Calpine’s commitment to the environment is fundamental to our corporate philosophy and culture. It defines who we are as a company and how we serve our customers. Today, Calpine is America’s largest generator of electricity from natural gas and geothermal resources, and our power plant fleet is among the cleanest in the nation.

As a long-time advocate of renewable and energy-efficient power generation, Calpine supports policies to improve air quality standards and reduce emissions of greenhouse gases. Today’s clean, fuel-efficient technologies demonstrate that power companies can generate electricity reliably while dramatically decreasing emissions.

Setting New Standards for Low-Emitting, Energy-Efficient Power

Calpine operates one of the newest and cleanest fleets of natural gas power plants in the country and is the largest operator of highly efficient combined heat and power (CHP) plants. Our fleet’s fuel efficiency and advanced emissions controls result in dramatically lower greenhouse gas-, smog- and acid rain-producing emissions than coal and other typical fossil-fuel facilities.

Calpine, listed as the nation’s eighth largest power producer overall and the largest independent power producer, is among the lowest in air emissions rates. According to the Benchmarking Air Emissions of the 100 Largest Electric Power Producers in the United States 2013 report, Calpine ranked 77th for sulfur dioxide, 79th for nitrogen oxides and 85th for carbon dioxide. In addition, because Calpine’s fossil fuel fleet consists of clean, efficient and flexible natural gas-fired plants, it had no mercury emissions.

Average Emissions of Calpine Natural Gas Combined-Cycle Unit Versus Typical Power Plant(1):

\[
\begin{align*}
\text{NO}_x: & \quad 0.0000 \quad 0.0001 \quad 0.0002 \quad 0.0003 \quad 0.0004 \quad 0.0005 \quad 0.0006 \quad 0.0007 \quad 0.0008 \quad 0.0009 \quad 0.0010 \\
\text{SO}_2: & \quad 0.0043 \quad 0.0043 \quad 0.0043 \quad 0.0043 \quad 0.0043 \quad 0.0043 \quad 0.0043 \quad 0.0043 \quad 0.0043 \quad 0.0043 \quad 0.0043 \\
\text{Hg}: & \quad 0.0000 \quad 0.0000 \quad 0.0000 \quad 0.0000 \quad 0.0000 \quad 0.0000 \quad 0.0000 \quad 0.0000 \quad 0.0000 \quad 0.0000 \quad 0.0000 \\
\text{CO}_2: & \quad 500 \quad 1,000 \quad 1,500 \quad 2,000 \quad 2,500 \quad 852 \quad 852 \quad 852 \quad 852 \quad 852 \quad 852
\end{align*}
\]

(1) Sources: U.S. Department of Energy’s Electric Power Annual Report for 2012 and the U.S. Environmental Protection Agency (EPA) Toxic Release Inventory for 2012. This is compared to Calpine’s 2012 combined-cycle, natural gas power plant emission rate data as measured under EPA reporting requirements.
Harnessing Renewable Energy – 24/7
Calpine is the nation’s largest producer of renewable geothermal power. Unlike wind and solar resources, geothermal power is available 24 hours a day, seven days a week. And Calpine is working to sustain and enhance this valuable source of clean energy. By recharging the geothermal resource at The Geysers in northern California with treated wastewater from nearby municipalities, we eliminate discharge into public waterways while increasing long-term productivity.

Integrating Other Clean Energy Options
As the nation relies on intermittent wind and solar power for more of its electricity needs, the availability of reliable, flexible backup generation becomes vitally important. Calpine’s fleet of natural gas-fired power plants can adjust generation output quickly when renewable sources go offline or suddenly reduce or increase output. By doing so, they help integrate more renewable resources into the nation’s power supply. For example, Calpine’s natural gas-fired plants in the Mid-Atlantic region support the Vineland Solar Energy Center in New Jersey, which the company purchased in 2010 as part of its acquisition of Conectiv Energy.

Moving the Needle on Climate Change Policy
Calpine is taking steps to help the power industry reduce its carbon footprint:

• Adopted Board of Directors policy in 2004 to minimize Calpine’s greenhouse gas emissions
• In 2010, received the nation’s first air-quality permit for a power plant with a federal limit on greenhouse gas emissions for the Russell City Energy Center near San Francisco
• Supports adoption of federal climate change legislation, including requiring companies to pay for their carbon emissions
• Supported adoption of state greenhouse initiatives, including California’s Global Warming Solutions Act of 2006 (AB32) and the Northeast Regional Greenhouse Gas Initiative (RGGI)
• Filed an amicus brief in support of the landmark Supreme Court ruling that the EPA has the authority to regulate greenhouse gas emissions
• First power producer to earn the distinction of Climate Action Leader; also recognized by the EPA’s Combined Heat and Power Partnership for efficient energy production and CO2 reduction
• Calpine’s under-construction Garrison Energy Center was highlighted by the EPA as a model of sustainability that will help achieve goals of the agency’s Clean Power Plan, which Calpine supports.

Powering a Clean, Low-Carbon Future
Calpine is committed to powering a lower-carbon and cleaner future. And we back up that commitment not only with our company’s renewable and fuel-efficient power plants, but also with our consistent support for efforts to protect the environment.

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