



## **Hydrogen Energy California: Green Fertilizer for Kern County**

When SCS Energy acquired Hydrogen Energy California (HECA) in 2011, it modified the project by improving HECA's design and economic viability, and adding a unique new component – fertilizer production.

As with the previous design, the modified HECA plant will produce a clean source of electricity using hydrogen, which will result in lower air emissions than any conventional power plant of its size, including natural gas. HECA's new, multi-purpose design now also enables the production of about 1 million tons per year of low-carbon products (urea and urea ammonium nitrate/UAN) for use as fertilizer.

HECA will efficiently capture about 90 percent of the carbon dioxide (CO<sub>2</sub>) produced and will safely store about 3 million tons of CO<sub>2</sub> underground per year, nearly a mile underground in geologic formations. Based on this capture rate, HECA fertilizer production will prevent the release of a significant amount of CO<sub>2</sub> into the atmosphere per year – particularly important because CO<sub>2</sub> is a greenhouse gas linked to global warming.

HECA's local fertilizer production will also help keep prices down because of reduced transportation costs, and lessen the nation's dependence on imports. Today, the U.S. struggles to produce 50 percent of its demand, which continues to increase. In California alone, fertilizer demand totaled approximately 1.3 million tons in 2010 with about one-third of its supply coming from foreign imports.

Overall, agricultural end-users in Kern County, California and the U.S. will benefit in many ways from this new, readily available domestic source of reliable, accessible, high-quality fertilizer that will cover most of California's needs.