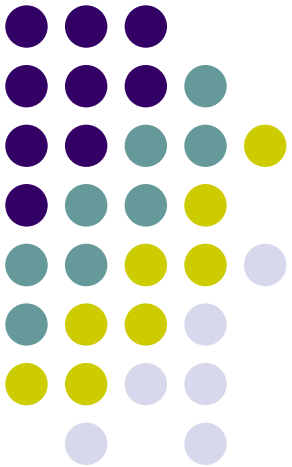
Ancillary Analyses

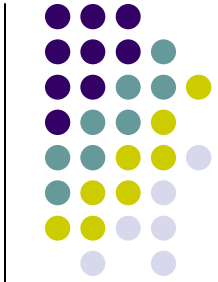
Nathalie Simon

National Center for Environmental Economics

Office of Policy Economics and Innovation



Estimation of Health (Dis)Benefits of Reduced UV filtration



- Atmospheric ozone filters harmful solar ultraviolet radiation (UV-B)
  - 90% of ozone is located in stratosphere, 10% is located in troposphere
- Although only a portion of ground level ozone can be attributed to anthropogenic sources, it is reasonable to assume that reducing ground level ozone would:
  - Reduce the UV-B filtration provided
  - Lead to increases in UV radiation induced health effects (e.g., melanoma and non melanoma skin cancer, cataracts, etc.)
- We are working with ICF to assess the human health effects of reduced UV filtration associated with alternative policies in the Ozone NAAQS

Atmospheric Health Effects Framework (AHEF)

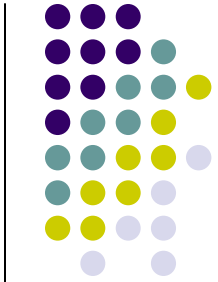
- Model developed and maintained by ICF to evaluate certain human health impacts associated with reduced emissions of ozone-depleting substances under the Montreal Protocol and associated amendments.

- Generally used to address changes in stratospheric portion of the ozone column where changes in ozone concentration are more directly correlated to changes in surface UV

- Model is flexible enough to be adapted to model UV changes based on scenarios related to changes in tropospheric ozone.

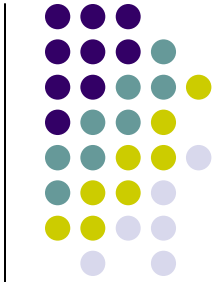
- Will use CMAQ data as inputs.

Status of UV-B Analysis



- Work plan has only just been approved → work is only now getting underway.
- In the next few weeks, we will be working with ICF and OAQPS to develop a detailed methodology.

Cost-Effectiveness Analysis



- Required by OMB's Circular A-4 for all economically significant rules where the primary benefit is human health.
- CEA for health effects associated with reductions in ozone was not included in Proposed Ozone NAAQS (CEA for PM benefits was included)
  - Missing key components of analysis – specifically, lacking estimates of associated life years lost.
- Will be working with Abt Associates to develop a CEA for the final Ozone NAAQS using approach similar to that developed for PM
- WA should be in place shortly.