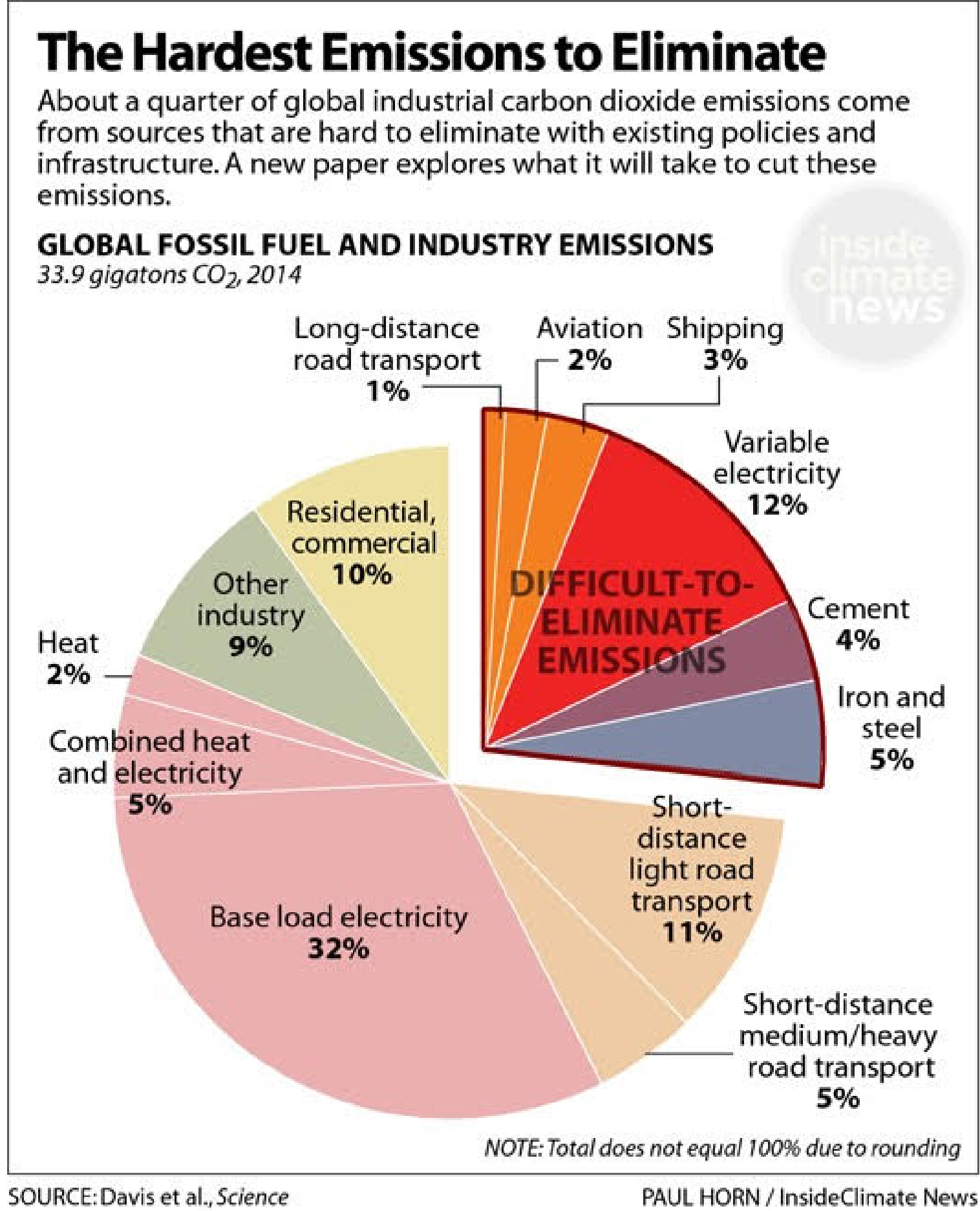


Zero Emission Zero Waste Construction Sites in California Commercial Construction



Abstract:

Zero emission refers to the absence of waste products that pollute the environment or disrupt the climate from any engine, motor, process, or other energy source systems. CO₂ emissions through equipment and machinery, along with toxic chemicals, carcinogens, ash and dust are founded most common in the Construction Industry. Although these findings may not raise an eyebrow, it is quite overlooked, and the numerical data is staggering. Zero waste is also examined in this paper—the conservation of all resources by means of responsible production, consumption, reuse, recovery of products and materials without burning and with no discharges to land, water, or air that threaten the environment or human health. According to the Disposal Facility-Based Characterizations of Solid Waste in California, more than 135 million tons of material to landfills are reported every year in the United States from construction and demolition projects. California contributing 20.4 percent. In recent years, California has made great strides to combat this issue by implementing laws to regulate the displacement of waste and the amount of it produced. Effective January 1, 2011, California’s Green Building Standards Code (CALGreen) required the diversion of at least 50 percent of the construction waste generated during most “new construction” projects. Being one of the leading states, they recognize the importance for sustainable development and since then they have added subsequent amendments to expanded upon what types of construction are covered. California heads toward zero-carbon electricity by 2050; GHG emissions on job sites from gas use being the increasingly difficult main obstacle to decarbonizing the state’s building stock. This paper explores green building efforts to reuse, recycle or divert waste that is generated on site, as well as off-site construction aka prefab. Newer data expresses a huge advantage with prefab in the management of materials prior to leaving the factory, offering a much more efficient process to reduce the amount of waste sent to landfills. This paper will research the achievability of a zero emission, zero waste job site as well as outline the current trends, methods, and successes in California Commercial Construction toward a zero emission, zero waste job site.

