VOLT POWER GROUP LIMITED

ABN: 62 009 423 189

ASX CODE: VPR

BOARD

Simon Higgins
Non-Executive Chairman

Adam Boyd CEO & Managing Director

Peter Torre
Non-Executive Director

ISSUED CAPITAL

8,245M Ordinary Shares 390M Unlisted Options

PRINCIPAL OFFICE

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REGISTERED OFFICE

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ASX ANNOUNCEMENT

30 August 2019

Volt Power - 2019 Half Year Activity Report

Highlights

ATEN Technology (100% owned) – Zero Emission Baseload Power

- The Company has continued business development activity to promote the technical, commercial and zero-emission benefits of the ATEN 'Waste Heat to Power' technology to major industrial & resource sector power generation owners
- Several ATEN retro-fit preliminary studies have been completed to highlight the technical and lowest levelized energy cost advantages of ATEN relative to all new fossil fueled and solar/wind hybrid generation capacity for specific customer assets
- The business case for ATEN retro-fit to existing open cycle gas turbine installations delivering incremental baseload power is particularly compelling from a capacity (+20%) and generation cost perspective

EcoQuip (53% owned) – Mobile Solar Lithium Light/Comms Towers (MSLT)

- The Company has increased its ownership of EcoQuip from 50% to 53% via the provision of new equity funding to EcoQuip
- EcoQuip achieved 70% utilization of its existing Mobile Solar Light / Communications Tower (MSLT / MSCT) fleet during HY 2019
- EcoQuip completed the manufacture of its first proprietary MSLT power management and telemetry control system. New MSLT Gen4 units incorporating this system have been commissioned and deployed
- New MSLT / MSCT Gen4 units have been deployed to Thiess Contracting, BHP and Lend Lease for initial demonstration purposes
- Demonstration deployments with Chevron (Barrow Island), FMG and Roy Hill (Pilbara) are also planned during Sept / Oct 2019
- An Eol was submitted for the supply 25 EcoQuip MSCT units to support the planned FMG Eliwana iron ore mine autonomous mining / drilling systems
- EcoQuip also executed a national cross-hire alliance with RSEA Safety to deploy the MSLT Gen4 across national road construction and traffic markets
- MSLT Gen4 pricing structure confirmed to deliver a compelling 50%+ (approx.) cost saving relative to the diesel-fueled lighting solutions used extensively



Wescone (100% owned) - Proprietary Sample Crushing Equipment

- Wescone continues to generate surplus cashflow
- Wescone executed an exclusive Wescone OEM distribution agreement with IMP Automation (IMP)
 for the sale and service of Wescone crushing equipment solutions across the African continent.
 IMP is global leader in the design and supply of automated, robotic sampling systems
- Wescone has developed and manufactured a new W300 Series 4 sample crusher prototype (New W300 Series 4). The New W300-4 can accept 60% larger lump material and has significantly upgraded reliability and wear performance
- The New W300 Series 4 redesign was initiated after the Company became aware of performance deficiencies raised by BHP in 2015/16. These deficiencies were not disclosed by the Wescone vendor to the Company prior to its acquisition in January 2018
- Wescone loaned BHP a New W300 Series 4 prototype for a 20-week trial at the Mt Whaleback iron
 ore mine. The Mt Whaleback trial is now complete without incident or failure achieving
 significantly improved reliability, availability and throughput rates
- Prior to Mt Whaleback Trial completion, BHP requested a second New W300 Series 4 prototype for 20-week trial installation at the BHP Finucane Island ISO3082 port infrastructure. To date, this unit has been installed and operating for 4 weeks without incident or failure
- The Company expects BHP to make a long-term sample crushing equipment procurement decision prior to 2019 calendar year end
- The New W300 Series 4 achieved "patent pending" status and a design copyright application has been filed with the Australian Design Office
- As previously advised, Volt has filed a Writ against the Wescone vendor on 4 January 2019 seeking damages for breach of contract and/or that the sale agreements are void for misleading and deceptive conduct

Contract supplier of innovative equipment solutions, Volt Power Group Limited (Volt or Company) today released its 2019 Half Year Activity Report & Appendix 4D – Half Year Report. Volt's CEO & Managing Director, Mr Adam Boyd said;

CEO Salient Summary – "Major Companies are Trialing Our New Equipment Solutions"

"The Volt Power Board is pleased to provide shareholders with an update of the Company's activities for the 6-months ended 30 June 2019 and the Company's 2019 Half Year Result.

"The Company prioritized business and product development activities associated with our innovative equipment solution development strategy during the period.

