

Serving You with Professionalism and
Rich Consultancy Experiences
Your Most Trustworthy Business Coach



Carbon & Energy Management

- Carbon footprint Management Solutions
- Energy Efficiency & Improvement Solutions
- ISO 50001 Energy Management Consultancy
- Sustainability Reporting

ABOUT US

Since our establishment in 1994, TQM CONSULTANTS CO. LIMITED (TQM) has successfully completed over 7,500 consultancy, major training and coaching projects.

We own 70% share of the HKSAR government management systems consultancy and training market, and 85% HK universities and non-government organizations (NGO's) have engaged TQM's services in various projects.

TQM and our Consultants have assisted HKSAR Government Departments, commercial and industrial buildings/ factories to:

- Conduct Energy/ Carbon Audits,
- Prepare for Sustainability Reporting and achieve Awards, and
- Dramatically improve their energy efficiencies with innovative strategies and solutions.

In addition to providing energy/ carbon audits and improvement solution consultancy services, we also helps customers design and implement energy management systems to increase energy efficiency, reduce costs, reduce carbon emissions, and assists them in obtaining ISO 50001 energy management system certification.

OUR SERVICES



CARBON AUDIT



ENERGY AUDIT



MANAGEMENT
SYSTEM



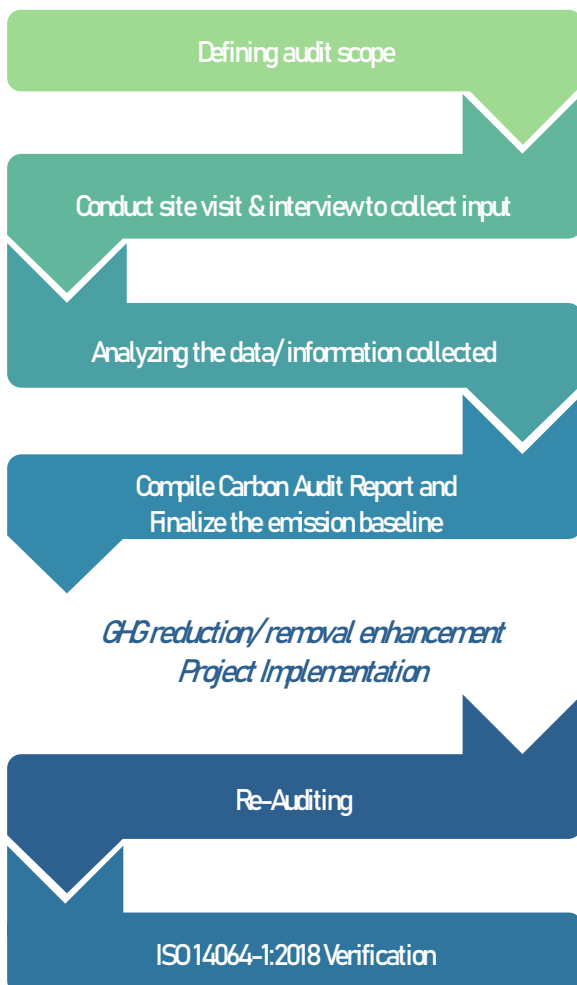
SUSTAINABILITY
REPORTING

CARBON AUDIT

We assist you to improve their awareness of GHG emissions, measure their GHG emission performance and actively participate in actions to combat climate change.

Our services include:

- Set-up up operational and physical boundaries
- GHG emission quantification
- Recommendations for GHG reduction/ Removal enhancement
- “Carbon Offset” Scheme Customization



Define physical boundaries, operational boundaries and quantification methodologies

Conduct Site Visit and interview to collect input of onsite carbon and other GHG emissions and site impacts

Conduct Analysis and Summarize the GHG emission pattern of the PCB factory; then Compare with similar settings and/ or industry standards

Set up the baseline of carbon footprint and GHG emissions based on the input of the last 12 months

Facilitate to implement GHG Offsets/ Programmes and Monitor the Progress

Conduct reassessment to validate the achievement of GHG reduction/ removal/ offset programmes

*(Optional)
Assessed by Verification Body*

ENERGY AUDIT

We assist you to examine the energy account of energy-consuming equipment, checking the way energy is used in its various components and identifying savings opportunities.

