



# CLEAN AIR RESEARCH PROGRAM

BUILDING A SCIENTIFIC FOUNDATION FOR SOUND ENVIRONMENTAL DECISIONS

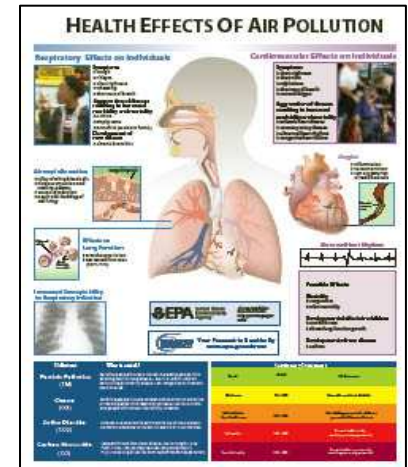
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## Future Research Directions and Charge to SAB Panel

### SAB PM Center Advisory Panel October 1-2, 2008

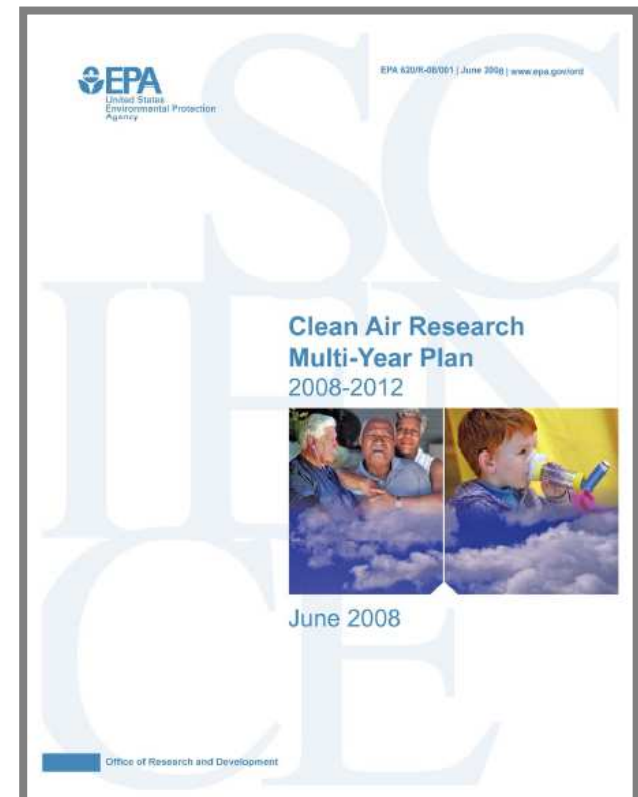


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# Future Directions for EPA's Air Research Program

- **Clean Air Multi-Year Plan - Goals**
  - **Supporting EPA's Clean Air regulations**
    - review of health-based standards
    - information and tools to help states and locals achieve standards
  - **Improving science linking health and environmental effects to air pollution sources**
    - launching a multi-pollutant research program
    - investigating specific source-to-health linkages, starting with near-road
    - assessing health and environmental improvements due to past regulatory actions



## Implementing the Clean Air Multi-Year Plan

- The Clean Air Multi-Year Research Plan emphasizes an integrated intramural and extramural research program
- Successful program integration noted in 2005 Review of Air Research Program by ORD's Board of Scientific Counselors (BOSC):

“The Subcommittee finds a high degree of integration in the conduct of intramural and extramural research across the various laboratories, centers and scientific disciplines”





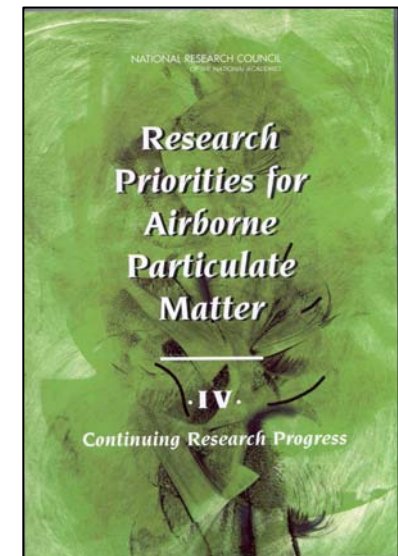
## Charge Question One

- Question 1 asks the Panel's view of the PM Centers' contributions
- How well have the PM Centers continued to contribute to advancing the science on key PM issues most relevant to EPA's mission?
  - As described earlier, EPA believes the PM Centers have been significant contributors to the EPA air research program



## Charge Question Two

- What advice does the panel have on how to move to a multi-pollutant approach in the Centers program?
  - What is meant by “multi-pollutant”?
  - Current Centers are focusing on PM, especially components, size fractions and sources
  - Envision the new Centers as “air research” centers
    - could address PM and precursors
    - PM, ozone, and precursors, or
    - Any/all pollutants in the air pollution mixture



The NRC said, “....now is an opportune time to begin orienting EPA’s air quality research program toward a broader scope that specifically considers all components of the atmosphere—PM and the other criteria pollutants, hazardous pollutants, and the other nonclassified components of the atmosphere.”

