

BOLD IDEAS FOR THE NEXT DECADE'S CHALLENGES

"[A] hands-off [economist's] approach will not work [for] a major overhaul of energy technology. We will need large-scale public funding of research, development and demonstration projects ... and ... promotion of public debate and acceptance of new options." Dr. Jeffery D. Sachs, *Common Wealth*.

Congress will need to make significant and sustained policy decisions soon - beginning next year - to address the coming electricity crisis and provide options for shifting the nation's generation fuels while minimizing costs. Consumers will face the reality of the deteriorating reliability of the nation's electric system and unrelenting high electricity prices in the next decade unless bold steps are taken. It is important that these issues be addressed immediately and before a formal national policy to tax and regulate carbon is set in place. These actions will make large contributions not only in strengthening the electricity infrastructure but also in significantly lowering carbon emissions. These kinds of federal investments are the first step to assuring that any carbon reduction policy is sustainable over the decades necessary to make a difference.

Economic markets alone will not produce what is needed to meet the electricity challenges. In combination with well crafted public policies, however, markets will be able to deliver more efficiently. The following policy concepts will produce capacity and emissions reductions while at the same time minimizing the economic impact on consumers and sustaining reliability.

I. Enable Lower-Income Households to Become More Energy Efficient.

Existing buildings are responsible for over 40 percent of the world's total primary energy consumption and account for 24 percent of the world's CO₂ emissions. Energy efficiency is often the most cost-effective way to increase energy security, reduce energy costs, and cut emissions. While Congress took some steps toward improving standards for appliances and manufactured housing in the Energy Independence and Security Act of 2007, even more gains are needed. Efficiency and conservation programs, like the Department of Energy's (DOE) Weatherization Assistance Program, should be given a high priority in addressing the projected growth in electricity demand. Existing incentives through the tax system can't help large segments of the population buy adequate insulation or more efficient appliances because their income is too low to pay significant tax.

Studies of successful low-income efficiency programs show that investments of about \$2500 per household to replace or upgrade components such as windows, refrigerators, lighting and HVAC systems, can lower energy bills as much as 32 percent. Therefore the nation should get started and provide the poorest fifth of American households even \$500 dollars of direct assistance with energy efficiency - which would cost over \$12 billion a year. Such a program would give immediate help to reduce growth in national power demand and keep their electric bills affordable.

II. Let Renewable Electricity Make its Full Contribution: Build Transmission and Rehabilitate Federal Hydro facilities

Electric cooperatives have created a *National Renewable Cooperative Organization* that gives cooperatives, no matter where they are located in the nation, a way to invest in cost-effective, utility-scale renewable projects. This allows electric cooperatives, for example in areas of the country that have little economic renewable energy resources, to assist in producing renewable power for all Americans.

But the current high voltage transmission system is insufficient to carry renewable energy from remote areas, such as the Great Plains, to population centers. Therefore, the federal government should designate transmission corridors to: 1) deliver this renewable power; and 2) provide significant support for a transmission system now reaching the limits of its engineered capacity. In addition, the federal government must be willing to develop policies and funding mechanisms for transmission lines that could exceed \$2.5 million per mile.

In addition, the *federal hydropower program should be upgraded*. A study conducted jointly by the Departments of Interior, Defense and Energy concluded that 2,500 MW of new generation could be produced through rehabilitating federal facilities.

III. A Large Government Partnership is Needed to Build Nuclear Power Plants

Until there is a break-through in carbon capture and storage technology for coal baseload power plants, new nuclear power plants are essential to reducing carbon emissions while meeting the nation's power needs in the next decade, and they are needed now. Today, it can take 10 years to work through the process of building a nuclear power plant. There are several filings for new plants currently before the Nuclear Regulatory Commission. Following today's procedures, none will be operational until 2017 at the earliest. The federal government must become seriously engaged in accelerating the deployment of new nuclear units.

The situation is so urgent that federal involvement is necessary in the form of incentives and new partnerships. For instance, the Defense Department has the capability to manage the construction of large projects and to protect sensitive sites. It also has priority access to materials, decommissioning expertise and many other skills. This would make the Defense Department a suitable partner. When the nation faced other serious electricity roadblocks, there was no hesitation to build these kinds of partnerships. We are at such a point in the nation's history again.

IV. Significant Federal R&D Investment in New Electricity Technology

Technology is the key to retaining our nation's diverse menu of electric generation fuel options and for lowering the costs of carbon reduction. We are entering, between now and sometime after 2020 when carbon capture and storage is readily available, a period of potentially severe capacity and price stress, including volatility in natural gas prices and supplies. The sooner carbon capture and storage technology is available for coal-based power plants, the sooner we will pass through this dangerous period. Congress can speed arrival of that day by substantially increasing funding to \$2 billion per year for the next decade for this technology and all other options for low-carbon technology solutions.