Our services include:

- Analysis and assessment of your system/equipment's energy performance
- Identification of "Energy Management Opportunities (EMOs)"
- Potential saving estimates
- Recommendations for energy savings solutions



Collect basic info on building operation characteristics and technical characteristics of various energy consuming equipment/systems.

Review the 4 key types of central building services installation

- Air-conditioning installation
- Electrical installation
- Lighting installation
- Lift and escalator installation

The potential EMOs as identified shall be classified into:

- Category I EMO – involving housekeeping measures which are improvement with practically no cost investment and no disruption to the operation;
- Category II EMO – involving changes in operation measures with relatively low cost investment; and
- Category III EMO – involving relatively higher capital cost investment to attain efficient use of energy.

*Upon completion of all EMOs identified in an energy audit, a min. **energy saving of 5%-10%** could be achieved for a typical commercial building.*

MANAGEMENT SYSTEM

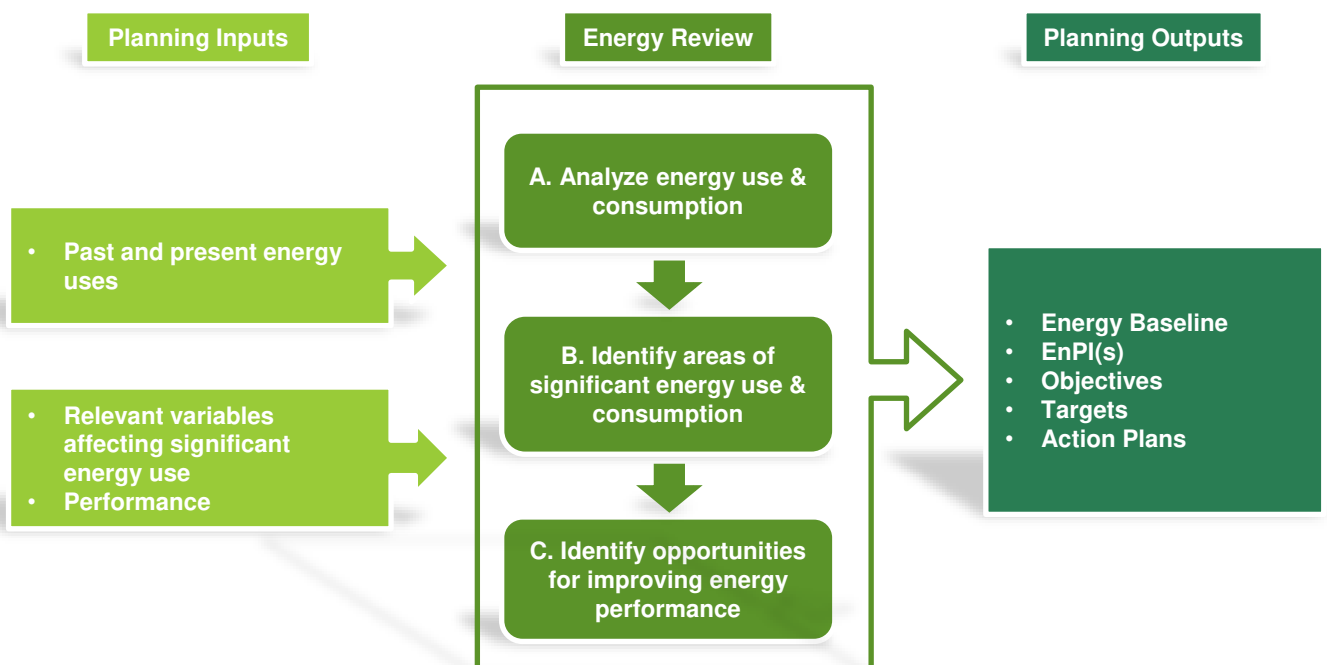
ISO 50001 Energy Management System is applicable to all types of enterprises, covering manufacturing, service and financial industries. TQM help companies establish appropriate energy management goals, achieves continuous improvement in energy performance and creates a system with systematic management procedures by investigating the customer's energy use. Through practicing ISO 50001, enterprises could achieve **energy saving**, **cost reduction** and **corporate image improvement**.



