

Comments of NRDC (the Natural Resources Defense Council) on the U.S. Climate Change Technology Program Strategic Plan Draft: September 2005

I. Commenter Information

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II. General Comments

The draft document does not constitute a strategic plan. The objectives of the Climate Change Technology Program are not adequately specified and the “plan” fails to define the timeframe and scale of technology deployment needed to prevent dangerous global warming.

While the document quotes the objective of the United Nations Framework Convention on Climate Change, to which the United States is a party, the full implications of this objective are not reflected in the “plan.”

There is now compelling evidence that global warming in excess of 2 degrees Celsius (3.6 degrees F.) would be dangerous, which implies that heat-trapping gases should be stabilized at a level no higher than 450 ppm CO₂-equivalent. Among other threats, warming in excess of 2°C is likely to set in motion the disintegration of the Greenland ice sheet, eventually raising sea levels by as much as 20 feet (Alley, et al., 2005). Hurricane intensity would also increase significantly, compounding the danger to millions of citizens in the Southeast and Gulf coasts (Emanuel, 2005). Water resources in the Western United States would also be dangerously depleted due to reductions in winter snow pack (Mote, 2003). Finally, thousands of species would be threatened with extinction (Thomas, et al., 2004), particularly those dependent on highly sensitive habitat, such as polar bears, threatened by the melting of the arctic ice pack; pika, threatened by the desiccation of alpine meadows, and corals threatened by thermal stress and ocean acidification.

Despite these clearly documented dangers, the administration asserts that there is not an adequate basis to determine the concentration at which heat-trapping gases need to be stabilized to prevent dangerous global warming. Yet even if the administration is not

willing to set a stabilization target, a responsible strategic plan would recognize that near term investments in high-emitting infrastructure, such as conventional pulverized coal power plants, would quickly preclude the option of preventing warming of more than 2°C. Conversely, the need to keep open the option of stabilizing concentrations at 450 ppm defines the pace and scale of technology deployment that the plan should be designed to achieve. Failing that, the revised plan should at least describe in detail the pace and scale of technology deployment needed to achieve each of the stabilization levels considered in Chapter 3.

Well defined objectives for the pace and scale of technology deployment would allow the plan to assess whether the proposed strategies are adequate to the task. Again, if the administration is unwilling to establish a stabilization target, even for planning purposes, the revised plan could at least assess strategies against the pace and scale of technology deployment needed to achieve each option. Without this critical analysis the draft document appears to be largely a post-hoc justification for the existing R&D program, with at best a hint of some need for reprioritization.

Lacking an assessment of the adequacy of the strategies in the plan, the draft ignores critical policies that would be needed to deploy low emissions technology in time to prevent dangerous global warming. Historical experience shows clearly that R&D alone is not an adequate driver of the private sector investment needed to commercialize pollution-reducing technology. Rather, emission caps (with trading), efficiency standards, and portfolio requirements have been critical to stimulating innovation, cost reductions, and scale up needed to commercialize new technology and achieve measurable economy-wide results (Burtraw, 2005).

Unfortunately, business as usual will quickly preclude the possibility of preventing dangerous global warming as illustrated in Figures 1 and 2. The International Energy Agency projects that more than 1000 GW of new coal capacity will be built worldwide during the next 25 years. If this capacity is built with conventional technology with no controls on CO₂ emissions, each year's new capacity build will carry a lifetime commitment to carbon emissions equal to total annual emissions today. That means that by 2030 we will have locked in additional carbon emissions from coal combustion equal to the total cumulative emissions up to the year 2000 (Figure 1).

If we continue with business as usual virtually all of the coal build through 2030 will use conventional steam technology with CO₂ vented to the atmosphere. The Future Gen project and other elements of the portfolio described in the draft "plan" are simply too little, too late to bend the curve (Figure 2).

