

Energy and Carbon Manager Professional Training Programme

Recent changes in global ambition and new cost-effective opportunities in energy efficiency and renewable energy are creating a transforming opportunity for large energy users and carbon emitters. Converting global and country mitigation targets into a low carbon future requires a new focus on carbon and energy productivity, and new managerial skills in businesses. This enables cost-effective implementation of changes with positive economic and productivity gains well beyond traditional energy efficiency or sustainability projects.

Overview

EMANZ's *Energy-CarbonManager Professional* will equip participants to develop and lead carbon reduction and energy management programmes in the public and private sectors.

This capacity-building course has been upgraded in 2018 to reflect 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 from the participants organisation to provide tangible productivity and bottom-line benefits.

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

Attendees will typically have responsibilities which include energy use, cost reduction and sustainability as part of their workplace responsibilities, or work as consultants / advisers in these areas. They may be developing a programme of carbon reduction or continuous energy efficiency improvement and are likely to be in a business with substantial or complex energy usage. Interest is expected from the public sector given the contribution this will make to the Government's commitment to address climate change.

Energy-CarbonManager Professional was developed by the Energy Management Association of New Zealand (EMANZ) in consultation with larger energy users, energy management practitioners, tertiary institutions and sector organisations.¹

The course structure is aligned with the international Standards ISO Standard 14064 (Greenhouse Gas Emissions) and ISO 50001 (Energy Management Systems). Completion of the course to individual Certification involves a combination of online pre-course preparation, a 4-day intensive study block and the completion of a detailed report and action plan for the organisation.

Active coaching through the development of an action plan ensures a high quality 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 reduced operating costs.

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.

¹ Course development was underwritten by the Energy Efficiency and Conservation Authority (EECA) which is also supporting this upgrade.

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 which will enable 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

Applicants will be assessed (by interview) for their suitability at the time of application and advised if their experience and current responsibilities means they are not yet ready to undertake this course of study.

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.

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

* Candidates 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.

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; ● Non-energy benefits of ECM; ● Staff engagement programmes; ● Project management; ● Communicating the zero carbon future; ● Business case development; ● Embedding 50001 in an organisation; ● Job descriptions and KPIs; ● Political context; and ● Integrating other standards ISO 9001, ISO 14064 carbon reporting and ISO 14000 environmental management. 	<p>The role of an Energy and Carbon Manager (ECM) is as a generalist – 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; ● NABERS; ● Industry benchmarking, e.g. TEFMA for tertiary education sector; ● Transport efficiency; and ● Carbon accounting and CEMARS; 	<p>An Energy and Carbon Manager needs to know enough about relevant 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 [EMANZ info@emanz.org.nz](mailto:info@emanz.org.nz) or visit the EMANZ website <http://www.emanz.org.nz/>.