

Net Zero Energy Buildings

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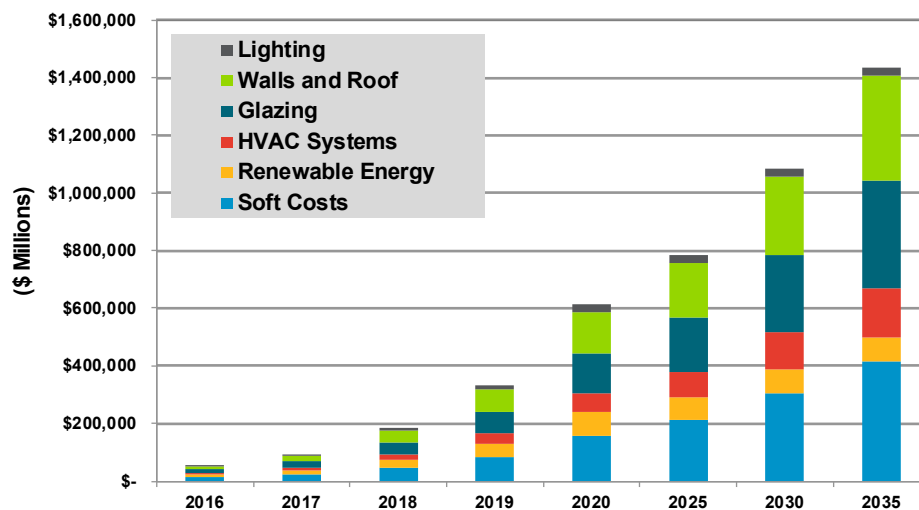
1. Executive Summary

As local and global energy issues continue to intensify, a greater emphasis is being placed on energy efficiency, renewable energy, and building energy use. Although zero energy buildings (ZEBs) have not become mainstream, they continue to be seen as the pinnacle for green and energy efficient buildings. Changes in technology, regulation, and education have allowed ZEBs to penetrate different markets across various building types outside of the single-family residences and 1-story office buildings that were first able to achieve net zero energy (ZNE).

ZEBs are feasible for offices, educational facilities, laboratories, and other building types. The technology to achieve ZNE in most buildings already exists, though it continues to improve. Regulation, education, and market awareness continue to expand and will help move the ZEB market forward. Educating all parties—from the designers to contractors to occupants—on the core concepts is imperative to achieving ZNE. Drivers behind ZNE projects include regulations, operating cost reductions, energy security, and customer attraction, among others. Organizations have also noted resilience as a key driver, as weather events and natural disasters have increasingly affected businesses in recent years.

The global ZEB market forecast for the residential and commercial sectors through 2035 is predicated on regulation and organizational goals that set ZNE targets. California’s residential (for 2020) and commercial (for 2030) net zero requirements are examples of such regulation. Chart 1 presents the revenue projections by product/service for residential and commercial buildings. The effect of California’s residential and commercial net zero requirements is evident in this forecast.

Chart 1 Total Zero Energy Building Revenue by Product/Service, World Markets: 2016-2035



(Source: Navigant Research)