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For the past decade, those referring to the solar industry in the United States and even North America largely meant photovoltaic or concentrating solar technology. Most solar companies, investments, and legislation dealt with those technologies that generated electricity from the sun. If you were installing a solar thermal system or even engaged in a lively discussion about the best way to capture heat from the sun for the purposes of hot water heating, solar cooling, or process heating, then chances are you were in Germany, Spain, or somewhere on the European continent. Until now.

With new legislation by the Obama administration and a growing awareness of the potential for solar thermal amongst consumers and companies, the coming years will see a tremendous surge in interest in solar thermal systems in the US and North America. Already, new systems are being touted around the country and many European companies and suppliers are preparing outposts in North America to meet this expected rise in demand.

Solar thermal systems harness sunlight to produce heat. Applications for solar thermal include heating, cooling, ventilation, cooking, hot water heating, or process heating. Solar pool heating has, perhaps, made the largest gains in term of adoption in the US so far, but tax credit extensions and cap limits have created a fertile ground for solar hot water systems to take hold on both a residential and light commercial scale.

Historically, larger hotels and hotel chains around the world have been a first-adopter for solar hot water systems because despite high up-front costs, the payback period is very short in this industry. There is a range of technologies in use, but most can supply more than half—and sometimes up to 80%—of all hot water used. High sun areas obviously perform best and most efficiently. Depending on incentives and solar resource, the potential for early adoption by hotels in the US exists and should be a considered a ripe market opportunity.

Incentives prime the pump

The Energy and Improvement Act of 2008 is critical to the growth of solar thermal because it extended the 30% investment tax credit for another eight years to 2016. With these credits firmly in place, solar thermal companies can invest in production with confidence. The American Recovery and Reinvestment Plan, or stimulus bill, improved upon this legislation by removing the \$2,000 maximum deduction limit imposed on private households. Now, individuals can purchase a solar thermal system and realize the entire 30% tax benefit. And, with a budget of over \$800 billion, the American Recovery and Reinvestment Plan is also establishing the framework for a number of other programs such as grid improvements and public housing energy efficiency retrofits that will help push the renewable energy industry in the US even further.

With this new legislation as a backdrop, many companies have begun to make investments in their production and distribution capacity in North America. Domestic makers of solar collectors still make up the majority of systems produced and sold in the States, but foreign companies are searching for ways to break into the market. A visit to any industry trade show will confirm this, as many of the exhibitors are consistently European manufacturers. The solar thermal market is much more mature in Europe because of years' worth of incentives and investment, making these companies eager to share their knowledge and experience with US counterparts.

New technologies and applications are also gaining more widespread acceptance. A number of new installations have moved beyond traditional solar thermal for hot water systems into dual-use heating and cooling systems. These systems can offset the amount of natural gas used to produce heating or cooling and can provide heating or cooling during the day or night, and summer or winter. A handful of colleges and universities around the US are experimenting with this approach right now.

Another great example of solar heating and cooling in action is the Fletcher Business Park in North Carolina. EnerWorks Inc., a North American solar thermal technology company, deployed the world's largest solar thermal heating and cooling installation there earlier this year. The site features 640 rack-mounted roof top collectors that use Alanod-Solar absorptive surface technology, and it is approximately one-and-a-half times larger than the next biggest installation at the Beijing Olympic Village. Component providers like Alanod-Solar are also making gains in North America with a new domestic manufacturing and distribution facility for their absorptive technology, which is soon to be announced.

Despite these impressive gains, one of the big bottlenecks to widespread growth of the solar thermal in the US is certification of collectors and systems. With only two accredited laboratories testing for SRCC quality standards, some projects have been slowed. However, industry groups and companies are working hard to alleviate this issue and are confident more labs will come online later this year.

Overall, legislation and investment have made the future for solar thermal in the US promising, which is especially true because many new technologies and companies can leverage best practices from their European counterparts to more quickly take advantage of this growing market. The next year should prove to be a remarkable one for the North American solar thermal industry.

Stefan Braendle is Director of Solar Applications at Alanod-Solar, the solar surfaces company. He has 20 years of solar experience in developing and building renewable energy technologies and businesses.

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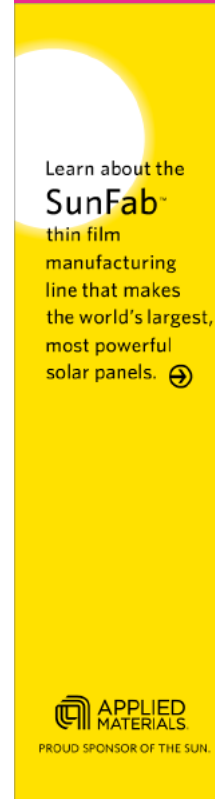
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