



Energy and Management

S E R V I C E S

NEWCASTLE | BRISBANE | SYDNEY

25

YEARS

EMS 1996 — 2021
ANNIVERSARY



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Our Aim

Our vision is to provide high quality, professional energy advice to our clients. Energy and Management Services assists businesses to save money, improve energy performance, quantify emissions and evaluate efficiency.



Profile

Energy and Management Services (EMS) is an expert consultancy specialising in providing professional energy advice. We have a broad client base ranging from commercial and industrial clients, Government, Local Government, agribusiness, mines, as well as small/medium enterprises. EMS provides support to these businesses in their procurement and energy management processes.

Since EMS was established in 1996 it has grown from a single operator to employing a wide range of specialist staff across many disciplines.

This expertise ranges from engineering (electrical, mechanical and process) to environmental (science and management) as well as scientific, business and accounting. This is essential to EMS as it increases efficiency, innovation and capacity for clients and means that most projects can remain 'in house'.

Now a vibrant consultancy of experienced staff, EMS has strong associations with a number of other companies to facilitate larger projects. Further to this, EMS has a trusted and skilled network of high-quality staff in the industry that can be called upon if restricted in resources or time. This has allowed EMS to progress to becoming a very reputable leader in its field and has secured clients with a great deal of corporate influence.

Founded in the Central Western region of NSW, EMS relocated to Lake Macquarie in 2003 and recently expanded to offices in Brisbane and Sydney. From a group of clients in regional NSW the business has expanded to include clients across Australia.



Capability

With staff experienced in all facets of electricity supply, energy use and conservation, EMS can provide quality advice in many capacities.

- Energy procurement
- Energy auditing
- Energy management
- Contract negotiations
- Design and analysis of electricity supplies
- Consulting to private and government organisations
- Purchase and creation of environmental certificates
- Embedded networks and metering
- Solar analysis
- Economic analysis of energy and cost saving projects (e.g. co-generation)
- Assisting businesses to fulfil statutory requirements and improve environmental performance
- Demand-side management
- Network connection negotiations
- Tariff analysis
- Embedded generation options
- Financial modelling
- Detailed environmental reporting for energy purchases
- Management consulting
- Direct metering agreements



Objectives

Provide high quality knowledge-based energy advice

Assist clients to minimise energy costs

Maximise energy performance through improved efficiency

Provide effective monitoring and diagnostic tools for energy management and emissions reporting



Energy Procurement

EMS has highly experienced staff with extensive knowledge and a wide range of contacts in the electricity and broader energy industry.

With access to the latest industry information, EMS is able to conduct a thorough analysis of market trends and assist clients to source competitive energy contracts that address their long-term procurement needs. EMS also monitors pricing mechanisms for environmental certificate purchases to offer maximum opportunity for clients to benefit from any chosen energy procurement strategy.

EMS understands that a successful contract is not just about the price but should encompass a holistic approach to energy management and application. Having developed specific analytical Contract Pricing Models for evaluation of the market, EMS utilise its extensive network to provide superior results for their clients.



Client Examples

- Northparkes Mine
- Peak Gold Mine
- Whitehaven Coal
- Manildra Group
- Fletcher International Exports
- Thomas Foods International
- Hunter Water Corporation
- Orana Regional Organisation of Councils (OROC)
- Central Regional Organisation of Councils (CENTROC)
- Norton Gold Fields
- MSM Milling
- Catholic Diocese of Bathurst
- Catholic Diocese of Lismore
- Woods Group

Our Capabilities

- Contract negotiations
- Network connection negotiations
- Market modelling
- Market reports
- Independent procurement of environmental certificates
- Direct metering agreements



Energy Management

EMS has comprehensive experience in all aspects of energy advice. Staff recognise that the first step in assisting clients to manage energy is through education.

Through knowledge and instruction EMS aids clients to understand electricity billing and the billing process. EMS helps clients to understand how much energy is used, where it is used and how to manage it effectively. This is assisted by the use of energy management software like e21 EnergyPlus.

E21 EnergyPlus enables its users to verify their electricity accounts in the competitive electricity market and track and manage energy consumption whilst identifying billing errors. It also generates a range of reports and graphs which make detecting any irregularities in the client's electricity bills simple. The software assists its users in achieving fundamental business and environmental goals such as reducing energy consumption, maintaining cost control and improving energy and emissions performance.



Client Examples

- Fletcher International Exports
- Hunter Water Corporation
- Cobar Management
- Peak Gold
- Beiersdorf Australia
- Cumulus Vineyards
- Earlyrise Baking
- MSM Miling
- Tomingley Gold Operations
- Thomas Foods International
- Over 25 Councils across NSW

Our Capabilities

- Management consulting
- Tariff analysis
- Economic modelling
- Economic analysis of potential energy and cost saving projects (e.g. co-generation)
- Statutory reporting
- Demand management
- Managing energy consumption
- Verifying electricity accounts and identifying bill errors
- Power factor analysis



Environmental Certificates

The Renewable Energy Target (RET) and NSW Energy Savings Scheme (ESS) create a financial incentive for clients undertaking projects which reduce electricity consumption.

