

# Francis B. Jackson

Curriculum Vitae, November 2007

## Profile



## Objective

**Mechanical engineer** and **project manager** with broad spectrum of internationally acquired skills in field of renewable energy technologies.

- Wind turbine design and development
- Wind farming
- Design and development of consumer off-grid energy products
- Project management

Analytical and methodical practicality coupled with creativity, shown to achieve results in engineering design, fault-finding and problem solving. Resourceful team player with communication skills developed through well-rounded background in variety of disciplines acquired across the globe.

- b. 20 Oct 1977
- Languages: English, Afrikaans, Xhosa-in-progress

*To engage in development of sustainable energy in Southern Africa at a level drawing on skills and experience while challenging self and addressing challenges of current industry status quo.*

## Professional Experience

### Engineering & Project Management

2006–Current                      Freeplay Energy Plc                      Cape Town, SA  
**Project Engineer**

- Product design and project development. Responsible for detailed engineering design and **concept to product realisation** stages of innovative electricity generation systems aimed at poverty alleviation in rural communities. Field research in rural India.
- **Project management** – single point of responsibility on various projects. Successfully saw to completion of technical support project to World Bank funded programme run by the Freeplay Foundation in Rwanda.
- Preparation of **proposals**, including budget and photo-montages.
- Quality auditor training for **CE compliance** certification.

2002–2006                      Windflow Technology Ltd                      Christchurch, NZ  
**Mechanical Engineer / Analyst**                      (2003-2006)

- Range of mechanical engineering roles in developing analytical tools to produce design loads, including **programming** system dynamic models, investigation of rotor dynamics, aerodynamics, impact analysis, D-FMEA
- Range of **wind-farming** related roles including turbine siting and **wind resource assessment**. Included IEC-compliant anemometry mounting .
- Applied methodical empirical/analytical approach to successful **problem solving** and refinement of safety-critical control system algorithms. Successfully developed stable shut-down algorithms for high yaw extreme wind events and improved speed control performance.
- Developed **data handling** systems and produced reports on monitored meteorological stations. Set up turbine monitoring system toward meeting IEC power curve and design loads certification standards.
- Acted as **public liaison**, for instance running site tours and featuring in television and news media representing the company.

**Engineering Assistant :**                      Undergraduate experience period (2002)

- Checking & developing load calculations, blade **material test** data analysis, conceptual design of nacelle cladding, web site development

Management and Marketing	2001, Mar-Dec	Skydive Auckland	Auckland, NZ
	<b>Marketing Manager</b>		
	<ul style="list-style-type: none"> <li>Achieved <b>60% increase</b> in bookings, established position among top adventure operators in Auckland.</li> </ul>		
Multimedia	1999 – 2003	Biz-Zone Internet Group	Toronto, ON
	<b>Multimedia and Web Designer, part time</b>		
	<ul style="list-style-type: none"> <li>Designed, produced <b>multimedia</b> content for web pages, tutorials, cd-roms</li> </ul>		
Photography, Videography and Skydiving	1998 – 2004	Various,	South Africa, Canada, USA, New Zealand
	<b>Tandem Instructor, Cameraman, Safety Officer, Parachute Packer, Coach</b>		
	<ul style="list-style-type: none"> <li>Internationally published, broadcast and awarded. See: <a href="http://daretobereal.com">daretobereal.com</a></li> </ul>		
Performance Art	1994 – 1998	Various Agencies,	Cape Town, South Africa
	<b>Performing Artist</b>		
	<ul style="list-style-type: none"> <li>Circus arts. TV, promotional and event incl. Pringles (lead cast, world)</li> </ul>		
Education	2007	University of Stellenbosch, Graduate School of Business	South Africa
	<b>Project Management</b>		
	<ul style="list-style-type: none"> <li>Certificate program in project management (NQF Level 7)</li> </ul>		
	1998 – 2003	University of Toronto	Ontario, Canada
	<b>BASc Mechanical Engineering (Honours)</b>		
	<ul style="list-style-type: none"> <li>Thesis: Matlab® Model of Wind Turbine Rotor System Dynamics – <b>Nominated for award</b> for thesis with environmental contribution.</li> <li><b>Active Member</b> of: Hart House Film Board, BlueSky Solar Car team, SEUT (Sustainable energy at UofT)</li> <li>Consistent <b>academic excellence</b>, distinction &amp; 3<sup>rd</sup> in class. Golden Key National Honours Society <b>Award</b>, Master Insulators Association bursary.</li> <li>Awarded Universitas 21 Exchange <b>Scholarship</b> and attended 3<sup>rd</sup> year at <b>Auckland University, New Zealand</b></li> <li>Cleaner Production Engineering course included an <b>energy audit</b> of an Auckland-based production company</li> </ul>		
	1998 – 2003	University of Toronto	Ontario, Canada
	<b>Certificate in Preventive Engineering and Social Development</b>		
	<ul style="list-style-type: none"> <li>A program focusing on <b>engineering toward sustainability</b> in social, technological and environmental contexts</li> </ul>		
	1996	Constantia Waldorf School	Cape Town, South Africa
	<b>Cape Senior Certificate (Matric)</b>		
	<ul style="list-style-type: none"> <li>A aggregate. Final school year project: building a 500W Wind Turbine.</li> </ul>		
Computer repertoire	<ul style="list-style-type: none"> <li><b>MS Office</b>: Word, Excel, Access, Project. Extensive use of Excel with VB customisation</li> <li><b>Programming</b>: Visual Basic for Applications, C, FORTRAN 77, Matlab</li> <li><b>CAD</b>: Pro/E, MathCAD, AutoCAD, foundation in Pro/NC, Solid-Edge</li> <li><b>Multimedia</b>: Adobe Photoshop, Illustrator &amp; Premiere, Macromedia Flash, Acid Pro, SoundForge, Dreamweaver.</li> <li>Introductory level experience with: Statistica, <b>Bladed</b>, <b>Windfarmer</b>, <b>WAsP</b></li> </ul>		
Interests	<ul style="list-style-type: none"> <li><b>Travel and outdoors</b>: surfing, wilderness hiking, camping. <b>Music</b>, member of live band 1997-1998. Reiki Level III Practitioner.</li> <li>Sport skydiving: <b>various medals</b> including 2002 NZ National Champion. <b>Sponsored</b> to coach at NZPF training camps.</li> </ul>		
References	Available on request		