Action Analysis

Part I: Canonical Mitigation

A. Renewable energy: Chuck Kutscher, National Renewable Energy Laboratory

B. **CO_2 capture and storage**: **Julio Friedmann** Energy & Environmental Directorate, Lawrence Livermore National Laboratory

Part II: Geo-engineering

A. Albedo modification: David Keith, University of Calgary

B. Modification of the ocean sink: **Dave Karl,** University of Hawaii

Action analysis: the new mandate for the IPCC

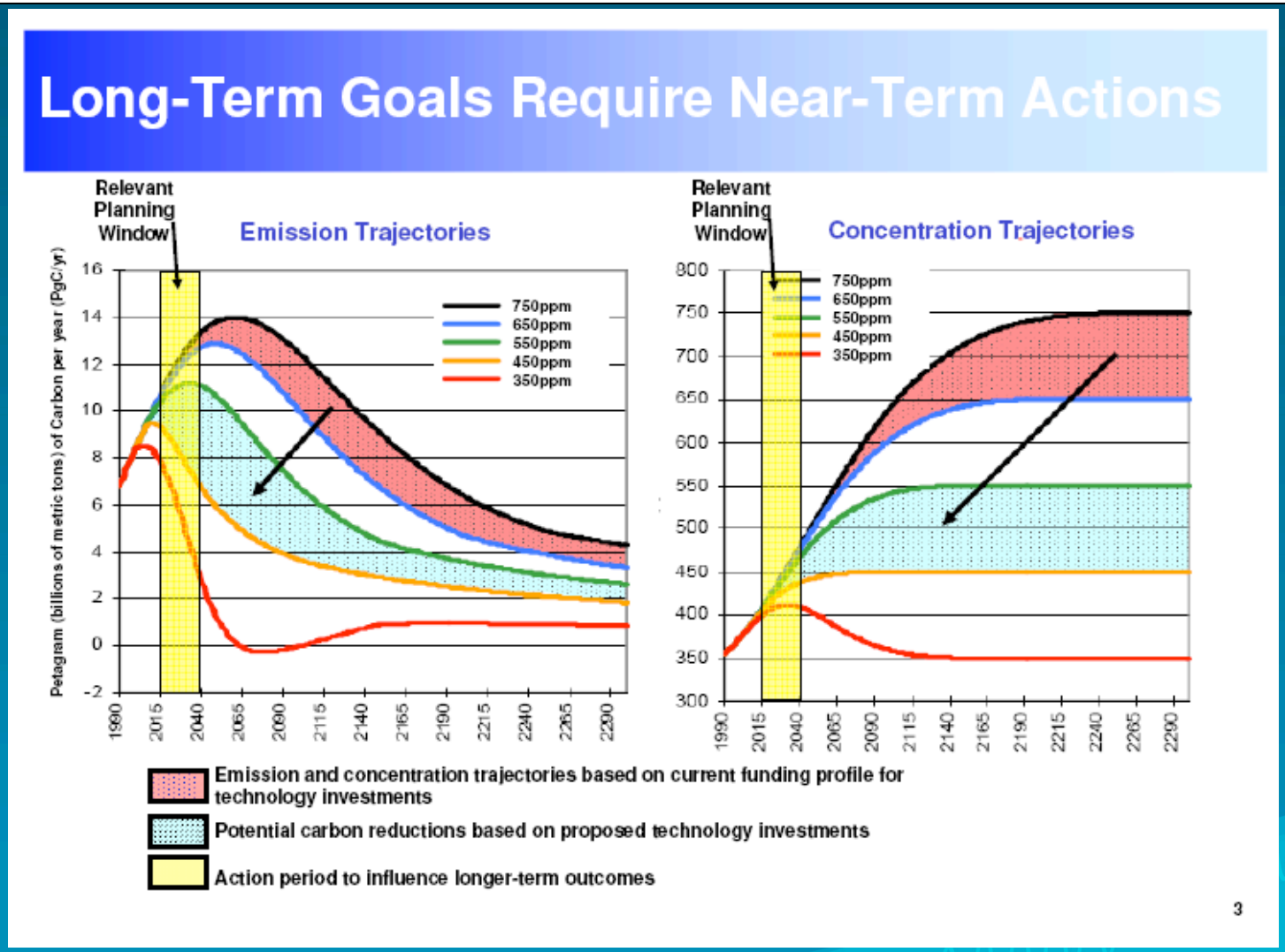
Working Group III: From modeling of alternative carbon-unconscious worlds {and price-responsive changes in these worlds) to the engineering of carbon-conscious worlds.

Working Group II: From impacts under Business As Usual (A1, A2, B1, B2) to impacts in a world where carbon is managed. Also, adaptation analysis will go here.

