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Climate Change, Development, and the Global Commons

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Research Panel: Roundtable – Building Institutional Strength to Address Climate Change: Connecting Sustainability and Human Rights

Presenter: Robert J. Brecha

Title: Climate Change, Development, and the Global Commons

Abstract:

An important link between energy, climate change, human development, and human rights comes in the form of a question that has yet to be answered satisfactorily: The earth's atmosphere and other physical systems are the ultimate example of the global commons. Do future generations have a human right to an unchanged earth system? Sustainable Development Goals 13, 14, and 15 imply an affirmative answer. Given that climate scientists have a good estimate of the amount of carbon dioxide that can be emitted before the safe uptake capacity of the atmosphere is breached, how do we allocate that remaining atmospheric capacity to absorb emissions from our industrial processes and personal consumption while enabling sustainable development?

One approach to determining pathways for decarbonizing the world's energy system involves consideration of a cost-benefit analysis, weighing costs of transforming the energy system with potential future damages due to climate change. Another option is to set a limit on total carbon dioxide emissions over the next several decades, moving toward zero emissions, and then to find the most efficient way to work within those limits.

Pope Francis, in his 2015 encyclical *Laudato Si',* addresses these options from the perspective of Catholic social teaching that is to some extent not a dramatic departure from the teachings of his predecessors. However, the point that will be addressed in this contribution is that the message contained in *Laudato Si'* has a very close secular counterpart in the distinctions made between "weak" and "strong" sustainability. In the end, we recognize that the economy is just one part of our relationship with the earth's ecosystems and that societies make ethical choices based on shared values.

Both *Laudato Si'* and strong sustainability arguments lead us to consider a just distribution of the atmospheric commons between different countries and peoples.

About the presenter:

Robert J. Brecha, PhD, is a professor in the University of Dayton Department of Physics, the Hanley Sustainability Institute, and the Renewable and Clean Energy Program. After earning a bachelor's degree in physics from Wright State University and a doctorate in physics from the University of Texas at Austin, he spent two years in post-doctoral research in Germany before joining the University of Dayton faculty. He was a founding coordinator of the Sustainability, Energy, and the Environment (SEE) minor from 2007 to 2015, and since 2006, he has been a regular visiting scientist at the Potsdam Institute for

Climate Impact Research (PIK) in Germany. He conducts research on energy efficiency in buildings, climate change mitigation strategies, fossil-fuel resource limits, integration of fluctuating renewable energy sources, and energy needs for sustainable development. He is also actively engaged in public outreach on sustainability issues through print media, public talks, and a series of radio essays on NPR affiliate WYSO-FM.