Carbon Footprint of Commercial New Construction

Meeting the Global Warming Challenge

In September 2006, California Governor Arnold Schwarzenegger signed the California Global Warming Solutions Act (AB 32) into law. In conjunction with Executive Order S-3-05, AB 32 establishes California Green House Gas (GHG) emission standards for the next 50 years. AB 32 requires global warming emissions to 2000 levels by 2010 (11% below business as usual), to 1990 levels by 2020 (25% below business as usual), and 80% below 1990 levels by 2050. On an annual basis, the commercial and industrial sectors are responsible for 12% and 25% of California's GHG emissions.

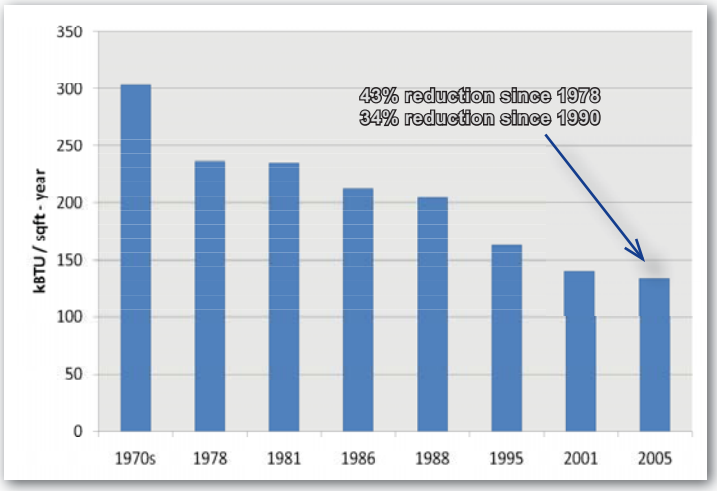
A recent report commissioned by the California Business Properties Association (CBPA) demonstrates the industry's commitment to the state and global environment. Carbon Footprint of Commercial New Construction, conducted by ConSol, a nationally recognized energy consulting firm, examined the global warming impact of four building types in new commercial construction and compared the carbon footprint of an average new commercial building built in 2008 with one that was built in 1990. The building types included office, industrial, retail big box, and retail mall. Several metropolitan areas with diverse climate patterns were evaluated. The Building Energy Efficiency Standards (Title 24) regulates two-thirds of a commercial building's envelope energy, which was the context of this study.

New Commercial Construction – Part of the Solution

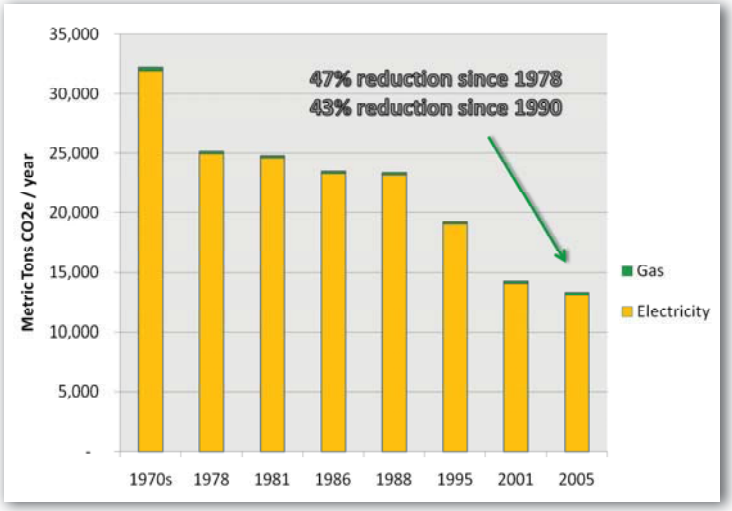
California's commercial, industrial and retail builders have been reducing the environmental impact of new commercial buildings by increasing energy efficiency and reducing GHG emissions. According to the study, the average commercial building has increased energy efficiency by 43 percent since 1978 when the first energy standards were put in place in California. Since 1990 the average commercial building increased energy efficiency by 34%. Translating to carbon emissions, the average commercial building reduced CGH emissions by 47 percent since 1978 and 43 percent since 1990.

The study concluded that the carbon footprint of today's new commercial buildings actually produce 43 percent fewer GHG emissions than buildings built in 1990 – meaning new commercial buildings already exceed AB 32's requirement that by the year 2020, emissions be no greater than 1990 levels. New commercial buildings are part of the solution to California's global warming efforts.

The cost of operation of a commercial building is a natural incentive to increase efficiencies, but the increasingly stringent codes along with improved lighting design and increasing HVAC technology have been instrumental in the reductions. The study concludes, however, that to meet the AB 32 goals of reducing carbon emissions to 1990 levels by 2020, existing buildings must be retrofitted.



