



An Economically Sensible Energy Transition

Anthony Bernhardt

I first came to understand the potential for energy technology to address climate change during my years as a physicist at the Lawrence Livermore National Laboratory, where early on I designed and built lasers that would be used for enriching uranium. There I learned about fusion, which is still a major focus of the laboratory today. But when you're working on big technology, you don't really think about the economics. Fusion requires a significant amount of development before it will work, and even then, it will be enormously expensive.

Recognizing this problem, I have since shifted my focus to the economic implications of energy technologies used for electricity and transportation because that's where the rubber hits the road. And that's why I was so interested and thrilled to be involved, both as a board member and supporter, with RFF: it knows economics.

When I retired in 2005, I joined Environmental Entrepreneurs (E2), a nonpartisan group of business leaders who are volunteers. We lobby for environmental legislation that we consider to be beneficial and sensible, which requires making a solid economic argument. We quickly became aware of RFF when its researchers advised California in drafting and then implementing its landmark climate legislation.

Part of my role is to track the development and commercialization of energy technologies with the greatest impact on greenhouse gas emissions, and I'm optimistic

about the transition to clean energy. Clean power technology, which is being manufactured and installed at lower and lower cost, is essentially now at parity with conventional technology. It's cheap compared to nuclear; it's comparable to natural gas.

But with fossil fuels, "externalities," as an economist would say, are still not taken into account. I think that as society becomes more conversant with that concept and sees the consequences of not charging for the lasting damage to the planet and our health from these extractive industries, renewable technologies become essential.

We're just at the tipping point in the deployment of wind and solar. Iowa, for example, is producing more wind energy than it can use and exporting it to its neighboring states. California now produces almost a quarter of its electricity from renewable sources, and it recently passed legislation to extend that figure to 50 percent by 2030. Economically attractive wind and solar resources in the United States are vast.

We need to make this energy transition in the most economically beneficial way that we can. This goal requires a conversation in the political realm based on good data about real policy options and the implications of policy choices. And that's what RFF does better than anyone else. ●

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