

Partner

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PERSONAL PROFILE

Experienced and qualified professional Power Systems Engineer with 36 years Energy Engineering (29 years' renewable power) with experience in the Energy Industry. Predominantly involved with solar PV projects since 1999, ranging from off-grid battery based systems to large, utility scale projects.

Energy Institute recognised ESOS Lead Energy Audit Assessor. Other experience includes conventional power generation, transmission & distribution, network automation, SCADA/EMS/Telecoms and Traction Power Supplies (AC & DC). Substation / Overhead line / underground cabling design/construction LV/11/25/ 66/132/275/400 kV.

IET Presidents list, listed and recognised Expert Witness

EXPERIENCE

Involved with several thousand PV projects from 30Wp to 50MWp since 1999.

Particular expertise in system performance optimisation, shading appraisals, system modelling, and testing & inspection.

- Feasibility studies from off-grid / small scale to utility scale HV connected PV projects and renewable heating systems;
- PV System Design
- 3D Yield appraisals (PVSyst, PV*sol, (P50/P90));
- Shading analysis;
- System loss & performance degradation analysis;
- PV System design and specification (central, string and optimiser solutions);
- Ground and Air Source Heat Pump system feasibility studies and Technical Advisory;
- Equipment procurement and project management;
- HV Grid connections;
- Due Diligence Renewable Power Generation & HV Projects;
- Grid Export Constraint impact modelling;
- Battery energy storage modelling;
- Testing & Fault analysis and trained Expert Witness for PV Systems;
- Management of SME teams & projects;
- Inspection and management of remedial process of sub performing systems;
- Management of renewables certification scheme for installers;
- Aerial Photography Daylight & Infrared;
- PV & Balance of system infrared appraisals.

PROFESSIONAL AND ACADEMIC QUALIFICATIONS

Engineering Council Chartered Engineer	2000
Institute of Engineering & Technology Fellow	2020
Energy Institute Fellow	2020
The Open University MBA Business Studies	1997 –2001
City University London BSc Electrical Power Systems Engineering	1982 -1985
ESOS Lead Auditor (Energy Institute)	2014

NON-VOCATIONAL QUALIFICATIONS

ITC Infrared Training Centre Thermography, Level 1 & 2 (Renewed 2020)	2014/15
NICEIC CPD Training, C&G 2399 Solar PV Installation & Maintenance	2013
Energy Institute Advanced Energy Manager	2013
British Standards (BSI) Implementing ISO 50001 Energy Management Systems	2013
CAA Approved sub 20kG UAV Pilot Licence Holder	2015/16

CAREER DETAILS

Partner LHW Partnership LLP, Leighton Buzzard	May 2013 –Present
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LHW Partnership is a specialist renewable engineering services consultancy operating both in the UK and overseas. The partnership has been established to provide high quality engineering expertise to our clients in order to accelerate the adoption of quality low carbon energy projects, and avoid the adoption of inappropriate solutions. Expertise include in system modelling, feasibility, due diligence, design, project management, verification & validation, plant performance investigation, thermography, IV curve field testing and analysis, harmonic appraisal, DC & AC systems investigation, expert witness.

Appointed technical advisor and engineering consultant for a number of leading organisations within the Legal, Estate Management, Asset Owner, O&M and Construction markets. Representative at the ENA / DNO/ DG Technical and Grid Steering Group, and member of MCS PV Technical Steering Group.

**Co-founder & Technical Director
Ardenham Energy, Aylesbury**

January 2007 – August 2013

Co-founder and first employee of company, establishing and implementing business strategy for managed growth with limited working capital leading to profitable turnover in 2010/11 of £6.8m culminating in VC investment.

Ardenham Energy was a leading engineering installation contractor specialising in building and ground mounted Solar PV, Solar Thermal, Heat Pumps and Wind systems. Engineered solutions for domestic, public sector, small to large scale commercial and field based including export constrained projects. Responsibilities included technical development of company's activities including strategy for expansion into large scale heat and maintenance of installation compliance.

Responsible for company technology and operational strategy including marketing, sales, engineering, procurement and installation. Recruited and established team of engineers, project delivery, proposals and business development staff. Established the systems and procedures to become the first organisation in UK to pass the then new MCS Accreditation and within 2 years expanding this approval to cover PV, Heat Pumps, Wind Turbines, Solar Thermal, and 5 subsequent successful audits.

**Consultant
Carmanah Technologies, London & British Columbia**

January 2004– December 2006

Carmanah Technologies are world leaders in the integration of solar power LED lighting systems and large scale grid connected PV Systems, off grid and grid connected power systems for lighting and power including at the time world's largest off grid solar lighting project roll out (7000 systems with TFL)

**Head of "Off Grid" Energy Storage Systems
solarcentury, London**

August 2000 – August 2003

Solarcentury, the UK's most experienced solar energy company, was founded in 1998 to design and supply solar energy solutions for the built environment. Developed and managed projects where there was not a need for incentive or grant schemes. This was principally focused on localised battery storage systems where the economics did not necessitate a grid connection. Significant work with matching PV with emergent hi flux LED systems.

Consultant Engineer (Power Systems)

1996 – 2000

WSP Parsons Brinckerhoff (PB Power) , Godalming, Newcastle & Manchester

Development Engineer (Power Systems)

1993 – 1996

ESB International, Kingston on Thames and Dublin
EHV/HV & Wind farm projects

Engineer & Business Development (Power Systems)

1985 – 1993

GEC Power Systems (now General Electric Power Systems / Schneider) London, Stafford, Rugby, Manchester & London (Transformers, Switchgear, P&D, Generation to 400kV)

Student Engineer

1982 – 1985

CEGB (National Grid Company), National Control Centre, London

PUBLICATIONS

James P. Hoare, Laura A. Jones (2016). Maximisation and optimisation of solar PV generation with limited grid capacity through the adoption of new technologies. *Eng. Technol. Ref.*, pp. 1–10 doi: 10.1049/etr.2016.0037. The Institution of Engineering Technology

Energy Institute - Energy World Publication 2008 and 2012. *Appraisal of a domestic properties adoption of renewable option of renewable and energy efficiency measures over a 5-year period.*