

Renewable Energy



Advanced Energy Research and Technology Center at Stony Brook University

**An Interview with Robert B. Catell, Chairman,
Advanced Energy Research and Technology Center, Stony Brook University**

EDITORS' NOTE Robert Catell was formerly the Chairman and Chief Executive Officer of KeySpan Corporation and KeySpan Energy Delivery, the former Brooklyn Union Gas. His career with Brooklyn Union Gas started in 1958. Following National Grid's acquisition of KeySpan Corporation, Catell became Chairman of National Grid U.S. and Deputy Chairman of National Grid plc. He currently serves as Chairman of the Advanced Energy Research and Technology Center, Cristo Rey Brooklyn High School, Futures in Education Endowment Fund, and the newly announced National Offshore Wind Research and Development Consortium. Catell received both his bachelor's and master's degrees in mechanical engineering from the City College of New York and is a registered Professional Engineer.



Robert B. Catell

INSTITUTION BRIEF Advanced Energy Research and Technology Center (aertc.org) is located in the Research & Development Park at Stony Brook University and is a true partnership of academic institutions, research institutions, energy providers and industrial corporations. The Center's mission is innovative energy research, education and technology deployment with a focus on efficiency, conservation, renewable energy and nanotechnology applications for new and novel sources of energy.

What was the vision for creating the Advanced Energy Research and Technology Center (AERTC) at Stony Brook and how has AERTC evolved?

AERTC is moving into its tenth year of existence. When we initially conceived it, its vision was to do research in the energy space and to develop new technologies which could be commercialized.

It took us a while to get it off the ground, but now we're seeing that vision becoming reality. We're seeing companies that were based on technologies that may have been started in Brookhaven National Labs or at Stony Brook or in other colleges and universities in New York actually becoming commercialized.

A number of companies have left the Energy Center and moved on. Some companies are in the process of moving on. So we have seen the Energy Center evolve from an idea to actual practicality.

Is AERTC primarily focused on research and how critical is the emphasis on commercialization?

It certainly starts with doing the research. I like to characterize Brookhaven National Lab as doing the basic research and then Stony Brook as doing the applied research leading to commercialization. The two blend well together. We also have the ability to access the faculty at Stony Brook as well as the students. It all fits very well together.

Is there strong awareness for Stony Brook University as a leader in innovation in the energy space?

That awareness is probably not as widespread as it should be. There is a tremendous wealth of expertise at Stony Brook University. At AERTC, the focus is on the energy space, but there is also tremendous expertise in the medical space as well as in business and in supporting incubators which lead to commercialization.

Another element which I don't think is well publicized is the connection with Brookhaven National Labs which is one of the premier Department of Energy Laboratories in the country.

You recently assumed the role as chairman of the Offshore Wind Consortium. Will you discuss the mission of the consortium?

Renewable energy is becoming a greater part of the energy mix. It's important to incorporate renewables because they reduce the carbon footprint by reducing emissions and, in the long term, they can be more economical than traditional fossil fuels.

The Department of Energy put a proposal out to fund an Offshore Wind Research Center. The New York State Energy Research and Development Authority, NYSERDA, was very committed to having that award come to New York State, so they reached out to Stony Brook and to the Advanced Energy Center to see if we would partner with them.

The Department of Energy was putting \$20 million of research funds on the table. NYSERDA was willing to match that with \$20 million of New York funds which provided a substantial research fund. I was asked to consider chairing the Offshore Wind Center and we accepted the challenge and we won the DOE award as well.

The main purpose of the National Offshore Wind Research and Development Consortium is to use the funds from the Department of Energy

and NYSERDA to research new technologies that can bring down the long-term cost of offshore wind. Initially, the cost of offshore wind may be higher than traditional sources, but there is great potential for it to be cheaper than traditional sources long term.

Europe's energy mix has been deeply impacted by wind. Do you see an opportunity for that same impact in the U.S.?

I think there is a tremendous opportunity for wind energy in the United States. New York has taken a leadership role. The governor has established a goal for New York State to be 100 percent carbon free by 2050. The only way that can happen is if a significant portion of our energy comes from wind. Plans are for 9,000 megawatts of wind-generated electricity initially. That is about 25 percent of the total power that we produce in New York, so it would be a significant portion.

We shouldn't forget about solar energy either. We talk mostly about wind because that has the largest potential, but there's also a tremendous potential for solar to be part of the solution. Wind and solar are the two main components of the renewable sector.

Since the wind doesn't blow at the same velocity all the time and the sun doesn't shine all the time, we have to develop utility scale storage and that is an area that the Energy Center is very focused on with our premier researchers in the energy storage space.

How critical are metrics in order to demonstrate impact to secure the continued investment needed for the Offshore Wind Center?

The funds for the Offshore Wind Center were committed for an initial four-year period. We have to be able to demonstrate some successes in the near term to give people enough faith to continue to invest in this over the long term.

So short-term results are important. We have a nice start with \$40 million in funding from Federal and State sources, but research is a long-term investment and a lot of what we are doing in these initial phases of research need to demonstrate that we can truly bring the cost down so they need to be very results oriented. We need to meet the overriding metric of reducing the long-term cost of offshore wind. This will justify a continued investment to fund an Offshore Wind Center in the future to support an offshore wind industry in the United States. ●