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The Evolution and Revolution of the Electric Grid

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The basic model for the electric grid has gone largely unchanged over the past 100 years. Large generators would send electricity out to consumers who would pay bills with no input to costs. The more consumers, the more money a grid owner/operator would make.

This has begun to change over the past decade as distributed generation resources are upending the model. Grid operators now have to balance an onslaught of new power sources from numerous locations. This increases the complexity of the grid and wreaks havoc on normal electrical grid modeling. How hard will the wind blow today? When will cloud cover increase? How quickly can the grid ramp conventional resources? Will load growth go up or down this year? All these questions need to be answered every second of every day.

This uneasiness has caused many investors to wonder about utilities, independent power producers (IPPs), and now, renewable energy companies. Merchant rates remain depressed, but excess capacity is quickly leaving the grid, and eventually a balance will form. Some areas of the country, like ERCOT in Texas, went from having a large excess capacity reserve margin to being very short supply just a few years out. When incentivized, things can change fast.

Since my presentation on Dynegy in 2017, the IPP space has seen a lot of changes, consolidation, and some improvement in valuation. However, there are still pockets of undervaluation out there, including a name that I will present this year. This company has some very valuable assets that most market participants do not appreciate – a large hydroelectric fleet coupled with very predictable cash flows thanks to long-term power purchase agreements.

I believe that hydroelectric power is the silent winner in the grid of tomorrow. It is green, it is dispatchable, it is rampable, it is near load centers, and it provides ancillary benefits.

First, regardless of what the Federal government does, many State governments have made it clear that renewable assets are the energy resource of the future. While a lot of attention has gone towards solar and wind, these will not be the only assets to fulfill renewable goals. Hydro will complement these resources, and with the right planning, hydro can enhance solar and wind by filling in energy gaps during the day.

Second, storage will be given a premium over time. While most people will speak of chemical batteries as storage, the largest batteries are in our lakes and rivers. Hydroelectric power can both ramp and store energy more efficiently than batteries and at a lower cost. State and Federal regulators are beginning to incorporate hydroelectric assets into grid reliability plans.

Third, hydroelectric facilities provide many ancillary benefits to the economy. Unlike solar or wind, hydroelectric assets will often increase property values and they also require ongoing labor/maintenance to keep the facility running.

Investors in hydroelectric get these benefits plus an asset base that can produce cash flow for decades and decades. The trade-offs to solar and wind will likely enhance the value of hydroelectric facilities.

Investors have the opportunity to catch this tailwind at a deep discount thanks to the long cycles of the power sector coupled with years of excessive leverage. As always, if an IPPs can service their debt, maintain their fleet, and eventually start to grow, investors can find significant upside by investing in the right assets.