



# PROJECT LIFE-CYCLE SUPPORT SERVICES

SPECIALIST ENGINEERING SUPPORT FROM CONCEPTION TO DECOMMISSIONING



UTILITY-SCALE SOLAR FARM IN MID-SUMMER SUN

# INTRODUCTION

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Every large-scale solar asset goes through the same project life-cycle phases. From conception through to end of life, these phases, and the critical tasks within are repeatable, and history has proven that things can be done better.

Through our expanding network of asset owners, solar developers, EPC and O&M companies, 2DegreesKelvin have been tirelessly focused on providing extensive value to all our clients throughout the project life-cycle phases.

As we transition to sustainable subsidy-free large-scale solar development, it's clear that margins and ROIs are tight. It makes complete sense therefore for the key stakeholders within the project life-cycle to partner with strategic support providers, such as 2DegreesKelvin.

Our combined team has over 100 years experience, and 2GW of development, construction and O&M experience to draw on. 2DK has a unique suite of specialist support services and solutions to add maximum value throughout the key milestones of large-scale solar development.

This brochure takes you through the project life-cycle and our relevant support services.

## WHAT OUR FOUNDER SAYS...



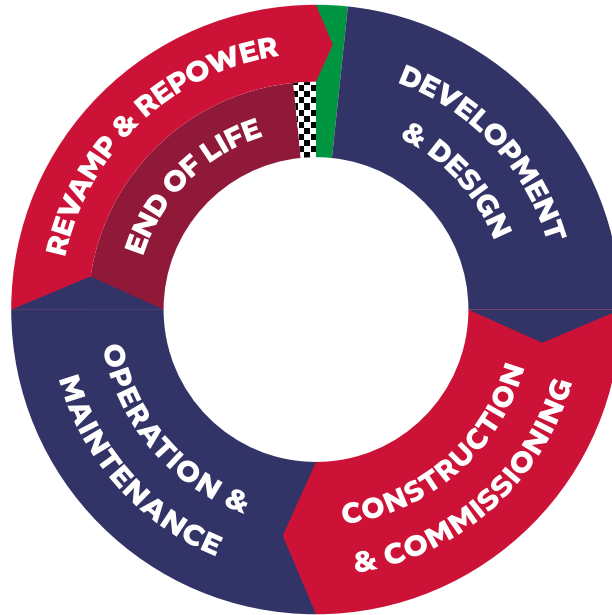
### JOHN DAVIES

CEO of 2DegreesKelvin

*"After servicing over 10% of the UK fleet, it's clear that mistakes were made in the solar boom which need rectification. The application of advanced inspection services leading onto revamp & repower project delivery is inevitable for most of our operational fleet. Quality management lessons learnt now need to be applied to our subsidy-free pipeline of new-build assets at each step of the project life-cycle to make solar the best it can be."*

# WHAT IS THE PROJECT LIFE CYCLE?

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# WHAT'S THE PROBLEM?

## TOP 5 ROOT CAUSES OF FLEET STATUS

1

**Poor development and design standards**

2

**Poor selection of components and materials**

3

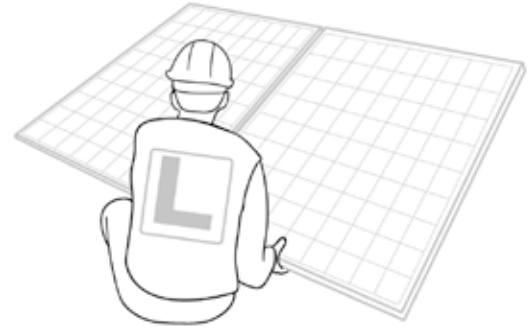
**Poor construction standards (EPC profit focused)**

4

**Total lack of quality assurance (all phases)**

5

**Winter construction (annual cyclic subsidy reduction)**





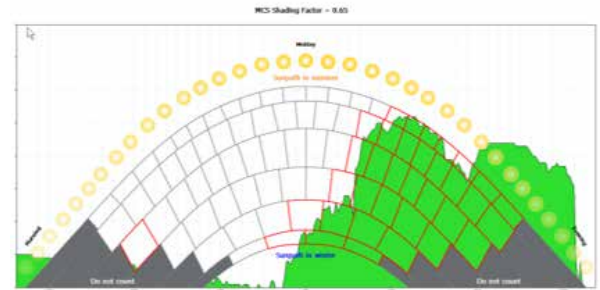
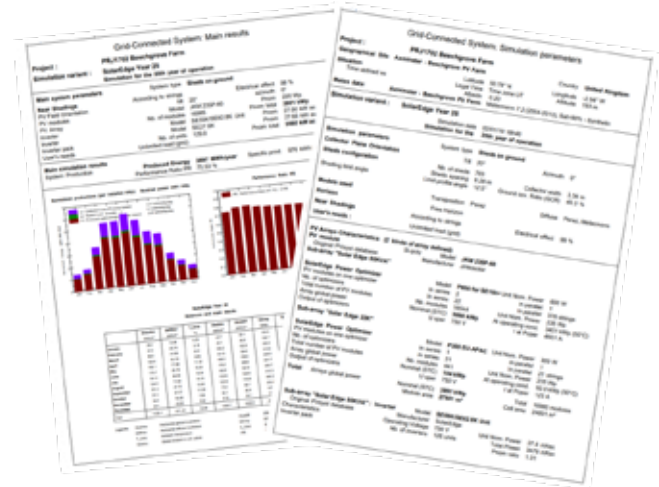
# DEVELOPMENT & DESIGN

