

# 2016 LUND CRITICAL DEBATE

## Is Nuclear Power the Answer to Climate Change? (2015-2016)



The [2015-16 Lund Critical Debate](#) between renewable energy expert Daniel M. Kammen and Finnish nuclear advocate Lauri Muranen was held on May 3, 2016 at Klarman Auditorium. The debate was moderated by Annelise Riles of Cornell Law School.

**Daniel M. Kammen** is the Class of 1935 Distinguished Professor of Energy at UC Berkeley and founding director of the Renewable and Appropriate Energy Laboratory (RAEL). He was named the first Environment and Climate Partnership for the Americas Fellow by then-Secretary of State Hillary R. Clinton. A native of Ithaca and a graduate of Cornell, Kammen has authored or co-authored 12 books, has written more than 300 peer-reviewed articles, and has been a contributing or coordinating lead author on several reports of the Nobel Peace Prize-winning Intergovernmental Panel on Climate Change. He is a frequent contributor to or commentator in international news media, including *Newsweek*, *Time*, *The New York Times*, *The Guardian*, and *The Financial Times*.

**Lauri Muranen** heads the World Energy Council, Finland, a chapter of the UN-accredited global energy body that aims to be a leading platform for discussion of the future of the nuclear energy sector. He is a co-founder of the Ecomodernist Society of Finland and is the secretary of the Energy Committee of Finland's Social Democratic political party. Lauri has served as secretary general of the Finnish Energy Council and as a nuclear energy advisor to the Finnish Energy Industries trade association. He is known in Finland for his public engagement with energy issues, debating the merits of nuclear energy with parliamentarians, professors, nuclear industry insiders, renewable energy industry insiders, and anti-nuclear activists at film festivals, bookstore events, and on television.

**Media Coverage:** [Cornell Chronicle](#); [Cornell Daily Sun](#); [Cornell Cast](#)

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## Is nuclear power the answer to climate change?

### Debaters differ on promise and risks

By Jonathan Miller, Mario Einaudi Center for International Studies

When nuclear power advocate Lauri Muranen squared off against renewable energy expert Daniel Kammen in the 2016 Lund Critical Debate on May 3, members of the audience may have been justified in expecting a pro-nuke, anti-nuke smackdown. What they got was a bit more subtle.

“Nuclear energy should absolutely be part of the mix where it makes sense,” said Kammen, who runs the Renewable and Appropriate Energy Laboratory at the University of California, Berkeley.

“I wouldn’t mind 100 percent renewable if we could do it,” said Muranen, head of the World Energy Council chapter in Finland and an advisor to the nuclear industry there.



*Daniel Kammen (left) debates the future of nuclear energy with Lauri Muranen (right). Annelise Riles of Cornell Law School moderates. Photo by Varun Hegde.*

Where they disagreed was in what Kammen called “the howevers and the buts.”

After all, the question on the floor was not “Is nuclear power good or bad?” but “Is nuclear power the answer to climate change?” And on that, their views were very different.

Kammen, a nuclear physicist, argued that nuclear energy has proved far riskier and costlier than its champions would like to admit. With better technology, better management, and better oversight, he said, it might be part of a sensible energy mix in the future. But getting there will take decades, while solar, wind, biofuels, and other renewables can be ramped up immediately.

“We have one generation to solve this,” he said, referring to climate change.

Kammen said his group at Berkeley has developed hundreds of models for integrated energy systems that meet greenhouse gas emissions targets with no nuclear power. Many of these rely heavily on

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distributed power, in which electricity is generated close to where it is used. The ideal energy mix will and should look different in different places, he explained.

“It’s really about building systems, not about peddling a technology,” he said.

Muranen said he’s a committed environmentalist who used to work for the anti-nuclear organization Greenpeace. He agreed with Kammen that climate change is the most urgent challenge facing the planet. It’s the urgency, he said, that made him rethink his position on nukes.

“Nuclear power is not the silver bullet that is going to solve all the problems,” he said, “but I consider it an important part of a solution.”

