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GE and Google forge an energy alliance

by Dr. Reese Halter

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General Electric and Google — two of the most advanced 21st century companies — have joined forces that will revolutionize North America and elsewhere with state-of-the-art "smart" electricity grids.

General Electric is an industrial conglomerate and a world leader in manufacturing and deploying solar, wind and geothermal energies.

Google is the world's leading search engine, software and Internet company.

General Electric's engineers calculated that if only 7 percent of the land area of Arizona was covered with GE PV 165 photovoltaic modules, on a sunny day they would generate daily electricity equal to that of the average daily electricity demand for the entire United States.

In 2007 Google became carbon neutral, in part by covering its headquarters in Mountain View, Calif., with 6,000 photovoltaic cells and by planting 3,000 pole-mounted solar panels throughout their campus.

Google is also a major investor in at least two solar ventures: eSolar, an enhanced thermal solar players, and Bright Solar Energy, a nanosolar company.

Currently, billions of dollars are invested in the largest solar play in North America located in western Nevada. There are over 104 claims held by major companies that are backed by Goldman Sachs, Pacific Gas & Electric, Edison International, Israeli and German solar firms, Google, Silicon Valley start-ups and Chevron covering about 900,000 acres. They will generate about twice what the state of California consumes in electricity in a year (33 gigawatts).

A conservative estimate from this western Mojave solar project predicts that by 2020 it will be generating $50 billion annually.

And that's important because hundreds of thousands of jobs will be created over the next decade in a bold plan to solarize American cities.

Oilman T. Boone Pickens has clearly shown that about $700 billion a year is flowing out of the U.S. to purchase imported oil. The Pickens Plan proposes to create comparable energy in the U.S. from one of his subsidiaries by installing thousands of windmills throughout America.

He is asking the U.S. government to bear the cost of $15 billion to install new utility transmission lines.

In fact, an entire new electrical grid is needed to accommodate the western Mojave solar project.

As a part of President Obama's $1 trillion spending package his administration will be announcing a revamp of the U.S.'s antiquated high-voltage power-transmission system so that it can deliver, solar, wind, geothermal, tidal and wave energies efficiently across the nation.

Currently, alternating-current (AC) lines cannot carry wind-generated electricity from the Midwest to the Northeast because too much of the energy would dissipate before it crossed the country. Instead Obama's administration will invest in a new direct-current (DC) power lines that will enable efficient long-haul transmissions.

This is where General Electric and Google come in. Both companies believe it is crucial to build a 21st century U.S. electrical system.

They believe that a "smart" electricity grid including storage points with computerized management overlays allowing the new grid to intelligently deploy the energy along the way will empower utilities and end users to manage electricity more efficiently with significantly lower emissions while America begins changing-over its petroleum-based energy to clean, renewable green energies.

One new feature which is already being installed in San Diego, Los Angeles and elsewhere are easy-to-read electric meters. And in many new homes around the globe, the electric meters are placed next to water meters in a highly visible location inside the house so that the occupants are constantly aware of consumption rates.

General Electric and Google will develop and deploy renewable energy and plug-in vehicle related technologies. In addition, they will create utility-scale renewable energy with an initial focus on advanced geothermal technology.

State-of-the-art software, controls and services will enable utilities to integrate plug-in vehicles into the conventional grid.

Israel has launched an electric car venture that will spear-head into an oil-free economy. Hundreds of thousands of recharging points are being erected throughout the country. The plan calls for motorists to swap their batteries within a matter of minutes at dedicated stations or recharge them at home or at work. "Oil is the greatest problem of all time — the greatest polluter and promoter of terror. We should get rid of it," said former Israeli President Shimon Peres.

With a host of exciting and affordable new electric cars coming on the market, it's clear that at least 25 cities in the U.S. are gearing up to power vehicles that do not rely on fossil fuels.

Despite the current economic downturn there are millions of jobs waiting to be created throughout the Western Hemisphere from clean energy partnerships just like the one between General Electric and Google.

This article is dedicated to the late Robert Donner, Jr. (Sep. 25, 1930 — Jan. 13, 2010) my friend, mentor, entrepreneur, sportsman, conservationist and philanthropist.

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