

## BOARD

**Adam Boyd**  
Executive Chairman

**Paul Everingham**  
Non-Executive Director

**Peter Torre**  
Non-Executive Director

**Simon Higgins**  
Non-Executive Director

## ISSUED CAPITAL

10,717M Ordinary Shares  
885M Unlisted Options

## PRINCIPAL OFFICE

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## ASX ANNOUNCEMENT

17 April 2023

# VOLT AND PRIMERO ESTABLISH EPC ALLIANCE TO DELIVER ZERO EMISSION WASTE HEAT TO ENERGY PROJECTS

## Highlights:

- Volt and Primero establish an exclusive Waste Heat to Energy project alliance to deliver the Company's proprietary ATEN Waste Heat to Power and HYTEN Waste Heat to Hydrogen technologies;
- For the 3-year agreement Term, Volt and Primero will jointly conduct business development, feasibility study, tender completion and project delivery contract negotiations;
- Primero will perform all EPC Contract project delivery and Volt the required Technology Licenses and Maintenance Contract services for all future Waste Heat to Energy projects; and
- The alliance can play a significant role in reducing carbon emissions for Australia's critical energy and export industries using Volt's proprietary Waste Heat to Energy systems.

The Board of Volt Power Group Limited (Volt or Company) is delighted to announce the Company has reached agreement with Primero Group Limited (Primero) to establish an exclusive EPC construction delivery alliance for projects incorporating Volt's Waste Heat to Energy technologies (Waste Heat to Energy Alliance).

## Waste Heat to Energy Alliance – Description Summary

For the 3-year Term of the Waste Heat to Energy Alliance, Primero and Volt have committed to exclusively pursue project opportunities that can exploit Volt's proprietary zero emission, waste heat to energy technologies. This includes jointly undertaking business development, feasibility study, tender completion and project delivery contract negotiation activities.

The Volt Waste Heat to Energy technologies comprise the:

1. ATEN Waste Heat to Power system (Aust. Innovation Pat. # 202020347); and
2. HYTEN Waste Heat to Hydrogen system (Aust. Pat. Application Pending # 2021122481 and 2021245159).

## Primero Group Limited - Background

Primero is an innovative, multi-disciplinary engineering business wholly owned by ASX-listed NRW Holdings Limited (NRW) that specialises in the design and construction of global resource and energy projects. The business has an impressive EPC construction track record including the delivery of power generation, energy infrastructure (including hydrogen), waste heat recovery and mineral processing assets.

The NRW Group is a leading, diversified provider of contract services to the resources and infrastructure sectors in Australia with a market capitalization exceeding A\$1 billion.

### ATEN – Waste Heat to Power

The ATEN Waste Heat to Power system recovers industrial waste heat (including power station exhaust heat) otherwise vented to atmosphere to generate zero emission, baseload electricity. The ATEN system comprises proven sub-systems integrated into a simple heat recovery, closed loop thermodynamic process able to convert thermal energy into mechanical work to drive a generator. No water or personnel attendance is required to operate the ATEN system.

ATEN's unique competitive advantage also includes CAPEX up to ~60% lower and LCOE<sup>1</sup> up to ~50% lower than an annual generation equivalent solar / BESS or wind installation.

ATEN is also compatible with and complimentary to existing solar / wind installations connected to remote off-grid and on-grid electricity networks. The system is an energy transition technology capable of increasing the zero-emission penetration of grid and off-grid networks without the incremental high-cost storage and complex ancillary support systems necessary to achieve 'mission critical' supply reliability from high penetration renewable installations.

The ATEN market opportunity includes retro-fit installation on the existing open cycle gas turbine (OCGT) driven power generation and compressor fleet across Australia's LNG & domestic gas assets, resource sector electricity generation, the broader electricity supply industry and other industrial facilities that require process heat. Significantly, ATEN enhances the efficiency of OCGT electricity generation by between ~15-25%.

For example, ATEN can meaningfully reduce carbon emissions at Australia's on-shore LNG and domestic gas facilities by utilizing open cycle gas turbine waste heat to generate zero emission electricity to displace gas fueled electricity generation or to produce zero emission hydrogen where HYTEN is deployed.

Further, installing an ATEN system on an existing OCGT peaking power station can enable a peaking station to achieve high efficiency and supply low-cost, baseload electricity to displace coal fueled baseload supply and reduce generation equivalent carbon emissions by ~60%.

### HYTEN – Waste Heat to Hydrogen

Volt's HYTEN Waste Heat to Hydrogen system comprises the ATEN system integrated with either solid oxide, PEM or alkaline water electrolyser sub-systems to produce zero emission hydrogen fuel/feedstock gas. Engineering study activity to date has highlighted that HYTEN can produce zero emission hydrogen for a LOCH<sup>2</sup> of ~US\$2 – 3/kg. This is a ~60-70% lower cost than "Green Hydrogen" systems powered by new wind and/or solar renewable electricity generation.

