



INRG SOLAR

POWERING THE FUTURE

INFORMATION PACK



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About INRG Solar

INRG was set up in August 2009 by Tom Harlow (Managing Director) and Ian Gannon (Commercial Director) to develop large scale PV projects throughout Europe. Tom Harlow has over 15 years experience in the UK and Irish construction sectors. He is a director of Harlow Project Management Limited and advises a number of private investment companies on their property portfolios. He holds a degree in civil engineering from NUI Galway.

Ian Gannon has extensive worldwide experience in the design and construction of golf and residential resorts. He currently is a director of Arnold Palmer Golf Design. John Hunt is Finance Director having being in the banking industry for over 20 years primarily in property development and investment funding in Ireland and the UK. He holds a Bachelor of Commerce degree and a Masters degree in Finance from University College Dublin.

INRG entered the large scale PV Market in the UK in 2009 and quickly built up one of the largest portfolios in the UK by mid 2010. INRG solar is currently building the largest solar farm in the UK in East Hanney, Oxfordshire. INRG received planning in October 2013 and commenced construction on the 200 acre site. The 41MW power plant will power over 10,000 households and save c 25 tonnes of carbon dioxide. This project will be completed early in 2014 and be managed as a natural pasture land grazed by sheep to encourage a diversity of flora and fauna.

INRG Solar are also currently developing a 17MW site at Turweston, Buckinghamshire, a 7MW site in Silton, Dorset, 30MW in South Wales and with a further 12 sites throughout England and Wales being progressed for an early completion in 2014. INRG Solar specialises in taking sites from early enquiry through permissions and construction then establishing a final blue chip investor to manage the project for the remaining of the 25 years of operation.

INRG Solar is continuing to develop it's global investment portfolio focusing on solar parks in the UK and other markets and looks set to continue the momentum of development with a further 300MW in 2014

INRG Solar Management Team



Tom Harlow – Managing Director

Tom has over 17 years experience in the Construction and Project Development sectors in the UK and Ireland.

Spent the last 4 years focused on development of PV solar farms in the UK and Europe.

Has an in depth knowledge of the grid connection and planning process in the UK.

Responsible for assessment of sites viability and client interface.



Ian Gannon – Commercial Director

Ian has been involved in the Golf and Leisure industry worldwide developing Golfing Resorts on 5 Continents.

His exposure to landlords and third parties in the development of land for golf resorts gives him an unparalleled experience in the issues of third party negotiations.

Ian first entered the PV sector in 2008 and possesses a strong construction based skill-set which will be key to the success of the construction phase.



John Hunt – Finance Director

John had a highly successful 20 year career in commercial real estate and asset based lending (investment and development) with a variety of international banks.

He established my own consultancy in January 2008 which focuses primarily on property, debt advisory and restructuring (up to €1bn).

More recently John has played an advisory role in renewable energy projects, insurance and mobile phone technology start-ups and equity raising.

John currently mentors a number of tech start-ups through the Tony Ryan Academy for Entrepreneurship in Ireland.



David Dean – Commercial Manager

David has been involved with commercial scale PV in the UK since 2009.

He has project managed many installations on large roofs to commercial ground builds.

David is responsible for the pre build site management from initial assessment through to planning and site liaison during the build process.

Our Consultants



INRG previously worked with Eversheds under the Feed in Tariff scheme and they have been at the forefront of renewable energy industry in the UK for many years and provide their legal expertise in the development of appropriate and bankable options and leases and other matters in the critical relationship of development.

Geraint Pullin Thomas leads the team dealing with the Option/Lease negotiations. Geraint is a Partner in the real estate practice group. His practice encompasses investor work, asset management, property finance, portfolio acquisitions, and clean energy projects.

As a member of the clean energy team, Geraint acts for developers, landowners and buyers of proposed and consented onshore / offshore windfarms and biomass plants. He leads the real estate aspects of Eversheds' solar practice and advised bidders for the Crown Estate's Round 1 Marine Programme.



Established in 2003, Pegasus Group has continued to expand its operation and now operates from eight offices throughout the UK. The Group currently employs around 100 professional staff, who are assisted by a large range of administrative staff and technical support.

Pegasus Group has considerable experience in a wide range and scale of renewable energy projects, ranging from on-shore and off-shore wind farms to biomass power plants, solar parks and anaerobic digestion schemes. They will provide a combination of Environmental Impact Assessments (EIA), planning and landscape advice.

They will manage the entire planning and environmental process for INRG from initial pre-application discussions and feasibility studies, to EIA and public consultation culminating in the preparation and submission of the planning application, proactively seeking to obtain planning permission thereafter.

