

## **CLIMATE CHANGE R&D FUNDING DISCUSSION PAPER**

The American Clean Energy and Security (ACES) Act calls for an 83% reduction in US carbon emissions by the year 2050. **Without significant advances in science and technology, the incentives now provided in ACES and other laws are not sufficient to let the US meet its goals.** Many studies have recommended major increases in both Federal and private sector energy R&D to do this; thus the President, in his FY10 Budget, calls for creating a “Clean Energy Technology Fund” of \$15 billion per year for 10 years. We need a major effort to obtain the basic scientific knowledge to develop and implement the technologies needed to eliminate the projected growth in the use of fossil fuels, and then to displace five of every six barrels of oil and tons of coal with renewable and nuclear energy, and enhanced energy efficiency.

Secretary Chu has said that to achieve dramatic change in our energy portfolio, energy companies will have to become high technology companies and substantially increase their R&D investments. This will not happen without accompanying large increases in Federal energy research conducted at universities and other major research institutions – where most cutting edge research is done - so they can become major sources of new technologies, of spinoff companies, and of the highly trained workforce needed for the transformation of our energy economy. We also will require a highly trained workforce for energy production, installation and maintenance, as well as for development and implementation of new codes and standards. **To increase the chances for rapid success, the research and training must be frontloaded.** The longer it takes for dramatic improvements in energy technologies to occur, the less likely it will be for Americans to make our necessary contribution to reducing fossil energy use and dependence, and the required reductions in the cost of new energy technologies.

Consistent with the Administration’s proposal, we recommend that a modest portion of the climate change mitigation allowances – one third of the President’s request, about \$5 billion -- be allocated to conducting the research necessary to accelerate the invention, development, and deployment of the new technologies we need, and to increase our understanding of climate change. Making these dramatic changes will require such an increased research effort in energy production and consumption which account for nearly 10% of our GDP. This proposal is only **one** of many ways to structure such an effort.

---

### **Proposal for Discussion**

- Seven percent of the carbon allowances issued annually (nearly \$5 billion in FY 2012, as estimated by CBO) under the ACES Act shall be used to fund basic and long-term applied research to support the goals of the Act.
- An account shall be created in the Treasury named the ACES Research Fund.
  - For each of the fiscal years 2012 through 2014, in exchange for these allowances, the Treasury shall deposit in the Fund an amount equivalent to their value, as estimated by CBO prior to enactment; **this will let the research start as soon as possible.**
  - For fiscal years after 2014, the annual proceeds from selling the allowances will be deposited in the Fund.
- Funds from the ACES Research Fund, on enactment, shall be available for obligation subject only to such limitations as may be placed in appropriations acts enacted after this Act. Specific program authorizations could be set forth in quadrennial authorization bills starting the calendar year after the enactment of ACES.
- Funds from the ACES Research Fund shall be used only for competitively awarded basic research or long-term applied research in the following areas:
  - new lower, or zero, carbon emission energy resources and technologies, including increased efficiency;
  - improved methods for sequestering greenhouse gases;
  - climate change research, including its modeling, monitoring and analysis; and
  - the economic and social factors affecting consumer energy use.
- The Secretary of Energy shall oversee the ACES Research Fund and prepare an annual plan for obligating its funds; he shall present it to the Congress at the same time the President submits his annual budget request.
- To the maximum extent practicable, multiyear projects funded from the ACES Research Fund shall be fully funded at their initiation; such projects shall be reviewed by DOE on an annual basis.