

Energy and Carbon Manager Professional Training Programme

2018 will be remembered as the year New Zealand engaged with global climate processes and got serious about its de-carbonisation journey. This 'tipping point' was the culmination of, among other factors, the creation of a Climate Change Commission, introduction of a Zero Carbon Act (with 10,000 public submissions) and the creation of broad-based private sector Climate Leaders Coalition.

These create opportunities to catch up with recent changes in global ambition and new cost-effective opportunities in energy efficiency and renewable energy plus a productivity transforming opportunity for large energy users and carbon emitters. Converting global and country mitigation targets into a low-carbon economy future requires a new focus on carbon and energy productivity, and new managerial skills in businesses. These lead cost-effective implementation of positive economic and productivity gains well beyond traditional energy efficiency or sustainability projects.

Anticipating these developments, EMANZ in 2017 developed an advanced carbon and energy management capacity building programme, which develops carbon reduction and energy productivity skills for managers with diverse backgrounds and experiences.

Overview

EMANZ's *Energy-CarbonManager Professional* equips participants to develop and lead carbon reduction and energy productivity programmes in businesses and public sector organisations.

This capacity-building course reflects the Government's commitment to addressing climate change by advancing carbon reduction strategies, and the business sectors growing interest in meeting consumer demand for low carbon products and improving productivity. It utilises real energy use and carbon emission data and performance drivers from the participant's organisation to provide tangible productivity and bottom-line benefits.

As well as growing in-house capability through up-skilling employees, course outcomes include a customised carbon reduction and energy management strategy and plan that has been expert-coached and reviewed and ready for implementation.

Attendees will typically have responsibilities which include energy, facilities, industrial processes, resource cost management roles and sustainability and carbon management objectives. They may also work as consultants/advisers in these areas. They may be developing a programme of carbon reduction or continuous energy productivity improvement and are likely to be in a business with substantial, complex energy or resource usage.

Energy-CarbonManager Professional was developed by the Energy Management Association of New Zealand (EMANZ) in consultation with larger energy users, Government, practitioners, tertiary institutions and sector organisations.

The course structure is aligned with the international Standards ISO Standards; 14064 (Greenhouse Gas Emissions) and ISO 50001 (Energy Management Systems). Completion of the course leads the participant to certification by EMANZ as an Energy-Carbon Manager Professional. The capacity building programme involves a combination of workplace based pre-course preparation, a 4-day intensive study block and the completion of a detailed policy and action plan for the participant's organisation.

Active coaching through the development of an action plan ensures a high quality practical plan for minimising carbon emissions and energy use.

Who will benefit most from Energy and Carbon Manager Professional training?

This capacity building programme has been designed for people employed or moving into positions responsible for optimising energy use, meeting sustainability/carbon reduction targets or realising bottom-line benefits of improved productivity.

It has been developed for the country's largest energy uses and emissions generators, to enable them to realise the significant bottom-line benefits of greater energy productivity. It has also been structured to

deliver value to all organisations with the corporate goal in reducing their environmental footprint. Seven of the sixty foundation organisations which signed up in July to the Climate Leaders Coalition have put people through the first three courses - Fonterra, Meridian Energy, Downer NZ, Enviro Mark Solutions, Oji Fibre Solutions, Watercare Services and Beca. Interest is expected from the public sector given the contribution this will make to the Government's commitment to address climate change.

Businesses and organisations realising benefits will include those from the food, primary, manufacturing, utilities, health and tertiary education sectors as well as central and local government.

Others with environmental and sustainability programmes, such as [ISO 9001 Quality Management System](#) and [ISO 14001 Environmental Management System](#) will also find the course highly relevant.

Curriculum and Structure

The course curriculum covers three key topics:

- Managing Carbon and Energy – Leadership General/Finance (35%)
- Managing Carbon and Energy - Tools and Processes (40%)
- Managing Carbon and Energy Products, Technologies and Productivity (25%)

This is not a short course but an advanced Continuing Professional Development (CPD) programme, at post-graduate diploma level which enables an individual with work-based experience to gain a range of skills to undertake important new responsibilities. The 'master-class' approach to teaching and learning is highly participatory with considerable mentoring and support throughout.

