

Part 2
GreenMonk
Smart Grid Heavy Hitters Series
Interview with Chairman Jon Wellinghoff
April 15, 2010

Tom Raftery: Hi and welcome to GreenMonk TV a Smart Grid heavy hitter show and with me today, I have Chairman Jon Wellinghoff. Jon is Chair of the Federal Energy Regulatory Commission. It sounds kind of counter-intuitive, Jon, asking utility companies to help their customers to purchase less of their product. Why is that a good thing for utility companies that people consume less electricity?

FERC Chairman Jon Wellinghoff: Well, that is counter-intuitive. We do need to decouple; we need to break up the utilities' incentive to sell more, and that's happening in a number of places. We have to unbundle these services so that you have generators that make money by selling energy but you have local distribution companies that provide distribution services, the wires, in essence to the homes, but make no money selling additional energy. They should make money on providing services to their customers. So, if we can unbundle these services in which I think we can do with what we have done in a number of states like Texas and they are starting to do it again in California. They did it awhile back in the late '90s but this little thing call Enron came along that slowed them down. But I think we are getting over that problem of having a situation where there is the fear of fraud manipulation. We now have a new FERC on the beat, we can, in fact, enforce new laws that were put in place in 2005 that can assure we don't have fraud manipulation in these markets; and by doing so, we can then I think unbundle these services and set up distribution entities that now provide services to consumers to interface with the grid rather than to simply sell electricity. And that's what I think is coming in the future.

TR: It's also said that the implementation of Smart Grids will increase the penetration of renewables on the grid as generation sources. How does that work?

JW: Well, they will and it works because renewables are more flexible. Being more flexible and, as such, having a variance when they are coming in and providing energy to the grid, if you have flexibility on the other side with consumers' ability to modulate their loads, then the two can work together very nicely in ways that consumers, by modulating their loads, can support wind, can support solar, can support other renewables that are more flexible. Let me give you a very good example. There is a particular service called regulation services that's necessary to stabilize the grid and that service basically means

providing little increments of input into or a use from the grid in little tiny micro-seconds to ensure that as loads come on and go off, and new resources come on and come off, ultimately the whole grid stabilizes. Those regulation services are typically now provided by combustion turbines, gas, large gas generating units that aren't very flexible that take a couple of minutes to come on and off. Instead, you can use things like batteries and one battery set you can use is in an electric vehicle. By using that electric vehicle when it's plugged in, it can provide regulation services, and it can do it at the same time it's actually charging the car. So right now at the University of Delaware here in the United States, we have six cars that are being plugged in at night and when they are plugged in they are providing regulation services and they are getting paid to provide those services to the grid. They are getting paid \$7 to \$10 per car per day which means as much as \$3,000 to \$3,600 a year simply to provide these regulations services that are necessary to do things like integrate wind into the system.

TR: You are on record Jon, as saying, this is April of last year if your memory serves, that with the increased penetration of renewables, it may no longer be necessary to build any more coal or nuclear plants. Is this still a personal view that you cling to or have you changed your mind on this?

JW: I think it's a view that is becoming more and more validated. There is a paper that was just issued by Dr. Willett Kempton from the University of Delaware, where he looks at putting a backbone grid system in the Atlantic from Maine to Florida to hook in offshore wind. If you do that, it turns out; you look at the meteorological differences of diversity of wind along the coast from that area in the eastern United States, you can in essence provide that wind on almost a constant basis to the East coast because of the diversity of the wind along the coast and how the storms move. So you have that ability to do that in a way that can ultimately support the entire grid. So with that and with the flexibility we are gaining with the Smart Grid of consumers controlling their loads, the old concept of baseload is really going away. We're really looking at a new concept really is putting in the cheapest resources, in this case usually wind, and maximizing the use of those resources by offsetting them and stabilizing them with consumers' variances of their load utilizing Smart Grid technologies. So, long answer to a simple question is, there is a way to ultimately supplant traditional large central station plants and in fact, by doing that, by having more flexible use on the consumer side and more flexible resources on the supply side like wind, solar, distributor generation. We ultimately provide bigger benefits to consumers by using the Smart Grid. So the two are very compatible and they will become more compatible as we have more communications put into consumer premises, both businesses and residences.

TR: Jon, that's been great and thanks a million for coming on the show.