

3E Group (formerly Ecosave Australia & NZ)

The content of this document was provided by 3E Net Zero Group Pty Ltd

GREENER
GOVERNMENT
BUILDINGS

Organisational Overview

Established in 2002, **3E Group (formerly Ecosave Australia & NZ)** is a leading team of engineering and sustainability professionals who are passionate about Imagineering a Sustainable Future through scalable Net Zero solutions.



We partner with government and commercial organisations across multiple sectors in Australia and New Zealand including **State governments, Local Councils, healthcare providers, education campuses, commercial property, hospitality property groups, and manufacturing** to accelerate their sustainability journey and help them **achieve their Net Zero ambitions**. This has resulted in 3E Group successfully delivering more than 3,000 guaranteed energy saving projects and multiple large-scale Energy Performance Contracts (EPCs).

We are **experts in driving energy and cost savings through integrated efficiency and emissions reduction projects** and our team ensures portfolios are future proofed by implementing smart building solutions. 3E Group's core business includes implementing turn-key energy efficiency, decarbonisation and degasification projects, combining multiple technologies and engineering techniques designed for optimal energy savings and Return On Investment outcomes. Our team cover all aspects of **advisory (including net zero roadmaps and audits), design, procurement, implementation, measurement & verification, ongoing monitoring and optimisation and technical support to ensure long-term sustainability success for your organisation**.

We are **product and solution agnostic** meaning that we focus on providing the best value and innovation through engineering and implementation of fit-for-purpose solutions across a wide range of technologies (including but not limited to: **HVAC, Heat Pumps, Solar PV, battery storage, BMS, LED lighting, EV charging, water efficiency, submetering, power quality, utility losses, energy management systems and variable speed drives**).

We focus on maximising savings and reducing risk through performance-based implementation, which is backed by our robust Savings Guarantee.

For organisations who wish to preserve their Capital budget for core operations, or require funding to support their sustainability investment, **we offer an innovative partnership and services delivery model – Energy-as-a-Service (EaaS) – with no upfront capital outlay and zero debt obligations** (off-balance sheet). EaaS achieves decarbonisation through integrated low-carbon technologies and smart city style digital solutions for large users as well at precinct or territory scale, within and beyond buildings - across energy, infrastructure, digital, water and waste.

3E Group has played a significant role in reducing the environmental impacts in Australia over the years, being the founding member of the Energy Efficiency Council and receiving national recognition for promoting sustainability in the 2022 Telstra Best of Business Awards.

To learn more about 3E and to discover how we can help accelerate and achieve your Net Zero ambitions, please visit <https://3egroup.com.au> or call 1300 55 77 64.

Company Details

Company Name	3E Net Zero Group Pty Ltd
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Website	https://3egroup.com.au

Key Contact 1

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Position	Head of Operations
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Key Contact 2

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Financial Details

Minimum Contract Size	\$100,000
Maximum Contract Size	\$75 Million
Public Liability Insurance	\$50 Million
Professional Indemnity Insurance	\$20 Million

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Accreditations



Core Competencies

3E Group (formerly Ecosave) has been delivering EPCs and guaranteed energy and water savings to more than 3,000 sites in Australia and internationally since 2002.

We deliver the following solutions for government agencies, not for profits and commercial organisations:

- Net Zero Roadmaps
- Carbon Reduction Management Plans
- Energy & Carbon Emissions Reporting
- Energy Performance Contracting (EPC)
- Guaranteed Energy Savings Projects (GESPs)
- Energy as a Service – (convert CAPEX to OPEX)
- Energy Audits to AS/NZ Standards (Type 1, 2 and 3)
- NABERS Energy Rating Assessments
- Building analytics, building tuning and continuous commissioning
- Fault Detection & Diagnostics (FDD) and Data Driven Maintenance (DDM)
- Utility Management, Bill Verification and Energy Procurement
- Facility Management
- Energy Management & Control Systems
- Energy Management Reporting

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- Carbon Reporting
- Carbon Accounting services
- Measurement and Verification of savings to international standards (IPMVP model)

3E Group's team of specialist engineers will identify and design energy and water efficiency solutions which meet the requirements of your organisation and sites including:

- Degasification of central heating and domestic hot water plants.
- Heat Pump upgrades
- Heating Ventilation Air Conditioning replacement/ optimisation/ heat recovery
- Building controls (BMS) optimisation / re-commissioning and installation
- Power optimisers, power factor correction and demand management systems
- Solar hot water
- Solar PV (STC and LGC)
- Lighting upgrades, appliance replacement and controls
- Industrial and process engineering, compressed air systems.
- Building Sealing
- Water management, pumping system optimisation, water and waste water treatment optimisation, rain and storm water harvesting, amenities water savings, chilled and heating water systems
- Energy management including utility sub-metering, monitoring of usage, bill management, customer-friendly dashboard and monthly reporting, ongoing consumption reduction advice
- Embedded Networks

