

Governor Views Wind Power As Key To State's Energy Future

By BRIAN H. KEHRL

The paramount economic and environmental issues of this era are interchangeable. Energy and climate change cut both ways, presenting a single connected challenge for the immediate future, a senior advisor in Governor Deval L. Patrick's administration told a small audience in Falmouth last week.

To illustrate the economic end of his claim, Gregory C. Watson pointed out that the day of his talk, May 21, saw another record price for a barrel of oil. At \$133.09 the price that day was more than nine times higher than it was one decade ago, five times higher than it was before the terrorist attacks of September 11, 2001. Mr. Watson predicted the price would climb to \$150 per barrel by late summer, if not earlier.

Connected to the already high, and moving higher, per-barrel price of oil, Mr. Watson said, is the also increasing cost of food, heating, transportation, and consumer products.

"This is all tied together," said Mr. Watson, senior advisor to the governor for clean energy technology.

Climate change stands to affect property values and it already has to the cost of homeowner's insurance, as it does the coastal environment around Cape Cod, he said. Ocean management specialists have already begun planning for how to adapt to the consequences of a widespread shift

in the planet's climates, he said.

With that scene set during his talk at the Waquoit Bay National Estuarine Research Reserve, Mr. Watson attempted to answer the logical next question of what is to be done, or at least to provide an update on what Mr. Patrick's administration is doing about the dually important issues. By Mr. Watson's account, the answer and the update were often one and the same: decrease energy use through conservation measures, such as making buildings more efficient, promote large wind turbine projects as at least a stopgap for weaning off of fossil fuels, and meanwhile give industry a boost to step up its search for other possibilities.

Mr. Watson, a former executive director of the New Alchemy Institute who has also worked with The Nature Conservancy and as commissioner of the state Department of Food and Agriculture, offered a bleak assessment of the current state of affairs, in which Massachusetts imports nearly all of its energy in the form of natural gas and coal—"That's the bad news. These are the worst of times," he said. But he promoted the sense of optimism about the state's ability to respond—"But they also could be the best of times," he said.

"There will be real change in how we get our energy and how we use it, and, to a certain extent, to our lifestyles as well," he said.

Given an acceptance of climate

change and the new need to reduce fossil fuel use to cut down the amount of carbon dioxide and other greenhouse gases being emitted into the atmosphere, Mr. Watson said there are two options for large-scale electricity generation: nuclear energy and wind. After this statement, made toward the beginning of his talk, Mr. Watson did not mention nuclear energy again for the rest of the evening. Wind, however, came up again and again.

Mr. Watson said Massachusetts and New England are particularly well situated to take advantage of offshore wind resources. With about two-thirds of the total area not counted because of environmental issues or other use conflicts, the entire coastline of United States has the potential to produce about 900,000 megawatts of electricity. New England contains 100,000 megawatts of that total, he said.

"Massachusetts has one of the richest wind resources in the country, if not the world," he said.

Wind is "inexhaustible, clean, and indigenous to the region," and it has been the fastest growing source of energy over the past decade, so the dilemma comes down to one of siting, he said.

"There are no benign sources of energy," he said.

Mr. Watson danced around a direct endorsement of Cape

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Wind, which was referred to a few times at the event last week as the "project that shall not be named." He also pushed what he said was the importance of planning for the next off-shore wind project after Cape Wind, and the others to come after it. He recalled Mr. Patrick's support for the project during his campaign, but he said the governor has promoted a sense that Cape Wind is only "part of the solution."

This broader, contextual view of the future of wind power, which in part avoids the bound-to-offend-someone political situation surrounding Cape Wind, while still pitching offshore turbines as an impending reality, is a point more and more often heard among renewable energy advocates on Cape Cod. A program organized by the Cape and Islands Renewable Energy Collaborative, the nonprofit that hosted last week's event, held what it called a "visioning session" to establish a set of goals for "Beyond Cape Wind." The vision called for a future, just 13 years off from when the goals were released last year, in which the region produces enough renewable energy to cover its own electricity use.

