

By Mary-Russell Roberson

Since 1992, when the United Nations Framework Convention on Climate Change (UNFCCC) was ratified in Rio de Janeiro, the governments of the world have been struggling with how to cooperatively put the brakes on greenhouse gas emissions.

As a policy issue, climate change is rife with challenges. **Billy Pizer** ticks them off: “It’s a global problem. It’s a long-term problem. There are no easy solutions. Fossil fuel emissions are pervasive in our economy and our way of life. And the consequences of climate change are less palpable [than some other environmental problems].”

Pizer, an associate professor at the Sanford School and a faculty fellow in the Nicholas Institute for Environmental Policy Solutions, uses the tools of economics to facilitate the creation of policy that works in the context of those challenges. Before coming to Duke, he was the deputy assistant secretary for environment and energy at the U.S. Department of the Treasury.



“My goal is to try to have a constructive impact on the debate,” he says. “For the past 20 years, I’ve been focused on trying to understand the obstacles to designing and implementing domestic and international policies and how economics can help people develop reasonable solutions to these obstacles.”

At the Rio convention, countries came together, acknowledged there was a problem and committed to address it, “but not in a specific or quantitative way, and with no assignment of responsibility,” Pizer says.

Five years later, the Kyoto Protocol did assign limits and responsibilities, but only for developed countries, the leading emitters of greenhouse gases at the time. This set up an uneven economic playing field, and that’s one of the main reasons the Kyoto Protocol has largely failed, according to Pizer. Today, China is the world’s leading emitter of carbon dioxide, and emissions from other emerging economies are growing fast.

“An international agreement needs to level the playing field between the United States and emerging economies, and the poster child for this is China,” Pizer says.

At the 2012 UNFCCC meeting in Durban, negotiators agreed to develop arrangements “applicable to all parties.”

Another lesson from the Kyoto Protocol is that nations can’t be forced to participate or comply with an

# GRAPPLING WITH CLIMATE CHANGE

international agreement. The United States never ratified the Kyoto Protocol, and Canada, Russia, and Japan have withdrawn. In light of all this, there’s a growing consensus that the most practical approach is to encourage countries to implement their own domestic policies, rather than trying to agree on a single global program.

“All we’ve done in the last 20 years is come full circle to recognize that it’s domestic policies and politics that matter and have to be dealt with first,” Pizer says.

As the United States and other countries are developing and implementing different domestic strategies, Pizer says, “I look for questions that are understudied that could have a lot of consequence for the success or failure of policies people are contemplating.”

One such question is how to link the programs of different countries and states. Some jurisdictions, such as the European Union, use cap-and-trade programs, where emission caps are set on industries, but a company can emit more if they purchase quotas from another company that emits less. Similarly, linking programs from different jurisdictions would allow one program to emit more if they purchase quotas from another program that emits less.

“Linking has arisen as a topic people are very interested in,” Pizer says. “In the past, we imagined these programs emerging under the umbrella of international agreements



# ING WITH CLIMATE POLICY

# Nicholas Institute Builds Reputation for Connecting Policymakers to Latest Research

by Mary Russell Roberson

After eight years in operation, the Nicholas Institute for Environmental Policy Solutions is ranked among the top 10 think tanks that focus on climate change economics and policy.

"As an institute much younger than any other on the list, we're punching above our weight," said founding Director **Tim Profeta**. The ranking by the International Center for Climate Governance "was reaffirming of the



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**Tim Profeta** (right) on the Duke campus with the now former U.S. Environmental Protection Agency Administrator **Lisa Jackson** and Nicholas School Dean **William Chameides**.

(continued from page 10) that would provide the infrastructure for these linkages to take place." But without such an infrastructure, what happens if two linking partners don't use the same degree of precision in measuring? Or what if one country's program is found to be fraudulent? What if one country decides to pull out, or "delink"?

In a talk on delinking last fall at Harvard, Pizer highlighted the economic disruptions that could ensue when a participant delinks, or even considers delinking. To avoid these disruptions, Pizer suggests participants agree to plans for delinking before entering into a partnership.

In the United States, California has its own cap-and-trade program (linked with Quebec) as does a coalition of states in New England. At the federal level, carbon dioxide emissions are beginning to be regulated through the Clean Air Act. Cars are already subject to greenhouse gas emission standards and regulations for new power plants have been introduced, although Pizer suspects those regulations will be litigated. "It's slowly going to unfold over a very long period of time, but it is happening," he says.

Under the Clean Air Act, the government will set certain targets and each state will meet those limits however they see fit. "With the recognition that states may have to do something to limit carbon dioxide emissions, the idea of joining one of these existing trading programs is more attractive," Pizer says. That's because states want to attract businesses, and businesses want to know what to expect in terms of regulation. The quickest way for states to eliminate that uncertainty may be for them to join an existing program.