Within speciality fields and industries / operations such as:

- State and Federal Government agencies and departments
- Local Government Council Infrastructure including Heritage Listed buildings, council office buildings, museums, libraries, art galleries, community centres, aquatic centres and sports facilities
- Education – public and private schools, TAFES and Universities
- Health – private/government hospitals, including major metropolitan hospitals, regional hospitals, clinics and aged care facilities
- Commercial building portfolios
- Large format retail (shopping centres)
- Industrial/manufacturing – food and beverage manufacturing plants
- Water industry

Service Limitations

3E Group focuses on delivering solutions for energy intensive organisations and buildings and does not currently cater to individual households/residential and small/micro-businesses.

Previous & Current EPC Experience

Customer	Eastern Alliance for Greenhouse Action 6x (Six) EPCs across six Councils i) Yarra Ranges Council ii) Boroondara City Council iii) Maroondah City Council iv) City of Monash v) Knox City Council vi) City of Whitehorse	Description
Project Cost	\$14.8 Million (combined)	<p>The Eastern Alliance for Greenhouse Action (EAGA) and its member councils have a proud history of delivering significant climate mitigation initiatives, both at the regional scale and individual council level. Since 2012, EAGA initiatives have saved over 22,000 tonnes of greenhouse emissions in councils and the community. This is forecast to increase to over 56,000 tonnes by 2021 through projects currently being delivered. EAGA embarked on a joint Energy Performance Contracting (EPC) program – the first of its kind in the Australian Local Government sector.</p> <p>3E Group (formerly Ecosave Australia & NZ) was contracted by Yarra Ranges, Maroondah, Boroondara, Knox City, City of Whitehorse and City of Monash Councils to design and implement a range of energy efficiency and sustainability measures, including:</p> <ul style="list-style-type: none"> • Lighting Upgrades & Controls: • Solar PV: 1.3MWh capacity • HVAC and Mechanical • Boiler & Chiller Replacements • Heat Pumps • Pool Pump Variable Speed Drives • Voltage regulation units (VRUs), Power Factor correction, Overnight base load reduction • BMS Upgrades and Analytics: • Building Fabric: Applied Window film to reduce solar heat gain • New pool blanket systems for heat insulation and safety <p>EPCs involve upgrade works at more than 40 sites including: Aquatic and Leisure centres, Sports Complex and facilities, Health clubs and Gyms; Community, Family and Learning Centres; Heritage listed Town Halls, Museums, Art Galleries, Council Chambers and Offices.</p> <p>To date, EPCs for Yarra Ranges, Maroondah, Boroondara councils have been completed and 3E Group is currently implementing works at Whitehorse, Knox and Monash City Councils. By working together, EAGA Councils will reduce emissions by 9,184 tonnes – which is roughly the equivalent of 1,600 cars driven for one year removed from the roads.</p> <p>The Joint EPC initiative significantly reduces complexity of implementing energy conservation and renewable energy solutions for the six Councils involved. The collaboration, resource sharing and partnering with a single provider (3E Group) ensures consistency and quality outcomes for the EAGA region, while the the Energy</p>
Annual Savings	\$1.5 Million (plus \$2 Million in avoided costs) (combined)	
Payback Period (yrs)	10 years	
Date Completed	2019 - 2023 and ongoing with M&V	

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Performance Contracting model means that savings are guaranteed by 3E.