Mr. Watson said other sites, including in Cape Cod Bay and on land, will need to be considered in the future. He said there will be several more Cape Wind-sized projects. **"We need every additional site we can find,"** he said.

He said much of the resistance to wind turbines is out of fear of the unknown and "ignorance." Polls and surveys have shown that after turbines are built, negative opinion of them subsides.

"I think we are on the verge of something pretty revolutionary here in Massachusetts," he said.

In addition to its promotion of wind power, Mr. Watson described a host of bills that the Patrick administration has proposed or promoted. The governor has supported boosting the \$125 million a year spent on efficiency and conservation measures, an amount that has been capped at that level for the past five years, to respond to increasing demand from homeowners and businesses.

The governor also has supported decoupling the profits utility companies make from the amount of energy they produce, instead of tying them to efficiency and quality of energy sold, Mr. Watson said.

And a proposal to allow "net metering," so that residents and businesses other than utilities can sell any additional energy they produce but do not use from solar panels or turbines to the utilities, is nearing passage in the Legislature, he said.

Mr. Patrick, along with legislative leaders, unveiled a bill last week proposing to create a \$65 million Clean Energy Technology Center, as well as provide \$5 million to clean energy companies and researchers and spend \$2.5 million on workforce development.

In response to a question, Mr. Watson said there has been little resistance from the Legislature on the array of initiatives he described.

At one point in his talk, Mr. Watson took off his coat, set down his notes, asked for and received the audience's permission to pause for a moment and collect his thoughts. He then set

about effusively describing the "clean energy animal" the state is poised to "unleash."

He spoke of the promise of "green jobs," as illustrated by the more than 300 estimated positions that will be created in Pennsylvania by a Spanish wind power company's decision to locate its domestic headquarters and three large manufacturing plants in the Keystone State. The company's move came after Governor Edward Rendell committed to installing enough turbines to generate 450 megawatts of electricity, an amount equivalent to what Cape Wind is proposing to produce, Mr. Watson said. Gamesa, the Spanish company, was also offered a host of financing and tax incentives.

Massachusetts used a similar approach with Commonwealth Solar, its 5-month-old initiative promoting solar power for residents, businesses, and municipalities, to help entice Evergreen Solar, a panel manufacturing and development company, to stay in Marlborough instead of moving to Germany, Mr. Watson said.

Mr. Watson also described a handful of still developing ideas that he said may prove to be key in efforts to confront the dual issues of energy and climate change. A European firm is working on designing a "smart grid" so that a vast, interconnected system of wind turbines could be used to provide consistent electricity, an attempt to solve the issue of turbines generating power only when the wind is blowing. "The wind is always blowing somewhere," he said.

Another nascent approach to the same problem is using electric car batteries as "electricity banks," so that when turbines or

solar panels are producing excess power, the energy is piped into the cars, which store it until it is needed.

That this is a quickly evolving field was illustrated by the audience members, all of whom introduced themselves at the beginning of the talk. The audience included leaders from more than a half-dozen startups and small local firms involved in energy-related industries, as well as representatives from various nonprofits and members of town-level energy committees from towns all over the Cape.

Mr. Watson said there are 550 clean energy businesses in Massachusetts, with more than 14,400 employees, making it the 10th largest industry in the state.

In an introduction to Mr. Watson's presentation last week, the president of the regional collaborative that hosted the event, Christopher R. Powicki, emphasized an otherwise unmentioned economic side of the issues of energy and climate change. While renewable energy advocates often welcome high petroleum prices as a spur that will prod people to drive smaller cars, waste less, and generally use less energy, the increasing costs also have other problematic effects that need to be dealt with, he said. If prices continue to climb, or even if they do not come down, by fall and winter the Cape and Islands is going to have a major issue with people who cannot afford to heat their homes.

"There are people who will be out on the streets if this continues," Mr. Powicki said. "We need to think about that now, through the summer while it is still warm out, and plan for how we will address it."