"On the product development front, we have now completed a new Wescone W300 Series 4 sample crusher design and prototype manufacture (x2). Our initial strategic objective is to create a bespoke crushing equipment solution tailored to satisfy the performance requirements of BHPs ISO3082 port loading sampling systems.

"We also continued design optimisation work on EcoQuip's new Mobile Solar / Lithium Light and Communication Tower solution, particularly its telemetry and power management system.

"The Volt Board is excited about both product opportunities and believe these new solutions are market 'step change' solutions that will deliver productivity and cost reduction benefits that will compel procurement decisions.



"With the initial product development and testing phases for our new innovative equipment solutions complete we commenced a pointed market introduction strategy.

"Wescone secured arrangements with BHP to trial the new Wescone W300 Series 4 via two separate and discrete 20-week trial installations at BHPs Pilbara iron ore operations during the period. The first trial period was completed without incident or failure. Trial data has confirmed the achievement of significantly improved availability, reliability and throughput rate performance. The second trial is 4-weeks in without incident or failure. We are pleased that our new W300 Series 4 design decisions are delivering.

"EcoQuip has also advanced MSLT & MSCT demonstration trialing with with some of Australia's largest resource and hire equipment sector businesses including BHP, Lend Lease (via RSEA) and Thiess Contracting. The robust design, zero-emission and significant cost reduction benefits of the EcoQuip Solar Lighting solution has been enthusiastically received.

"We are engaged in a number of ATEN Technology deployment opportunity discussions. ATEN is a significant infrastructure deployment and, as a result is a longer lead time proposition. We remain confident that the zero-emission and low-cost generation outcomes that ATEN delivers will achieve a procurement and shareholder value result.

"The Volt Board is excited about the potential of the next 12-months for the Company. The opportunity to transition our new product development endeavors into recurring revenues and positive earnings is significant and gaining momentum.

"From a funding perspective, we have received approximately \$0.6 million in R&D tax rebate funding for out 2018 calendar year R&D activities and as at the date of this report the Volt Power Group has a cash balance of approximately \$1.0 million. The Company generated a small Net Profit for the period.

EC&M Limited (In Administration)

"On a disappointing note, the Company's largest shareholder, EC&M Limited (ECM) was placed into voluntary administration on 21 August 2019. The Company shares corporate office and EcoQuip workshop accommodation with ECM. ECM has historically provided the Company with tax and accounting services.

"The Board has acted promptly and secured the temporary accounting related resources required. We remain located at the ECM Perth facility while the ECM Administrator completes an initial assessment of the ECM business. We are working to identify alternative accommodation which is abundant in the current Perth commercial property market should it be required. The Board does not expect any significant disruption to the business if the Company if required to move to alternative accommodation.

Further detailed discussion of the Company's activities since the 2018 Full Year Report is detailed below.

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Volt Power Group Limited - Detailed Activity Description

ATEN Technology (100% owned) – Revised Flowsheet Complete & Development Focus

"As previously reported, the ATEN technology (patent pending) was the subject of a significant enhancement program to maximise the ATEN value proposition during 2018. These activities simplified the ATEN flowsheet, improved ATEN efficiency significantly and achieved a material reduction in both capital and operating costs.

"The Company continued to prosecute its business development activities to communicate the technical, commercial and zero-emission benefits of the "waste heat to power" ATEN Technology to major industrial and resource sector businesses that operate significant power station and/or industrial processes that vent waste heat directly to atmosphere.

"These efforts resulted in the completion of several preliminary studies for ATEN retro-fit installation opportunities in the Western Australian industrial and resource sector. In all cases these preliminary studies confirmed significant cost, technical and emission benefits relative to traditional new fossil fueled or intermittent renewable energy capacity installation options.

"Populist views that solar and/or wind generation is low cost and technically optimal hindered some discussion. However, technically focused businesses that prioritise genuine "best value" focused decision criteria and continuous operating cost reduction are advancing ATEN Technology evaluation with us. We are continuing to promote the benefits of ATEN and will believe a "break-through" opportunity will result from our business development endeavors.

The Board continues to believe that ATEN is a step change 'waste heat to power' solution that will deliver the mining and industrial sectors a reduction in electricity supply costs and carbon emissions where adopted. This is particularly the case for existing open cycle gas turbine installations with a baseload or continuous intermittency balancing duty that are extensively deployed in the WA South West Inter-Connected System and WA Pilbara region.

