

Residential Solar Interconnection Delays Nearly Double in 2015

Author: Vega Bisaria

The article titled, **Residential Solar Interconnection Delays Nearly Double in 2015**, published in GTM Research is enough to stir anxiety among all stakeholders in the solar market. Expanding **Permission to Operate** (PTO) wait times could be a reason for grave concern if adequate focus is not given to it right now as they considerably increase the soft costs which in turn accounts for over 65% of total residential PV installation costs. Manual process to manage interconnection applications is primarily responsible for the increase in the wait time to get a PTO letter. **eTRACK**, offered by ANB Systems is a user friendly online portal specifically designed to meet the business needs of utilities and automate the end to end PV interconnection business process. After implementation of eTRACK our customers boast of their enhanced ability to handle high volume of applications, better reporting, improved customer experience and most importantly propagation of transparency in their PV application process. Moreover, we have witnessed that using eTRACK, around 50% of residential applications can be completed in less than two weeks, as opposed to the manual process which on an average takes 40-60 days for completion.

eTRACK accomplishes this to on-line submissions, streamlined processes, workflow re-direction to appropriate authorizers, cohesive document management, electronic signatures, and approval facilitation. eTRACK's dashboards identify accounts that need additional efforts and show the overall status at a glance.

To understand the breadth and depth of the implications of delayed PTO letters and the significance of adopting eTRACK for automating the PV application process; a quick analysis of growth in renewable energy, with a focus on exponential growth in solar industry in the US region needs to be undertaken.

Investment, generation and consumption of renewable energy have increased to manifold in past few years. Increasing investment in renewable energy is attributed to the increasing environmental awareness and lowering of operating and maintenance costs on the back of rapid advancement in technology. North America is the fastest growing solar market, led by the US, where, annual solar installations are estimated to reach 16 GW, 119 % up from last year's 7.3 GW . Figure 1 shows the changes in energy consumption by each renewable source in between 2011 - 2015. Solar energy is leading the way with a whopping CAGR (Compound Annual Growth Rate) of 60%, followed by wind which is growing by a CAGR of 12%



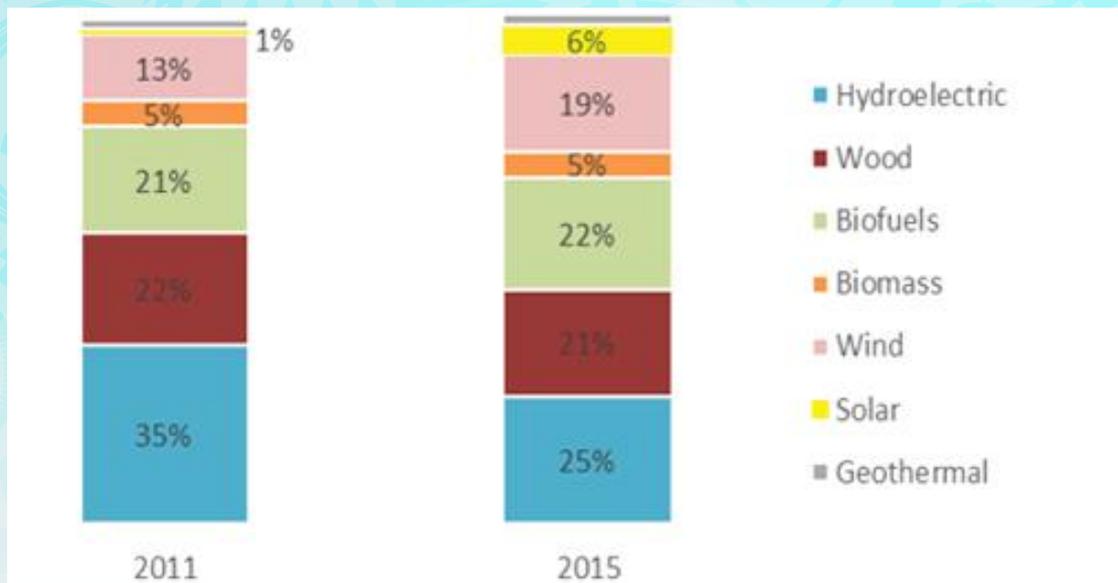


Figure 1 - Comparison of growth of various renewable sources of energy

The rapid growth in solar industry in the US is primarily driven by reducing solar PV prices, followed by federal incentives and abundant financing options. Over the time from inception of solar PV till date (1975 - 2016) the price of solar energy has reduced to over 130 times, from 76\$/Watt to 0.57\$/Watt . It is expected that as the penetration of solar energy will continue to grow, the cost of solar PV will scale down, thus attracting more customers from all three sectors; residential, non-residential and, utility. Based on a customer's data which on an average approves over 300 PV interconnection applications per month, the residential systems contribute to a smaller fraction, as low as 16.3% of the solar market in terms of connected capacity, however, they pump up installations by volume and attribute to as much as 98.8% of total. As a result, utilities receive an inflated number of applications, and the wait time of customers for receiving a PTO letter considerably increases, as each application has to be processed one at a time.

Until the PTO letter is received the solar system cannot be turned on even when the installation is complete. The delay in PTO letter increases the soft costs for utilities, keeps the employees tied up and frustrates customers as it directly deprives them to utilize the benefits of their solar unit. In all any expansion in receiving PTO converts into heavy monetary loss and perpetuates stress among all the stakeholders. Apart from grid reliability concerns, by large, tedious manual application process is responsible for a delayed PTO.