## Charge Question Two (continued)

- How to address competing priorities or balance of single and multi-pollutant air research?
  - EPA still operates under the Clean Air Amendments that call for single pollutant standards and compliance
  - There is still a lot to be learned about each of these pollutants, independent of their role in a more complex mixture
    - PM components/sources research still in early stages
    - continue focus on susceptibility, mechanisms, exposure/response?
  - Outside experts calling for new review of ozone atmospheric science
- Should we consider other general strategic directions?



## Charge Question Two (continued)

- Were we to move toward a multi-pollutant program, how to go about it?
  - Phased in, starting with a few pollutants, or all components of the atmosphere?
  - What is the appropriate balance between health and atmospheric science/air quality research in multi-pollutant research?
  - How have other researchers succeeded in conducting multi-pollutant research?
  - Is the source-based approach most pragmatic? Relevant?



## Charge Question Three

- Given the strategic directions discussed in Question 2, how would the panel characterize the strengths and weaknesses of different Center structural options?
- EPA is not asking for a single recommended approach—rather what are the strengths we may not have considered with various approaches and similarly, what are the unanticipated limitations? What other options might we consider?
- Resources are diminishing
  - \$8 million per year reduced in value to \$6 or \$7 million/year
  - Fewer centers or reduce funding per center?
  - Adopt a new Center design?





## Charge Question Three (continued)

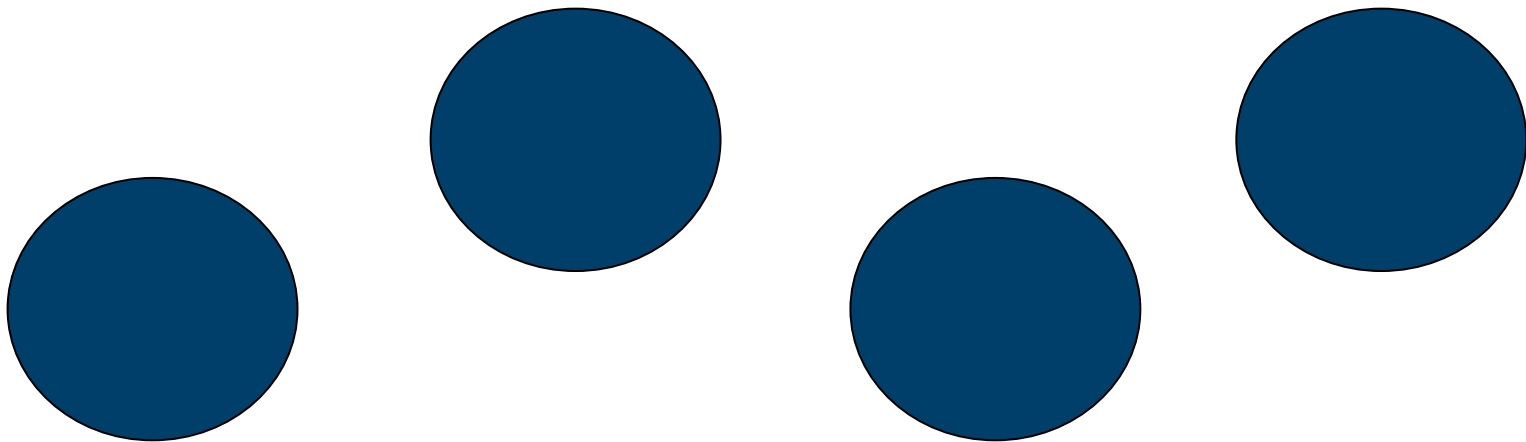
How might the structure of research centers affect the research program?

1. Same research topics for all applicants
2. Regional centers
3. Big and small centers
4. Choice of one topic – large centers
5. Other (hybrid?)




## Same Research Topics for All Applicants

- Continue with same structure of past Center RFAs
- All applicants propose interdisciplinary research in response to research topics in RFA

