



TECHNICAL **DUE DILIGENCE**



PROVIDING THE COMPETITIVE ADVANTAGE THROUGH TRUST

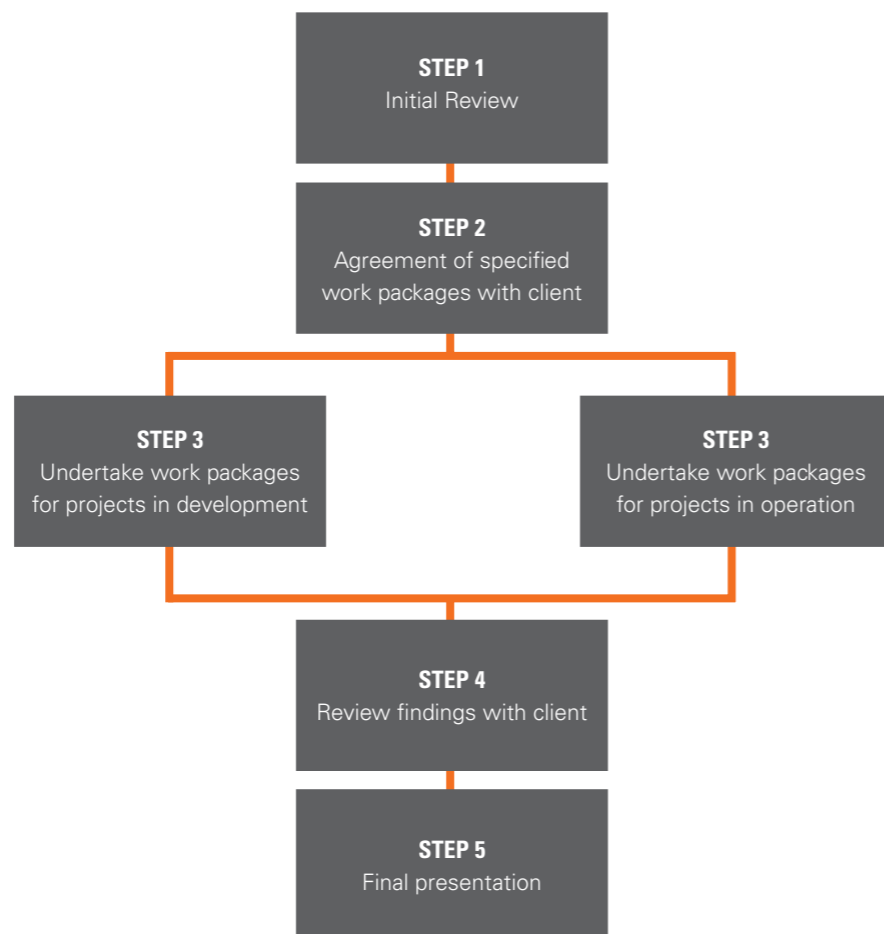
TECHNICAL DUE DILIGENCE FOR A WIND FARM PROJECT

Whether investing in an existing wind farm or developing from a green field site, owners, operators, investors, insurers and developers need to understand and mitigate a variety of technical, legal and socio-environmental risks before committing themselves to the undertaking. Risks which might compromise a project's profitability in the short, medium and long term usually originate during the initial stages of project development. In this context, independent technical advisors such as SGS assist clients in evaluating the technical feasibility of their project by means of a Technical Due Diligence. This process entails identifying both the probability of occurrence of risks as well as their potential impact on the project. The goal is twofold: (i) to ensure that the technical feasibility of the project makes for a sound investment and (ii) to ensure that all factors have been accounted for in the development process. These objectives are achieved by way of a thorough review of all available assets and/or data in order to reveal potential areas of concern.

PROCESS

SGS conducts Technical Due Diligence for both new project developments and operating wind farms, whether onshore or offshore. The SGS approach to Technical Due Diligence is based on a 5-step approach, as detailed below.

The steps will be tailored to suit the actual verification needs of each individual project.



While SGS's Technical Due Diligence mandates generally follow the sequence illustrated in the flow chart above, the exact scope of each of these steps is tailored to suit the specific verification needs of each individual project.

OUR TECHNICAL DUE DILIGENCE SERVICE

STEP 1

The process begins with an initial review of the project to gain an understanding of how SGS can assist the client in developing and conducting the investigation so as to maximise its value.

STEP 2

SGS will discuss with the client on the manner in which to proceed with the investigation to ensure that the clients' expectations will be met.

STEP 3

SGS will designate an appropriate team of experts to undertake the investigation, which will be executed in accordance with the previously agreed to requirements of the client.

PROJECTS UNDER DEVELOPMENT	PROJECTS IN OPERATION
Detailed document review of design plans, building permissions, installation schedule and planned operation and maintenance (O&M) schedules	Asset inspection covering the main turbine components such as rotor blades and hubs, mechanical transmission parts, gearboxes, nacelle and tower structures, generators, converters and transformers
Review of soil condition assessment and other site conditions	Inspection of control and protection systems, electrical systems, lifting equipment and personnel safety installations
Wind turbine evaluation with focus on track records of the particular wind turbine model and class, certification status and site suitability	Assessment of actual track record of the specific wind turbines installed against their predicted performance
Review of predicted development and installation costs	Review of maintenance records for inspections and repairs carried out to verify adherence to the defined maintenance manual and programme as well as the adequacy of the latter with respect to the requirements of the installations
Evaluation of the expected net annual energy production from individual turbines as well as the aggregate yield of the entire wind farm	Comparison of expected net annual energy production with actual operational data

The specific scope of each investigation will be customised to the individual project's requirements.

STEP 4

SGS will thoroughly review and report the findings of the investigation to the client and ensure that any technical issues identified are adequately addressed.

STEP 5

Committed to providing exemplary customer support, SGS remains available and prepared to accompany our clients at meetings, discussions, consultations or enquiries with regards to the technical issues detailed in our reports.

SGS COMPETENCE CENTRE WIND ENERGY

Raboisen 28, D-20095 Hamburg, T +49 40 30101 538, F +49 89 1250 4068 538, wind@sgs.com

