

# KEY PERSONNEL

**Name:** **Craig Carter**

**Position:** Senior Renewable Energy Engineer  
Trading and Sustainable Energy  
Verve Energy

Senior Planning Engineer  
Diesel & Wind Systems

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**Qualifications:** Bachelor of Science (Physics major) Uni of NSW 1976  
Bachelor of Engineering (2A Hons - Electrical) Uni of WA 1984  
Master of Business Administration, Uni of WA 1993

**Professional Expertise:** Conceptual project design and smart control of wind/diesel, wind/diesel/storage, and wind/grid systems. Energy flow modelling and economic analyses to determine optimal designs. Electrical design, conceptual voltage and power control designs and computer simulations to assess designs. Team management, project business cases and business development through innovation.

**Professional Interests:** Renewable energy policy, energy management and energy efficiency. Promoting the use of renewable energy by electricity utilities, through the development of innovative and economic proposals.

**Current responsibilities:** Responsible for the augmentation of the Denham Power Station through the addition of a third low load diesel generator to accommodate additional wind generation and load growth. Develop and assess control system algorithms to achieve high wind penetration on wind/diesel systems at Rottneest Island, Hopetoun and Coral Bay. Work with Powercorp on the development and testing of new advanced control software for the power limiting of wind turbines, scheduling of diesel generators, control of desalination plant (Rottneest Island) and control of energy storage (Coral Bay). Responsible for the system integration of 'fringe of grid' wind farms through the development of innovative voltage control designs employing statcoms.

**Career highlights:** In the pre April 2006 Western Power business:- Championed the 20MW Albany Wind Farm proposal as the major renewable energy project for the new millennium. Lead the technical development and installation of Denham Showcase Project – the first wind/diesel system to use the low load diesel concept now being replicated at Hopetoun, Bremer Bay and elsewhere. Proposed the concept of using Westwind 20kW wind turbines which are mounted on lowerable guyed towers in cyclone prone Exmouth. Negotiated a high wind penetration operational concept for the Esperance wind/gas turbine power system. Developed the Renewable Energy Buyback Scheme making it the most supportive scheme in Australia for pioneers of residential renewable energy systems.

**Publications:** Co-authored several journal articles on the Eastern Goldfields transmission system and its saturated reactor type voltage control system. Authored course notes and assignments for several lectures in the wind energy engineering unit being offered at Murdoch University and University of NSW. Keynote speaker at several renewable energy conferences and at the Western Australian-German Business Association 'In Unison' festival in '03.

**Member Institutes:** Member of I.E. (Aust). Member of the Graduate Management Association (GMA), the alumni group for MBA graduates from Uni of WA.

**Other:** Craig has been a technical expert consultant to the Australian Greenhouse Office, Murdoch University and the Rottneest Island Authority.