Working Group I: Support for the new questions raised by Working Groups II and III.

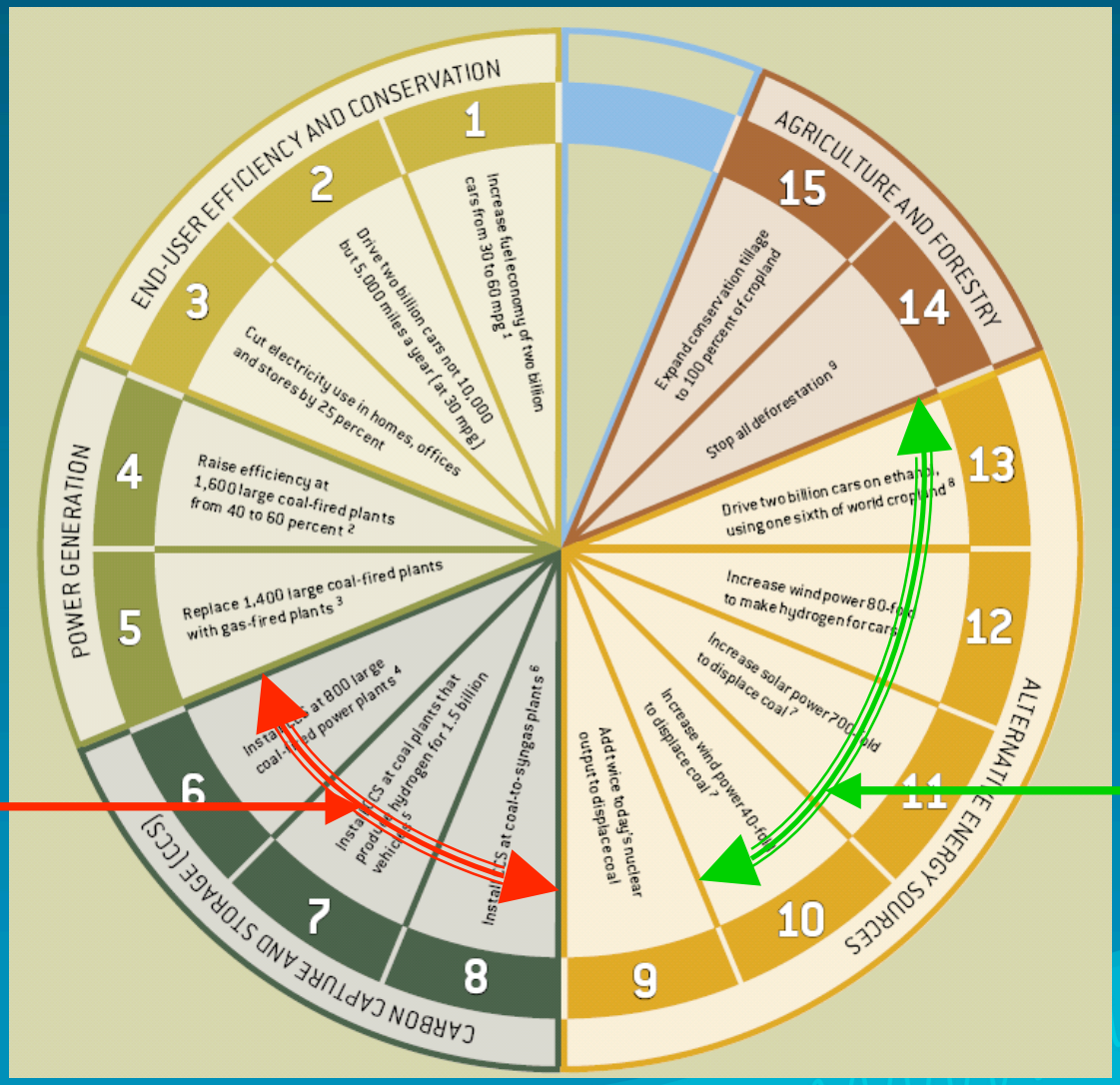
Working hypothesis: Environmental science will be essential for the evaluation of “solutions” to global warming. This new task can and should justify a significant expansion in the overall level of support.

Prepare for a world in active mode



Bob Marlay, Deputy Director, U.S. Climate Change Technology Program, Office of Policy and International Affairs, U.S. Department of Energy, Nov. 7, 2007

15 Ways to Make a Wedge



CCS

Renewables

Source, Socolow and Pacala, *Scientific American*, September 2006, p.54

Think about where you fit in

- Renewables at very large scale: How will wind harvesting change the atmospheric boundary layer? How will the maximization of biomass yield affect the nitrogen cycle?
- CCS: Can Carbon Tracker detect CO_2 leaks?