Significance of Solar Asset Management with case studies



**PROPOSAL:**

Asset management typically refers to the orderly direction of assets over their life cycle. Assets are either physical or immaterial. Physical assets can include equipment that generates value and its components. Immaterial assets include cash and securities. The purpose of asset management is to appreciate the value of the assets.

**ABSTRACT:**

Solar asset management revolves around maintaining the physical equipment and components of a power generating site, and the generation and sale of energy. It is the systematic course of a site’s physical assets to ensure optimal financial performance.

Solar asset management can be split into three components:

1. **Technical solar asset management:** Monitoring and reporting the real time and estimated power generation performance of the project or portfolio. This involves a holistic approach to knowing how much a project should be producing for any given period (considering factors such as weather, seasons, or degradation of assets), ensuring that generation targets are met, and uncovering the causes if not. The labor involved in physically maintaining the site is considered Operations and Maintenance (O&M) and can be done in house or outsourced.
2. **Commercial solar asset management:** Tracking costs, warranties and ensuring contacts, compliances, and other regulatory requirements are met. Regulatory compliances need to be met to qualify for benefits such as the Solar Investment Tax Credit (ITC) and Renewable Energy Certificates (REC).
3. **Financial solar asset management:** Tracking and reporting investment performance. This may also include invoicing, tax preparation, insurance administration, and equity management. Managing the entire portfolio to ensure that the investment is meeting NPV and IRR targets helps to sell the investment in the future.

This paper illustrates about the significance of solar asset management services and focuses on the following critical goals related to it:

1. Reduces risk and improves investment performance.
2. Track, control and maintain cash flow to match the predicted cash flow in the financial models.
3. Lowers Levelized Cost of Electricity (LCOE).
4. Prevent fees and other legal implications due to missing compliances and regulations.
5. Apply preventative maintenance and increase power generation.

Additionally, this paper uses couple of case studies to demonstrate the above goals with worst case scenarios.

BIOGRAPHY – (TO BE DETERMINED)

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|  | **Pramod Krishnani** **Senior Consultant, Renewables Advisory**DNV GL Singapore Pte. Ltd.pramod.krishnani@dnvgl.com Mobile +65 9829 7150 [dnvgl.com](https://dnvgl.com)  |  [LinkedIn](https://www.linkedin.com/company/dnvgl)  |

*Pramod Krishnani is a recognized renewable industry subject matter expert*

*specializing in power plant optimization and reporting; plant acceptance testing;*

*performance guarantee contract management; performance field fault detection*

*analytics; lean project management; and renewable industry international*

*standards development. Prior to joining DNV GL, he was responsible for optimizing*

*the financial and technical asset performance of sPower’s rapidly growing*

*renewable energy portfolio. He has extensive experience in performance reporting*

*and technical optimization of combined Solar and Wind fleet exceeding more than*

*3.7 GW. Preceding to joining sPower, Pramod gained experience working as a*

*Technical Services Manager – O&M for SunEdison’s Yielco Terraform Power and*

*Performance and Operations Engineer for the O&M and EPC company, Belectric.*

*He worked for the Sacramento Municipal Utility District holding various positions*

*from Engineering Student Renewable Energy R&D Intern to Mechanical*

*Engineering RE Tech in the Energy R&D Department; where he gained wide range*

*of experience in numerous renewable energy technologies like Solar, Wind, Energy*

*storage, Hydro Energy, Geothermal Energy, Biomass/Biogas and smart grid*

*technologies along with demand response.*

*Apart from work experience, Pramod is an appointed expert of the International*

*ElectroTechnical Commission (IEC), ASTM, NREL, DOE and SANDIA Solar PV*

*Standards Committee. He has been a featured speaker and a technical writer for*

*PV O&M conferences like IEEE PVSC, PVInsider, NREL and Sandia National*

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*Pramod earned his Master’s degree with a focus on Mechanical Engineering and*

*specialization in Thermal & Fluid Systems at California State University,*

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