EVOLUTION MARKETS

The Intersection of Environment, Energy and Finance.

Renewable Energy Certificate (REC) Trading 101

Renewable energy may broadly be defined as energy that is of unlimited supply, such as solar, wind, and geothermal energy. However, many other types of energy may also be included in the definition, such as methane gas from landfills, fuel cells using renewable fuels, and other technologies.

There are many environmental benefits of renewable energy over traditional energy sources. This has led to a number of factors that have created market incentives for the development of renewable energy, including state purchase mandates ("green procurement"), state incentives such as system benefits charge funds and other taxes, environmental disclosure requirements that reveal fuel mix and emissions, as well as consumer-driven green power demand.

In many instances, the physical location of Renewable Energy Generation is not located within proximity to Renewable Energy Buyers. By separating the environmental attributes of renewable energy from the underlying electricity to create renewable energy certificates or RECs, Renewable Energy Buyers can support the growth of renewable energy regardless of physical location.

Combined with existing investment and production tax credits, this separation of green attributes from power creates potentially three revenue streams for renewable energy projects: tax credits, which can sold to a third party investor, power, and RECs. In theory and in practice, the additional revenue beyond electricity can help get renewable energy projects built.

CERTIFICATES

In the US, a growing recognition of the importance of renewable energy has resulted in a number of federal and state initiatives to encourage the growth of the renewables sector and incorporate more energy from renewable sources into the nation's power grids. One outcome has been the recognition that electricity from renewable sources comprises two distinct commodities - the underlying electricity, and the "green" attributes associated with renewable generation.

This, in turn, has led to the creation of markets for just the green attributes, "unbundled" from the electricity. There are several factors driving this trend. In some cases, it may be more economically efficient to purchase attributes generated in another state; in others, it may not be possible to meet local demand for "green" energy with in-state supply.

Renewable Energy Certificates are tradable units that represent the commodity formed by unbundling the environmental attributes of a unit of renewable energy from the underlying electricity. Under most programs, one renewable energy certificate would be equivalent to the environmental attributes of one MWh of electricity from a renewable generation source.

The development of tradable certificate programs is driven by the implementation of legislation known as Renewable Portfolio Standards (RPS). RPS typically mandate that each retail power supplier obtain a certain percentage of its total annual energy sales from renewable sources. As an example, if the RPS is set at 3%, and a retail supplier had annual sales of 2,000,000 MWh, the supplier would need to purchase 60,000 MWh from renewable sources.

However, under some circumstances it may be more efficient to allow the environmental attributes associated with electricity from renewable sources to be treated as a separate commodity. For example, a generator may wish to sell electricity to one counterparty, and the attributes to another.

Enter renewable energy certificates. Central to the concept of certificates is the idea that the 'environmental attributes' of renewable energy can be 'unbundled' from the energy itself, and traded independently. By allowing the 'green' attributes of renewable energy to be treated separately, certificates allow electricity suppliers to purchase just the attributes of electricity generated elsewhere. If the state permits it, the supplier might be able to fulfill part or all of its portfolio requirements by purchasing certificates. In this way, certificates increase the efficiency and liquidity of the market.