Following the solar boom, the whole sector learnt many lessons. Some of which related to how not to develop & design solar farms. Solar assets were designed without operability & long-term reliability in mind. Ecological measures were an after thought and the project life cycle of an asset was not fully considered.

Drawing on decades of design & development experience, 2DK engineers and design & development partners (GreenEnco) form a professional and versatile extension of your development team. We offer the following support services:

- Conceptual land parcel utilisation assessments
- Feasibility studies
- Preliminary & optimised solar farm design layouts
- Planning application management & advisory
- Employers Requirements formulation
- EPC tender management
- Construction oversight management

**GreenEnco**  
Maximising Asset Values



# CONSTRUCTION & COMMISSIONING

As solar PV component prices continue to decrease and the world's appetite for large scale renewable assets soars, an extremely healthy pipeline of utility-scale projects has now developed.

However, EPC teams need to remain lean in order to maintain tighter profit margins within the supply chain. Their requirement therefore to outsource local specialist support services is on the rise.

As of Q4 2021, 2DK have helped construct over 200MW of solar, with an additional 170MW currently under construction. The horizon pipeline suggests over 200MW per year for the next few years for EPC support services alone. Providing services such as:

- CDM Regulations support
- Local Procurement Support & Small Orders
- DNO / ICP Coordination
- Resourcing (Site Managers, HSE Advisors, etc)
- Drone Works
- Module testing & quality management
- Risk Management Support
- Commissioning Support



# OPERATIONS & MAINTENANCE

Drawing on a decade if O&M experience, managing over 250MW of large-scale solar farms, John and his team have first hand experience of what it takes to execute an O&M contract. Following years of market consolidation and contract price point pressure, it is now harder than ever for an O&M company to fulfill its contractual obligations whilst remaining profitable.

Assets are ageing quicker than anyone could have perceived, and O&M teams are under serious workload pressure just to keep up with their preventative maintenance obligations.

Resident O&Ms are the first port of call for asset owners to try and make sense of emerging operational conditions, defects and failures. However, many leading O&M companies do not have the in-house specialist capabilities or indeed the time to resource these investigations and remedies sufficiently.

2DK offer a suite of specialist O&M support services to maximise the knowledge and understanding of your assets and to de-risk future investment decisions.

O&M support services include:

- Module defects & performance investigations
- DC system assessments & troubleshooting
- Module & DC system exchange projects
- Improvement & optimisation project delivery
- Revamp & Repower project delivery
- Asset visualisation & digitalisation services

2DK can form a seamless extension of your team to put you in the best light in front of asset owners and managers.





# SOLAR ASSET - END OF LIFE

## ASSET END OF LIFE SERVICES

In line with planning conditions all solar assets must be decommissioned and dismantled with the land they were build on returned to its original state. It is however likely that the majority of operational solar farms will be revamped & repowered to extent the operational life beyond their original planning application period.

This takes advantage of the exisiting grid/DNO connection and retains renewables energy contribution towards our net zero targets. However, there will be a requirement in these cases and assets will be decommissioned to dismantle, reuse, recycle and establish viable waste streams for all of the solar components on a solar farm.

2DK has developed a commercial & technical decommissioning model which provides a thorough and realistic estimate on what it will take to extract these assets back out of the ground. We also have developing partnerships with repurposing and recycling solar components.



# NEXT STEPS

## GET IN TOUCH

If you require more clarity on our services then check out our website, [www.2degreeskelvin.org](http://www.2degreeskelvin.org), which has more about our services as well as the free resources page where you will find free reports, articles and blogs.



Please feel free to email us with any queries you have about our services and how we may assist you with your solar asset.



[info@2degreeskelvin.org](mailto:info@2degreeskelvin.org)

## SOLAR BOOM BOOK

Solar Boom officially became an Amazon No.1 Best Selling Book in 4 categories, whilst knocking Bill Gates off the top of the chart with his book 'How to avoid a climate disaster'.

- No.1 in Energy Technology
- No.1 in Alternative Technology
- No.1 in Energy & Mining Industry
- No.1 in Power Resources

We cannot thank you all enough for the support. John is over the moon with how well our audience has received the book and we hope you all enjoy your copy of Solar Boom - The insider's guide to the utility-scale solar industry.





MOUNTING FRAMEWORK - MID-CONSTRUCTION



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