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Panasonic: The New Energy Company



Peter Fannon from Panasonic:

Innovating energy products and processes is the future for the company known for Televisions and VCRs.

1. Growth of Solar Industry

The first trend, a very powerful trend, is the growth of solar energy for home, business, and government. It's a very positive trend, driven by the falling cost of deploying solar panels and the higher efficiency that solar is able to make converting the sun's energy into electricity.

Solar can still cover the costs over a reasonable lifetime under less than optimal conditions.

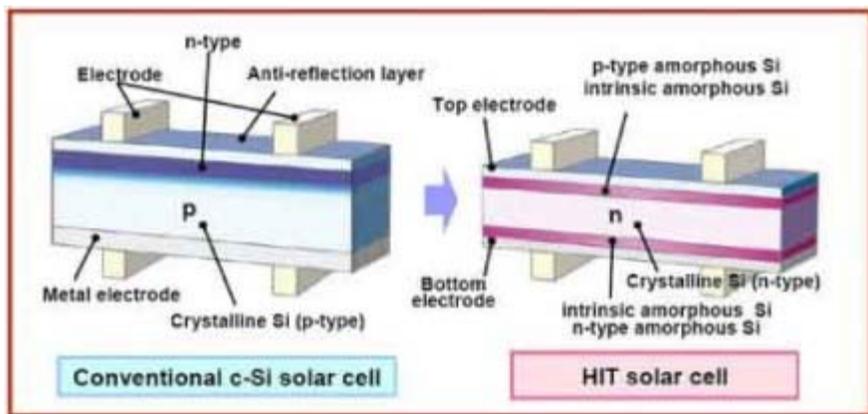
In Panasonic's case, with the completion of our purchase of [Sanyo Electric Company](#), we're expanding our solar cell and module production around the world. Here in the US, we're already established with two photovoltaic ingot manufacturing plants — one near LA and one in Oregon near Portland. These generate sufficient material to be converted into the modules that make up solar panels for a lot of our sales here in the US. We then assemble those modules in Mexico, once they're finished with the circuitry and electronics, for distribution in all of North America.

We also just announced last week that Panasonic will build a new solar cell manufacturing facility in Malaysia that will nearly double the output capacity of our company. I'm distinguishing cells and modules from panels here. The important thing is to create the underlying solar cells that are then assembled into different sized panels for different installations.

We're trying to take advantage of a much stronger growing awareness — at least the developed world and in some cases parts of the less developed world — that solar is a natural and readily attainable resource in almost any area of the world including overcast areas. As a result, all around the world, Panasonic companies in their various regions have ongoing working relationships with multiple installers and with financing companies that can help individuals and businesses on essentially a lease-back basis.

We finance the up front cost of the solar installation so that over the life of the system, typically 15-20 years, you only really pay a reasonable annual sum to pay down the up-front loan.

And at the same time you will come out way ahead of what you might typically pay to get the same amount of energy from traditional carbon sources. Today, Panasonic's photovoltaic cells are in fact the world's most efficient cell. In their raw state, they are able to convert a little over 20% of the solar energy into electricity, meaning they exceed the next best thing from competitors by several percentage points. In addition, we have — coming to market soon — even more efficient panels. The other element of Panasonic's products, which came through Sanyo, are the [HIT solar panels](#).



Essentially, it is a bifacial panel with two surfaces: the one facing the sun directly, and one underneath with the ability to collect reflected light or light that comes in on a perpendicular path. This panel can add as much as 20% efficiency above and beyond a single face panel. These are now going into lots of installations into the US. We have major installations going in at entertainment and sports venues, hotels and office buildings, high schools, grade schools and universities, and at some fascinating businesses.

For example, we have an installation at a beer brewery in Southern California, at a Silly Sauce manufacturing plant in Oregon, and similarly diverse locations where businesses find that it is cost effective. And of course a really good community feel-good action to get at least a part of their daily power from sun power.

2. Smart Products and Homes

More and more entrepreneurs and companies like ours are making products that are smart products that can be networked and literally talk to each other.

If products in your home can report what they are doing when they are doing it — with regard to energy creation or storage or use — then you as a homeowner or business, can manage energy costs much more effectively. You can buy power when it is lower cost, typically during off-hours when the rates are lower and store it in batteries. Products such as room air conditioners with occupancy sensors, can sense that no one is in the room and turn themselves off. If they sense you are on one side of the room, they can direct the air to you. All of these things are becoming more and more common.