Figure 1. Lifetime Emissions from Projected New Coal Plants

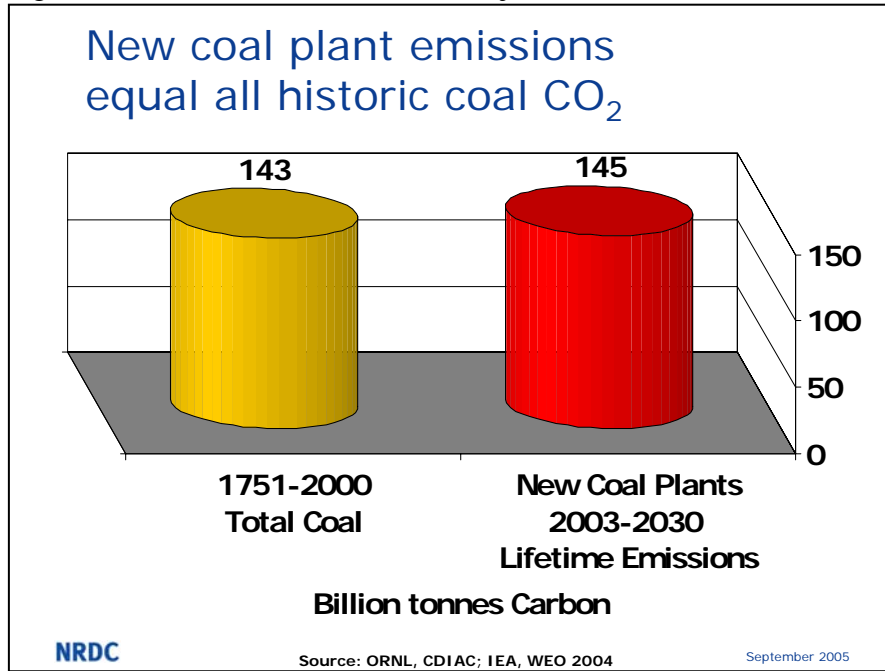
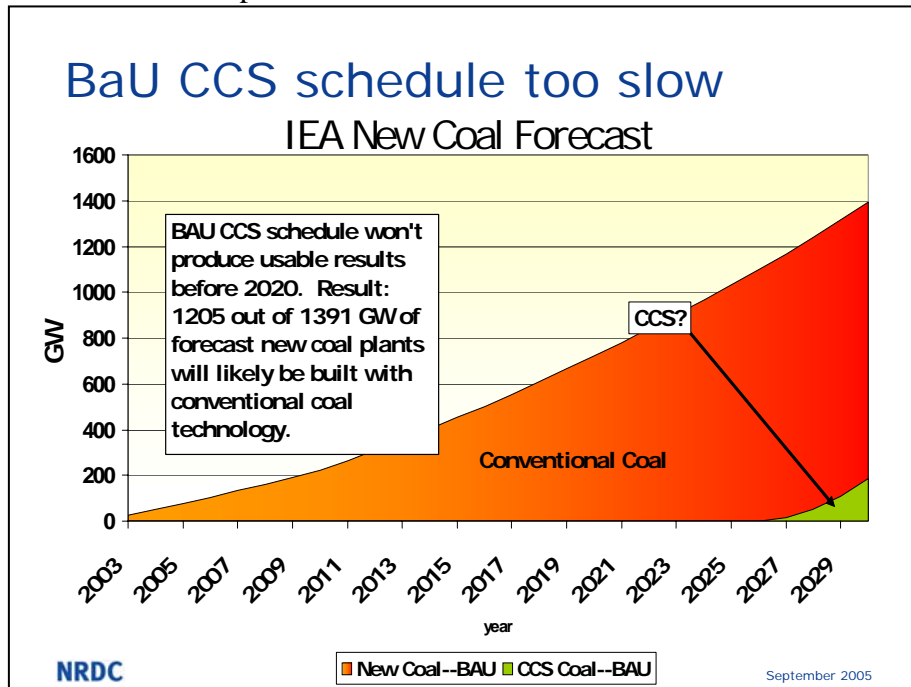


Figure 2. Projected Cumulative Capacity of Conventional Coal and Coal with Carbon Capture



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