

Name: Max Enfield

Personal Details: Date of Birth: 15th March 1945
Nationality: British, with permanent Australian residency
Contact: max@isustinaustralia.com.au
ph: +61 7 4096 3311 mob: +61 (0) 419 025 475

Languages and Proficiency: English – native tongue

Professional Qualifications: Bachelor of Science (Mathematics) *University of NSW*

Other Training: Australian Clean Energy Council - full accreditation:
- Design and Installation of Remote Area Power Supply Systems.
- Design and Supervision of Grid-connected Photovoltaic Systems

Professional Affiliations: Australian Computer Society - Associate Member
Institution of Engineers Australia- Affiliate Member

Countries Worked: Australia, Pakistan, Fiji

Summary of Skills: Practicing renewable energy technologist, experienced in site and load assessment, specification, design, project management, installation supervision and ongoing customer support for remote area and renewable energy power supply installations. Have special interest in micro-hydro, although most experience has been with PV systems. Installations have included single dwellings, multiple dwellings, resorts, aboriginal communities and outstations, water pumping and community facilities.

Professional Experience:

- 2007 - present **Nth. Qld. – Designer & Installation Manager,**
Rooftop PV Grid Feed Systems, Private Residences
 Designed and supervised the installation of 8 rooftop grid feed photovoltaic systems as part of the Australian government's Photovoltaic Rebate Program and its sequel, the Solar Homes and Communities Program. PV arrays range in size from 1k to 1.5kW.
- 1996 - present **Nth. Qld. – Designer & Project Manager,**
Diesel/Battery Hybrid Power Supplies, Private Residences
 Designed, managed and either installed or supervised the installation of 12 diesel/battery hybrid power systems. All the systems included ground or roof mounted photovoltaic arrays of between 1k and 2.6kW and interactively coupled diesel generators. Additionally two of the installations included wind power as well as PV and another included wind and micro-hydro power as well as PV.
- 1990 - present **Nth. Qld. – Designer & Project Manager,**
Stand-Alone Power Supply, Private Residences
 Designed, managed and either installed or supervised the installation and/or upgrade of stand-alone power supplies numbering in the hundreds.
- Of these, excluding upgrades and projects mentioned elsewhere in this CV, 60 systems have been identified with PV arrays at least 0.5kW, or with an equivalent micro-hydro or wind power component. 53 systems had a PV array of between 0.5kW and 3kW, while 14 systems had a micro-hydro generator and 5 had one or more wind turbines.
- 33 of the systems had diesel or petrol generator backup, while 27 had only renewable inputs. Of those with a backup generator, 17 used the auto-switched configuration, 3 used a manual switched configuration and 13 used a series configuration.
- 1990 - present **Nth. Qld. – Designer & Project Manager,**
PV Water Pumping, for horticulturalists, hobby farmers and domestic users
 Designed, managed and either installed or supervised the installation of numerous small solar powered water pumping installations, with pumped heads to 50m and flows up to 11,000 litres/day. Projects include a small system for the nursery on Phillip Island, within the Norfolk Island National Park.

- 2009 **Herberton, Nth. Qld. – Designer & Project Manager,**
Grid Support PV System, Private Residence
Designed, managed and supervised the installation of a grid support power supply, including a 1.1kW roof mounted photovoltaic array
- 2009 **Albany Island, Nth. Qld. – Designer & Project Manager,**
PV/Diesel Hybrid Mini-grid Power Supply at Albany Island Fishing Resort, IWTS Investments Pty. Ltd.
Designed, managed and supervised the installation of an AC mini-grid to service a 14 bed resort and associated facilities. The rated output is 29kW, including a 7.3kW ground mounted photovoltaic array.
- 2008 - 2010 **Malanda, Nth. Qld. – Micro-Hydro Consultant,**
PV/Micro-Hydro Power Supply, Private Residences
Responsible for the assessment, specification, design and integration of the micro-hydro component of a stand-alone power supply. The hydro generation component included two turbines delivering 1.8kW to two separate dwellings, associated controls, a 90m penstock and over 500m of transmission line
- 2008 **Pakistan. – Technical Consultant,**
Off Grid Rural Electrification Program, AccessGlobal Pakistan (Pvt) Ltd.
Working from Islamabad, wrote the technical proposal for the provision of up to 2,500 small solar homes systems to be installed in Southern Balochistan.
- 2007 **Coen, Nth. Qld. – Project Manager,**
Remote Area Power Supply at Silver Plains Aboriginal Outstation, Bushlight Program
Responsible for tender preparation, procurement and installation management of a 9.4kW stand-alone community photovoltaic power supply and electrical fit-out of associated dwellings and community facilities.
- 2007 **Coen, Nth. Qld. – Project Manager,**
Remote Area Power Supply at Puntimu Aboriginal Outstation, Bushlight Program
Responsible for tender preparation, procurement and installation management of a 5.7kW stand-alone photovoltaic power supply and electrical fit-out of associated dwellings and community facilities.
- 2007 **Taveuni, Fiji - Designer & Technical Consultant,**
Pool Pumping, Nakia Resort & Dive
Provided design and technical support for a solar powered pool pumping system at the resort.
- 2006 **Kowanyama, Nth. Qld. – Project Manager,**
Remote Area Power Supply at Scrubby Bore Aboriginal Outstation, Bushlight Program
Responsible for tender preparation, procurement and installation management of a 5.4kW stand-alone photovoltaic power supply and electrical fit-out of associated dwellings and community facilities.

