NAVIGANT CONSULTING

Solar Outlook

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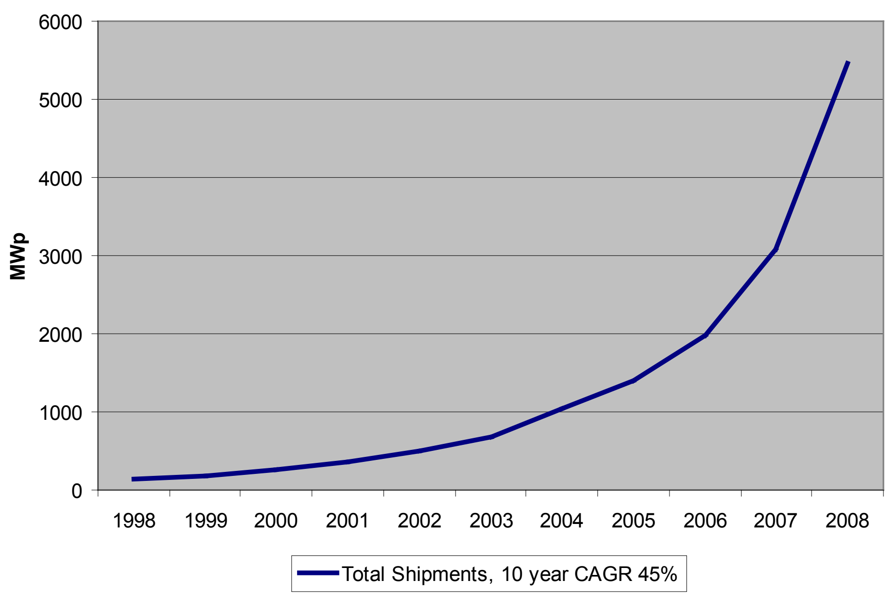
Feature Articles

Shipments Increase by 78% in 2008 over 2007 – Will 2009 be as Generous?

At >5.4-gigawatts in shipments and growth of 78% over 2008, the photovoltaic industry had an extremely successful year in 2008, to say the least. This success, however, has a backlash attached. An oversold market can be a beast to deal with after the dust has settled and the rejoicing dies down. And, the market for photovoltaic products was absolutely oversold in 2008, stranding >1-gigawatt of product in inventory in 2009.

Before anxiety sets in over softening demand, economic concerns and fears over how long it will take to work off all that inventory, a moment of jubilee is in order. Figure 1 presents shipments for the PV industry from 1998 through 2008. Figure 1 depicts the sort of hockey puck sales figures typically only seen in marketing presentations. In 1998, when total sales were 134.8-MWp, the industry might have hoped for the day when sales would be in the gigawatt range, but it did not believe that this was only ten years away from being a reality.

Figure 1
Photovoltaic Industry Shipments
1998 – 2008



This year there is a virtual tie for the tenth position, and so there are eleven top manufacturers. The top manufacturers in 2008 shipped 63% of the total and had 55% of total industry capacity. The top ten manufacturers for 2008 are presented in Table 1. Shipments are presented for 2005, 2006, 2007, and 2008. In 2008, First Solar moved from the fifth position to number four, Q-Cells moved to the number one position, followed by Suntech in the number two position and Sharp in the number three position.

