

Specific yield analysis

Site energy yield optimization requires careful analysis of solar irradiance level and type (direct/diffuse), physical installation constraints, shading characteristics and appropriate selection and integration of components.

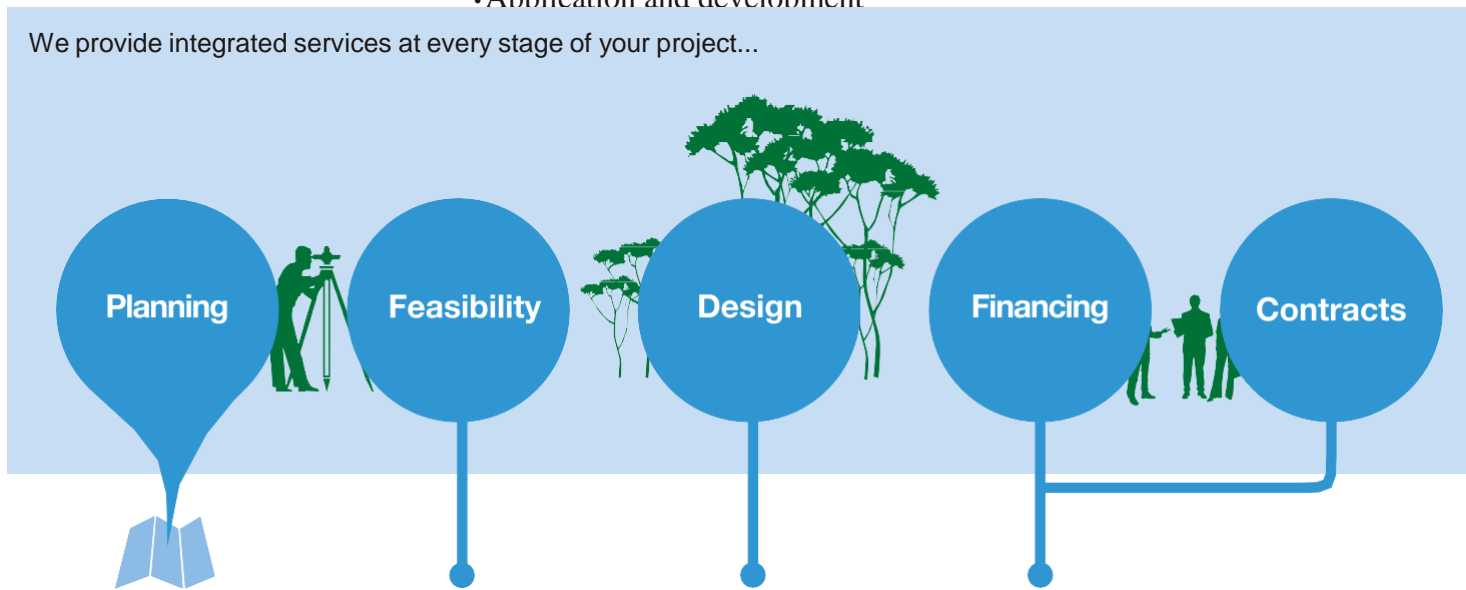
Our approach is to conduct thorough site audits and thereafter, utilize onsite measured data where available in combination with multiple, synthetic solar resource data sets and industry standard analysis software.

For building roof or façade integrated systems, Arup has developed a Geographic Information Systems (GIS)-based Irradiation Mapping Tool (IMap). This tool enables rapid analysis of solar yield potential for individual buildings or portfolios' ranging to thousands of buildings.

our specialist services include

- Multi-discipline owners engineer and investor technical due diligence.
- Integrated site analysis, component due- diligence, engineering design, procurement, construction management and asset management – via our multi-disciplinary structural, civil, mechanical, and electrical and controls teams.
- Risk management during design, construction and operation stages.
- Determination of resource and energy yield loss and uncertainty assumptions across the project lifetime, considering meteorological dataset sources, transposition models, specific losses, PV module rating and annual degradation.
- Application and development

We provide integrated services at every stage of your project...



Skills and services

We provide services which cover all aspects of planning, advisory, engineering and management. Our roles include owner's engineer, lender and equity technical advisor, contractor's engineer, REIPPP independent engineer and asset manager.