- 2006 **Kowanyama, Nth. Qld. – Project Manager,**
Remote Area Power Supply at Fish Hole Aboriginal Outstation, Bushlight Program
Responsible for tender preparation, procurement and installation management of a 2.7kW stand-alone photovoltaic power supply and electrical fit-out of associated dwellings and community facilities.
- 2005 **Mornington Island, Nth. Qld. – Project Manager,**
Remote Area Power Supply at Lametha Aboriginal Outstation, Bushlight Program
Responsible for tender preparation, procurement and installation management of a 4.2kW stand-alone photovoltaic power supply and electrical fit-out of associated dwelling.
- 2005 **Mornington Island, Nth. Qld. – Project Manager,**
Remote Area Power Supply at Gubbangurru Aboriginal Outstation, Bushlight Program
Responsible for tender preparation, procurement and installation management of a 4.4kW stand-alone photovoltaic power supply and electrical fit-out of associated dwelling.
- 2005 **Mornington Island, Nth. Qld. – Project Manager,**
Remote Area Power Supply at Gunbah Aboriginal Outstation, Bushlight Program
Responsible for tender preparation, procurement and installation management of a 2.9kW stand-alone photovoltaic power supply and electrical fit-out of associated dwelling.
- 2004 **Mornington Island, Nth. Qld. – Project Manager,**
Remote Area Power Supply at Birri Williams Aboriginal Outstation, Bushlight Program
Responsible for tender preparation, procurement and installation supervision of a 2.9kW stand-alone photovoltaic power supply and electrical fit-out of associated dwelling.
- 2004 **Mornington Island, Nth. Qld. – Project Manager,**
Remote Area Power Supply at Gunun Woonun Aboriginal Outstation, Bushlight Program
Responsible for tender preparation, procurement and installation supervision of a 2.9kW stand-alone photovoltaic power supply and electrical fit-out of associated dwelling.
- 2003 **Herberton, Nth. Qld. – Designer & Technical Consultant,**
Pool Pumping & Chlorination, Private Community
Provided design and technical support for a solar powered pumping and chlorination system for a 150m³ swimming pool, including a 1.3kW roof mounted photovoltaic array

- 2002 **Cairns, Nth. Qld. – Designer & Project Manager,**
Grid Support PV System, “Sunbird House”, Edge Hill, Cairns
Designed and supervised the installation of a grid support power supply, including a 3.8kW roof mounted photovoltaic array for an award winning home showcasing environmentally friendly technologies
- 1994 **Mossman, Nth. Qld. – Designer & Project Manager,**
Micro-Hydro System, Qld. National Parks & Wildlife Service
Designed and installed a micro-hydro system for the amenities block at the visitor area of the Mossman Gorge National Park. The power generated was used principally to run the mini sewerage treatment plant at the site
- 1992 **Japoonvale, Nth. Qld. – Micro-Hydro Consultant,**
PV/Micro-Hydro Power Supply, Private Residences
Responsible for the assessment, specification and design a micro-hydro system that supplied power to two dwellings. Each dwelling also had a small PV system to supplement the micro-hydro input. The hydro generator included twin coupled Banki-crossflow turbines, associated controls and 300m of transmission line

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