

Solar Technical Assistance Team (STAT) Summer Webinar Series
Webinar 3: Solar Technology Options and Resource Assessment
Question & Answer Session
August 15, 2012

1. What is the effective energy lost going over the grid wire? Especially for remote PV or CPS farm, to get to its consumer how much average energy lost over the wire per mile?

Going over the grid wire from the power plant to your building I think it varies a lot. There are estimates as low as 5% and as high as 20% in terms of the losses in the transmission and distribution infrastructure. When we're comparing central plant to distributed generation we should include those transmission and distribution losses in our savings calculation.

1) Would you have any suggestions on which websites to visit, in order to get more information on covered parking areas?

I don't know but I will share with you the two suppliers which I think really pioneered making covered parking worthwhile. We've been pursuing covered parking for a long time and it was just like building a building. You had to hire an architect, go through all kinds of processes and the covered parking that we were looking at initially was probably costing more than the photovoltaics.

There are two companies that have really gotten the price down. One is Outpost and the other one is SunWize. They kind of took a different perspective. Rather than looking at the shade structure as a building, they looked at it as a product, and they avoided the UL listing issues by running a conduit on the outside of the steel structural members. So those two companies in particular if you wanted to check their websites, Outpost and SunWize, you could probably get some insight on the variations on their standard designs there. Other suppliers are also going to offer it. It's not like those are the only two, but those are the two that I credit with really bringing the cost of covered parking down.

2) How much did the Alamosa solar plant cost?

I don't know the exact cost but at the time the plant was built, I would imagine that it would've cost about \$5,000 per kilowatt. I think nowadays it would cost less than \$4,000 per kilowatt and we've even got some costs reported less than \$3,000 per kilowatt now for those very large systems like the Alamosa solar plant.

3) If costs are going down and efficiency is going up, why shouldn't I just wait?

If it's the goal of the Sun Shot initiative to get PV power down to \$1/watt and we know that there's a lot of upside potential in the efficiency, one thing that I forgot to talk about that when we were talking about efficiency is that efficiency can continue to increase cadmium telluride, which is the bulk of the U.S. manufacturing right now. It is about 17% efficient, and

the theoretical maximum efficiency of that technology I think is 27%. So we could probably easily cut – the goal of the Sun Shot initiative is to cut the cost by a factor of four. Efficiency could improve the efficiency by a factor of two. So why not just wait? It's a good question and I don't know the answer to it, but one thing I would add is that if everybody took that attitude we'd never get there. So it is these early adopters which are taking us down that pathway towards improved performance and lower cost.