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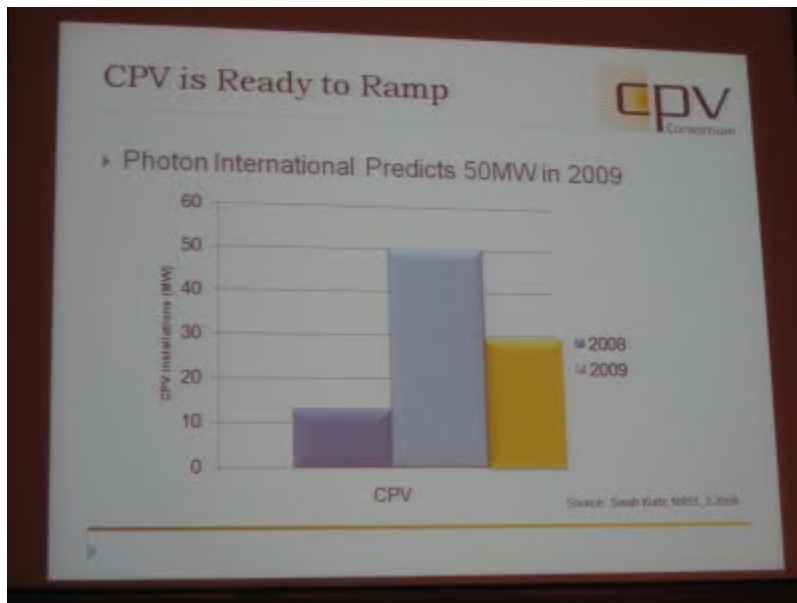
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Friday, June 19, 2009 at 3:00 am

[State of the CPV Consortium – Part 2](#)

*“Is the CPV (Concentrator PhotoVoltaics) Industry Ready to Ramp?”
More CPV Myth Busting plus CPV Environmental Positives.*

Even as I finished the “[State of the CPV Consortium](#)” post, I knew a follow up was required to complete the State of CPV address. I begin here with the CPV forecast from the presentation by [CPV Consortium](#) Chairman/Director Nancy Hartsoch.



From [PV Industry Forum 2009](#)

As you can see in the above Picasa photo, PHOTON International claims 10 MW (MegaWatts) of CPV was installed in 2008. However, Ms. Hartsoch thought this was not all High Concentration PhotoVoltaics (HCPV) but was dominated by silicon based concentrators. For instance, “[Opportunities and Challenges for Development of a](#)

[Mature Concentrating Photovoltaic Power Industry](#)” by [Sarah Kurtz](#) from Technical Report NREL/TP-520-43208 Revised February 2009 lists silicon CPV suppliers Guascor Foton and Amonix deploying 10.6 MW of combined capacity in 2008.

In 2009, PHOTON predicts 50 MW (MegaWatts) of CPV installations. By contrast, the CPV Consortium expects 25 to 30 MW of installed grid tied systems in 2009 with “over 50 in process of being deployed.” Ms. Hartsoch said:

We are predicting that it's about a 200 MegaWatt market in 2011 and could easily double again after that. So as you approach that 2012 timeframe, you are approaching cost parity with thin films, you are approaching grid parity, and the market is huge.

I'll return to CPV Myth Busting in the sections below.

For Small to Medium Sized Installations?

The CPV Consortium claims CPV can scale to *large* utility scale plants with size flexibility, future expandability to increasing demand, and Distributed Generation near the point of use.

Not Ready for Volume Manufacturing?

Per the Sarah Kurtz NREL report, there is 132 MW of cumulative HCPV manufacturing capacity with [SolFocus, Inc.](#) (50 MW/year), [Concentrix Solar GmbH](#) (25 MW/year), and [Sol3g, S.L.](#) (12 MW/year) leading the CPV pack.

Unproven, Untested? New technology

Regular readers of this blog are already familiar with [ISFOC](#). The second 1.3 MW phase of the 3 MW [ISFOC](#) reference project for CPV commercialization is under construction, and [Arima EcoEnergy](#) expects to complete their 300 kW installation by the end of June 2009.