Pegasus senior members of staff regularly appear as Expert Witnesses at Public Inquiries and Appeal Hearings for a variety of renewable energy schemes. This, along with our presentations to numerous renewable energy conferences and events, puts them at the forefront of the planning, landscape and environmental sectors in this field.

Their renewable team have an excellent knowledge of localities and geographic areas, bringing particular expertise in landscape and planning matters and they have a proven record of delivering results.

Colin Virtue is leading the team working on INRGs projects.



Michael Woods Associates is an ecological consultancy based in Somerset. We provide a range of services, principally to the construction industry, and always in relation to the survey, assessment, protection and conservation of British wildlife and habitats.

They balance their client's needs with the importance of maintaining a rich biodiversity on the site and conserving protected species. Their staff are all highly qualified and experts in surveying sites for protected species and providing advice on appropriate measures to protect wildlife whilst not unnecessarily constraining projects. They also have particularly good working relationships with many of the local planning authority ecologists and where sites are found to have complex ecological constraints they engage in consultation to smooth the planning application process.

Michael Woods Associates have been involved in over 50 renewable energy projects ranging from small wind turbine developments of 80KW to large scale solar projects of 40MW.

clive onions

consulting civil engineer

Clive Onions is an Independent Consultant with over 35 years of experience in civil engineering, specialising in flood risk and water engineering related advice to Clients and Agencies.

The consultancy undertakes Flood Risk Assessments, Flood Evacuation Plans, investigates flooding events of local and national importance and provides general civil engineering advice. They work with a range of other Specialist Consultants to deliver a comprehensive service.

Key current roles include advising Bristol City Council on their Flood Risk Management Strategy, advising as Independent Assessor on the cause of flooding of approx. 400 new homes in North Wales and advising Bristol Water as their Project Manager on a planning application for a 9,000 Megalitre (150ha) Reservoir.

Clive Onions has been active in the Institution of Civil Engineers for many years and Vice Chairman of their Expert Panel on Water for approx. 10 years. As a result of this Clive was Appointed Independent Chairman to investigate the cause of flooding from the River Thames between Maidenhead and Teddington, when approx. 400 homes were flooded. He has also reviewed Policies for Government and other Agencies on Flood Risk and Sustainable Drainage matters.

Professional roles include being Chairman of the Industrial Advisory Board for the Civil Engineering and River and Coastal Engineering courses at University of West of England.

As a result of these many areas of activity in the field of civil engineering and flood risk, Clive is well known within the Profession and has good working relationships with many Agencies, assisting him to provide an efficient service to our projects.



Transport Planning Associates (TPA) is a firm of consulting highway and transportation engineers with offices in Bristol, Cambridge, Cardiff, London and Welwyn Garden City. Formed in 1997 as Pinnacle Transportation Limited (PTL), the company has grown to provide transport consultancy services to a wide variety of private and public sector clients throughout the UK.

The company's core business is to provide consultancy services on the Transport Planning, Traffic Engineering and Infrastructure Design issues arising from the development of land for a variety of uses, and arising from strategic planning and master planning.

TPA has developed a very strong track record of obtaining planning permissions and delivering projects across the UK. As a result, the company's technical staff are very familiar with a significant number of key local Council highway officers and engineers that are engaged in transport projects; as well as other specialist firms that are brought together by clients into development teams.

TPA is experienced in providing transportation input into EIAs. The company has also carried out many access and feasibility studies involving abnormal/heavy loads or to constrained locations for solar and wind projects.



Cotswold Archaeology (CA) is one of the largest archaeological contractors in Britain, operating from offices in Cirencester, Milton Keynes and Andover. They are a Registered Organisation with the Institute for Archaeologists. Cotswold Archaeology is an entirely independent agency which is well versed in acting for private and public sector clients, including major developers and executive agencies. They pride themselves on their ability to deliver results on schedule; regular and informed client communication and consultation; respect for the client's need for confidentiality, and a professional and impartial approach. They successfully complete in excess of 250 projects per year, which include Desk-based Assessments and Environmental Statements, as well as archaeological fieldwork.

CA has a dedicated consultancy department with considerable experience of working within the planning process, including appearance at Public Inquiry, and formulating archaeological strategies from initial consultation and feasibility, through to development construction. This necessitates regular discussion with archaeological advisors to Local Planning Authorities across the country, as well as bodies such as English Heritage and Cadw. Their consultancy department also has extensive experience in providing expert advice and services to their clients engaged in the renewable energy sector, having undertaken projects for Wind Turbines, Solar Farms and Tidal schemes.