Effect of Title 24
Average of All Buildings in All Climate Zones



Carbon Footprint
Average of All Buildings In All Climate Zones

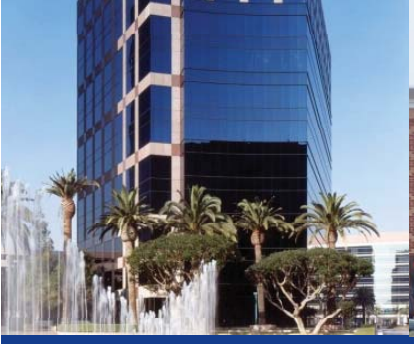
Study performed by:

ConSol .ws

Study Funding provided by:

naiop
naiop
International Council of Shopping Centers
BOMA California

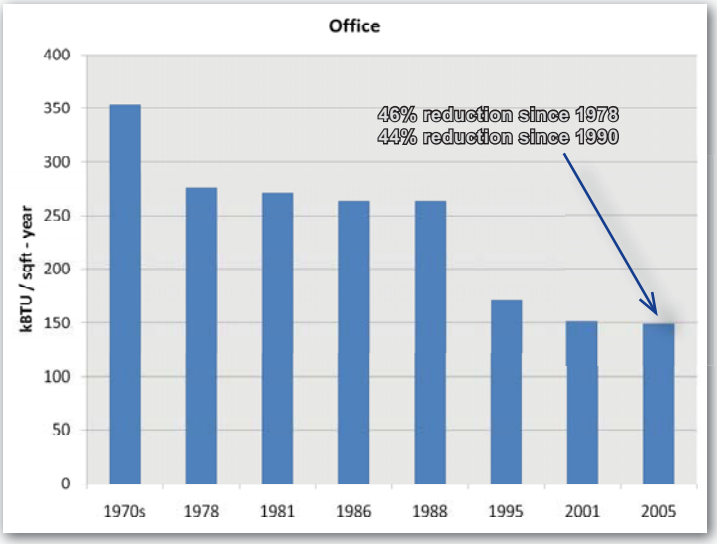
1121 L Street, Suite 809 | Sacramento, CA 95814 | (916) 443-4676

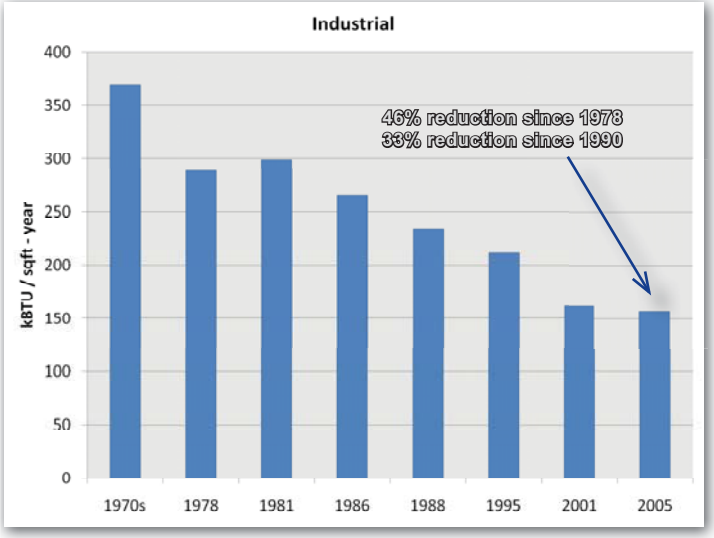


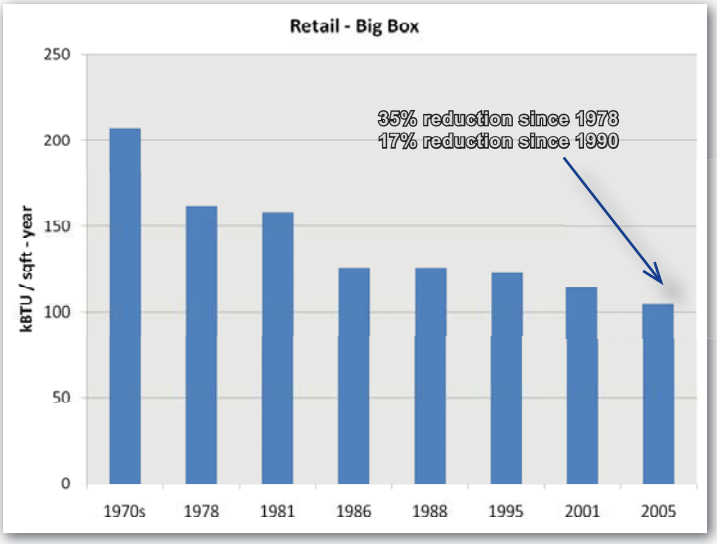
California Business Properties Association

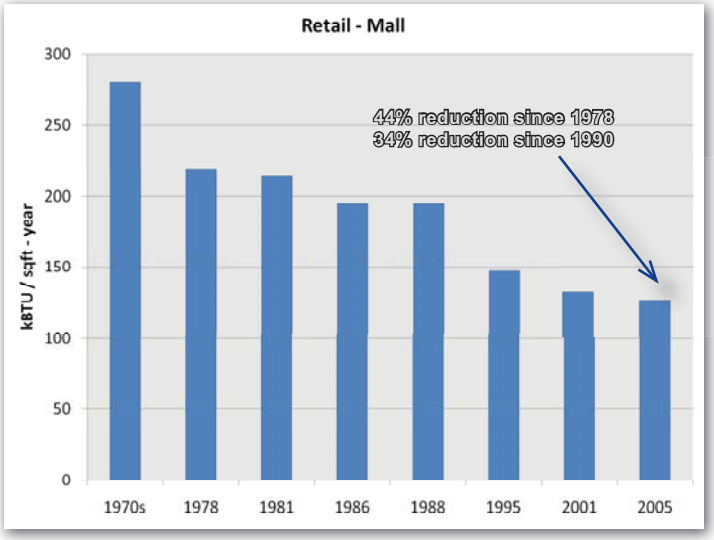
Effect of Title 24

Average of All Climate Zones









Study performed by:

ConSol .ws

Study Funding provided by:

BOMA California

International Council of Shopping Centers

naiop California State Council

naiop The Forum for Commercial Real Estate