

What we do

Asset management support

- Ad-hoc support (by phone, email, or on site)
- Sanity checks, or more detailed review and comment, on periodic reports
- Planned OPEX monitoring / invoice approval
- Unplanned OPEX cost review and decision support
- O&M tenders management
- Warranty claim support
- QHSE support

Inspections

- Technical due diligence
- End of contract inspections
- Inspections review

Technical support

- Coaching of in-house and ISP O&M teams
- Major component replacement project management
- Independent spare part sourcing
- Retrofit recommendation
- SCADA system upgrades and data analysis
- CMS selection, installation support and data review

Asset optimisation

- Power curve and availability assessment
- Failure root cause analysis
- Major component failure forecasts
- Predictive maintenance strategy

Life extension assessment

- Assesments reflect your objectives, resources and risk profile
- BVGA in-house models to estimate remaining life of components recommendations
- End of design life inspection, assessment and recommendations
- Engineering, commercial and legal recommendations to maximise internal rate of return (IRR) for remaining life of asset.



BVG Associates helps owners and operators to make best use of their in-house and sub-contract resources to maximise revenues from wind farms.

Our team, led by senior engineers has extensive hands-on experience in wind farm management and provide in-depth analysis to ensure the long-term performance of your assets. We deliver in-house technical, engineering and O&M strategy advice when the need arises.

We provide a comprehensive approach to portfolio management including making best use of OPEX budget, energy capture optimisation, technical diagnostics and risk exposure containment and mitigation.

Our tailor-made support answers your needs from best practice recommendations to full scope asset management following ISO 55000 guidance.

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Wind farm operational support

We provide independent cost-effective expert support to your in-house operations when you need it. Low or no cost up-front framework

agreement with clearly defined costs for support.

We fill in the gaps in your in-house and O&M providers expertise.

Asset management support services

We provide practical, hands-on management of independent service providers over multiple sites. We have managed a number in the short and long-term. of major component

exchanges and improvements to SCADA, noise mitigation measures and blade condition in order to increase revenue

Wind asset life assessment

We provide cost-effective in-depth life analysis of wind assets from a single wind farm to a specific portfolio of assets. Our models enable us to estimate the remaining operational life of the asset and then identify life extension feasibility.

Our knowledge of the entire life cycle of wind farms and experience in supporting

owners of ageing wind farms give us a comprehensive understanding of portfolio management including managing OPEX costs, optimising energy capture, technical diagnostics and reducing risk exposure. We provide tailor-made support to help you maximise the long-term performance of your asset.

CASE STUDY: Asset management support services

Good management of wind farms is not nearly as widespread as we think it should be. We help our clients increase revenue now and increase long-term sale value of their assets. Assets need to be well looked after and this needs to be well documented for value to be maximised.

Following provision of due diligence services relating to the acquisition of a number of UK wind farms totalling 20 MW, and the provision of subsequent asset

management advice, we were asked to formalise our role.

We have continued to provide practical, hands-on management of a number of independent service providers over the multiple sites. Together with management reporting, we have increased revenue by managing component exchanges as well as improvements to SCADA, noise mitigation and blade condition.

We've been very happy with the dedicated, knowledgeable and pragmatic support provided by BVG Associates. In a world of loud messages from many, having an independent friend to help our senior investment staff maximise returns is just what we needed.

Mike Tracey MD, Cannock Wind Farm Services

CASE STUDY: Selection and implementation of new portfolio SCADA system

suppliers often need technical and commercial challenge in order to deliver timely, robust solutions. Having a team with long-term experience of design and implementation of SCADA enabled us to provide just what was needed through factory acceptance tests then through to the end of site and remote commissioning.

Acting as Asset Manager for four onshore wind farms, we recognised the limitations in control and reporting of the

Even experienced engineering wind farms, so made the case to the owners for a change.

> We specified the requirements for a portfolio SCADA system to replace the legacy systems supplied by the wind turbine manufacturer in the late 1990's. We then managed the tender process. identified a suitable supplier, and acted as project manager and owner's engineer for the successful supply, installation and commissioning of the new SCADA system.

BVG Associates is a renewable energy consultancy focusing on wind, wave, tidal and energy systems.

Our asset optimisation team is composed of experienced engineers and O&M professionals who have experience in all phases of the asset lifetime and can deliver in-house technical. engineering and O&M strategy when the need arises. The team is led by Martin Elliott and Margaux Delahaie.

Our clients choose us when they want to do new things, think in new ways and solve tough problems.



Martin Elliott has wide and deep experience of developing, commissioning and supporting bespoke control, monitoring and electrical systems for a range of wind turbines. He can act as your "in-house" technical expert, undertaking design reviews and quality audits on the hardware and software for wind farm electrical and control systems.

To contact Martin, email him at PME@BVGAssociates.com



Margaux Delahaie has worked in several European countries monitoring contractual obligations and performance management of wind farms. She has conducted multiple make or buy analyses based on detailed cost estimations, service contract reviews and recommendations to support O&M strategies. She has also carried out extensive market analyses, technical benchmarks and commercial business plans which have led to the creation of specific service structures. She speaks fluent English, French and Italian.

To contact Margaux, email her at MDE@BVGAssociates.com