UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14D-9

Solicitation/Recommendation Statement Under Section 14(d)(4) of the Securities Exchange Act of 1934 (Amendment No. 6)

SUNPOWER CORPORATION

(Name of Subject Company)

SUNPOWER CORPORATION

(Name of Person Filing Statement)

Class A Common Stock, \$0.001 par value Class B Common Stock, \$0.001 par value (Title of Class of Securities)

> 867652109 867652307 (CUSIP Number of Class of Securities)

Thomas H. Werner Chief Executive Officer and President 77 Rio Robles San Jose, California 95134 (408) 240-5500

(Name, address and telephone number of person authorized to receive notices and communications on behalf of the persons filing statement)

With copies to:

Bruce R. Ledesma Executive Vice President, General Counsel and Corporate Secretary 77 Rio Robles San Jose, California 95134 (408) 240-5500

R. Todd Johnson Stephen E. Gillette Jones Day 1755 Embarcadero Road Palo Alto, California 94303 (650) 739-3939

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Check the box if the filing relates solely to preliminary communications made before the commencement of a tender offer.

This Amendment No. 6 (this "Amendment No. 6") amends and supplements the Solicitation/Recommendation Statement on Schedule 14D-9 initially filed with the Securities and Exchange Commission (the "SEC") on May 3, 2011, (as the same may further be amended or supplemented from time to time, the "Schedule 14D-9") by SunPower Corporation, a Delaware corporation (the "Company" or "SunPower"), relating to the tender offer disclosed in the Schedule TO, dated May 3, 2011 (the "Schedule TO"), filed by Total S.A., a société anonyme organized under the laws of the Republic of France ("Total") and its indirect wholly owned subsidiary, Total Gas & Power USA, SAS, a société par actions simplifiée organized under the laws of the Republic of France ("Purchaser"), to purchase up to 34,144,400 Class A Shares and up to 25,220,000 Class B Shares (or such greater number of Class A Shares and Class B Shares as Purchaser may elect to purchase as expressly permitted by the Tender Offer Agreement) at a purchase price of \$23.25 per Share for each class, net to the seller thereof in cash (the "Offer Price"), without interest and less applicable withholding taxes, upon the terms and subject to the conditions set forth in the Offer to Purchase, dated May 3, 2011 (as amended, supplemented or otherwise modified from time to time, the "Offer to Purchase") and the related Letter of Transmittal (as amended, supplemented or otherwise modified from time to time, the "Letter of Transmittal") (which collectively constitute the "Offer"). The Offer to Purchase and the related Letter of Transmittal are filed as Exhibits (a)(1)(A) and (a)(1)(B) to the Schedule TO, respectively. Any capitalized term used and not otherwise defined herein shall have the meaning ascribed to such term in the Schedule 14D-9.

All information in the Schedule 14D-9 is incorporated into this Amendment No. 6 by reference, except that such information is hereby amended, supplemented and modified to the extent specifically provided herein.

This Amendment No. 6 is being filed to reflect certain updates as reflected below.

Item 9. EXHIBITS

Item 9 of the Schedule 14D-9 is hereby amended and supplemented by adding the following exhibit:

Exhibit No. Description

(a)(17) Transcript excerpt from SunPower 2011 Outlook Conference Call on June 7, 2011.

SIGNATURE

After due inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

SUNPOWER CORPORATION

Date: June 8, 2011 By: /s/ Dennis V. Arriola

Name: Dennis V. Arriola

Title: Executive Vice President and Chief Financial Officer

Transcript excerpt from SunPower 2011 Outlook Conference Call on June 7, 2011

Tom Werner - SunPower Corporation - CEO

The Total investment and credit support agreement will extend our competitive advantage beyond technology and downstream integration as we expect to materially improve our cost of capital, expand our R&D investment, and broaden our market access. This afternoon, we also announced that Total and SunPower confirmed our intention to close a tender offer on June 14, and we are both awaiting receipt of European Union competition law approval as permitted by EU regulations. With the grant of this waiver by both companies, all regulatory conditions through the completion of the tender offer are currently satisfied. All other terms and conditions of the tender offer remain unchanged.