UPL

POWER
THROUGH
JOINED UP THINKING

In the UK UPL is the only service provider of utility infrastructure, smart metering and energy services offering a complete and fully integrated management solution. The business is led by a strong management team with a philosophy to find solutions that provide flexibility while keeping operations simple.

UPL will provide INRG with consultancy services from the initial grid feasibility right through to final grid connection.

PV Planning Strategy

The key to the success in developing large scale PV solar parks is the selection of sites that meet operational requirements whilst avoiding planning and environmental sensitivities. INRG would typically undertake:

- early site appraisal to identify constraints that might give rise to controversy or delay at the planning stage. The most suitable sites would generally be visually well contained or screened by surrounding terrain and vegetation, free of public rights of way, ecology and archaeological constraints, and not on best quality farmland.
- effective EIA screening and scoping to establish the need or otherwise for formal EIA, and the scope of the environmental studies that will be required to support the planning application. These will typically include landscape and visual effects and ecology surveys.
- development of appropriate site mitigation, in dialogue with the project's design engineers. Measures might include a reinforcement of boundary screen vegetation (whilst avoiding any long-term risk of overshadowing the PV panels), and the sowing of meadow flora beneath and around the PV arrays to encourage local biodiversity. These 'soft' features will often help to secure support once the planning application has been submitted.
- timely community engagement.
- preparation of a planning application that presents a compelling case for the development, anticipates the questions likely to be asked by the planning authority and the public, and demonstrates the benign nature of PV technology.

Pegasus will lead the discussion with the planning authority on planning conditions and any legal agreements, to ensure that these are acceptable from the developer's perspective.

Community Engagement Strategy

The type of community engagement strategy undertaken should always be tailored to the needs of the individual project.

In the current context, the self-contained and neighbourly nature of PV development would lead INRG to recommend a low-key community engagement strategy. This would ensure that the nearest local residents and statutory consultees such as Natural England are accurately briefed and reassured about the developer's intentions, without giving a project wider public exposure than it deserves.

Unless wider public interest is likely to be attracted – such as if the PV park is close to or visible from a local residential neighbourhood – the number of local interested parties may be sufficiently low to render personal contact with the members of project team to be a more appropriate means of community engagement than public exhibitions, leafleting, etc however projects will be assessed on an individual basis and the appropriate strategy implemented.

Throughout the project, we would seek to build strong working relationships with local politicians and planning officers. Overall, INRGs' community engagement strategy would aim to ensure that a project brings 'no nasty surprises' for any interested party. For PV, there is a highly positive case to be made in any event.

Grid Connection Strategy

INRG Solar utilises the expertise of UPL to assess and manage the complex area of grid interconnection.

The process is time critical and requires careful management of liaison and assessment of the localised distribution network to ensure successful and economically viable interconnection.

With this in mind INRG would complete a feasibility study of the grid connection options with UPL. This study would be completed during an Exclusivity Period where following a positive initial feasibility study a formal application to the Distribution Network Operators eg EDF, Scottish and Southern etc would be completed to obtain a Grid Offer.

The actual Grid Offer confirms the capacity locally in the network and the cost of connection to the network. This is key to the viability of the project. A commercially acceptable Grid Offer is the first step in successfully developing a PV solar farm.

INRG outline the project process for grid offer and connection below to demonstrate transparency in our approach to this critical aspect of the project.

Process

- 1) Initial desktop assessment utilising grid records to ascertain viability of connection based on the 11kV, 33kV and 132kV networks.
- 2) Following initial assessment, sites with potentially viable connection opportunity will be assessed as follows.
- 3) Subject to INRG Solar approval a formal application is then submitted to the DNO or TSO for a grid connection study and / or feasibility quotation.
- 4) Upon receipt of grid offer analyse the completed study and quotation to ensure it complies with INRG's requirements and the Electricity Networks Association Recommendations in relation to the industry's regulatory policies.
- 5) UPL will assess and make recommendations to INRG on the options relating to contestable and non-contestable works and when agreed, make a formal request to the DNO/TSO for full connection agreement.