The RET operates through the creation of tradable certificates (LGCs and STCs) which create an incentive for additional generation of electricity from renewable sources. Certificates are created and issued through the REC Registry – an online trading platform managed by the Clean Energy Regulator. There is also a secondary market for certificates that does not involve the Clean Energy Regulator, and includes financial institutions, traders, agents and installers. EMS operates in this market to provide savings for our clients from retail contracts whereby independent procurement is negotiated as part of a client's electricity contract. As part of this service, EMS offers trusted advice and guidance on market dynamics to facilitate the buying, transfer and surrender of certificates to scheme participants through the necessary registries.

Since the beginning of the NSW ESS scheme in July 2009, participants have benefited from lower electricity bills through implementing energy savings activities and have gained income from selling Energy Savings Certificates (ESC'S) through this market-based mechanism. The Energy Savings Scheme is legislated to run until 2025 or until there is an equivalent national scheme. Having previously gained IPART approval as an Accredited Certificate Provider (ACP), EMS have generated environmental certificates from streetlighting upgrade projects.


How the ESS works?

- Organisations identify energy savings projects that they can implement. These projects must reduce electricity consumption by installing, improving or replacing energy savings equipment
- ACP's implement their energy savings projects and create certificates based on energy savings (each certificate is equivalent to one tonne of CO2-e emissions avoided)
- The ACP's sell their certificates, usually to Liable Entities. Liable Entities are mainly electricity retailers
- Liable Entities surrender ESC's to meet their targets as required by legislation.

Recognised Energy Savings Activities (RESAs)

RESAs are specific activities implemented by an ACP that increase the efficiency of electricity consumption or reduce electricity consumption, by:

- Modifying equipment or it's use
- Replacing equipment
- Installing new high efficiency equipment; and/or
- Removing equipment and reducing electricity consumption



Energy Auditing

EMS understands the duty of our clients to comply with statutory requirements, adhere to their own environmental standards and to seek opportunities to improve economic performance by reducing energy use and costs.

Since the introduction of the various State and Commonwealth energy efficiency schemes, our experience has allowed EMS to become a well-respected consultancy performing energy assessments and detailed technical reviews as part of Government driven programs. Examples include NSW Energy Savings Action Plan (ESAP), Sustainability Advantage – Energy Saver, Energy Efficiency for Small Business Program (EESBP) and Energy Efficiency Opportunities (EEO). EMS is currently an approved Energy Efficiency Service Provider (EESP) for the Office of Environment & Heritage.

Our audit staff have extensive energy and environmental expertise coupled with a wealth of practical industrial and commercial experience. Recently, EMS gained the internationally recognised accreditation for Certified Measurement and Verification Profession (CMVP), highlighting our staff as some of the most qualified specialists within the energy industry. This proficiency has allowed EMS to undertake audits for corporations with multi-million dollar annual electricity spends including industrial processors, mines, abattoirs and manufacturers down to small and medium enterprises such as offices, restaurants, workshops and hairdressers. EMS has facilitated these businesses to improve energy performance, quantify emissions and evaluate efficiency of specific assets and processes.



Client Examples

Under the EEO Program, EMS performed audits including:

- Manildra Group for Honan Holdings (Manildra Energy, Shoalhaven Starches and Manildra Grain Company)
- George Weston Foods

Under the NSW ESAP, EMS performed audits including:

- CSA Mine (copper ore) at Cobar
- Manildra Flour (wheat mill) at Manildra
- Manildra Energy (ethanol plant) and Shoalhaven Starches (starch and glucose products) at Bomaderry

Under the EESBP, EMS performed over 600 assessments including:

- Morisset Multipurpose Centre
- Gloria Jeans at Jesmond, The Junction and Hamilton
- Piggott's Pharmacy at New Lambton and Hamilton South
- Many more with savings of up to 45% realised in some cases



Embedded Networks

EMS has experience in assisting customers with embedded networks, including assistance with managing operations and maintenance, audits and billing, especially complex billing arrangements.

We are able to create bills from interval metering data and also provide individual site usage, analysis and reporting. This can be easily accessed by each embedded customer.

Embedded generation sources can also be tracked and appropriately credited to the embedded accounts within the network.

How Embedded Network Assistance Works?

EMS is able to provide bespoke tendering documentation to cover ongoing operation and maintenance of the embedded network. Additional requirements are occasionally needed to appoint accredited auditors.

For embedded customer billing, EMS utilises e21 EnergyPlus software to track usage using 30-minute data supplied directly from the meter provider. At the end of the month the daily interval data is used to create an accurate, line by line, electricity bill based on relevant published network charges producing a bill in accordance with guidelines issued by the AER. Customers have access to their individual data via a password protected link to the software.

