



# Cape Fear Firebird

*The Light of Save the Cape*

January 22, 2016

*The nine most terrifying words in the English language are  
"I'm from the government and I'm here to help you."*

-- Ronald Reagan

## ***Wind and Waves***

The Bureau of Ocean Energy Management (BOEM) of the US Department of Interior, with its jurisdiction over energy development on the continental shelf beyond three nautical miles from the coast, is as scary as any Federal bureaucracy. Current programs include mineral exploration and offshore windmill farms. Oh, my! In the latter, BOEM has limited environmental analysis to survey activities, disregarding environmental effects of the actual windmills, neglected to do any economic analysis whatever, and ignored the request of North Carolina's Secretary of Environmental Quality to keep the windmills out of sight 24 nautical miles offshore, a courtesy they granted Virginia and the National Park Service (33.7 nautical miles in that case).

Perhaps there's hope. BOEM's mandate includes all offshore energy sources, not just oil and gas and windmills. There are other methods of generating electricity from the ocean's energy that are being disregarded. They promise lower cost, less environmental damage, and certainly less impact on the seaward vistas that have enormous intrinsic and economic value to our State. These come to mind:

- ***Ocean currents.*** Currents in the ocean are ubiquitous. Although slow, the greater density of water provides much more energy than wind. A 5-knot current can produce more energy than a 100 mile-per-hour wind. Some currents, such as the Gulf Stream, are constant as to direction and velocity, offering the potential for harnessing their energy with undersea turbines for base electric loads. A project off the Florida coast will demonstrate this technology.
- ***Wave energy.*** The energy in ocean waves is a formidable resource. The Electric Power Research Institute estimates that recoverable electric power from wave and tide action along the US outer continental shelf could provide almost one-third of the total power consumed in the United States. Various devices to recover that energy have been tested, but this technology must be regarded as in its infancy. Yet its minimal environmental footprint suggests development should be a priority.
- ***Thermal energy.*** Ocean thermal energy conversion is not on BOEM's agenda. The Department of Energy has sponsored development of this technology, based on the difference in temperature between deep ocean water and surface waters. A heat engine based on that difference can produce electricity. A pilot project in Hawaii is putting power into the grid.

Yet as appealing as these approaches to renewable energy may be, BOEM's policy seems to be, ahem, "benign neglect." A search of the BOEM Web site yields two papers from five years ago; not on development of this technology but, alas, regulation.