PV interconnection process can be broadly divided into four major modules, as shown in Figure 2. PV construction module is the fastest to be completed while the interconnection application review and approval module contributes most to the end to end PV application processing time. The time spent in the interconnection application review module can be controlled and greatly reduced by investing in online application process. When done manually, the application review process steps become iterative and may invite errors and eventually result in wastage of resources. Online application procedures not only improve the efficiency of application processing it may also provide the utilities with an opportunity to interface internal data with external systems.



Figure 2 - PV interconnection application steps

eTRACK, is a solution for all the utilities struggling with manual interconnection application process. It can reduce the processing time of PV interconnection applications by 4 times (Figure 2). Apart from providing customers/installers a real time access to their projects and rebate information, it provides seamless integration to the existing information systems with top notch data security and regular project status updates via e-mail. eTRACK is completely customizable which makes it the leading online portal used in the energy industry. Following are some of the key features of eTRACK.

Workflow: eTRACK provides a customizable workflow which can be altered based on the requirements. The workflow keeps track of the changes in the application from its inception to completion. Multiple workflows can be activated on same portal to cater the specific needs of individual projects.

Document Management & eSignature: eTRACK provides a broad range of document management facilities such as tracking and storing electronic documents. It also enables the installer/customer/utility to do eSignatures which greatly reduces the application process cycle and contributes to the paperless work.

Integration: eTRACK enables utilities to take a more data based approach to interconnection by interfacing the application information with other enterprise systems, including GIS, PVWatts among others.

Reports & Analytics: eTRACK utilizes available application data and provides customizable reports and data visualizations which helps in assessing key performance indicators and enable distribution planning and operations to make informed decisions. Multiple ad-hoc models are available for reporting Figure-3 shows a snapshot of one of the reliability console dashboard available on eTRACK.

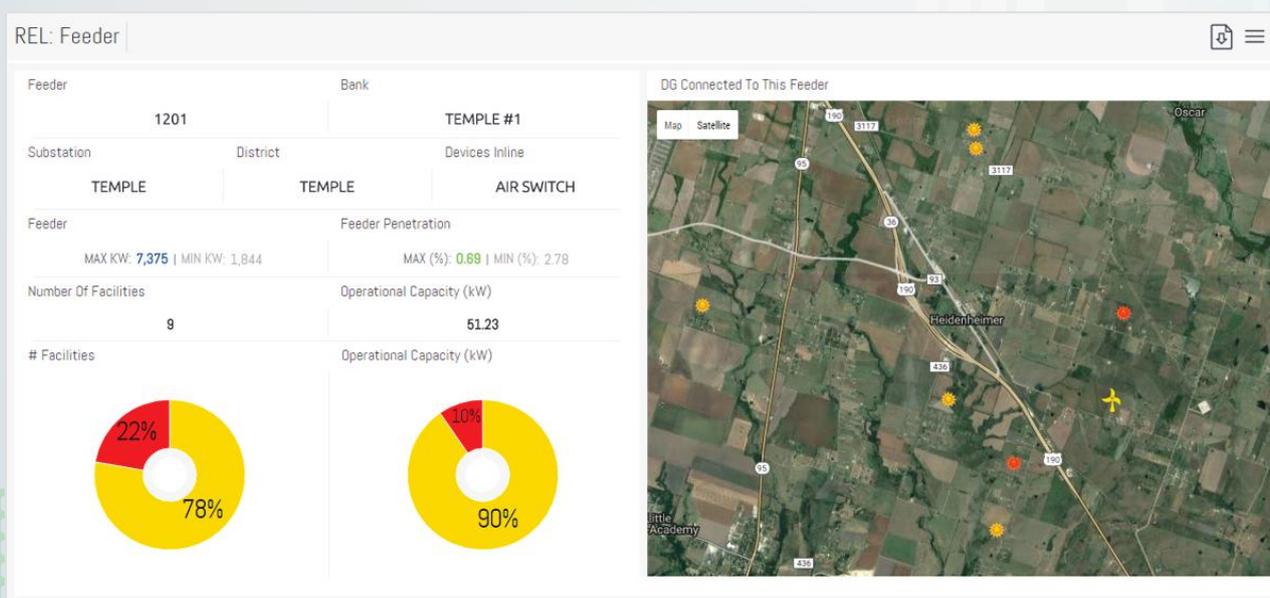


Figure- 3 Snapshot of reliability console displaying location wise feeder information

Customer Relationship Management: eTRACK provides an online portal for installers as well as customers so as to keep track on the progress of the project. Automated e-mails are sent to both the parties whenever there is a change in the status of the project. Installers can edit the projects whenever they want to. To ease the user experience, training guides, videos and online help is provided as and when required

- <https://www.greentechmedia.com/articles/read/residential-solar-interconnection-delays-nearly-double-in-2015>
- <http://energy.gov/eere/sunshot/soft-costs>
- <http://www.solarpowerworldonline.com/2016/03/u-s-solar-market-to-grow-119-in-2016-installs-reach-16-gw/>
- http://www.eia.gov/energyexplained/?page=renewable_home
- <http://understandsolar.com/cost-of-solar/>

Reported by a Project Manager at a major utility where eTRACK has been deployed

Author



Vega Bisaria is a Business Analyst with ANB Systems who has received her Master's degree in ChemE from the University of Florida and bachelor's degree from the VIT University. She has authored a research paper published in Energy conversion and Management, Elsevier Journal. She is passionate about sustainability and looks forward to make a mark in this field.



Please visit <http://www.anbetrack.com/> to know more about this product.