

Energy parks can remake old manufacturing sites

TOM MCKITTRICK
GUEST COLUMNIST

The Southeast is littered with dormant industrial complexes left in the wake of manufacturing's mass exodus. These properties can often be brought back to life as energy parks, where multiple renewable-energy and alternative-fuel projects are created on one site.



McKittrick

An energy park is a property with multiple, integrated power-generation facilities that also enhance the environment and provide employment. They create places where resources are maximized, where the use of the word waste is forbidden.

Old manufacturing sites are good energy-park candidates because of their existing heavy infrastructure. These sites are often unused, contaminated and generate no income or products.

The former Clariant Mount Holly East

facility, which was a textile dye manufacturing plant, is a perfect example. This 667-acre parcel west of Charlotte is the largest underutilized industrial site in Mecklenburg County.

My firm plans to transform the site into a renewable energy eco-industrial park dubbed ReVenture Park.

ReVenture is one of the most ambitious and multifaceted energy-park projects being contemplated in the United States. Our project will include a 49 megawatt biomass-power plant, a 4 megawatt solar project, bio-diesel refining, a propane fleet-vehicle conversion facility, ethanol transloading, a green wastewater-treatment facility and a 160-acre conservation easement.

When fully developed, the project could create more than 1,000 green jobs and \$900 million in net investment.

The U.S. Environmental Protection Agency and the U.S. Department of Energy's National Renewable Energy Laboratory are evaluating formerly contaminated, dormant properties for renewable-energy production. There are

about 490,000 of these sites — occupying 15 million acres — across the United States.

According to the EPA, these lands are environmentally and economically beneficial for siting renewable energy facilities because they:

- Often have infrastructure in place, including electric service, transmission lines, roads and water, and are adequately zoned for this kind of development.

- Are economically viable for reuse. Cleanup costs have already been invested and the sites are ready for brownfield agreements.

- Can provide clean-energy job opportunities.

- Take the stress off undeveloped lands for new energy facilities, preserving the land for other uses.

Developing an eco-industrial energy park is no small task. Air permits have to be secured, power-purchase agreements negotiated, environmental-remediation plans approved, communities informed, financing obtained and permits secured.

The amount of collaboration, per-

mitting, planning, political and public support required for ReVenture Park is astonishing. Happily, the cooperation from the city and county staff, elected officials and our neighbors is truly refreshing. Our stakeholders understand the opportunity we share for enhanced energy and economic independence.

Old and unused manufacturing facilities should not be liabilities. Developing an energy park on a dormant industrial complex is a rare instance when the private sector, public policy and environmental interests align to promote the clean-energy economy. As we create energy parks on old sites we transform liabilities into an asset — the essence of recycling.

ReVenture exemplifies a new vision to reclaim our proud industrial heritage. We'll demonstrate how to create an economically viable energy park and reinforce to our nation that Charlotte is the New Energy Capital.

Tom McKittrick is president of Forsite Development Inc.

Three factors will drive the advent of solar power

TOM KEPPER
GUEST COLUMNIST

The market for solar energy seems to be taking root, but successfully managing three market drivers will make the difference in how far and how fast it grows in North Carolina. Those three catalysts are policy, economics and technology development.

Policy considerations

All energy is subsidized in some way. For the important needs of safe, consistent and ample electric supply for decades we have opted for a regulated system, and it has worked well. Natural gas wells are often drilled with tax credits. Renewable-energy projects and natural gas wells are entitled to accelerated depreciation.

Policy-based subsidies take varied forms, such as protected business territories, temporary tax credits, grants or tariffs. The goals of subsidies are often noble — reducing foreign-energy dependence, kick-starting technologies, building supply or encouraging conservation, for instance.

Problems arise when the effects of subsidies don't match their intent. Take a look at the ethanol subsidies of the mid-2000s. Material costs and corporate share prices skyrocketed only to drop precipitously. Corporate share prices that more than quadrupled in some cases now sell for a fifth of their original price. In the end, ethanol-fuel capacity, its use, efficient investment of dollars and infrastructure has not reached the predictions.

At one time the prediction was that we would get half our motor fuel from ethanol.

In the end, the policy framework for ethanol was not constructive for a reliable national energy market or long-term business planning.

Economics of tax credits

Policies affect market economics. Policies such as tax incentives drive much of the renewable market today. Solar has a 35% N.C. tax credit. There is a 30% federal grant for the price of a qualified solar unit. A \$15,000 retail cost of solar can actually be a \$5,000 out-of-pocket expense. These policies make the final per-kilowatt cost lower and drive investment.

In the end, solar energy has to compete effectively on a cost-per-kilowatt basis to make sense, and increasingly do it on its own merits. Solar professionals look to grid parity — when solar costs match the cost of electricity from a large utility plant. That is the magic number for real competition.

The National Renewable Energy Lab says we will be at grid parity nationally in 2015. See two reasons we can reach this number. First, solar manufacturing costs will drop. Think of the expensive hand-held calculator you may have purchased in the mid-1980s that is now an impulse purchase for under \$5 at the check-out counter of a retailer. Solar technology has the same ultimate trajectory.

The cost of a solar system that can power an American house has dropped almost 20% in the past year. The cost reduction is starting.

Technology is advancing

Technology is the second driver for grid parity. The efficiency of solar panels is increasing quickly. In the past five years, photovoltaic panels have gone from 8% efficiency to 18%. That's an impressive jump, and research promises even greater improvements.

Our electric-distribution grid is also going to change. Our current hub-and-spoke system has large plants making energy, sending power out from a central location. Solar energy can produce some power on a large and centralized basis, though solar's big attraction is to use it where it is made and reduce the dependence on the grid to carry it.

The distributed-generation framework is the essential challenge of the smart grid — the next big thing in our electric system. It is the next big thing. The smart grid will displace our 50-year-old system and integrate latest-generation technologies. A mature smart grid allows individuals and businesses to use grid electricity, sell to the grid or be independent of it. The smart grid is where the three drivers of the new energy age — policy, economics and technology — all converge.

We have models of such convergence.

Think back to the early 1980s and the Princess phone. Deregulation and innovation were happening in telecommunications at that time.

In 1981 — the same year Xerox Corp. introduced something it called a computer mouse and IBM Corp. introduced the world's first mass-produced computer — a few of us would have predicted the iPhone, e-commerce or a Kindle in tele-

communications technology.

Power policy, economics and technology is in its Princess phone phase. How well we open these doors for solar and other energy technologies will determine how far and how fast these technologies become a reality.

Tom Kepper is president of Charlotte-based Greenfield Power.



Kepper

Serving energy clients in the Carolinas and throughout the world

Abu Dhabi
Atlanta
Austin
Charlotte
Dubai
Frankfurt
Houston
London
New York
Paris
Riyadh
San Francisco
Silicon Valley
Washington, D.C.



King & Spalding's energy practice has received international recognition:

-- One of the top energy and natural resources firms - *Chambers Global* (2009)

-- Ranked in *Euromoney's* (2009) "World's Leading Energy and Natural Resources Lawyers"

King & Spalding is a leading international law firm with more than 800 lawyers in 14 offices across the U.S., Europe and the Middle East.

KING & SPALDING