With the Total transaction, the rebalancing of our product allocation, our cost controls, and our core downstream strategy technology advantage, we plan to use our favorable market position to gain share profitably in 2011 and 2012.

Dennis Arriola - SunPower Corporation - CFO

In addition, we will record one-time transaction expenses of \$13 million to \$15 million pre-tax related to the Total tender offer, which as Tom mentioned, is on track to close on June 14.

Tom Werner - SunPower Corporation - CEO

The Total investment and credit support agreement will expand our competitive advantage beyond technology downstream integration as we expect to materially improve our cost of capital, expand R&D investment, and further broaden our market access. With this strategic platform in place, SunPower is uniquely positioned to control our own destiny as the industry transitions beyond its current market conditions. We are completely focused on applying these competitive advantages to profitably gain market share and extend our leadership in the solar industry.

Jesse Pichel - Jefferies & Co. - Analyst

Okay. And secondly, reading through the offering document, does your guidance include a possible Tenesol acquisition? And if not, can you give us a snapshot of what the revenues of that company and the balance sheet of the company looks like?

Dennis Arriola - SunPower Corporation - CFO

Yes. First of all, no, it does not include anything related to Tenesol. And at this point, since we haven't really completed the due diligence, I'd rather not go into that because we just haven't negotiated a deal or finished due diligence.

Tom Werner - SunPower Corporation - CEO

Jesse, we need to, of course, get through the tender, close the Total transaction and then, as indicated in the documents, we would start diligence.

Kelly Dougherty - Macquarie Research Equities - Analyst

I just have one quick follow-up on that. About maybe the working capital impact of doing less projects. Should that actually benefit you, or do you have to expend any kind of terms on the modules side?

Dennis Arriola - SunPower Corporation - CFO

First of all, it benefits us because we were looking to use the balance here, external financing in order to do the UPPI projects, so we won't need to do that. From the — as we reallocate the modules and the systems to R&C, it's a pretty fast turn, and our credit terms don't go out substantially far, so actually I think it's a net benefit.

Tom Werner - SunPower Corporation - CEO

And now, we are not offering any special financing, or no special terms, to answer that part of your question, Kelly. And I do want to mention here as well that the Total transaction, we expect it to close on the 14th. And of course there is a halo effect associated with that that will reduce cost of capital to SunPower. We've already seen sort of the early stages of that before we even closed, so that's relevant to this as well.

Howard Wenger - SunPower Corporation - Pres. - Utility and Power Plants

Sure. I think you can split it into the near term and medium term and long term. Near term, some of the market that were active outside of Europe, in the US, in Asia, India, China, Japan, certainly, and also in other parts of the world, including Israel, South Africa, Middle East, North Africa, so those are some of the near-term markets. Those markets are largely focused on the on-grade reconnected segment. And they're growing, and they're growing faster than the conventional markets that have taken the industry to where it is today.

Medium to long term, one of the things that we're really excited about with Total is their footprint over 130 countries. As we approach grid parity to drive our costs to that point, an intersection, it opens up a whole new envelope around the world for demand. And that's something that we are certainly positioning for with — on both the rooftop and the ground-mounted systems.

Pavel Molchanov - Raymond James & Associates - Analyst

Thanks for taking my question. Just real quick, what is Total's view about your shift away from being a systems developer back towards being more of a component supplier into the industry?

Tom Werner - SunPower Corporation - CEO

So, a couple comments about that, Pavel. One, that was a little extreme. We have not exited systems development. We exited systems development in Italy in 2011, would be probably an accurate statement. We're very proud of our development capability in America, and we're very proud of our ability to develop projects all over the world outside of Italy, and we'll continue to do so.

Having said that, it is fair to say that we have shifted, certainly in 2011, focus to residential and commercial, and to some degree, component. Total would tell you, that they would have forecasted this, because they're a very large European company. And in their process of diligence, they would've told you that they're not surprised by what's happening in the market. Now, I don't mean literally the specifics of the decree. I mean the general trend. And they would tell you that's the reason why they're investing in SunPower, because the diversity of channels, the diversity of product, and the diversity of geographic footprint, among other things. So, I think this is showing one of the reasons, and it's motivated them to partner with us. Of course, presuming the transaction closes.