

Q & A with Kevin Vranes, PhD '03

Growing up adjacent to where the San Andreas Fault intersects the peninsula of San Francisco, Kevin Vranes was made aware of nature's sometimes fickle state from an early age. As a graduate student at Lamont-Doherty, Vranes studied the air-sea interactions involved in major climatic events such as El Niño and the Asian monsoons. After receiving his PhD in physical oceanography, he served as a science adviser for Senator Ron Wyden of Oregon, as part of an American Geophysical Union Congressional Science Fellowship. In 2006 Vranes co-founded Point380, a consulting firm that helps business leaders respond to volatile energy prices, climate change, and impending greenhouse gas emissions regulations. The firm gets its name from the approximate carbon dioxide concentration in the atmosphere at the time of its founding: 380 parts per million.

Editor: Just living in California likely made you sensitive to water/energy policy issues. At what point in your graduate education did you consider the move into policy?

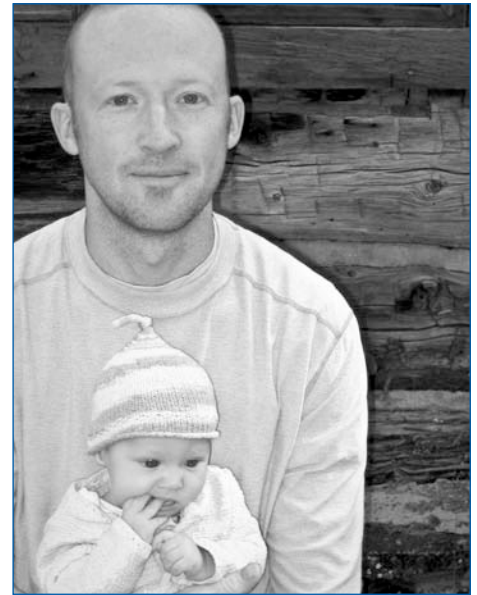
Before I even started. I studied geology as an undergrad at UC Davis, and the intersection of policy and science was brought out on a number of issues there—water use, historical geology/mining issues, land use. So I've been very interested in those issues for a while. As a graduate student I started really thinking of a policy career sometime in my third or fourth year, although it was probably always in the back of my mind. Once I heard about the Congressional Science Fellowship, I knew that was exactly what I wanted to do once I completed my PhD.

Editor: In your year on Capital Hill as a congressional fellow did you find politicians receptive to honest consultation regarding environmental science?

Operating in politics is almost never about facts. That's not bad, it's just the nature of politics. There is almost never a black-and-white solution when it involves governing a country of 300 million people with our geographic spread and demographic diversity. So scientific "facts" can be used in an argument to try to convince a certain group of people to agree with you, but whatever the "fact" may be, the policy implications of that "fact" are going to mean ten different things to ten different constituencies. Take climate change: the science says nothing about the proper political and policy response. The response is a values choice. Carbon tax, cap-and-trade, adaptation, geoengineering, no response? All of those are legitimate policy responses to the risk presented. Our society—through our policymaking apparatus—might decide that the costs of addressing climate change outweigh the costs of not addressing it. Personally, I would think that a seriously misguided choice, but I don't speak for the system.

Editor: So as a PhD scientist, what assistance did you provide to Congress?

Staffers are the ones who pull together all sorts of different factual and political considerations in crafting major legislation. How they get that info ranges from briefings (asking scientists to brief staffers on an issue), direct phone calls from a staffer to a scientist, online research and reading papers, and even reading scientists' blogs.



I would also say a key role for a scientist in Congress is as a fact checker. There is a trove of people (internally and externally) trying to put something over on members of Congress and/or their staffs. Having reliable scientists around can be a very valuable thing.

Editor: Could you give a brief sketch of what a typical day for you at Point380 looks like? What kind of help are you providing to clients?

Well, there is no typical day. One day can be spent doing billable work on a project, the next can be business development, writing a proposal, or working on one of our cleantech ventures.

Over the past six months most of my time has been spent trying to get an alternative fuel venture funded. This venture will supply recovered hydrocarbon fuel to iron-making blast furnaces (the first step in making steel). I can't say much more about that at the moment because of nondisclosures. I also recently helped write a proposal on behalf of the Colorado Cleantech Industry Association to the Department of Energy (DOE) to fund a cleantech incubator that will accelerate the commercialization of university lab innovations. If the DOE funds it, we will pipeline the three major Colorado research universities with the National Renewable Energy Laboratory and the robust Colorado venture capitalist and cleantech entrepreneur network to provide university innovators with business mentoring, plus the technical and market

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validation of their ideas. There is a very wide gap between public funding of basic research and the commercial products that research helps to generate. To actually bring a product to market requires a lot more money, and the government does not pay for product development. Yet venture capitalists don't usually put their money in at this early stage. Our proposed initiative seeks to help innovations see the light of day.

Editor: Climate science has taken a beating this year in the media. Climategate, talk of IPCC inaccuracies. For some time, major companies appeared to want to convince consumers they care deeply about the environment. Are those days over?

The train has left the station on what really matters here, which is clean energy. I sense that climate concern as a driver is losing some steam, but what has replaced it are two realizations about clean energy. The first from companies: they realize they can get a triple win in energy efficiency, process/operational efficiency and publicity if they pursue clean energy projects aggressively. The second is from the public: they realize there is no excuse for companies to stay in the dark ages on energy use, and they are demanding tangible changes in how companies operate. I think this is an irreversible trend and will continue regardless of whether we get a real climate bill any time soon.

That said, heavy legislation is needed for the decarbonization of the electricity supply. The smart ones on the Hill realized a couple of years ago that we can get climate addressed, as much as it will ever be addressed by the U.S. Congress, in the form of an energy bill. I think they've been using cap-and-trade as a smoke screen to get a serious energy bill passed.

Editor: Do your clients for the most part support a climate bill? Do you think they will benefit economically from a new federal energy strategy?

If you are a cleantech entrepreneur, you absolutely support a climate bill. If you are a manufacturer with on-site process energy use, you should support it because you can make out handsomely

if you play your cards right. But the cost-benefit equation has come around to cleantech even without a carbon price buoyed by a regulated market. We are on the tip of an explosion in cleantech product growth, and we will see a boom (and a bust, of course) in cleantech in the next five to ten years, just like we did for IT in the early 2000s. It will happen without a federal carbon price, but will happen sooner with one.

Editor: How do you stay informed about the science? Do you maintain trusted sources in academia?

I'm based in Boulder, home to the University of Colorado, NCAR, NREL, and major NOAA and NIST facilities. This is probably the single richest place for climate-related and cleantech research in the U.S. So I have no problem getting information. I also keep in close touch with a few of my Lamont-Doherty classmates still in academia. That said, keeping on top of actual climate science hasn't been something my clients are demanding.

Editor: Would you encourage other science PhDs to join the policy discussion? Are there ways they can participate in the conversation from the ivory tower?

Yes, with caveats. I think all PhDs should be educated about policy, how it really works—the different levels of policy and the different places people can have influence—and how they might insert themselves into the game. But part of that education needs to be a very realistic guide to what will work, what won't, and why. There are many places scientists can be influential (from the national to the local level), but they need to be prepared so as not to become discouraged when they realize they won't get what they want directly. No scientist is going to run to the Hill, testify before a committee, and change the course of a major bill. It just doesn't work that way. But scientists can absolutely influence the talking points, which probably makes more difference than most would think.

Editor: Are you optimistic enough to think your company will need a name change? Point360, perhaps?

Ha! I'm a realistic optimist, so no.

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