

ENF Market Survey of European and Chinese Cell and Panel Manufacturers

The ENF survey took place in January and February 2006, and involved interviews with 30 cell manufacturers and 135 panel manufacturers in Europe and China. ENF made telephone analyst calls to each of these companies to collect data and information (and then double checked the data through email). The report collected the following details:

Quantitative information collected:

- Sales in MWp from 2002-2005, and 2006 estimation (plus internal usage of cells to make into panels for cell manufacturers)
- End-of-year capacity in MWp from 2002-2005, and 2006-2007 estimations
- (Europe only) Details of how capacity was calculated (factory working time for calculation, actual factory working time, nominal/realistic calculation)
- End-of-year staff numbers from 2003-2005

(Europe only) Qualitative information collected (from many, but not all companies):

- Wafer/cell supply situation for 2006
- Details of planned capacity expansion
- Other important strategic plans

The survey coverage was companies in Europe and China. It includes all facilities that are directly controlled by that company, and excluded OEM purchased production (eg. using another company to make cells/panels with your brand).

The Results

Production and Sales

China is seeing huge growth in sales. In 2005, cell production increase by +179% over the previous year, and has increased by triple digit growth in the previous two years. Panel sales have also increased sharply, rising +136% in 2005, which follows on from growth of over +300% the previous year.

- European companies produced 556MWp of Cells in 2005, and expect strong growth in 2006
- Chinese companies produced 139MWp of Cells in 2005, and expect explosive growth in 2006

European Cell Manufacturers

Chinese Cell Manufacturers

- European companies sold 616MWp of Panels in 2005, and expect very strong growth in 2006
- Chinese companies sold 375MWp of Panels in 2005, and expect explosive growth in 2006

European Panel Manufacturers

Chinese Panel Manufacturers

Capacities

In the European survey, ENF asked each company for their definition of capacity because companies were using different ways of measuring capacity. Most companies measure an achievable output, while some companies measured their capacity as 'nominal capacity' which does not account for downtime factors such as machine cleaning and maintenance, and others measure with more working time than they actually use.

Of 19 European cell manufacturers:

- 4 measure with nominal capacity
- 2 measure with more shifts than actually used
- 2 measure with more days/year than actually used

Of 65 European panel manufacturers:

- 2 measure with nominal capacity
- 15 measure with more shifts than actually used
- 4 measure with more days/year than actually used

ENF adjusted all given capacities to two "Realistic Production Capacity" end-of-year numbers, based on actual factory usage time. The numbers are production that could be achieved, not nominal. Eg. If a cell manufacturer has an end-of-year cell capacity of 100MWp, and 100MWp of wafer supply, then they could actually produce 100MWp of cells in 12 months.

Because the companies that measured in nominal capacity were generally very large, it reduced the total market capacity by a noticeable amount. By measuring in nominal capacity, companies boosted their capacity numbers by between +10% and +40% (ENF discussed with each of the companies what adjustment was needed to make their capacities "realistic")

For the total European market:

- Reported 2005 cell capacities were 16% higher than "realistic production capacity"
- Reported 2005 panel capacities were 10% higher than "realistic production capacity"

The total realistic panel production capacity for Europe in 2005 was 1.07GWpp

Wafer & Cell Supply

Many cell and panel companies told ENF that they were suffering from a severe shortage of wafers or cells. A lot of European companies have been unable to sign fixed contracts, and simply have open contracts where they must wait and see each month whether their suppliers have available material to offer them. The material shortage is also very strong among Chinese companies, and some have had to drop their own branded panel production and turn to making OEM panels at a fixed margin for international companies (which at least ensures their material supply).

A few companies in both Europe and China are even buying up the material chain in order to secure their material supply. Eg. Panel manufacturers are buying ingots and wafers, and making deals with cell manufacturers to convert the material into cells. If you have the material, it is easy to find a manufacturer to make such a deal with since so many of them have unused capacity.

Despite the current material shortage, there is still a lot of confidence among the Chinese manufacturers and among investors. This confidence is fuelling continued capacity growth, and increasing China's future impact on the international market.

In Europe there are mixed views about 2007, some seeing expecting material supply to be more widely available, while others see continued difficulties. However, there is a general confidence that material supply will no longer be a problem in 2008.

Report Pricing

€700 for European Cell and Panel manufacturers report (246 pages)

€500 for Chinese Cell and Panel manufacturers report (156 pages)

€1000 for both European and Chinese reports