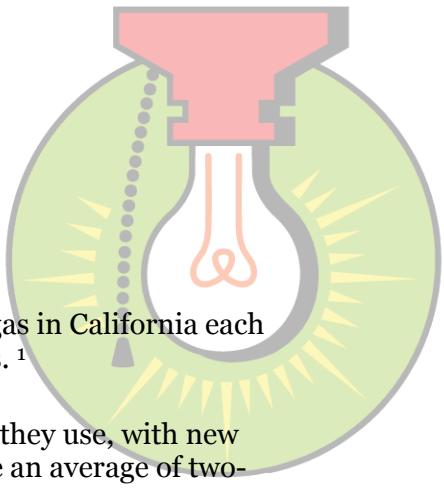
COGENWORKS
A Coalition For Energy Efficiency and Reliability



Did you know…

✓ The highly efficient nature of cogeneration saves enough natural gas in California each year (180 billion cubic feet) to provide electricity to 3.6 million homes. [1]

✓ Cogeneration facilities typically make use of 68% of the resources they use, with new systems exceeding 90%, while separate heat and power systems waste an average of two-thirds of the energy they consume. [2]

✓ With more than 770 active cogeneration projects in California, we rely on cogeneration for 17% of California's electricity supply -- yet the state has no focused cogeneration policy to ensure its survival. [3]

✓ California has more than 9,000 megawatts of combined heat and power systems throughout the state and additional generating capacity of more than 5,000 megawatts over the next 15 years. But without action by the California Public Utilities Commission, we're at risk of losing both existing and potential new cogeneration capacity. The California Energy Commission reports: *"Current state policy must change for California to tap into this potential generation source and retain the existing pool of combined heat and power facilities so critical to reliable operation on the state grid."* [3]

✓ The California EPA has identified cogeneration as a leading candidate for reducing CO2 emissions and global warming. Because cogeneration requires far less natural gas to produce the same heat and power, it reduces smog-forming emissions (NOx) by 7,607 tons every year and greenhouse gas emissions (CO2) by 26,053,093 tons every year – the equivalent of removing more than 5,000,000 cars from California highways. [4]

✓ The U.S. EPA supports cogeneration as a cost-effective way to achieve both smog and CO2 emission reductions. "The average efficiency of fossil-fueled power plants in the U.S. is 33% and has remained virtually unchanged for 40 years. This means that two-thirds of the energy in the fuel is lost–vented as heat–at most power plants in the United States. CHP systems achieve effective electrical efficiencies of 50% to 70%. This improvement in efficiency is an excellent pollution prevention strategy that reduces emissions of air pollutants and carbon dioxide, the leading greenhouse gas associated with climate change." [5]

✓ Cogeneration is a way to reduce our reliance on out-of-state power supplies and reduce the need to build new fossil-fueled power plants, cutting down on both costs and harmful emissions. If contracts between large scale cogeneration facilities and privately-owned utilities are not renewed, California will become more dependent on power plants which emit large amounts of greenhouse gases and smog-forming pollutants.

✓ Electricity is lost when it's transmitted and distributed over the power grid. Cogeneration avoids this loss because it's produced near its end use. By avoiding transmission line losses, cogeneration saves more than 2.7 million megawatt hours per year – enough electricity to power 385,000 homes. [4]

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✓ If we expanded our use of cogeneration by about 2000 megawatts, we could save 400 trillion Btu of natural gas over the next 15 years (2005-2020) and cut down on greenhouse gas emissions (CO2) by another 23 million tons, which is equivalent of removing 4,500,000 cars from California roads. [6]

✓ Cogeneration is critical to avoiding even higher gasoline prices and more air pollution. The California Energy Commission reports: *"California should particularly encourage CHP at the state's petroleum refineries to make them less vulnerable to power outages. An electricity outage on September 12, 2005, in Southern California caused the shutdown of three refineries in Wilmington. These shutdowns resulted in pressure buildups that forced refinery operators to flare excess gases, affecting air quality in the area. The shutdown also impacted gasoline production and supply, causing shortages and price spikes. Increased CHP use at refineries is an important strategy that can help insulate refineries from these kinds of electric grid problems and maintain gasoline production and refinery safety*." [3]

✓ During the recent Gulf Coast Hurricanes Rita and Katrina, while many industries dependent on traditional power lines waited weeks for restored power, those with on-site cogeneration were able to keep the power flowing and operations running.

Sources:

Vehicle emission equivalencies based on U.S. Climate Technology Cooperation calculators. Household equivalencies based on rule of thumb conversions and CPUC testimony.

[1] - California Public Utility Commission testimony, R. Thomas Beach, Crossborder Energy, August 2005

[2] - U.S. EPA and American Council for an Energy-Efficient Economy

[3] - 2005 Integrated Energy Policy Report, California Energy Commission (CEC), November 2005

4 - Market Assessment of Combined Heat and Power in California, CEC, October 2000

[5] - U.S. EPA website: http://www.epa.gov/chp/what_is_chp/why_epa_supports_chp.htm

[6] - Assessment of California CHP Market and Policy Options for Increased Penetration, CEC, April 2005