

## **An Integrated View of Air Pollution and Climate Change**

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Stabilizing anthropogenic forcing of climate at a level less than  $5\text{-}6\text{ W/m}^2$  will entail substantial changes in global socio-economic systems, particularly energy transformation and use. This talk presents results from an integrated analysis of global energy and land-use including a comprehensive suite of greenhouse gas and aerosol emissions. Over a hundred year time scale stabilization of radiative forcing involves primarily greenhouse gases, with the three largest contributors being carbon dioxide, methane, and tropospheric ozone. Over the next fifty years, however, there are significant interactions between greenhouse control measures and aerosol emissions. The net result is that a substantial reduction in forcing from a reference case trajectory over the next fifty years is difficult to achieve. Radiative forcing relative to preindustrial times in 2050, even in a case with substantial policy intervention, is likely to be above  $3\text{ W/m}^2$ .