Nuclear technology has proven to be safe and effective in countries like Finland and France, he said. Delays in plant construction tend to be political, not technical. Costs may be high, but unlike fossil fuels, “externalities” like waste storage and security safeguards are built into the price. Renewable technologies like wind and solar, he argued, are only competitive because of government subsidies.

“The world would be mad if [it] didn’t consider developing nuclear technology,” Muranen concluded.

Kammen countered that nuclear power may make sense for a country like Finland, and research should continue on technologies such as fusion and small modular reactors. But for much of the world nuclear energy is an expensive distraction at a time when cheaper and safer options are available.

## Part of a larger discussion

The debate was one of a series of events sponsored by the Mario Einaudi Center for International Studies on the topic of nuclear power and climate change, director Hiro Miyazaki explained in his introductory remarks.

“Nuclear energy is not the sort of issue that you can contain in a single box,” he said. “It raises questions of physics and engineering, of politics and economics, of geology and climatology, of culture and law, of national defense and international trade, and of public health and public safety.... In other words, it’s a perfect topic for a university like this one.”

On the fifth anniversary of the Fukushima disaster in March, Miyazaki said, the center sponsored a [roundtable discussion](#) featuring the accident’s lead investigator. In July, the center and the [Meridian 180](#) project (a partnership between the Einaudi Center and Cornell Law School) will sponsor a meeting in Japan “designed to look for ways to move the conversation forward about national, regional, and global regimes for regulating nuclear energy safety.”

In September 2016, Miyazaki announced, the Einaudi Center’s annual Bartels World Affairs Lecture will be given by Svetlana Alexievich, winner of the 2015 Nobel Prize in Literature, who chronicled the aftermath of the Chernobyl disaster.

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From left to right, Einaudi Center director Hiro Miyazaki, Riles, Kammen, Muranen, and Vice Provost for International Affairs Laura Spitz. Photo by Varun Hegde.



## About the debaters

**Daniel M. Kammen** is the Class of 1935 Distinguished Professor of Energy at UC Berkeley, with parallel appointments in the Energy and Resources Group, the Goldman School of Public Policy, and the Department of Nuclear Engineering. He was named the first Environment and Climate Partnership for the Americas (ECPA) Fellow by Secretary of State Hillary R. Clinton. He is also the founding director of the Renewable and Appropriate Energy Laboratory (RAEL), co-director of the Berkeley Institute of the Environment, and director of the Transportation Sustainability Research Center.

A native of Ithaca and a graduate of Cornell, Kammen has authored or co-authored 12 books, written more than 300 peer-reviewed articles, and has been a contributing or coordinating lead author on several reports of the Nobel Peace Prize-winning Intergovernmental Panel on Climate Change. He is a frequent contributor to or commentator in international news media, including *Newsweek*, *Time*, *The New York Times*, *The Guardian*, and *The Financial Times*.

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Lauri holds an M.Sc. in environmental technology from Imperial College London. He is known in Finland for his public engagement with energy issues, debating the merits of nuclear energy with parliamentarians, professors, nuclear industry insiders, renewable energy industry insiders, and anti-nuclear activists at film festivals, bookstore events, and on television.

## **About the moderator**

**Annelise Riles** is the Jack G. Clarke Professor of Law in Far East Legal Studies and Professor of Anthropology at Cornell, and she serves as director of the Clarke Program in East Asian Law and Culture. Her work focuses on the transnational dimensions of laws, markets, and culture across the fields of comparative law, conflict of laws, the anthropology of law, public international law, and international financial regulation. Her most recent book, *Collateral Knowledge: Legal Reasoning in the Global Financial Markets* (Chicago Press 2011), is based on ten years of fieldwork among regulators and lawyers in the global derivatives markets.

## **About the Lund Debate**

The [Lund Critical Debates Series](#) brings to campus speakers of prominence in international affairs who can address topical issues from a variety of perspectives. The Einaudi Center is deeply grateful to Judith Lund Biggs '57 for her generosity and foresight in creating the series, which serves to strengthen academic discourse at Cornell and enhance the student experience.