Renewable Energy Offsets Rising Electricity Prices

By Dennis McCarthy

After a ten year pattern of rising electricity prices you can expect the trend to continue. The many factors that affect prices are unpredictable. Climate change, government policy, transmission infrastructure and state mandates on renewable power all contribute.

The Environmental Protection Agency established toxic gas emission limits on power producers that unexpectedly led to the closure of 24 coal fired power plants. Extreme weather patterns created the polar vortex that affected most of the country this past winter. This pressure led to spikes in energy prices across the country. The Los Angeles Times reported the loss of power to 60 million people when coal stocks froze, sensitive electrical equipment failed and natural gas supplies were limited. When the demand for electricity rises in New England the rates tend to rise because the physical infrastructure to deliver natural gas is inadequate.

State mandates for renewable energy sources create fractional increases for rate payers. You can offset the rate increases by investing in renewable energy so it makes sense to check out the package of incentives in your state. Energy officials tend to modulate the incentives as material costs fall and to minimize the impact on rate payers. (For policies by state: http://www.dsireusa.org/.)

The financial impact and tax implications, on your business, depend on the ownership status of the energy system. Options include owning the system outright, leasing it or signing a power purchase agreement with a third party. This last option is attractive to nonprofits because they're not eligible for the Federal tax credits and accelerated depreciation benefits. This is also popular amongst homeowners because no cash is required.

Although wind turbines are more energy efficient than photovoltaic solar panels permitting challenges and community opposition has seen solar energy surge in New England in terms of megawatts installed. Massachusetts is a leader with its Solar Renewable Energy Certificate program. A seven year program was launched in 2010 and met its capacity four years ahead of schedule. In response the governor launched Phase II of the program, which is three times the size of Phase I. The Massachusetts Department of Energy Resources offers a variety of incentives depending upon the type of project. See the slide "market Sectors and SREC Factors" below for a list of factors. More info at: http://www.mass.gov/eea/grants-and-tech-assistance/guidance-technical-assistance/agencies-and-divisions/doer/

Market Sectors and SREC Factors

Market Sector		SREC Factor
A	Generation Units with a capacity <=25 kW, Solar Canopies, Emergency Power Generation Units, Community Shared Solar Generation Units, low or moderate income housing units.	1.0
B	Building Mounted Generation Units, ground mounted Generation Units with a capacity > 25 kW with 67% or more of the electric output on an annual basis used by an on-site load.	0.9
C	Generation Units on Landfills or Brownfields, or Generation Units with a capacity of <= 650 kW with less than 67% of the electrical output on an annual basis used by an on-site load.	0.8
Managed Growth	Unit that does not meet the criteria of Market Sector A, B, or C.	0.7

Rhode Island has two interesting programs. The distributed generation program guarantees a 15 year revenue stream for the system owner, but the program is competitive. The Office of Energy Resources has a limited number of contracts to award, there are three enrollment dates per year and most important the program applicants have to submit bids on the price per kilowatt hour that they're willing to sell the electricity generated from solar energy. See the "Commercial Project Funding" table below and go the web site for more info: http://www.energy.ri.gov/

COMMERCIAL PROJECT FUNDING:

Commerce RI will award grants based on the rated DC capacity of a renewable energy project. Incentive levels for this solicitation are as follows:

$1.25/W	For the first 0-50kW
$1.10/W	For the 2nd 50kW (up to 100kW)
$0.95/W	For the 3rd 50kW (up to 150 kW)
$0.80/W	For the 4th 50kW (up to 200 kW)
$0.65/W	For the 5th 50kW (up to 250 kW)
$0.50/W	For all installed capacity over the first 250 kW
Incentives are capped at $350,000 for a single project	
Source: Commerce RI REF	

Through the Renewable Energy Fund Commerce RI offers grants and loans to organizations and individuals who want to invest in solar energy projects. Incentives vary based on the size of the project but some projects are eligible for grants of 43% of the total system costs. Add the Federal tax credit and the return on investment is very attractive. See the graph and for more info see: http://www.commerceri.com/finance/REF.php

Connecticut offers the Zero Emissions Renewable Energy Certificate (ZREC) program and the Low Emissions Renewable Energy Certificate(LREC) program. Incentives provide a 15 year revenue stream but the incentives vary based on the type and size of the project. Both Connecticut Light & Power and United Illuminating participate. See more info at: http://www.cl-p.com/Home/SaveEnergy/GoingGreen/Renewable_Energy_Credits/

http://www.uinet.com/powerprocurement

Most state based renewable energy incentive programs are long term in nature. Ten to 15 years of predictable pricing offers a smart hedge against unpredictable electricity prices. Also, there's something satisfying about taking control of your energy from a budgeting and planning perspective.

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