To knit them all together, we have a home energy management system — ADSM — which is an application on your TV. These will be available on Panasonic Viera televisions, or can connect on your Blu-ray player. ADSM lets you easily and simply see where power is going, how much, what's available if you have storage, and what's being generated locally if you have solar panels, fuel cells or a wind turbine. You can see on a combination of pie charts what's going in and out, what's needed, and what it costs. It's easy to understand.

Our goal is to make this so attractive, simple and appealing, that with no more than two clicks, you get the information you need. This would become the norm, the routine. It will be so intuitive and simple — with no computer involved — that with a remote control or an iPad it's just a natural part of your daily routine.

Your TV becomes your partner in electricity and home economy management. The information can come from smart devices, automatically through the power system in your house to the information hub of the home energy management system, or you can have individual plug-ins for devices that monitor and report to a wireless hub.

3. Recycled Content and Resource Conservation

The third trend — a very happy trend — is for:

- Ever more manufacturing for the end of life, that is smart manufacturing with an eye to developing products that are meant to be recycled at the end of their useful life;
- Using more recycled materials; and
- Developing cleaner manufacturing.

In our case, of course, we've been doing this to conserve resources and minimize production costs. To the extent that you can recapture resources and reuse them, at a minimum you cut out the transportation to get raw resources. To the extent that you can find the materials used in a current product locally, that have a useful afterlife, you can recoup production costs after the fact. The goal for Panasonic is not just to reuse resources to have as small an impact as possible on the environment, but to get to zero CO2 manufacturing — which we're approaching in some cases already.

Secondly, we want to ensure that today's products don't contain the hazardous materials that many consumer electronics did in the past.

We've completely eliminated lead in the TV glass and solder, as well as hazardous materials such as cadmium, mercury and chromium.

Our company has established a goal for the coming year of increasing our recycled content for the entire product line by double. That means we will reuse materials by a little less than 10% to more than 10%. Over time, we plan to increase that still more as we find ways to recycle resins in plastics, and all the metals.

This is a trend growing across the consumer electronics industry. We now have well over 1,000 drop-off locations where you can leave your Panasonic electronics, and we work with those locations to pick up and properly recycle these materials. When we have to ship overseas we do audits and pay fair labor. We even manage the collection and recycling of products on behalf of 35 other companies, and we're growing that business through a recycling management company that we set up 5 years ago. That is a growing business that, while not core, does cover its costs.

Finally, we are developing new products from recycled materials.

For example, we are now testing insulation created out of television tube face panel glass. We already make products from face plate glass for insulation in hot pots that heat hot water in a hotel room, or line the walls of a microwave in order to redirect the heat inside the oven. But the new product is turning face panel glass into glass wool, spinning it into finer-than-a-human-hair fiber that becomes the core of an extremely efficient insulation material which we call Vacuua or UVacuua Ultra. Using a vacuum, we compress the internal insulation material so that something as

thin as quarter of a deck of cards could be at least 8 times more efficient than insulation that is 10-15 times as thick. We expect to find a market for this in building insulation, which would make it possible to use less material by thinning the depth of walls in homes, saving on wood, plastic and other materials. And that's just one example of our drive to use recycled resources in products as much as possible.

All this is a growing and very welcome trend to end of life design which is both cost effective and utilitarian. In the past, some people thought that recycled materials weren't as good as using original materials. I've heard of this in the case of post-consumer paper napkins and paper towels. But I think that negative notion is disappearing because more people recognize the importance of good resource reuse.

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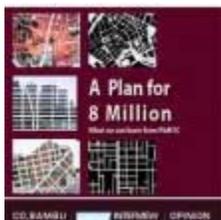
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[What's Next?: January 2012](#)

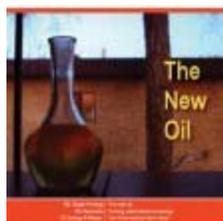
Companies, readers and analysts had a lot to say about what happened in 2011 and what it means for 2012. Read the best of the reader's responses, along with interviews with Panasonic, Mohr Davidow, Jones Lang LaSalle, Duke Energy, Acorn Energy, and Advantage for Analysts.



[Vision and Planning: November 2011](#)

For a wide range of businesses, the green economy continues to be stalled behind a lack of vision and a supporting plan. In this issue we look at a long term plan, two businesses creating new markets, and a mass

movement that has lost its way.



[The New Oil: October 2011](#)

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