

A Giant Leap Forward In Reducing GHGs In Calif.

Law360, New York (March 20, 2012, 1:42 PM EDT) -- GWF Energy LLC and Pacific Gas & Electric Co. ([PG&E](#)) recently completed a first-of-its-kind transaction which will result in shutting down five carbon-intensive petroleum coke-burning power plants almost a decade early, thereby eliminating upward of 5 percent of PG&E's greenhouse gas (GHG) footprint overnight.

In exchange for the early shut down of the five coke plants, located along the San Joaquin-Sacramento River Delta in Contra Costa County, Calif., PG&E extended the contracts of two efficient natural-gas-fired peaker plants located in California's Central Valley.

On Feb. 16, 2012, the California Public Utilities Commission enthusiastically and unanimously voted in favor of approving the transaction, lauding PG&E for bringing this forward-looking proposal before it. Absent any requests for reconsideration, the commission's decision will become final and nonappealable on March 26, 2012.

California's landmark climate change statute (AB 32) provided the impetus for the transaction. Pursuant to AB 32, the California Air Resources Board has developed regulations that will impose costs on electric generators based on their emissions of GHGs as part of a cap-and-trade program.

Although opponents to AB 32 have long argued that a cap-and-trade program will devastate California businesses, the GWF-PG&E transaction provides an example of just the opposite situation. Faced with the prospect of high compliance costs under AB 32 for its coke plants, GWF and its outside counsel at [Bingham McCutchen LLP](#) devised a creative solution to ensure that its business remained strong, while making great strides towards the GHG goals set by AB 32.

The five coke plants have a total capacity of 100 megawatts (MW) and were under contract to PG&E pursuant to the Public Utility Regulatory Policy Act (PURPA) as qualifying facilities, or QFs, with contracts running through 2020 and 2021.

Because they are QFs, the coke plants operate as baseload facilities — around the clock all year — with capacity factors of roughly 90 percent. PG&E has no ability to dispatch these units up or down in order to follow electricity demand or to fill in for the output of other units going off line.

The emissions from the plants are extremely carbon-intensive. The five plants together represent 2.1 percent of all California's in-state electricity sector GHG emissions, while producing only 0.4 percent of the in-state electricity supply. In addition, the five coke plants are also the source of significant criteria pollutants, such as NOx, SOx (nitrogen and sulfur oxides) and particulate matter.

The two peaker plants involved in the transaction — Hanford and Henrietta — use aero derivative combustion turbines, and each have 95 MW of capacity. Their original contracts with PG&E are set to expire next year.

In addition to the Hanford and Henrietta facilities, GWF also operates an additional plant in Tracy, Calif. It has run for several years as a peaker plant, comprised of two General Electric Frame combustion turbines with a total capacity of 170 MW.

GWF recently broke ground for a major construction project which will enable the conversion of Tracy to a 300 MW combined cycle plant by adding a steam cycle on the back end of the combustion turbines that will make use of exhaust heat currently vented into the atmosphere.

The GWF-PG&E transaction will result in an immediate and substantial reduction of GHGs emitted in California. On a pounds-per-MW-hour basis, the five coke plants currently emit more than twice the GHG emissions of the GWF's gas-fired peaker generation, and they run nearly all the time. Replacing the energy generated at the coke plants with other resources in PG&E's portfolio will yield over 600,000 metric tons per year in GHG reductions.

GWF's deal with PG&E will have several additional advantages beyond the reduction of GHG emissions. Most significantly, replacement of the coke plants with the extended lives of the peakers will result in dramatic local environmental benefits in communities that have been heavily burdened by pollution from numerous nearby power plants and industrial facilities.

All told, the transaction will result in immediate elimination of 725 tons per year of criteria pollutant emissions, 260 tons per year of ozone precursor emissions and 640 tons per year of particulate matter precursor emissions.

In addition, shutting down the petroleum coke plants will eliminate the need to draw more than 1,800 acre-feet per year of water from the Sacramento-San Joaquin River Delta, a fragile ecosystem that is critical to the stability of California's present and long-term water supply.

The GWF-PG&E deal is also expected to promote PG&E's ability to manage its electricity supply and advance the state's ambitious renewable energy goals.

In order for utilities in California to supply 33 percent of their load from renewable resources by 2020 as required by law, they will need more highly flexible, fast-start facilities in order to balance the intermittent supply of wind and solar power. The GWF peaker plants have 10-minute, quick-start capability, and are available for multiple starts per day.

Additionally, whereas the five petroleum coke-burning plants have been baseloaded — requiring PG&E to buy their output nearly 24/7 — the gas plants will only be dispatched when PG&E needs them most. PG&E anticipates that the peaker plants will only run when there is an intermediate-to-high degree of electricity demand — think: hot summer afternoons when millions of Californians turn on the air conditioner — or to fill in supply gaps from sudden decrease of production, a need that is likely to increase given the increasing percentage of intermittent renewable facilities in PG&E's portfolio.

As the state's Public Utilities Commission has recognized, this transaction may be a true win-win-win: GWF will shut down the carbon-intensive coke plants, thereby making immediate gains for the state's ambitious climate change goals; PG&E will have extended access to two efficient peaker plants that can complement increased development of renewable energy; and communities that have been heavily impacted by pollution will enjoy significantly cleaner air.

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