Customer	Queensland Department of Education – ACES Program	Description
Project Cost	\$40 Million	<p>The Queensland Department of Education initiated a \$97 million Advancing Clean Energy Schools (ACES) Program to embed energy efficiency and Solar PV at more than 800 State schools across Queensland. The express aim of the ACES Program is to reduce environmental impact of school operations, reduce operating costs and contribute towards the Queensland Government’s 50% renewable energy target by 2030.</p> <p>3E Group (formerly Ecosave Australia & NZ) was successful in being chosen as among the three Pre-Qualified Partners to the ACES Program. 3E Group was commissioned to install clean energy and energy efficiency projects at more than 250 state schools across the Central Queensland and Southeast Queensland regions.</p> <p>3E Group prepared a detailed implementation plan for each of the three phases of the program (over 3 years) and worked with the Department to ensure project delivery complies with strict health and safety and performance measurement criteria.</p> <p>Following early successes in the initial stages of the ACES Program, the Queensland Government announced an additional \$71 million over 3 years to expand solar panel installations on state school rooftops.</p> <ul style="list-style-type: none"> • 3E managed and implemented turn-key Solar PV projects – a total of 21.38 MW of Solar PV across more than 250 schools • Provisioned access of Solar analytics and training to key stakeholders in each school • Installation of more than 8,600 other energy conservation measures including LED Lighting upgrades, lighting and air conditioning controls • Technical and maintenance support to all schools <p>As a result of partnering with 3E Group to deliver sustainability projects to Central Queensland and Southeast Queensland state schools, the Department of Education has managed to reduce their total energy consumption by 78,302 GJ, representing a 33% reduction from their annual baseline consumption. This amounts to 15,400 tonnes of CO2-e emissions being reduced every year – which is the equivalency of carbon emissions removed by taking 3,321 cars (driven for one year) off of Queensland roads.</p> <p>The Department has been able to make significant contributions towards the Queensland Government’s 50% Renewable Energy Target by 2030. 3E Group’s involvement in this project has contributed more than 1/3 (one third) of the total 61.4 megawatts of Solar installed as part of the ACES Program and expanded program. Each school benefits from being able to demonstrate and educate students on taking action on climate change with practical examples, and when combined with access to live analytics through an online portal, staff and students can view the performance of the energy conservation measures in real time – providing both insights and</p>
Annual Savings	\$5.4 Million	
Payback Period (yrs)	7 years	
Date Completed	Dec 2022	

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opportunities to foster learning outcomes for taking action on climate change.

3E Group took great care in ensuring minimal disruption to school operations and that health and safety as well as risk management were top priorities throughout the project.

Customer	Nepean Blue Mountains Local Health District (NBLHD) EPC	Description
Project Cost	\$8.1 Million	<p>Nepean Blue Mountains Local Health District (NBMLHD) engaged the expertise of the 3E Group (formerly Ecosave Australia & NZ) to reduce their facilities' carbon emissions & energy consumption (via EPC) across five hospitals within the district including: Lithgow, Portland, Nepean, Springwood, and Blue Mountains District ANZAC Memorial Hospitals.</p> <p>Through the EPC, 3E Group is helping NBMLHD to achieve their objectives, which are to:</p> <ul style="list-style-type: none"> • Ensure that NBMLHD meets its obligations to the New South Wales Government's Draft Climate Change Fund Strategic Plan & Resource Efficiency Policy to achieve zero carbon emissions by 2050 • Implement energy conservation measures & upgrades across five hospitals • Reduce these sites energy consumption and carbon emissions via an Energy Performance Contract (EPC). • Lead the charge towards minimising their hospitals and facilities' carbon footprint, and support the community in protecting their natural environment <p>Solutions:</p> <ul style="list-style-type: none"> • LED Lighting upgrades (>16,000) • Over 1 MW of Solar • Installation of 254 sub meters for electricity (234), Gas and Water (20). • Submetering Analytics setup and Automation • Mechanical equipment upgrades including geothermal heat pumps, Domestic Hot Water & HHW equipment, • Variable Speed Drives • Upgrade to Building Management System <p>The EPC is still ongoing, and its expected completion will be the second half of 2023. Upon completion, initial estimates suggest the EPC is expected to reduce NBMLHD energy consumption by more than 32%.</p>
Annual Savings	\$906,000 energy savings (estimated) \$259,000 maintenance savings (estimated)	
Payback Period (yrs)	6.7	
Date Completed	Oct 2020 – Jun 2023	

Customer	Chisholm Institute of TAFE	Description
Project Cost	\$2.9 Million	<p>Chisholm Institute is a TAFE Institute in South-East Melbourne. 3E Group (formerly Ecosave) had implemented a \$2.9M Energy Performance Contract for Chisholm across its 65 buildings within 6 campuses.</p> <ul style="list-style-type: none"> • Significant solutions that Ecosave has implemented at Chisholm include: Replacement of entire HVAC system of the largest building to a centralised chiller and boiler system to save 478 MWh of electricity • Installed LED lighting technology across all campuses to save 878 MWh of electricity • Installation of new assets including boilers, BMS systems, and air conditioners
Annual Savings	\$340,000	
Payback Period (yrs)	7 Years	
Date Completed	Feb 2016	

- The EPC is in its Measurement & Verification stage and interim data points to Ecosave overachieving its savings targets.