Client Examples

- Tabbita Utilities
- Hunter Water Corporation
- MAAS Group
- Narromine Irrigation
- Trangie Nevertire Irrigation

Our Capabilities

- Billing verification and creation
- Consumption analysis and solar modelling
- Tender services



Renewable Analysis

With greater emphasis on being environmentally aware, EMS can independently examine the ways clients can reduce electricity costs through installing solar systems or other generation projects.

As well as providing analyses and comments on specific proposals, EMS can make expert recommendations and provide specific comparisons of project proposals to ensure that clients gain maximum benefit through strategic decision making with maximum savings realised.



Client Examples

- Akoonah Farming Enterprises
- Atune Health Centres
- Bogan Shire Council
- Catholic Diocese of Bathurst
- Catholic Diocese of Lismore
- Coonamble Shire Council
- Dubbo Christian School
- Dubbo Medical and Allied Health Group
- Earlyrise Baking
- Fletchers International
- Manildra Group
- Orana Gardens
- Rivcott
- St Philips Christian College
- Tabbita Poultry
- Veolia Environmental Services
- Weston Aluminium
- Woods Group

Our Capabilities

- Solar analysis and assessments
- Investigation of solar technology opportunities
- Solar comparisons
- Connection agreements



EMS Consulting

EMS staff regularly consult to private consumers and Government Departments and have the competence and experience required for high quality delivery of all necessary components of energy related matters. Personnel have a combined experience in the electricity distribution industry of nearly 95 years encompassing both urban and rural networks.

EMS Consulting is involved in every aspect of dealings between clients and energy companies and has also acted in a technical advisory role for regulatory bodies.

Extensive experience, insight and competence are able to be given from both sides of the market divide. Staff have broad knowledge of the practices and requirements of Distribution Network Service Providers, as well as experience of the economic impacts and responses of the marketplace to network pricing determinations.



Client Examples

- Since early 2008, EMS Consulting has acted in a technical advisory role to the Australian Energy Regulator for advice of service classifications, asset classes and asset lives, equipment ratings, operating costs, deliverability of capital works and other specific items within DNSP regulatory proposals
- EMS Consulting has been the peer-review consultant for the 2009-14 pricing reset for NSW and ACT electricity DNSPs and again for the 2010-15 pricing reset for QLD and SA DNSPs
- In 2015, EMS appeared on behalf of a number of clients before the Australian Competition Tribunal, successfully campaigning to moderate electricity price shock.

Our Capabilities

- Technical advice on service classifications, asset classes and asset lives
- Advice on equipment ratings, operating costs, deliverability of capital works
- Peer review for pricing reset
- Negotiating and arranging network connections
- Tariff analysis
- Retail contract analysis
- Economic evaluations of energy and/or cost saving projects
- Cost minimisation through demand management in response to network pricing issues

Our Team

Peter Halyburton

Director

- Master of Business Administration, University of Newcastle
- Bachelor of Science (Technology) in Electrical Engineering, University of Newcastle
- Fellow, Institution of Engineers Australia
- Fellow, Australian Institute of Energy

Murray Halyburton

Managing Director

- Master of Environmental and Business Management, University of Newcastle
- Bachelor of Science, University of Newcastle
- Member, Australian Institute of Energy
- Member, Institute of Managers and Leaders

Jim Kelty

Senior Consultant

- Master of Engineering Science, University of Newcastle
- Bachelor of Science, University of Newcastle
- Member, Australian Institute of Energy
- Member, Hunter Environment Institute
- Member, Chemical Engineering Group

Paul Myors

Senior Consultant

- Bachelor of Engineering (Honours), University of Newcastle
- Member, Engineers Australia
- Member, Professionals Australia

Andrew Halyburton

Senior Energy Analyst

- Bachelor of Science, University of Newcastle
- Member, Australian Institute of Energy

David Bagley-Jones

National Energy Manager

Sheida Shaban

Energy Consultant

- Bachelor of Electrical Engineering, University of Tenaga National Malaysia

Tito Kinnavong

Energy Analyst

- Graduate Certificate in Applied Finance, University of Newcastle
- Advance Diploma in Business/Accounting, TAFE NSW

Jasmine Pearce

IT, Research and Development

- Bachelor of Mechatronics Engineering (Honours), University of Newcastle

Jasmine Stuart

Student Renewable Energy Engineer

Kate Halyburton

E21 Support Officer

- Bachelor of Business, University of Newcastle
- Advanced Diploma of Business Management, Australian Business Academy

Louise Tassone

Administrative Support Officer

- Certificate 3 in Tourism & Retail Management, TAFE NSW

Jackie Adam

Administrative Support Officer

Briony Halyburton

Administrative Assistant

Kristy Fahey

E21 Support Officer

- Bachelor of Arts (Communication), University of Newcastle

View in more detail on our website
ems.com.au

Professional
Energy Advice