Skills

- Solar energy consulting
- Electrical engineering: LV, MV, HV, EHV
- Geotechnical engineering
- Civil and structural engineering: foundations, roads, bridges, utilities, drainage
- Controls and instrumentation engineering
- Transport and logistics consulting
- Planning and permitting consulting
- EIA management
- Financial and economic consulting
- Engineering, procurement, contract management and administration
- Project and programme management
- Health and safety consulting
- CAD and GIS

Services

- Business and project development planning
- Financial modeling and finance advisory
- Site screening and feasibility studies
- Surveys: geotech | hydro | topo | climate
- Lender and investor due diligence
- Programme development and management
- Transport access and impact assessments
- Planning, permitting and EIA management
- Solar resource monitoring and analysis
- Utility and building scale solar farm design and energy yield analysis
- Grid applications and grid code analysis
- Contract drafting and EPC management
- Construction and operations monitoring
- Defect due diligence and expert witness

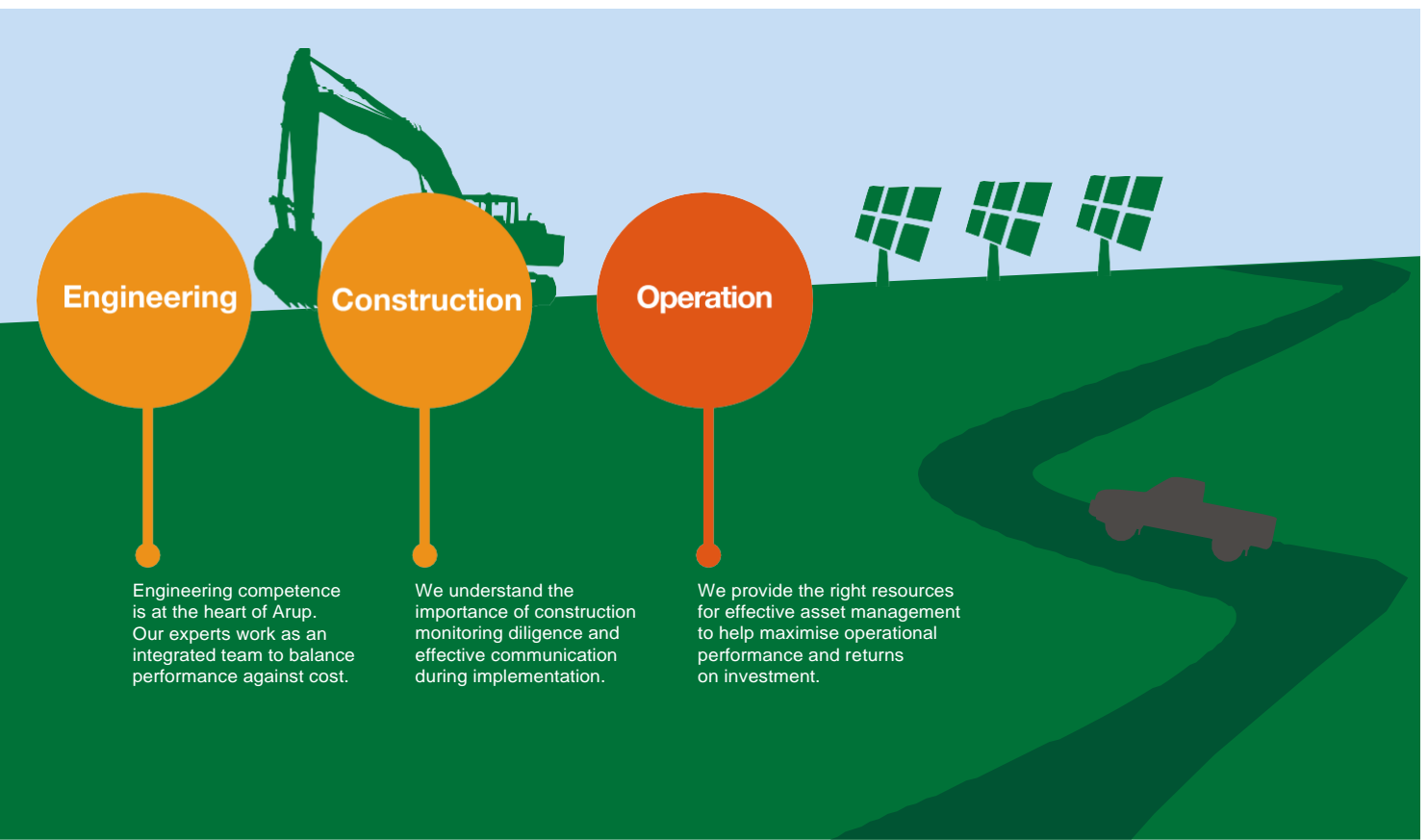
Your local technical partner

Local team

Our solar energy specialists are based locally in our Town offices, supported by our national and global staff network.

This enables our team to:

- provide mobile points of contact for face to face discussions
- provide cost-efficient services based on in-depth knowledge of the planning processes, engineering standards and codes, power purchase programmes and regulations specific to South Africa
- facilitate client access to local stakeholder contacts within Eskom, government departments, investors, lenders, contractors and manufacturers
- apply international experience and capability to local projects within the appropriate context



Engineering

Engineering competence is at the heart of Arup. Our experts work as an integrated team to balance performance against cost.

Construction

We understand the importance of construction monitoring diligence and effective communication during implementation.

Operation

We provide the right resources for effective asset management to help maximise operational performance and returns on investment.

A partnership approach