HIGHEST ENERGY CONSUMPTION ORGANIZATIONS IN HK



MTR, Water Supplies Department and Hong Kong International Airport are also TQM's Delighted Customers.



SUSTAINABILITY REPORTING

TQM is a UNESCO approved Certified Sustainable Development Corporation. Our global network of climate change and sustainable practices can help you build long-term value in a rapidly changing world.

We aim to do things differently and challenge the traditional consulting model and we are the ONLY consulting company delivering concrete and measurable results that enable the real ESG excellence in your organization.

We help you to address environmental, social and governance (ESG) challenges, including environmental and social performance, climate-related financial risks, carbon footprints and greenhouse gas inventories. We maximize your potential benefits by formulating a customized corporate sustainability plan that most effectively utilizes your abilities and resources. With our professional knowledge and services, our sustainable action plans can help your company to achieve higher long term profits, greater shareholder satisfaction, improved brand reputation, lower costs and higher productivity.



1/ Material Analysis
Engage Internal and External stakeholders and identify important issues
Determine key topics and focus areas

2/ Data Collection
Establish and define data collection protocols
Conduct interviews with subject matter experts
Identify and Develop impactful case studies

3/ Performance Analysis
Extract performance trends
Benchmark with competitors and the industry

4/ Report Design and Content Development
Develop accurate content that reflects the company's brand values
Engages the key stakeholders

5/ Report Publication, Distribution and Feedback
Publish the report so that it reaches the target audience through a range of communication channels
Seek feedback on the report

GREENIST AIRPORT

Hong Kong Airport and its business partners



The Airport Authority Hong Kong (AA) has been operating efficiently with care for the environment. For the goal of continuous improvement, AA invited TQM to design, develop, implement and maintain ISO 50001 Energy Management System (EnMS) for all buildings of HKIA since 2016.

TQM assists AA on administering a range of carbon and energy programmes to reduce HKIA's environmental footprint and works with their business partners to participate and thus reducing the airport-wide carbon emissions by 25.6% per workload unit from a 2008 baseline.

REGAL AIRPORT HOTEL



- ✓ Install T5 lighting tubes in the guestrooms and the hotel's office to save more energy
- ✓ Install variable speed control for the air conditioning units which serve the ballroom and common areas to reduce energy consumption
- ✓ Install water flow regulator on taps to save water (ongoing)
- ✓ Install LED lights in the corridors of guest floors (ongoing)
- ✓ Replace halogen lamps with LED lamps

HONG KONG SKYCITY MARRIOTT HOTEL



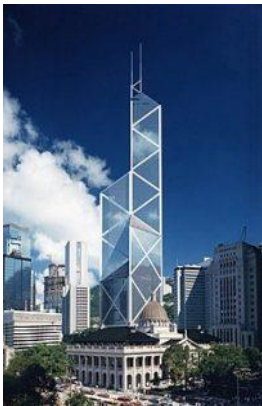
- ✓ Complete the installation of motion sensors for office lighting
- ✓ Increase the energy efficiency of cooking equipment
- ✓ Introduce energy saving devices in guestrooms
- ✓ Replace traditional inverters for Air Handling Units with higher energy efficiency types
- ✓ Install frequency inverter for chillers' water pumps to save energy by adjusting the cooling capacity according to the demand



GREENIST FINANCE

Bank of China (Hong Kong) and its properties

Sun Chung Property Management Company Limited provides property management service to its clients including all units under Bank Of China. To deliver service beyond expectations from both its clients and the society, Sun Chung developed Energy Management System (EnMS) for buildings it manages including BOC Tower, BOC Centre and BOC Wan Chai Commercial Centre. For continuous improvement and enhancement, Sun Chung therefore invited TQM to provide consultancy service for its EnMS maintenance.