Construction Phase

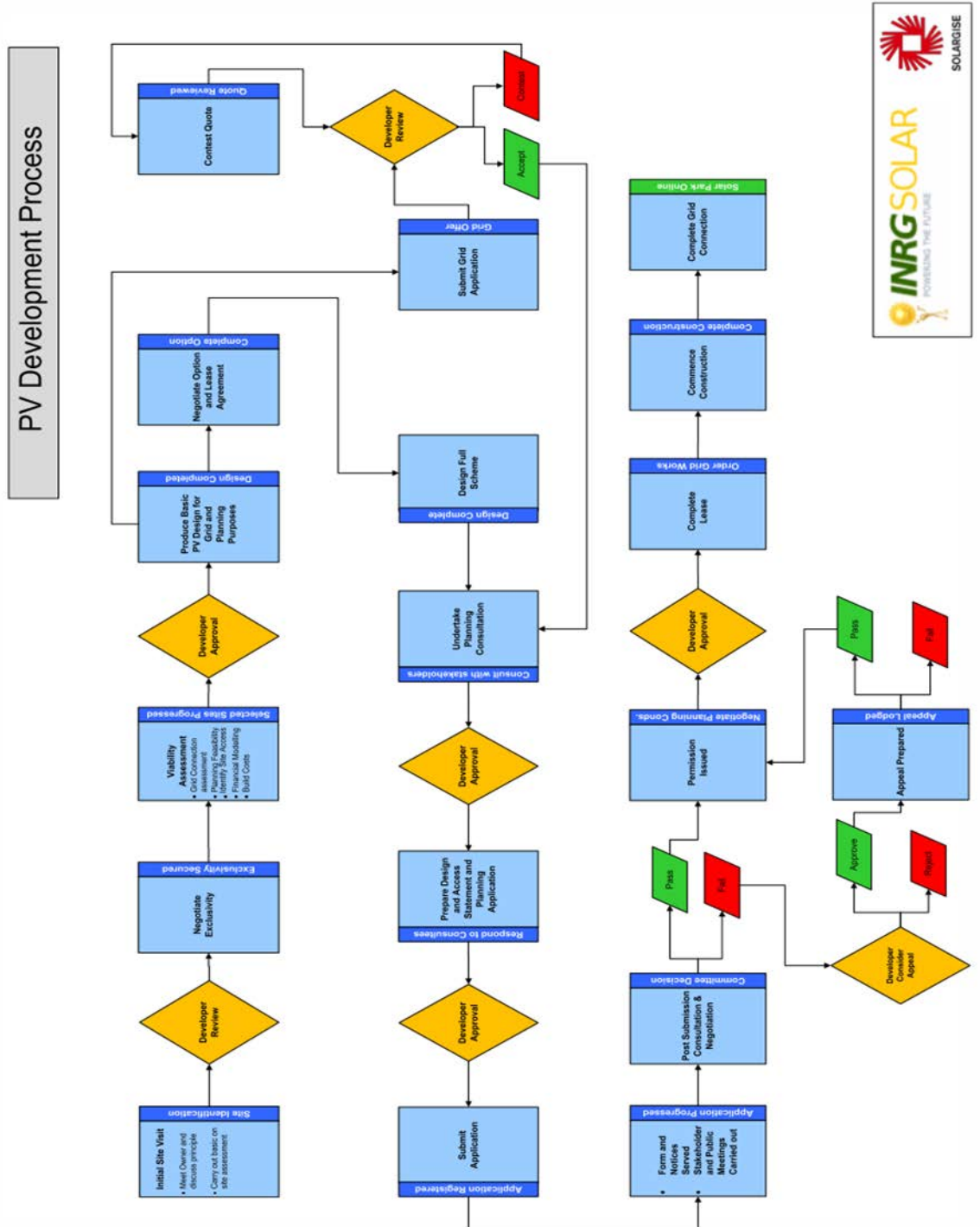
On receipt of a connection offer, UPL will review the agreement on a technical and commercial basis to ensure conformity to the INRG's requirements and that costs have been applied in accordance with the DNO's published Connection Charge Agreement.

INRG with the assistance of UPL will ensure that any appropriate Wayleaves or Easements are secured and will then finalise negotiations with the supplier and appoint a meter operator if necessary.

UPL will then go onto:

- Liaise and manage the interface the DNO and the EPC contractor during construction works to ensure a co-ordinated programme of delivery.
- Manage the DNO/TSO construction process through to the final connection
- Deliver the turnkey installation of grid connection, including all contestable and non-contestable elements (subject to agreement with the EPC contractor).
- Carry out and manage all on-site electrical works, including G59 protection and metering if such works cannot be met by the appointed EPC contractor.
- Undertake a final earthing value test.

Project Development Process



Photographs of Typical Ground Mounted Installation



No.1
View from the front



No. 2
View from the side

(Note the height of the panels relative to the person in close proximity)



No.3
View across the solar farm



No. 4
View of Inverter & Transformer
Buildings
(Note the size relative to the vehicle)



No. 5
Taken at 50m from the boundary

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