For more information about this project please visit <https://3egroup.com.au/case-study/chisholm-institute-epc/>

Customer	City of Yarra	Description
Project Cost	\$3 Million	<p>The City of Yarra (CoY) has a proud history of being a leader in environmental action and carbon management. In 2014, CoY initiated a 10-year Energy Performance Contract with the vision to reduce the Council's greenhouse gas emissions and significantly reduce their energy and maintenance costs. Ecosave (now 3E Group) was chosen as the preferred tenderer for the \$3.3million Energy Performance Contract (EPC).</p> <p>The EPC comprised a wide range of energy conservation measures across 18 of the City's buildings and facilities including: Town Halls, libraries, recreation centres, day care centres, amphitheatres, pavilions and swimming pools, spanning the inner Eastern and Northern suburbs of Melbourne. Ecosave designed and implemented all the energy saving solutions, including: Solar PV (162 kW), LED upgrades, HVAC optimisation, Cogeneration system installation, Boiler unit replacement, building sealing, energy saving modules, appliance controls, refrigerant additives and BMS optimisation and upgrades. Ecosave committed to guaranteed savings of \$224,000 p.a. resulting from 1,402 MWh and 8,845 GJ in reduced energy consumption.</p> <p>As of 2018, all works have been completed and all savings for years 1 and 2 (of 10) have been measured and verified as accurate against the international Protocol. As an outcome of CoY's decision to engage Ecosave in an EPC, the Council is on track to achieve its sustainability targets, while eliminating the financial and technical risks typically involved in a project of this magnitude. The Savings Guarantee insulated the Council from such risks when project returns were initially lower than predicted and 3E Group (formerly Ecosave) promptly reimbursed the savings shortfall. As energy prices escalate, the Council's Return on Investment will be significantly higher than originally calculated.</p> <p>https://3egroup.com.au/case-study/measurement-verification-mv-in-city-of-yarra-epc-confirms-big-savings-for-council/</p>
Annual Savings	\$218,151	
Payback Period (yrs)	9.7 Years	
Date Completed	Jan 2018	

Customer	East Gippsland Water Authority	Description
Project Cost	\$1.13 Million	<p>East Gippsland Water is a small regional water authority in the East of Victoria that serves an area of 21,000 square kilometres in diverse country including coastal areas and wetlands and up in to the Snowy Mountains and Alpine areas. East Gippsland Water engaged Ecosave to deliver EPC services in 2014 and 3E Group (formerly Ecosave) delivered energy efficiency projects across fourteen key sites which has achieved energy savings of 761,844 kWh p.a. and a CO₂-e emissions reduction of 1,006 t p.a.</p> <p>The fourteen key sites addressed by the EPC include 3 wastewater treatment plants where energy consumption through lagoon aeration is being addressed with the implementation of solar aerators as well as controls around recirculation pumps. Pumps ranging from 20kW to 200kW at some key water pumping stations are being replaced with smaller, more efficient models and new pumping regimes are being</p>
Annual Savings	\$142,482	
Payback Period (yrs)	7 Years	
Date Completed	Sep 2017	

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		implemented. High efficiency LED lighting solutions with integrated controls are being implemented at a number of sites including East Gippsland Water's head office. Large scale and small-scale roof and ground mounted solar PV is being deployed across a number of sites, and controls around incoming water quality and the operation of the central DAFF water treatment plant, which is integral to East Gippsland Water's water supply network, are being addressed.
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Customer	City of Sydney	Description
Project Cost	\$7.5 Million	<p>The City of Sydney (the City) is committed to improving its environmental performance under the 2030 Sustainable Sydney Vision. In 2011, the City went to market for a partner to help them meet their vision, by delivering an Energy and Water Efficiency Retrofit of 47 of the City's Buildings and Operations, one of the most ambitious of any Australian government.</p> <p>The energy and water retrofit project, worth \$7.5M, is a key component of the Sustainable Sydney 2030 plan. The city will see improvements in lighting with a comprehensive suite of LED lighting technologies, HVAC, VSD's, PC power management, occupancy comfort and water-saving initiatives.</p> <p>3E Group (formerly Ecosave) designed and installed a package of HVAC solutions to optimise performance of the existing systems, increasing efficiency and reducing wastage. These solutions included:</p> <ul style="list-style-type: none"> • Energy Savings Modules on chillers to match output with demand, and reduce cycling • Economy cycle optimisation to better make use of outside ambient conditions • Variable speed drives on cooling towers and fans to match output with load • Cooling tower optimisation including temperature resetting • Building Management System reprogramming including Optimum Start/Stop and Night Purging <p>For more information about this project please visit our website https://3egroup.com.au/case-study/city-of-sydney/</p>
Annual Savings	\$1.2 Million	
Payback Period (yrs)	6 years	
Date Completed	Nov 2015	

Referees

John Richardson	Title: Major Energy Projects Manager
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Gabriel Chang	Title: National Property Manager
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Harin de Soysa	Title: Team Leader Property Administration
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