Bank of China Tower



Bank of China Centre



BOC Wan Chai Commercial Centre

- ✓ Conduct energy audit, identify major energy source and analyze energy consumption
- ✓ Make analysis against energy performance and indicators
- ✓ Set clear goals and develop Opportunity Assessment on Energy Performance Improvement
- ✓ Develop/ optimize documents of management plan, training plan, measurement and monitoring plan, etc.
- ✓ Identify improvement opportunity for energy management

Improvement Areas	Achievement
Air-conditioning	↓ 8 % / year
Lighting	↓ 40,000 kWh/ year
Lift Motor System	↓ 30% / year



中銀香港為持續發展首間在本地獲頒行及國際化銀行「模範者」獎的本地銀行。中銀香港獲頒「模範者」獎，是其在可持續發展方面取得卓越成就的肯定。中銀香港在可持續發展方面，一直秉承「以人為本、以誠為信、以和為貴、以善為德」的價值觀，積極履行社會責任，為社會和諧發展貢獻力量。

中銀香港在可持續發展方面，一直秉承「以人為本、以誠為信、以和為貴、以善為德」的價值觀，積極履行社會責任，為社會和諧發展貢獻力量。

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MORE CASES

WSD	<ul style="list-style-type: none"> • Conducted Energy Audit/ Review • Reviewed the existing Equipment, Electrical power, Heat and Air Conditioning Systems • Designed, developed and implemented mechanisms to improve/ maintain the efficiency of the Assets and achieved energy saving and optimization • Certified to ISO 50001 for the whole Department, the ONLY Government Department, which has acquired the FULL EnMS certificate
WSD	<ul style="list-style-type: none"> • Conducted Energy Audit/ Review • Helped WSD maintain its EnMS till now. • Helped WSD upgrade its EnMS to ISO 50001:2018 and conduct Energy Review Audit in 2020
Bank of China (BOC)'s subsidiary - Sun Chung Property Management Co Ltd	<ul style="list-style-type: none"> • Conducted Energy Audit/ Review • Greatly improved the energy efficiency of BOC Tower, BOC Centre and BOC Wan Chai Commercial Centre and saved cost • Maintain its various systems (ISO 9001, ISO 10002, ISO 14001, ISO 50001 and Hygiene Control Management System) since 2019 till now. • Assisted to Upgrade its EnMS to ISO 50001:2018 in 2020
Bank of China Centre	<ul style="list-style-type: none"> • Provision of Energy Audit Services
Bank of China Wan Chai Commercial Centre	<ul style="list-style-type: none"> • Provision of Energy Audit Services
Bank of China Wan Credit Card Centre	<ul style="list-style-type: none"> • Provision of Energy Audit Services
Environmental Protection Dept – (Contractor) ATAL Engineering Group	<ul style="list-style-type: none"> • Conducted Energy Audit Services for Low-level Radioactive Waste Storage Facility • Identified Energy Management Opportunities • Achieved better energy efficiency
Fisheries and Conservation Department	<ul style="list-style-type: none"> • Conducted Energy Audit for Au Tau Fisheries Office and Pak Tam Chung Visitor Centre • Identified Energy Management Opportunities • Achieved better energy efficiency
Kowloon Hospital Rehabilitation Building	<ul style="list-style-type: none"> • Conducted Energy Audit/ Review • Identified Energy Management Opportunities • Achieved better energy efficiency
Pamela Youde Nethesole Eastern Hospital	<ul style="list-style-type: none"> • Conducted Energy Audit/ Review • Identified Energy Management Opportunities • Achieved better energy efficiency
Shatin Hospital	<ul style="list-style-type: none"> • Conducted Energy Audit/ Review • Identified Energy Management Opportunities • Achieved better energy efficiency
North District Hospital	<ul style="list-style-type: none"> • Conducted Energy Audit/ Review • Identified Energy Management Opportunities • Achieved better energy efficiency

