an almost four-fold increase in the number of climate-related disasters and a five-fold increase in the associated economic losses, whereas the **loss of lives** has in fact decreased to nearly one third of its previous value.
- This is due to several factors. A critical factor is the continuous development of natural-hazard **monitoring and detection** and the development of specific end-to-end early warning systems, such as those for tropical cyclones.

FISCAL INSTRUMENTS AND WHETHER OR NOT TAX INCENTIVES, FOR EXAMPLE, WILL MAKE A DIFFERENCE IN THE EFFORTS TO ADAPT TO THE CHANGING WORLD.

- **Financial incentives** in the form of direct and indirect subsidies can be an important environmental policy instrument, but they have strong market implications and may even lead to increased emissions, depending on their nature.
- For example, **subsidies for fossil fuel production and consumption** increase emissions directly, while subsidies to agriculture can result in expansion of production into marginal lands and corresponding increases in emissions.
- In contrast, **financial incentives to reduce emissions** can take different forms, including support for R&D, investment tax credits, low-interest loans, rebate programs and price supports such as feed-in tariffs for renewable electricity.

EFFORTS IN THE UNITED STATES TO DEAL WITH ADAPTION.

- Although the Administration's efforts to address climate change are diverse, its bilateral and multilateral international climate change financing is focused on three policy pillars:
 - adaptation
 - clean energy and
 - sustainable landscapes.

On June 23, 2014, Obama administration announces adaption plan.



PRESIDENT OBAMA ANNOUNCES NEW ACTIONS TO STRENGTHEN GLOBAL RESILIENCE TO CLIMATE CHANGE AND LAUNCHES PARTNERSHIPS TO CUT CARBON POLLUTION

- The U.S. Continues to Lead International Efforts to Combat Global Climate Change and Prepare for its Impacts
- Today, at the United Nations Climate Summit in New York, President Obama announced a new set of tools to harness the unique scientific and technological capabilities of the United States to help vulnerable populations around the world strengthen their climate resilience.
- The United States also announced its leadership and participation in more than a dozen new climate change partnerships launched at the Climate Summit.

NEW OBAMA ADAPTION INITIATIVE

- The **tools for global resilience** announced by the President include improved and extended extreme weather risk outlooks to help avoid loss of life and property; data, tools and services to enable countries to better prepare for the impacts of climate change, including a new release of global elevation data; and an announcement of a new public-private partnership to ensure that the climate data, tools, and products made available by U.S. technical agencies are useful to developing countries.
- The President also announced a new Executive Order requiring Federal agencies to factor **climate resilience** into the design of their international development programs and investments.

NEW OBAMA ADAPTION INITIATIVE

- These actions build on the President's Climate Action Plan, which includes unprecedented efforts by the United States to reduce carbon pollution, promote clean sources of energy that create jobs, and protect American communities from the impacts of climate change.
- The Climate Action Plan (earlier initiative) is working. In 2012, U.S. greenhouse gas emissions fell to the **lowest level** in nearly two decades.
- Since the President took office, **wind energy production** has tripled, and **solar energy** has increased by a factor of ten.
- This summer, the Environmental Protection Agency proposed the first carbon pollution standards for existing power plants, which account for a third of U.S. carbon pollution.
- State and local leaders are empowered to **reduce carbon pollution** and **prepare** for the impacts of climate change in their communities through initiatives including a \$1 billion National Disaster Resilience Competition and the State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience.