

Where Are We Going With Energy?

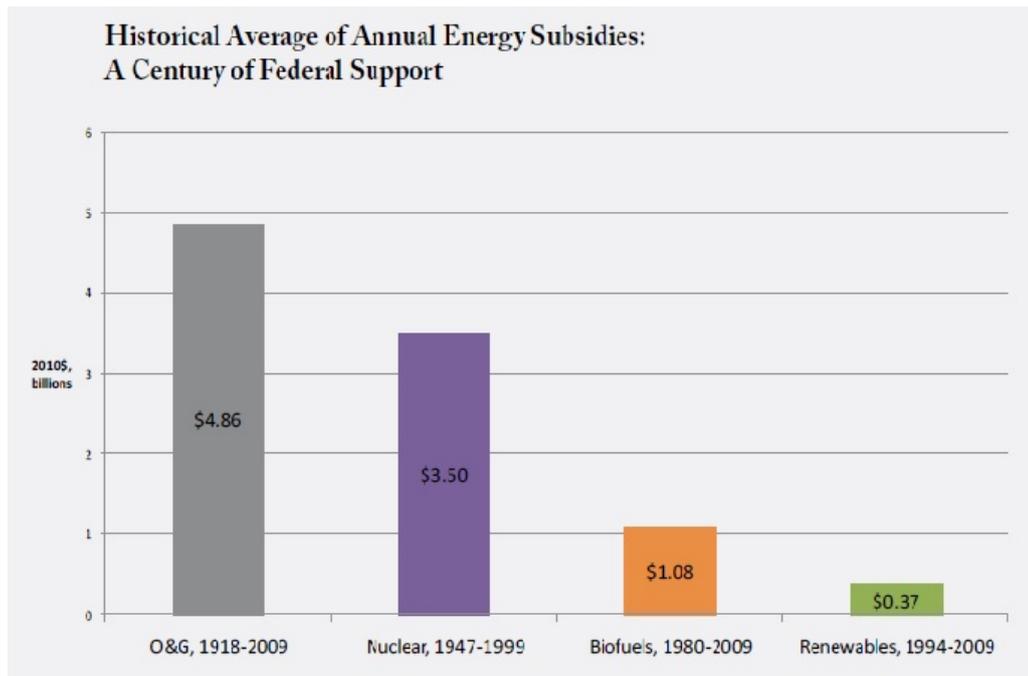


THE 9TH ANNUAL COLUMBIA UNIVERSITY ENERGY SYMPOSIUM 2013

The Future Now: Energy Progress in the 21st Century

Students at Columbia staged a very informative, sometimes provocative [symposium](#) last week. Old energy (oil and gas) made new (by fracking and horizontal drilling), new energy (renewables and the “negawatts” of energy efficiency), the old grid versus the new “smart” grid, questions of geopolitics and finance, policy and practice were all on the table. Although two prominent speakers in particular highlighted the looming climate crisis, the symposium was, in my view, darkened by the fact that the first keynote speaker was [Ken Cohen](#), Flack-in-Chief for the Exxon Mobil Corporation. I’d be lying to you if I said I didn’t know exactly what he was going to say: *We will need oil and gas well into the future and it’s critical to America’s economic well being. Aside from that, the developing world will need more and more.* On top of the speech itself, the corporate logo stared out at the audience throughout the day from the massive projection screen. ExxonMobil was one of two key sponsors of the symposium, along with another oil and gas company, [Afren](#).

During the Q&A, someone asked Cohen why his company wasn’t in the renewables business. He had the cojones to say that his company doesn’t want to be in anything that needs to rely on subsidies to sustain itself. I felt a little queasy at that, thinking of the [\\$4 billion](#) annual stash of corporate welfare that the oil companies get in the US alone. Historically, it’s not even close. See this graphic from this [excellent paper](#).



Globally, according to the [International Energy Agency](#), oil got over \$270 billion in 2012. (For more on fossil fuel subsidies, see the extensive, excellent coverage from [Earth Track](#).) Not in a business that uses subsidies?! So while ExxonMobil and their fellow travelers have been happily cashing all these checks over time, not to mention all the profits from the sale of their products, they have also been generating hundreds of billions of tons of carbon dioxide. ExxonMobil alone has been responsible for 3.22% of [anthropogenic carbon since 1750](#).

[Mike Gerrard](#), one of the most accomplished environmental lawyers in the world (and a key source for my book as well as an old friend), was next up and gave an excellent corrective to the oil industry man. While absolutely supportive of the need for those in energy poverty throughout the world to have access to modern energy services, Professor Gerrard pointed out that the poorest also need a way to avoid [climate catastrophe](#), such as the kind visited on the Philippines earlier this month. He said, eloquently and movingly, that it should be the top priority of everyone at the symposium to change ExxonMobil's vision of a fossil-fuel reliant future to one that is decarbonized and allows the climate system to recover. To quote:

In other words, if Exxon's projections come true, we're cooked. Temperatures will blow past the maximum tolerable level due to emissions that occur up to just 2040, and keep on going up. We don't know how many degrees above two degrees they will go. But we do know from the IPCC and from many additional scientific studies that every degree we go above this target leads to enormous additional human misery for many generations to come.

Thus, in my view, it must be our collective objective to make sure that Exxon's projections do not come to pass.

(See also [this interactive](#) from the UK on what we'll look like at 4° C. above baseline.)

On to the rest of the proceedings: One of the panelists talking about the [outlook for the future](#),

Kit Kennedy, reminded the audience of the critical contributions being made by energy efficiency initiatives. Her shop, the Natural Resources Defense Council, has a [recent report](#) highlighting the manifest good sense of making more efficient power and transportation the cornerstone of any good energy policy.

My choice for a breakout session was the [Utility of the Future](#). [Travis Bradford](#) leads SIPA's Energy and Environment concentration. Emphasizing that the grid is fundamental, we are also beginning to see radical changes. [John Banks](#) underscored this by noting the societal trend toward decentralization in our telecommunications and in social media. The same trend exists in power. Banks flagged the "[disintermediation](#)" of the utilities as a process that is underway. [Patrick Haischer](#) noted that RWE, one of the biggest utilities in Europe, is [changing its business model](#) in order to survive, a clear sign of things to come. Besides the business models, innovations upon us are the burgeoning of distributed renewables, including microgrids (and in line with the overall theme of decentralization), driven in no small part by the growing need for "[resilience](#)" for our infrastructure. Another theme, the [electrification of transportation](#), popped up here, as well as elsewhere during the day. Providing juice for cars and trucks is obviously a nice business opportunity for the power sector, not to mention the best way to wean ourselves from oil.

The next session was on [financing renewables](#). Two of the panelists were the principal actors in what is being reported as an innovative financing vehicle for solar: the "securitization" of solar. [Greentech Media](#) described this as a "milestone." Another panelist, from [Bloomberg New Energy Finance](#), was bearish on offshore wind, at least for the US. (The big boss at BNEF, Michael Liebreich, thinks [offshore has great promise](#).) In any event, all the panelists agreed that further renewable progress is going to rely on public policy, including a "price on carbon." One panelist said that the "gold standard" for policy support for renewables is the [German feed-in tariff](#).

Later we heard more discussion of the critical importance of [energy policy](#). A pretty distinguished group seemed to agree that technology is not the issue so much as policy. (I hammer the message to my students that, according to the [IPCC](#), "...there are few, if any, technical limits to increasing the shares of RE...") They also seemed to agree that innovation is taking place and that more "systems thinking" is in order. Dr. Lawrence Jones of Alstom has been deeply involved, for instance, in thinking about and building out [smart grids](#). This group, and others throughout the day, had a consensus view that the grid is becoming more dynamic, greener, able to integrate more infrastructure like PV, storage and electric vehicles, and more decentralized.

Dr. Jeffrey Sachs, head of the [Earth Institute](#), gave the final keynote. Sachs has been passionate about and involved with poverty alleviation for decades. He highlighted the need for modern energy services for everyone as a fundamental tool for economic development. Echoing Professor Gerrard's remarks from earlier in the day, Sachs was quite clear that the climate crisis is upon us and in providing better lives for everyone, we need to be mindful of the necessity to reduce our greenhouse gas footprint. Sachs referenced the [Deep Decarbonization Pathways Project \(DDPP\)](#), a project of the United Nations Sustainable Development Solutions Network of which he is the director.

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Returning to the incongruity I noted earlier about ExxonMobil's key role in this conference, it was disconcerting to hear the eminently intelligent and passionate Sachs talk about the need to decarbonize our economies while the logo of one of the world's biggest, and most arrogant, carbon profiteers loomed behind him. I am, of course, convinced that their day is coming to a close, but it can't happen soon enough for the earth's climate system and the well-being of its inhabitants. As Professor Gerrard said, it must be "our collective objective" to accelerate and deepen the transition away from fossil fuels.