EcoQuip (53% owned) - Fleet Growth Strategy Underway

"As previously reported, EcoQuip completed initial development of a 'market ready' Mobile Solar / Lithium (LFP) Battery Light Tower (MSLT) solution and manufactured the first 16 MSLT units in late 2018 for shipment from the EcoQuip USA domiciled assembly base to Perth, WA.



MSLT Gen4 - Houston Assembly Facility



"Volt Board continues to anticipate the complete displacement of mobile diesel fueled light towers with robust, reliable solar / battery powered solutions worldwide over the coming years in almost all relevant usage environments where adequate solar irradiation exists.

"Our business development activities during the period were successful. EcoQuip signed an exclusive national cross hire distribution alliance with RSEA Safety for the distribution of EcoQuip's industry leading Mobile Solar Light Towers (RSEA Alliance). RSEA Safety is Australia's largest independent retailer and B2B provider of safety products including a highly successful road safety equipment hire business (RSEA Hire Division). The RSEA safety business has national brand recognition and a keen focus on delivering innovative solutions that provide customers with competitive advantage and cost savings.

"RSEA has EcoQuip MSLT exclusivity for hire deployment in road traffic markets only in Queensland, NSW and WA. EcoQuip and RSEA have agreed to share all hire revenues on a 70:30 basis respectively. RSEA currently hold an EcoQuip MSLT fleet of approximately 20 units across their WA and Queensland hire businesses.

"Thiess Contracting have hired a trial MSLT in Wi-Fi mesh / PTP / CCTV configuration (MSCT) and integrated the unit into a trial autonomous drilling system at a Queensland located mine site. Thiess have advised EcoQuip that they are assessing the EcoQuip MSCT for permanent integration into their autonomous mining system offering.



Thiess - Trial MSCT

"BHP have also agreed to conduct an initial trial of an EcoQuip MSLT at their Pilbara operations. The zero-emission capability and 50% cost saving compared with their existing diesel fueled solutions has initiated this. Further, the deployment and logistics simplicity of a traditional trailer type solution has competitive advantage over competing products.

"EcoQuip has planned trial deployments at Roy Hill and FMG's Pilbara iron ore operations and Barrow Island for Chevron. We are engaged to finalise these arrangements at the earliest juncture. Our trial deployment objective is to clarify the environmental, productivity and cost saving benefits of the MSLT & MSCT solutions for our potential clients and convert these to significant multiple unit long-term hire contracts.

"We remain excited about the "roll-out" deployment opportunities in the USA. The USA domiciled EcoQuip manufacturing and assembly activities ideally places the business to exploit the huge US market with Made in USA status.











EcoQuip Client Subset

Wescone (100% owned) - New W300 Series 4 Crusher Development Complete

"The Company's Wescone business is the owner of the proprietary and unique W300 sample crusher installed in the port loading and ISO3082 assay systems in the global iron ore industry and metallurgical laboratory sector. Wescone has continued to generate positive cashflow albeit below the business' historical positive cashflow performance.

"During the period Wescone further enhanced the entirely new W300 Series 4 sample crusher design and manufactured two prototypes. The New W300 Series 4 is dimensionally identical from an installation perspective, however importantly can accept 60% dimensionally larger sample feed and has significantly increased wear component strength.



W300-4 Overhead View

"The New W300 Series 4 redesign was initiated after the Company became aware of performance deficiencies raised by BHP in 2015 that were not disclosed by the Wescone vendor to the Company prior to the Wescone acquisition in January 2018. BHP advised the Company of these deficiencies subsequent to the Wescone acquisition.

"Wescone supplied BHP with a New W300 Series 4 prototype for an agreed 20-week trial at the Mt Whaleback iron ore mine during the period (Mt Whaleback Trial). The Mt Whaleback Trial is now complete with incident or failure achieving significantly improved reliability, availability and throughput rates compared to the older model W300 sample crusher.



"Prior to Mt Whaleback Trial completion, BHP requested a second New W300 Series 4 prototype for 20-week trial installation at the BHP Finucane Island ISO3082 port loading sample infrastructure (Finucane Trial). This unit has now been installed and operating for 4 weeks without incident or failure.

"BHP has advised that it is continuing to trial alternatives to the W300 Series 4 sample crusher. The Company expects BHP to make a long-term sample system crushing equipment decision prior to 2019 calendar year end.

"Wescone executed an exclusive Wescone OEM distribution agreement with IMP Automation (IMP) covering the African continent. IMP is a global leader in the design and supply of automated, robotic sampling systems to the international resource sector and has integrated Wescone W300 crushers into their sampling solutions for over 10-years. IMP was recently acquired by Danish engineering and equipment supply conglomerate, FL Smidth.