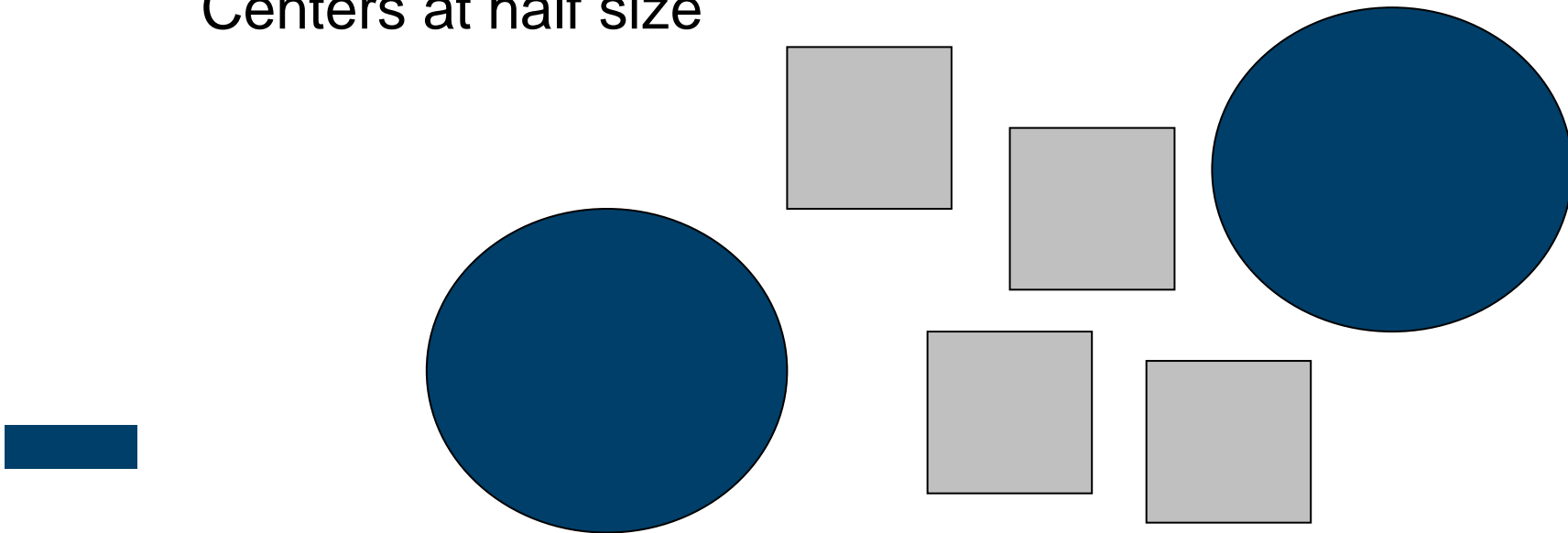


## Regional Centers

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- Center must have a regional focus
  - Specific ties to state and local air quality decision makers and public health officials
  - Topics loosely defined, applicants focus on highest priority for region
  - No predetermined regions
    - Could be more than one Center per region
    - Selection based on scientific excellence and regional representation

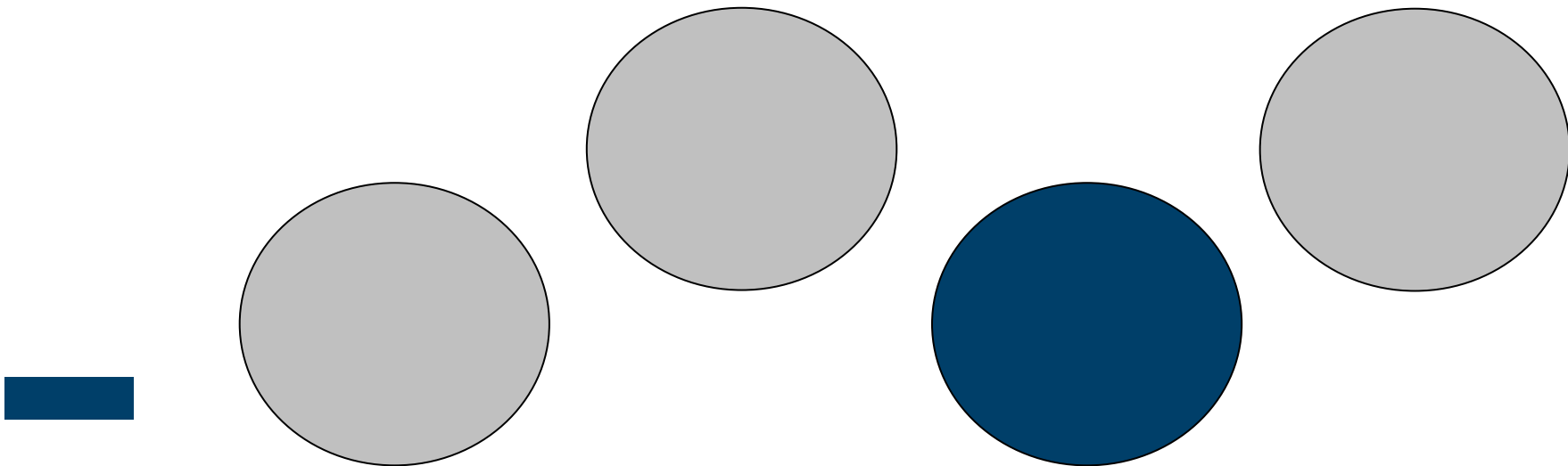
## Big and Small Centers

- Allows both large Centers addressing broad questions and smaller Centers targeted to specific areas
- Smaller Centers may also be multidisciplinary, but smaller in scope
- For example, could support 2 large Centers and 3-4 Centers at half size



## Choice of One Topic – Large Centers

- Large, multidisciplinary Centers
- RFA includes two research topics; applicant only responds to one topic
- For example, may fund one Center studying first topic and three others studying the second



## Next Steps

- EPA looks forward to panel's advice – both the discussion today and the written report
  - Subsequently, ORD will work with EPA offices to develop the next Centers RFA
- Plan to release a new Centers RFA by next summer

