

April 2025

Service provider list

Energy systems optimisation

Guidelines



Objectives

The objective of the service is to help re-commission key energy using systems in customers' facilities, and ensure such systems operate optimally by:

1. Assessing the current operation, management and control of equipment and services involved in key energy using systems.
2. Rectifying any faults or energy inefficiencies; and
3. Ensuring key energy using systems (such as heating and cooling) are co-optimised.

Role of registered service providers

1. **Assessing** the viability of a customer site for an Energy Systems Optimisation project by conducting an Energy Performance Assessment, which includes:
 - 1.1. Assessment of energy use and target processes to ensure the business operations are of a type and sufficient scale to warrant an Energy Systems Optimisation project.
 - 1.2. Determining the scope boundary of the Energy Systems Optimisation project; and
 - 1.3. Undertaking a review of the current operations and all equipment; to understand the available data and controls, and where possible ensure they are operating correctly and that the processes are being managed in an energy efficient manner.
2. **Providing cost quotations** to customers which include:
 - 2.1. A list of the Energy Systems Optimisation project milestones (actions/deliverables to be achieved) including the measurement and verification of energy savings.
 - 2.2. The expected timeframe for achieving each milestone.
 - 2.3. The anticipated costs of:
 - 2.3.1. The equipment and materials, if any, to be supplied by the service provider.
 - 2.3.2. Labour for carrying out the Energy Systems Optimisation project and each of the Energy Systems Optimisation project milestones (including a break-down by hours and hourly rates); and
 - 2.3.3. Any other services (if relevant) for the Energy Systems Optimisation project.
3. **Agreeing and warranting** that:
 - 3.1. The price for each product and service covered by the cost quotation will be the lesser of:
 - 3.1.1. Its standard retail price.
 - 3.1.2. The best price then offered by the registered service provider to any other customer for each such product and service.
 - 3.1.3. The best price reasonably available in the market for each such product and service
 - 3.2. Its personnel (including subcontractors):
 - 3.2.1. Are suitably qualified and experienced in Energy Systems Optimisation Project work (such as industrial process, thermal system, BMS, HVAC, refrigeration, and lighting control systems as applicable to the project work they intend to do).
 - 3.2.2. Include at least one person in the registered service provider's organisation involved in the project is accredited in the application of International Performance Measurement and Verification Protocol (IPMVP). E.g. AEE accredited Certified Measurement and Verification Professional (CMVP); EVO accredited Performance Measurement and Verification Analyst or Expert (PMVA/PMVE), or similar.

Services undertaken by registered service providers

The Service Provider will:

1. **Sign an agreement with the customer** to implement the Energy Systems Optimisation project. The agreement must contain:
 - 1.1. A description of the services, equipment, installation, commissioning and monitoring and review cost for the proposed set of initiatives.
 - 1.2. The project cost determined by the service provider and expected payment terms with the customer; and
 - 1.3. An Energy Savings Guarantee to meet at least 50% of the Energy Savings Target by end of the agreed Guarantee Period.
2. **Conduct an Energy Systems Optimisation review** – which must focus on improving overall system control and operations and meeting existing facility needs for the site, system or process as it is currently utilised, use an integrated approach to implement optimal schedules to ensure local system optimisation and persistence of the improved operational schedules, and include:
 - 2.1. Completing a detailed study of the relevant customer site, system or process how it is used and its requirements.
 - 2.2. Collating and reviewing existing plans, documents, 'as-builts' and service reports.
 - 2.3. Developing performance baselines for energy, comfort, systems and processes.
 - 2.4. Identifying, itemising, and recording all relevant plant and equipment, including databases and meters.
 - 2.5. Measuring relevant energy use indices (e.g. kWh/FTE, m², tonne, unit of production, etc.).
 - 2.6. Determining energy flows (e.g. electricity, gas, coal etc.).
 - 2.7. Obtaining/measuring plant, kW, run hours, set points, profiles and peaks, etc.
 - 2.8. Developing an understanding of each energy sub system (typically heating, refrigeration, ventilation, air-conditioning, lighting, compressed air, process flows, and control and automation) and relationship to total site energy flows.
 - 2.9. Preparing mass and energy balance.
 - 2.10. Obtaining customer/staff feedback on business-as-usual conditions.
 - 2.11. Preparing a schedule of all identified energy savings opportunities, including estimated costs, payback periods, and timeframes.
 - 2.12. Developing a plan to measure and verify energy savings.
3. **Create an implementation and commissioning plan** which includes:
 - 3.1. Scheduling and co-ordinating work.
 - 3.2. Installing and commissioning recommended energy savings measures including:
 - 3.2.1. Promptly rectifying any equipment or sensor faults.
 - 3.2.2. Undertaking or subcontracting the reprogramming of the BMS or process control if necessary.
 - 3.2.3. Carrying out basic tuning and system balancing to ensure key systems are co-optimised and ensure that energy using systems such as heating and cooling system are not operated simultaneously.
 - 3.3. Inspecting completed projects.
 - 3.4. Documenting changes made and effect on energy use (peak and totals) and product throughput (and quality if applicable).
 - 3.5. Commencing measurement and verification activities.

4. **Assist the customer through the implementation phase** of the project to achieve the Energy Savings Target.
5. **Measure and verify** the energy savings over the measurement and verification period (which must be no less than the guarantee period) by monitoring energy consumption of each process/site post-implementation against baseline energy consumption using the International Performance Measurement and Verification Protocol (IPMVP).
 - 5.1. Measurement and verification activities include:
 - 5.1.1. Undertaking measurement and verification activities required by the appropriate option (options A, B or C) of the IPMVP.
 - 5.1.2. Data analysis.
 - 5.1.3. Periodic facility walk-throughs as required to support effective measurement and verification.
 - 5.1.4. Maintenance of installed energy savings measures.
 - 5.1.5. Equipment monitoring and control.
 - 5.1.6. Identification of additional energy savings measures.
 - 5.2. Measurement and verification activities must be undertaken by a person or persons that have received appropriate training and accreditation in the IPMVP standard (refer 3.2.2).
6. **Report** the identified opportunities, estimated cost/energy/carbon benefits, and once implemented the measured outcomes are to be provided to the customer. Where a project has received EECA co-funding the report will be provided to EECA.

Contact us

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