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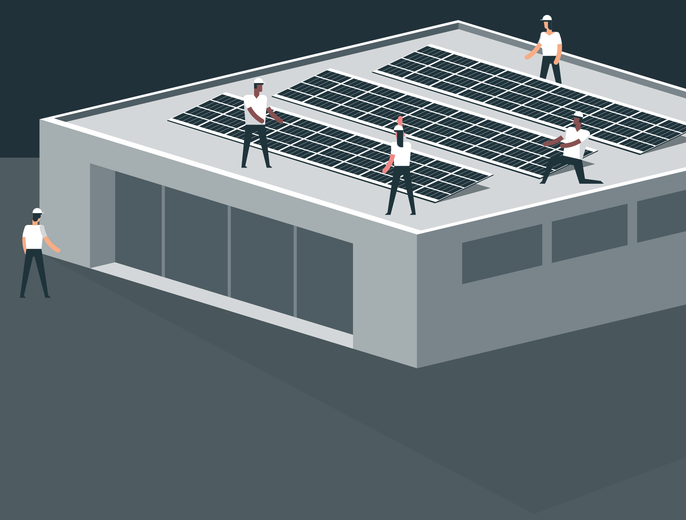
Digital Innovation as an Accelerator for

Rapid Growth in Commercial Solar



The Urgency

To achieve the goal of net-zero emissions by 2050 in line with the UN Paris Agreement on climate change, solar PV is a primary lever to pull. In fact, industry experts estimate that we must install[1] 455 gigawatts (GW) of new solar PV capacity via residential, commercial and utility programs globally each year through 2030.

2030 Global Targets

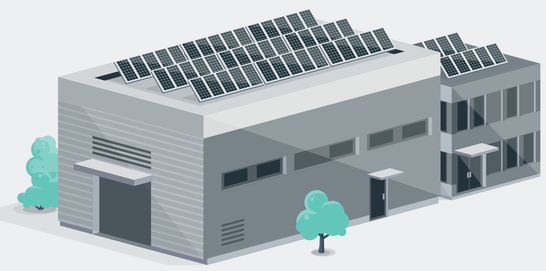
268 GW
of new solar capacity
installed
2022

315 GW
of new solar capacity
expected
2023

455 GW
of new solar capacity
needed

Annual Pace

The pace needed to support the 2050 net zero goal requires the world to deploy roughly as much solar as has ever been installed in its two largest economies.



With such an aggressive task ahead, the challenge for solar PV is clear:

Deploy with significantly greater speed and scale, and at a sustained rate for the next several decades, than has ever been done before.

Across program types, challenges in the deployment of solar infrastructure undoubtedly exist to manage the increasingly high volume of projects, assets, sites and field resources needed to be successful and capitalize on market demand. But commercial solar in particular is facing a set of challenges from initial development activities like siting and permitting, to engineering, procurement and construction, and the eventual handover to operations and maintenance that require intelligent tools to standardize processes while leaving room for the inevitable variability from project to project to ultimately gain efficiencies and lower overhead costs.

The Challenges

Let's explore some of the top challenges facing the deployment of commercial solar infrastructure today.

01 Since 2015, soft costs, including customer acquisition, installation labor, permitting, and financing have accounted for more than half of total costs for commercial systems.

02 Regardless of whether one company is owning end-to-end development, EPC and O&M, or subcontractors are being used for pieces of the process, a lack of centralized project detail creates costly project delays.

03 Project and asset managers are burdened with disparately housed administrative tasks like lease agreements, incentives and PPA/vPPA contracts.

04 Short project lead times combined with large installations can wreak havoc on job forecasting and product sourcing.

05 Financing has become more difficult as tax equity financing sources find the more consistent revenue streams of residential solar and the credit ratings of those backing utility scale projects more appealing.

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The Solutions

Deployment operations management solutions are establishing a growing presence in commercial solar. These systems address industry challenges in the following ways.

Standardized project templates, automated document generation, and easy-to-use mobile forms for field technicians cut redundancy, avoid mistakes, and speed up work.

Centralized permitting workflows from submission to final approval cut soft costs and shorten project timelines.

Deep insight into the capabilities, status, and historical performance of internal as well as contractor labor allows solar companies to maximize utilization.

Cloud-based, centralized storage of all project-related documents – files, photos, maps, and more – plus automated document-generation functionality speeds project closeout and saves labor and, for commercial projects, substantial legal costs.

Forecasting and analytics tools enable better positioning and project planning, making it easier to adjust to inevitable surprises in terms of changes in scope.

A single source of truth for not only project history and status, but also capital funding, tax credits, and incentives combined with comprehensive reporting capabilities vividly demonstrate economic viability to lenders.

[1] New Energy Outlook 2022 | BloombergNEF | Bloomberg Finance LP. (2022). BloombergNEF. https://about.bnef.com/new-energy-outlook/

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