Table 1
Top Ten Manufacturers for 2005, 2006, 2007 and 2008

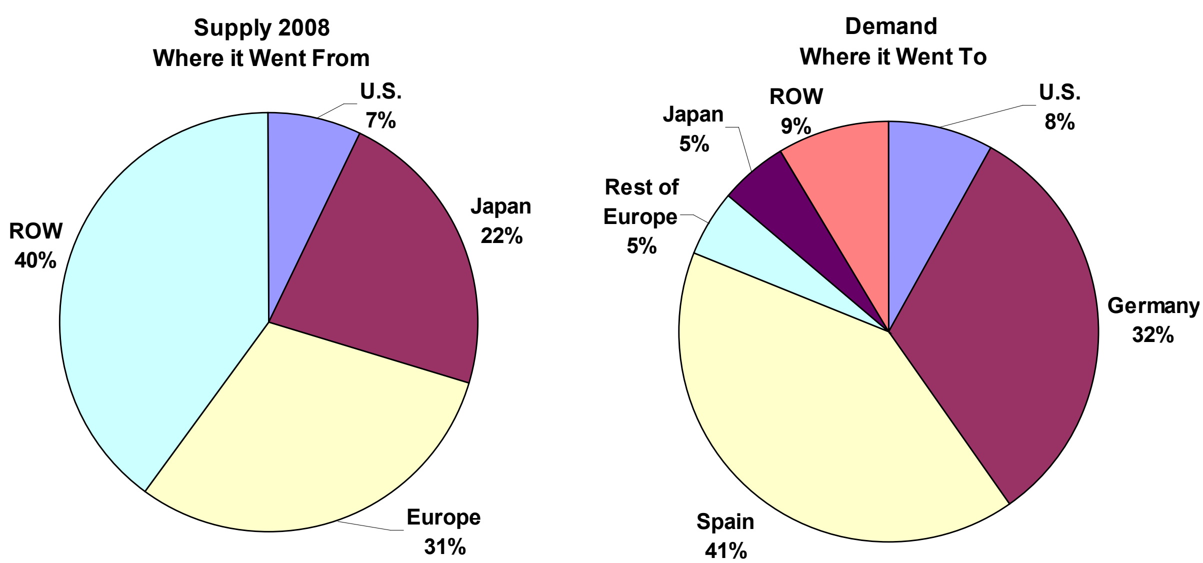
Ranking	2005	2005 MWp	2006	2006 MWp	2007	2007 MWp	2008	2008 MWp	Top Ten 2008 Technology
1	Sharp Solar	375.2	Sharp Solar	434.7	Sharp Solar	363.0	Q-Cells	547.2	Cz
2	Kyocera	142.0	Q-Cells	240.4	Q-Cells	344.1	Suntech	497.5	Cz
3	Q-Cells	131.2	Kyocera	180.0	Suntech	309.0	Sharp	458.0	Cz/a-Si
4	Schott Solar	95.0	Suntech	152.0	Kyocera	207.0	First Solar	434.7	CdTe
5	BP Solar	85.8	Sanyo	120.5	First Solar	186.0	Kyocera	290.0	Cz
6	Mitsubishi Electric	85.0	Mitsubishi Electric	111.0	Motech	167.0	Motech	263.5	Cz
7	Sanyo	84.0	Schott Solar	96.0	Sanyo	155.0	Sanyo	220.2	Cz/a-Si
8	Shell Solar	55.0	Motech	91.8	SolarWorld	136.1	SunPower	215.2	Cz
9	Motech	45.0	BP Solar	78.0	Mitsubishi Electric	121.0	JA Solar	212.1	Cz
10	Isofoton	39.3	SunPower	62.7	SunPower	102.0	BP Solar	149.1	Cz
10a					JA Solar	102.0	Mitsubishi Electric	148.0	Cz
10b					BP Solar	101.6			
Total Shipments	**1407.7**		**1984.6**		**3073.0**		**5455.8**		
Total Above		**1137.5**		**1567.1**		**2293.8**		**3435.5**	
% Total Shipments		**81%**		**79%**		**75%**		**63%**	

Though analyzing supply (where it came from), is important, it is equally important to analyze demand (where product went to) in the global marketplace for PV products. In 2008, 79% of global shipments went to Europe, primarily to Spain and Germany. With changes in the programs in these two countries, a valid question is – if not there … where does it all go now? Though the U.S. has potential to become a global market leader in terms of demand, it is also suffering through a significant economic downturn while affordability in China and India continue as concerns.

Though the current U.S. federal administration has signed a significant stimulus bill, the aim of this legislation is to forestall further economic collapse. The bill does not ensure overnight success for the photovoltaic industry. In other words … though the long term looks bright, the near term is problematic.

Figure 2 offers a picture of demand and supply for the photovoltaic industry in 2008. With one region, and two countries in that region absorbing 79% of global output, demand in the PV industry is unbalanced. The primary risk to an unbalanced market is that significant negative changes to the large market will ripple through the entire industry to potentially catastrophic effect. With Spain essentially closed as a market in 2009, and Germany facing a steep decline in its feed in if it is oversold – not to mention the economic crisis facing Europe, over 1-gigawatt of stranded product is problematic indeed.

Figure 2
2008 Supply and Demand



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