Press Release

Dr Veerabhadran Ramanathan wins 2018 Tang Prize for Sustainable Development

Professor Ramanathan's work was foundational to the creation of the Climate and Clean Air Coalition

Paris, June 28, 2018: The Climate and Clean Air Coalition congratulates Veerabhadran Ramanathan for being awarded the 2018 Tang Prize for Sustainable Development for his work to increase our fundamental understanding of climate change and impacts of air pollution, and taking direct action to advocate and facilitate effective mitigation polices. Professor Ramanathan has contributed significantly to the work of the Coalition and his work continues to drive meaningful action to reduce short-lived climate pollutants.

Professor Veerabhadran Ramanathan was the first to point out the very significant greenhouse effects of chlorofluorocarbons (CFCs). In 1975, Prof. Ramanathan discovered the greenhouse effect of halocarbons, particularly chlorofluorocarbons (CFCs) used in such applications as refrigeration and manufacturing. This was a seminal contribution that showed how gases such as CFCs that deplete the ozone layer could also have ramifications for climate. His prediction that continued use of CFCs would be a significant fraction of climate forcing by carbon dioxide was a major impetus for the language of the Vienna Convention for the Protection of the Ozone Layer in 1985 to include climate effects. In fact, as a consequence of this work it became clear that society's main contribution to address the climate change challenge has been the banning of the production of those compounds. This finding was also at the core of future negotiations for the Montreal Protocol on Substances that Deplete the Ozone Layer that followed in 1987. Since then, it has been shown that preventing continued increase in emissions of CFCs through the Montreal Protocol has not only protected the ozone layer but also benefited climate, achieving greater mitigation of climate change than the first phase of the Kyoto Protocol on climate.

Professor Ramanathan's pioneering research also led to the discovery and characterization of the so-called "Atmospheric Brown Cloud", demonstrating through field measurements and atmospheric modelling efforts the impact of Asian pollution on an intercontinental scale, across the Pacific Ocean. This work established the extremely important role played by atmospheric black carbon as a greenhouse compound, second only to carbon dioxide. Professor Ramanathan's research findings firmly connected the air quality and climate change challenges, an achievement that has had enormous implications in the science-policy domain.

Professor Ramanathan was among a team of four scientists who developed the first version of the U.S. community climate model in the 1980s. In 1985, using these models and his deep insights into the properties of various gases, he with other colleagues shined light on "non-CO2" greenhouse gases-a concept that is now widely acknowledged. Chief among them are methane, nitrous oxide, and tropospheric ozone.

Professor Ramanthan helped lead the 2011 World Meteorological Organization (WMO) and UN Environment Programme (UNEP) Integrated Assessment of Black Carbon and Atmospheric Ozone

which concluded that Short-Lived Climate Pollutants are almost as important as CO2 to global climate change. The assessment led to the creation of the Climate and Clean Air Coalition in 2012.

The 2018 Tang Prize for Sustainable Development focused on how climate science underpins and contributes to the global sustainability agenda. Professor Ramanathan shares the Sustainable Development Prize with Dr James Hansen for his work to sound the alarm on climate change, quantify its dangers, and advocate for action. By recognizing them both the 2018 Tang Prize "acknowledges the extraordinary value of rigorous scientific inquiry and forthright public communication of science leading to actions for the benefit of humanity".

The Tang Prize was created in 2012 by Taiwanese entrepreneur Samuel Yin. It is awarded every two years to individuals for their revolutionary efforts in the research fields critical to the 21st century. The Prize in Sustainable Development recognizes those who have made extraordinary contributions to the sustainable development of human societies, especially through groundbreaking innovations in science and technology.

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