Pizer says in theory, regulations created under the Clean Air Act could provide a legal framework for regulating carbon dioxide, but

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historically the act has been "a pretty clumsy way of dealing with major pollutants."

And, if the effort is not successful, he wants to be ready with research on possible alternatives. Other issues he's working on include concerns about balancing emission reductions with cost, and concerns about industries moving from one place to another to escape local or regional climate policies.

work we're doing," said Profeta, who joined the Sanford faculty in 2012 as an associate professor of the practice of public policy.

"The institute has created a new model for academic engagement in public policy. Now we have an opportunity to bring our experiences back and see if our model can be replicated to allow the university to do more in service of society."

The key to the institute's success? A core professional staff with extensive external networks combined with access to the expertise of Duke faculty across all departments and schools.

Before directing the institute, Profeta, who earned his JD and MEM at Duke, worked as counsel for the environment in the office of **Sen. Joseph Lieberman** (D-CT). He hired staff for the new institute who, like himself, were already engaged with policymakers outside the academic world.

"The intent was to hire people to focus exclusively on our mission and lower transaction costs for current faculty to get involved," he said. "We have built this form that allows

## "We have chosen to be a resource for policymakers to help them understand their choices."

us to have direct and nimble engagement with policymakers and other relevant audiences. And it's connected and interlaced with a top-10 research university and all the knowledge that lies here."

Duke's history of encouraging interdisciplinary collaboration also set the stage for the institute's success, he said. Because the institute is not affiliated with a particular department or school it can function as an "academic Switzerland" and interact easily with all faculty on campus.

For external audiences, Profeta says being associated with a university creates a neutral, "safe" space for conversations.

"We don't lobby," he says. "We've chosen to be a resource for policymakers to help them understand their choices. We leave the value judgments to them."

When a Republican cabinet official from a Midwestern state recently expressed doubts about the institute's neutrality, Profeta invited him to become involved and judge for himself. That official is now a leader on one of the institute's projects, which involves federal regulations and greenhouse gas emissions.

The institute publishes policy briefs and reports, provides public forums, and educates policymakers on specific topics including fisheries management and ecosystem valuation.

"If the institute convenes a conversation or we're directly engaging a Senate office around an issue, it may be the most impactful thing we do—although it's quieter than an official publication," he says.

As he looks to the future, Profeta wants to maintain and increase the involvement of faculty and students.

"We've had good engagement. We would like more. It requires a lot of hard work within the campus to build relationships and structures to be sure we're really accessing the full intellectual heft at Duke."

To decide on research topics, Pizer spends a lot of time traveling and meeting with stakeholders to find out what questions and concerns they have as climate change policies unfold. "There's no substitute for physically putting yourself out there and hearing what people are saying," he says.

With all his work—whether interacting with stakeholders, teaching or developing economic models—he says his overarching goal is "for the United States to have a policy in place that is compatible with the seriousness of the problems and has all the features that will allow it to adapt as new issues arise. What we have now is a bunch of Band-Aids instead of a solution."

Pizer, who grew up in Raleigh and attended the North Carolina School for Science and Mathematics, feels fortunate to be at the Sanford School and the Nicholas Institute. "I've always wanted to feel like I was making public policy better," he says. "The great thing about being at Duke is I can educate students, so it's not just me doing it but I'm leveraging other people to go out and do it too."

## Bass Connections Research Teams

**Billy Pizer** and **Tim Profeta** are leading two of the 15 Bass Connections research teams at Duke that are pursuing energy projects. One team is proposing policy options for petroleum refining, which is among the industries next in line for greenhouse gas emission regulation under the Clean Air Act. The group is considering how ideas tar-

getting the power sector might be adapted for other sectors, as well as additional options that may emerge.

Project co-leaders are **Brian Murray** (Nicholas Institute and Nicholas School) and **Sarah Adair** (Nicholas Institute). The team includes students studying law, economics and environmental science.

A second project is slated to launch in the fall. It aims to help Duke achieve its goal of becoming carbon neutral by 2024, by creating a new program to assist Duke University employees with evaluating and obtaining rooftop solar energy systems. This project will be co-led by **Charles Adair** and **Tatjana Vujik** of the Duke Carbon Offsets Initiative.

Bass Connections is a university-wide initiative launched last fall by a \$50 million gift from Anne and Robert Bass. The innovative initiative provides students, from undergraduate to PhD levels, opportunities to join forces with each other and with faculty mentors to pursue problem-focused research projects. Five content themes are being pursued: energy; brain and society; education and development; global health; and information, society and culture.



**Billy Pizer** (left) and **Tim Profeta** (right) during a break at a presentation of the Duke Energy Initiative.