

Boston College Environmental Affairs Law Review

Volume 40 | Issue 2

Article 4


5-28-2013

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Recommended Citation

Douglas Kysar, *Professor Douglas Kysar's Analysis of Flaws in Predictive International Climate Policy Models*, 40 B.C. Env'tl. Aff. L. Rev. 409 (2013), <http://lawdigitalcommons.bc.edu/ealr/vol40/iss2/4>

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PROFESSOR DOUGLAS KYSAR'S ANALYSIS OF FLAWS IN PREDICTIVE INTERNATIONAL CLIMATE POLICY MODELS

EXECUTIVE SUMMARY*

For island countries, climate change and global warming are not hypothetical threats. In his remarks, Professor Douglas Kysar illustrated the immediate need to reframe climate change politics by describing the impending extinction of Palau, a small nation made up of some three hundred islands in the Pacific Ocean. Rising ocean levels threaten Palau's lands and have forced its government to consider how to adapt to or counteract the effects of climate change.

As a relatively powerless nation pleading with larger, influential states, Palau's predicament demonstrates the paradigm currently driving climate change politics. Polluting nations address policy decisions through the distorted lens of integrated assessment models. Popular in the environmental sciences, integrated assessment models incorporate data from various domains in an attempt to present a comprehensive analysis of an issue for the purpose of informing policy decisions. Professor Kysar argued that these models contain flawed assumptions that prevent global reframing of climate change politics.

Integrated assessment models attempt to predict climate change's impact on future human health and environmental quality in order to determine the *optimal* path to emission reduction to guide national and international policymakers. Under these traditional integrated models, however, the defined optimal path leading to maximum social welfare takes into account predictable *future* harms and the measures needed to control them, but tempers these by weighing the burdens on social welfare maximization attributable to the costs of reducing greenhouse gas emissions *today*.

* This summary was prepared by the Executive Board of the Boston College Environmental Affairs Law Review and approved by Professor Kysar. A video of Professor Kysar's remarks is available on the Clough Center for the Study of Constitutional Democracy website at <http://www.bc.edu/content/bc/centers/cloughcenter/events/f2012-s2013/0926-gecp.html> (last visited May 20, 2013).

Professor Kysar argued that this form of integrated approach restricts our analytical scope. He asserted that our goal of social welfare maximization may not realistically be a sustainable one, and that our current models contain many flawed, and typically overly-optimistic assumptions that lead to a significant underestimation of the pace, severity, and cost of climate change. These assumptions concern the rate of population growth, the trajectory of technology, intergenerational fairness, economic resilience, and international relations.

Professor Kysar proposed that the drive to maximize social welfare—and the inherently flawed assumptions that inform policy decisions toward that goal—has caused policymakers to neglect long-term and cumulative factors that would alter their climate change analyses. Professor Kysar emphasized that in addition to adjusting and improving our cost-benefit models, we must recognize the near-universal position of climate scientists, which is that our fundamental pursuit of maximized social welfare is an unsustainable and flawed goal. This shift requires making policy decisions that appear suboptimal and inefficient under our current integrated assessment models. Professor Kysar argued that analyzing the ultimate global environmental challenge of climate change means acting contrary to assumptions that now prevail in climate change policies and politics.

Current models insist that even a nation like the United States cannot unilaterally bring about a global adjustment to climate change. The models assume that states operate according to game theory and are predictably utility-maximizing. Professor Kysar pointed out that even Chief Justice John Roberts and Justice Antonin Scalia, in *Massachusetts v. EPA*, demonstrated this commitment to game theory by repeatedly asking the EPA why it would cut emissions when other countries had not also done so. Professor Kysar questioned whether we really want international relations to resemble a prisoner's dilemma. He observed that our models become self-fulfilling prophecies if we use their results to justify our refusal to lead, when the results are driven in part by the *assumption* that leadership will be ineffectual.

Another basic modeling assumption that Professor Kysar challenged is that global warming will occur in a somewhat linear fashion, and that society will adapt to this change. Kysar described an influential model in which a temperature increase of nineteen degrees Celsius would reduce the world's gross domestic product by only fifty percent. The scientific community, however, predicts that humans have an adaptability limit, and warming of eleven to twelve degrees would make all presently inhabited land on earth uninhabitable. But current models do not allow for such harm; they often assume that economic and socio-

logical systems operate independently of one another. Professor Kysar argued further that current models do not properly account for compounding effects from the possibility that the amazon rainforest will disappear; methane reserves might be released from the arctic permafrost; or oceans will absorb more of the sun's rays because there is less ice on the earth's surface. The data and projections present a dismal scenario.

Professor Kysar offered several conclusions and solutions. Obsession with welfare-maximization is a harmful distraction, and should not direct policy. Agencies should conduct multiple analyses, using different kinds of value metrics.

The most important element in a new approach to climate change politics is achieving distributive justice between generations. Professor Kysar demonstrated this concept through analogy to the Atlantic cod fishery. Most people would agree that cod should be managed and fished to its maximum sustainable annual yield, which will allow maximum supply of the cod resource for future generations as well. This norm incorporates a sense of intergenerational fairness. The standard integrated welfare maximization analysis, however, implicitly assumes that all resources are owned by the present generation, and future generations should appreciate whatever resources are left. After all, even if there is no more cod, they can eat other fish, if such remain.

Professor Kysar drew attention to multiple assumptions within integrated assessment models that cause the models to yield inaccurate and often shortsighted policy recommendations. He lamented the pervasiveness of this approach in global climate change politics, but suggested that climate change's increasing effects will cause us to reconsider these models. In doing so, we will be forced to reexamine our notions of agency and responsibilities among generations, nations, and other collectivities. Professor Kysar predicted that as we begin to talk commensurately with the temporal and geographic scale of the climate change problem, global environmental constitutionalism will mature and expand.