"To protect the significant investment in intellectual property to develop the W300 Series 4 sample crusher Wescone has completed a patent application and secured "patent pending" status. Further, the Company has also prepared and filed a design copyright application with the Australian Design Office.

"As previously released, Volt filed a Writ against the vendor of Wescone on 4 January 2019 on the basis that material information in relation to BHPs ongoing intentions for the use of previous versions of the Wescone W300 sample crusher was not disclosed to Volt prior to the Wescone acquisition completion.

Financial Results

The financial performance of the Company for the 12-months ended 31 December 2018 reflects the new technology development and now early commercialisation phase of the Company's activities. As highlighted above, the Company has received \$0.6 million in R&D tax rebate funding since the @018 Full Year Report. These funds are detailed below in "Other Income". This contributed to the Company achieving a positive EBITDA and Profit attributable to Members.

Summary Result Table

Description	6 months ended 30 June 2019	6-month ended 30 June 2018
Revenues	662,697	1,039,812
Other Income	606,286	20,532
EBITDA	228,047	(590,883)
Profit/(Loss) attributable to Members	21,070	(547,769)

<u>Volt Power Group Cash Position</u> – Volt Power Group Limited held cash reserves of approximately \$1.0 million as at the date of this report.

Next Steps & Company Outlook

"We have continued to pursue the Company's new technology development and commercialization activities with significant endeavor during the HY19 period. We have achieved significant new product development milestones and the Company, through committed business development activity has the engagement of significant counterparties that understand the commercial value proposition the Company's new products offer. We are looking forward to working with our equipment trial partners to advance commercial opportunities that deliver mutual benefit. The Board considers the potential of the next 6-months will be an exciting period for the Company.

During the next 6-months we will continue to:

- Advance all business development activities and negotiations necessary to install the first ATEN Technology waste heat to power project;
- Secure further client trial opportunities and pursue contractual commitments for the supply of



multiple EcoQuip MSLT and MSCT units to expand the EcoQuip revenues and earnings base and advance ongoing MSLT / MSCT optimisation initiatives; and

• Seek a BHP commitment to procure multiple W300 Series 4 crushers and agree arrangements for the ongoing contract service and repair of all Wescone W300 crushers that BHP own.

End			

About Volt

Volt Power Group Limited (ASX: VPR) is a power generation technology and infrastructure asset / equipment developer and owner. The Company's businesses build and commercialise proprietary equipment / infrastructure pursuant to an annuity revenue-based contract business model.

Business Activity Summary

The activities of our businesses include:

- **ATEN** (100%) ATEN is a zero-emission waste heat to electricity generation equipment solution. The ATEN is at an advanced stage of initial commercialization (Patent Pending);
- Wescone Crushing Equipment (100%) the proprietary owner of the Wescone W300 sample crusher predominantly deployed throughout the global iron ore sector. Wescone has a successful 25+year operating track record;
- **EcoQuip** (53%) a developer and owner a 'best in class' Mobile Solar Lighting & Communications Tower solution incorporating robust design features including a military spec build quality and solar / lithium (LFP) battery and advance management / control system capable of LED lighting, LTE, Wi-fi repeater and CCTV retro-fit.; and
- **Acquisition / Development Strategy** the expansion of its broader renewable / low emission power generation, infrastructure asset footprint and execution capability.

About the ATEN Technology (Patent Pending): The ATEN Technology comprises a modular, power generation equipment package capable of harvesting 'low' grade industrial waste heat to generate zero emission electricity. ATEN generated electricity can significantly reduce 'energy intensive' industry operating costs via the displacement of grid sourced electricity or fossil fuel usage associated with electricity generation.

The global industrial complex generally vents 'low' grade waste heat to atmosphere. The quantity of unexploited waste heat created by global industry presents an outstanding opportunity for the commercial roll-out of the ATEN Technology.

The ATEN's simple, high efficiency design and modular configuration - developed to maximise its integration capability - provides a low capex, uniquely compatible and scalable solution for the exploitation of 'low grade' industrial waste heat. Volt's priority target markets for the commercialization of the ATEN Technology include the resources and industrial processing sectors.

Volt's largest shareholder is **ECM Pty Ltd (ECM). ECM** is one of Australia's largest, privately owned construction and maintenance companies servicing clients in the mining, oil and gas, infrastructure and power generation sectors. The business has a national footprint with extensive project execution and delivery capability having completed the construction and commissioning of power stations and processing infrastructure across mainland Australia for 30+ years.

The Company's office is co-located at the ECM headquarters and fabrication facility - 20kms south of the Perth CBD in Henderson, Western Australia.