MORE CASES

<p>Marks & Spencer Supplier</p> <p>M&V International Manufacturing (HK) Ltd (2 factories in Cambodia)</p>	<ul style="list-style-type: none"> • Reviewed the conditions of the main production auxiliary equipment (such as air conditioning and ventilation systems, air compressor systems, lighting equipment, etc.) • Improved the stability of the elevator • Improved the efficiency of the hot water systems for dormitories • Improved the operational efficiency of air-conditioning • Through managing the Assets, Achieved Energy Efficiency
<p>Marks & Spencer Supplier</p> <p>Pt. Kuta Beachwear (Factory in S E Asia)</p>	<ul style="list-style-type: none"> • Installed energy-saving devices and improved the lighting system • Maintained the high efficiency of the compressor systems • Introduced heat-radiated architectural design to reduce the impact of solar heat on the thermostat system • Fixed plant power systems • Improved the air conditioning systems • Through managing the Assets, Achieved Energy Efficiency
<p>Marks & Spencer Supplier</p> <p>Hangzhou Xinyi Garments Co Ltd (Factory in PRC)</p>	<ul style="list-style-type: none"> • Changed to split air-conditioning systems, and air-condition systems without motor cooling • Improved the efficiency of the equipment used • Through managing the Assets, Achieved Energy Efficiency
<p>Marks & Spencer Supplier</p> <p>Zhongshan Baofeng Knitting Co Ltd (Factory in PRC)</p>	<ul style="list-style-type: none"> • Reduced the damage of the current harmonics on the power system • Transformed electrical appliances and production equipment used, and achieved reduction in energy consumption and improvement in the electrical efficiency • Optimized the air conditioning and ventilation systems and reduced the outdoor heat • Through managing the Assets, Achieved Energy Efficiency
<p>Team Best Knitting (Suzhou) Co Ltd (Factory in PRC)</p>	<ul style="list-style-type: none"> • Inspected and analysed the energy flows, energy consuming systems and equipment, their configuration, operation and maintenance • Improved energy efficiency and minimize the energy input into the systems and equipment without negatively affecting the output(s)
<p>M&V International (Hong Kong) Limited (Factories in PRC & Cambodia)</p>	<ul style="list-style-type: none"> • Conducted energy audit • Identified areas for improvement to cut down energy costs and reduce emission • Compared with industry best practices • Managed the implementation of the chosen solution • Measured and verified the results and achievements • Improvement achieved: • Electrical energy: 12-49% • Heat and air conditioning: 24-50%

MORE CASES

Whampoa Property Management	<ul style="list-style-type: none"> • Conducted Energy Audit/ Review • Identified Energy Management Opportunities • Achieved better energy efficiency
China Resources Property Management Limited	<ul style="list-style-type: none"> • Conducted Energy Audit/ Review • Design, development and building on EnMS, and then successfully achieved ISO 50001 certification • It is the FIRST state-owned enterprise achieving an ISO 50001 certificate in HK • China Resources subsequently obtained the gold certificate of Leadership in Energy and Environmental Design (LEED)
Tai Po Hospital	<ul style="list-style-type: none"> • Conducted Energy Audit/ Review • Identified Energy Management Opportunities • Achieved better energy efficiency
Prince of Wales Hospital	<ul style="list-style-type: none"> - Conducted Energy Audit/ Review - Identified Energy Management Opportunities - Achieved better energy efficiency
Jones Lang LaSalle Management Services Limited	<ul style="list-style-type: none"> - Conducted Energy Audit/ Review - Identified Energy Management Opportunities - Achieved better energy efficiency
Cheung Sha Wan Community Centre	<ul style="list-style-type: none"> - Conducted Energy Audit/ Review - Identified Energy Management Opportunities - Achieved better energy efficiency
King Lam Neighbourhood Community Centre, TKO	<ul style="list-style-type: none"> - Conducted Energy Audit/ Review - Identified Energy Management Opportunities - Achieved better energy efficiency
Au Tau Fisheries Office	<ul style="list-style-type: none"> - Conducted Energy Audit/ Review - Identified Energy Management Opportunities - Achieved better energy efficiency
Pak Tam Chung Visitor Centre	<ul style="list-style-type: none"> - Conducted Energy Audit/ Review - Identified Energy Management Opportunities - Achieved better energy efficiency
HK Red Cross Blood Transfusion Service	<ul style="list-style-type: none"> - Conducted Energy Audit/ Review - Identified Energy Management Opportunities - Achieved better energy efficiency
Hong Kong St. John Ambulance	<ul style="list-style-type: none"> - Conducted Energy Audit/ Review - Identified Energy Management Opportunities - Achieved better energy efficiency



優質管理顧問有限公司
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