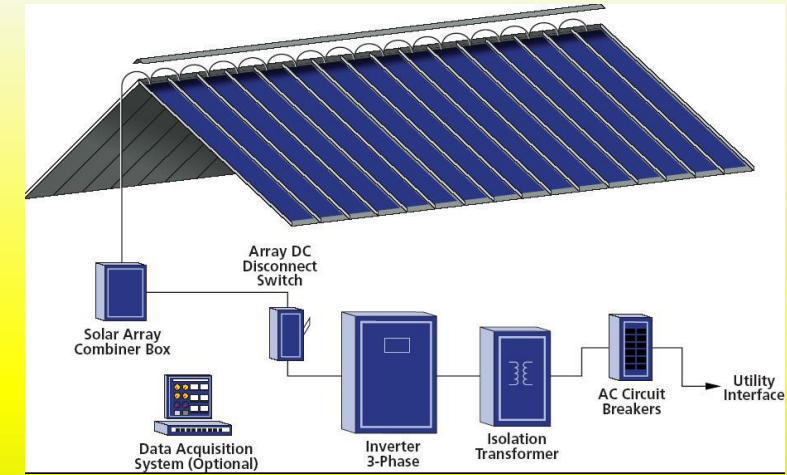
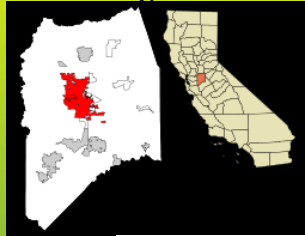


Solar Shingle Experience: Evaluating Their Value in Today's Market

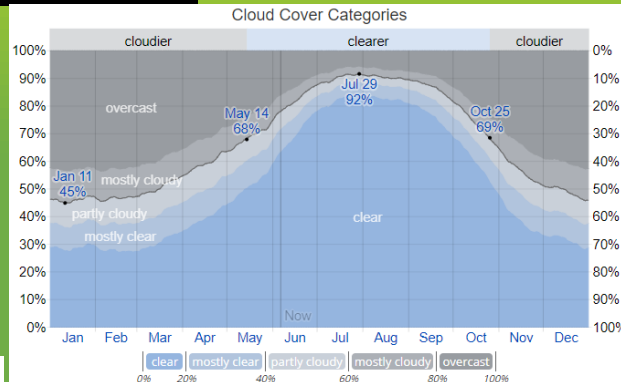
As the technology and capabilities of photovoltaic (PV) cells advance, there has been an increase in the number of different product designs that incorporate PV cells. In the last five years, solar cell shingles integrated into the roofing shingles of residential homes, have been sensationalized, which encouraged a lot of homeowners to enquire about the product and eventually become solar adopters. Over the course of my research I conducted personal interviews with both the installers and the homeowners involved with the installation of a CertainTeed Apollo II integrated solar system on a home in the Stockton, CA area. The most noteworthy shortcomings of these solar shingles are that they convert solar energy to electricity with about 4% less efficiency than rack mounted panel systems and cost at least a dollar per watt more to install than the panels. The biggest upside to these shingle systems is their appealing aesthetics, which according to one MIT study, is the most considered attribute for about 15% of homeowners that are considering solar.



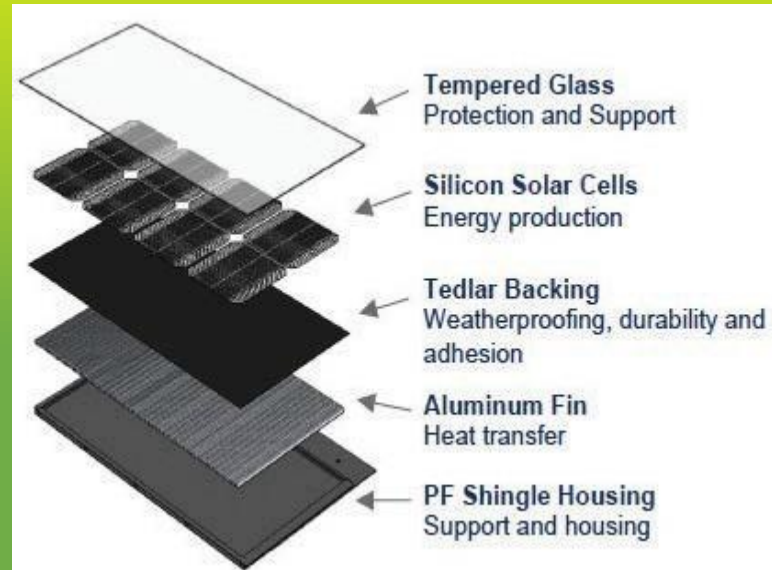
Components of the energy conversion system



Key Words: Solar, Shingles, Integrated Solar System, CertainTeed Apollo II, Stockton, Roofing



Stockton Avg. Cloud Coverage by Month



Components of a Solar Shingle Cell



APOLLO® II

CertainTeed
SAINT-GOBAIN
Roofing

Kevin Church
California Polytechnic State University