Regarding ISFOC expansion, Nancy Hartsoch said:

That program is currently being replicated in the Middle East. We are looking at trying to do a similar thing in the US to really get buy in for the new technology.

In the following PV Industry Forum presentation, Concentrix Solar shared their field experience with CPV systems including ISFOC and [Casaquemada](#):

[FLATCON® Concentrator Photovoltaic Technology in the Field](#)

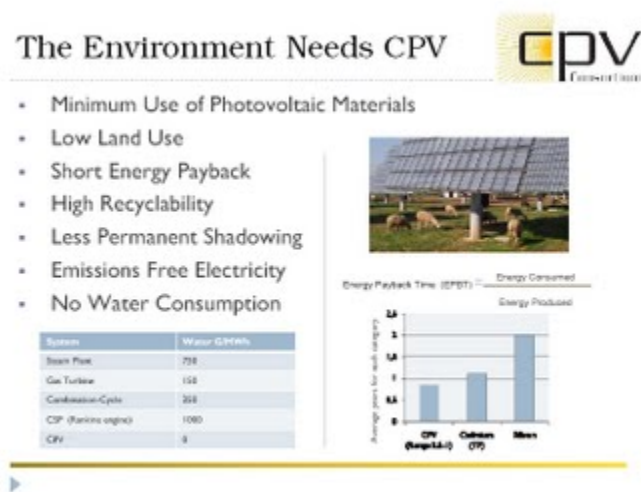
May 25-26, 2009, Munich, Germany
5th PV Industry Forum

As I [tweeted](#), Ms. Hartsoch hinted the first IEC62108 CPV product would be certified the same week. The next day, “[SolFocus Becomes First Company to Receive IEC Certification on Concentrator Photovoltaic \(CPV\) Modules](#)” was released. In looking at this press release and the earlier “[SolFocus Announces Leading 25% Efficient](#)

[Concentrator PV \(CPV\) Systems](#)”, I realized none of the new SF-1100P module specifications were ever mentioned, and I could not find a datasheet at the SolFocus site. I believe this is intentional. Looking for the California Energy Commission (CEC) [List of Other Eligible Solar Electric Generating Technologies](#) for the California Solar Initiative (CSI) reveals that the Watt does exist as a unit of measure at SolFocus:

SolFocus Inc. SF-1000P 210W Concentrator PV Module
 SolFocus Inc. SF-1100P 300W Concentrator PV Module

There is no reason SolFocus must release technical information, although Concentrix Solar, for example, does provide transparency on [Technical Data Sheets](#).



From [PV Industry Forum 2009](#)

Environmental Positives

In advocating “*The Environment Needs CPV*”, I think the CPV Consortium has assembled a few strong points in favor of CPV.

CPV was asserted to be “*green in creation*” with a minimum of photovoltaic semiconductor materials and quick to green operation via short energy payback within 0.6 to 1 years time. High efficiency and the two-axis tracking requirement favor pedestal type trackers driving low and dual land use with less permanent shadowing impact on plant and animal life than fixed tilt or maybe even single-axis trackers. Pedestal trackers could benefit high efficiency monocrystalline silicon solar modules in a similar way.

While the CPV Consortium claimed there was *No Water Consumption for CPV*, it is more accurate to state there is perhaps minimal water required for module cleaning compared to CSP (Concentrating Solar Power) which needs 700-1000 gallons (2650-3785 liters) of water per MWh (MegaWatt-hour) of energy production.

On recyclability, the CPV Consortium claimed 80-97% of a CPV module could be recycled depending on the technology, and SolFocus is supposed to be at the high end of this range. But, the recyclability of the Multijunction (MJ) III-V Solar Cells, which include Gallium Arsenide (GaAs), wasn't discussed. I imagine due to their special requirements, no CPV firm is yet a [member](#) of PV CYCLE. I believe the CPV Consortium needs to develop a plan now to ensure module take back and recycling at the end of CPV system life for the nascent industry.

Don't forget to vote in the new sidebar PV POLL: *Is CPV (Concentrator PhotoVoltaics) dead?*