



Dupont Summit 2014

..... Science, Technology, and Environmental Policy Issues

December 5, 2014 ♦ Historic Whittemore House, Washington, DC

The Policy Studies Organization

Speaker

Ekundayo Shittu –*George Washington University*

“Managing the Climate Change Problem: Informing Climate Policy”

Climate change is well-understood as a problem of negative externality due to greenhouse gas (GHG) emissions causing damages at no *appreciable* cost to the polluter; it is global across many regions with the most affected – future generations – not effectively represented; and it has long- term horizons with significant layers of uncertainties. Although the scientific understanding of climate change and its impacts over time have increased dramatically in recent years, there is still considerable uncertainty surrounding this knowledge. There is now a growing recognition that today’s policy choices are also highly sensitive to uncertainties associated with the actions of other decision makers. Pivotal to this talk is the examination of how key stakeholders deal with climate change risk. On the one hand, policy makers are wrestling with determining the optimal policy to spur technological change towards a less carbon-intensive economy. On the other hand, decision makers at the firm level are grappling with how to allocate their research and development (R&D) efforts in the face of several alternatives and under a future policy that is uncertain. Using the paradigms of systems engineering, an interdisciplinary field of engineering that focuses on how to design and manage complex engineering projects over their life cycles with the aid of optimization methods and risk management tools, we address some of the interlinking sustainability questions surrounding strategic decisions such as what role should deployment policies play in moving emerging technologies to market, and how should the learning phases of renewable energy technologies be managed for smooth penetration into the existing landscape? Our models chart pathways to a decision support system to inform policy making and technology management.

Article 2 of the United Nations Framework Convention on Climate Change (UNFCCC) states, “The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.” In view of this, this talk will highlight some solution approaches proffered by the fifth assessment report of Working Group 3 of the Intergovernmental Panel on Climate Change (IPCC) such as international action, mitigation approaches, instruments creating market penalties for GHG emissions – cap-and-trade systems, carbon taxes, new fuel economy standards, technology policies promoting technological R&D, and energy efficiency and behavioral changes.

This talk will identify the key points surrounding climate change response as a coordinated set of actions that target both mitigation and adaptation in order to “manage the unavoidable and avoid the unmanageable,” highlight the importance of *policies* that are interwoven with low-carbon growth and development with a resounding call for private and public investments to be ramped up, showcase how policy may be informed by a diverse array of risks and uncertainties and their perceptions, and elaborate on the need for international cooperation as a prerequisite to combating these challenges.



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Biography

Ekundayo Shittu -*George Washington University.*

Ekundayo Shittu (Dayo) is an assistant professor of Engineering Management and Systems Engineering at The George Washington University, Washington D.C. Dayo holds a B.Eng. in Electrical Engineering from University of Ilorin, a M.Sc. in Industrial Engineering from the American University in Cairo and a Ph.D in Industrial Engineering and Operations Research from University of Massachusetts Amherst. Prior to his position at GWU, Dayo was an assistant professor at the Energy Institute, A.B. Freeman School of Business, Tulane University. Dayo conducts basic and applied research that take a systems approach to address the different dimensions of decision making under uncertainty with particular focus on the economics and management of energy technologies, the design and impacts of climate change response policies, and patterns of consumer behavior in energy consumption in the emerging era of smart grid technologies. As a Lead Author, he contributed to Chapter 2, "Integrated Risk and Uncertainty Assessment of Climate Change Response Policies" of the Intergovernmental Panel on Climate Change 5th Assessment report (AR5) on the mitigation of climate change that was released earlier in April 2014.