Timing, Commitment and Cost

Participants will normally hold a tertiary level qualification and be employed in a position which includes responsibility for energy and sustainability but depending on individual circumstances and experience these requirements may be waived. Applicants will be assessed (by telephone or face to face interview) for their suitability at the time of application and advised if their experience should be enhanced before undertaking this course.

Course Timetable	Dates
Unit A: Workplace based pre-work module (40 hours preparation)	Participants complete assignments in the month prior to the class based study block
Unit B: Classroom based (Wellington - 4 days)	6-9 Nov 2018
Unit C: Prepare and submit policy/action plan (40 hours)	12-14 weeks following Study Block *

** Candidates should aim to enrol a month before the Unit B block, to allow time for Unit A. Participants have up to 12 months from the end of Unit B to submit their final plan for certification. Candidates not submitting within 12 months will be required to request an extension which will include a further accreditation fee. Participants typically complete Part C in three months following unit B.*

The cost is broken into two components:

Investment (excludes GST) per person	EMANZ Members price	Non-members price
Units A & B Preparation Assignments and four-day course	\$3,610	\$3,800
Unit C - Accreditation <i>Note: Certification will be based on individual assessment and satisfactory documents submitted, as agreed with the programme leaders. There is no written examination.</i>	\$700	\$700
Total Unit A, B & C	\$4,310	\$4,500

Course Content Summary

Management – Leadership General/Financial (45% of programme)	Managing Energy and Carbon Tools and Processes (30% of programme)	Managing Energy Products and Technologies for Productivity (25% of programme)
<p>While all case studies and presentations will reference energy management issues, topics in this section will be generic in that they address broadly applicable principles of middle level management.</p> <p>Including:</p> <ul style="list-style-type: none"> • Strategy, advocacy, alignment with corporate objectives and drivers; • Senior management engagement; • Energy accounting and economics; • Financial analysis IRR/NPV; • Risk Management; • Productivity and other benefits of low-carbon processes and technologies; • Staff engagement programmes; • Project management; • Communicating the zero carbon future; • Business case development; • Embedding 50001 in an organisation; • Job descriptions and KPIs; • Political context • Integrating other standards ISO 9001, ISO 14064 carbon reporting and ISO 14000 environmental management. 	<p>The role of an Energy - Carbon Manager (ECM) is as a generalist manager – not to become an expert in any of the specialised ECM tools and techniques but understand all, select those ‘best for purpose’ and manage the contracts, process (and external advisers) involved.</p> <p>Including:</p> <ul style="list-style-type: none"> • Carbon and Energy performance indicators; • Energy and Carbon services contractor management; • Energy and Carbon auditing; • Monitoring and targeting; • Post-occupancy evaluation; • Energy procurement, invoice validation, metering; • Electricity/gas markets; • Demand response opportunities; • Commissioning/IPMVP; • Energy Performance contracting; • Commercial Building performance and rating • Industry benchmarking, e.g. TEFMA for tertiary education sector; • Low -carbon transport; • Carbon accounting and CEMARS; 	<p>An Energy and Carbon Manager needs to know enough about relevant low carbon productivity technologies to manage their evaluation and adoption, identify credible information sources, research their performance and make the best investment/ purchase decisions.</p> <p>Including:</p> <p><i>General Technologies</i></p> <ul style="list-style-type: none"> • Light and controls, motors and drives, fans and pumps; and • Most efficient Electro-technologies. <p><i>Commercial Facilities</i></p> <ul style="list-style-type: none"> • Building envelope; • HVAC and BMS, cooling towers; and • Air quality. <p><i>Industrial Sites</i></p> <ul style="list-style-type: none"> • Boilers and steam; • Process heat/co-gen – CHP; and • Kilns and drying/Compressed air <p><i>On-site Generation/Disruptive Technology</i></p> <ul style="list-style-type: none"> • Renewables/photovoltaics Batteries and storage; and • Structural change in the electricity sector.

Further Information

For further details contact programme co-leader Norman Smith **021 499 031**, email norman@rminz.org.nz or visit the EMANZ website <http://www.emanz.org.nz/>.