To compel the uptake of a zero-emission hydrogen industry, hydrogen must be delivered to market for an energy price at least equivalent to traditional energy cost. HYTEN has the potential to achieve this.

### Waste Heat to Energy Alliance - Roles & Responsibilities

The parties have agreed to bear their own costs on business development, feasibility and contract negotiation activities associated with pursuing project opportunities and to project delivery roles per the Table below.

Party	Activity
<b>Primero Group</b>	EPC Contractor
<b>Volt Group</b>	Technology Provider
	Maintenance Contractor

#### ***Volt Executive Chairman, Mr Adam Boyd said,***

"The Board is delighted to be working with the Primero team to pursue and deliver new waste heat to energy projects incorporating Volt technologies. Primero has an exceptional track record of EPC project delivery in the new energy sector including renewables, high efficiency gas fueled power generation and hydrogen production projects. The business also has a unique reputation for technical and commercial innovation and execution.

"There's an extensive industrial waste heat resource vented to atmosphere daily by Australia's electricity generation industry, on-shore domestic gas & LNG export sector, miners and other energy intensive industrial assets. These industries are critical to Australia's national economic prosperity and deserve low cost, proven and reliable solutions compatible with their existing asset fleet to sustainably advance their energy transition strategies.

“Volt’s low cost, baseload waste heat to energy systems can play a significant energy transition role to reduce carbon emissions for Australia’s critical energy and export industries by displacing hydrocarbon fueled electricity or hydrogen production with zero emission, baseload electricity or hydrogen generated from waste heat currently vented to atmosphere.

***Primero Chief Executive, Mr Cameron Henry said,***

“Primero has developed a world-class presence in new energy and energy transition project implementation. The business’ capabilities extend to the EPC design and construction of renewables, battery storage, low-emission power generation and hydrogen production facilities.

“The worldwide pursuit of sustainable net zero carbon emissions will require a multi-technology pathway approach. The waste heat to energy alliance with Volt provides Primero with exclusive EPC delivery rights for projects that incorporate Volt’s proprietary technologies and, the NRW Group with a comprehensive new energy project delivery capability, which to our knowledge is without peer in Australia.

“Waste heat to energy technologies in combination with renewables and battery storage will deliver lowest cost and high zero emission penetration in industrial settings where waste heat is available.

**End**

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**Issued by:** Volt Power Group Limited (ACN 009 423 189)

**Authorised by:** The Board of Volt Power Group Limited

### About Volt

**Volt Power Group Limited (ASX: VPR)** is an industrial technology company that develops and commercializes ESG focused, zero emission power generation and hydrogen production technologies and next generation mining equipment.

The Company’s businesses develop and commercialise innovative proprietary OEM equipment delivering “step change” client productivity & cost benefits and reduce scope 1 emissions.

### Business Activity Summary

These activities of our businesses include:

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- **ATEN** (100%) – ATEN is a zero-emission waste heat to electricity generation equipment solution. The ATEN is at an advanced stage of initial commercialisation. ATEN enjoys Australian Innovation Patent certification. Refer below;
  - **HYTEN** (100%) – HYTEN (patent pending) is a zero-emission waste heat to hydrogen solution developed to capture and exploit industrial waste heat (including gas turbine exhaust heat usually vented to atmosphere) and produce low cost, zero emission hydrogen fuel gas. HYTEN comprises the ATEN Waste Heat to Power system integrated with either an alkaline, PEM or solid oxide electrolyser to produce the hydrogen.
  - **Wescone** (100%) – the proprietary owner of the globally unique Wescone W300 sample crusher predominantly deployed throughout the global iron ore sector. Wescone has a successful 25+ year operating track record and

recently developed a new crusher with larger dimensional acceptance, reduction ratio and durability specifications;

- **EcoQuip** (100%) – developer and owner of a ‘best in class’ Mobile Solar Lighting & Communications Tower equipment solution incorporating robust design attributes including US military spec design & build quality, solar / lithium (LFP) battery storage solution and an advanced power management, data telemetry & control system. EcoQuip solutions are capable of zero emission, high performance mobile illumination, LTE, Wi-Fi mesh and point to point microwave network reinforcement and environmental monitoring and surveillance; and
  - **Acquisition / Development Strategy** – The Company actively pursues opportunities to expand its broader zero emission power generation and contract services capability, high yield infrastructure asset footprint & innovative equipment solutions.
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**About the ATEN Technology:** The ATEN comprises a modular, power generation equipment package capable of harvesting ‘low’ grade industrial waste heat to generate zero emission baseload electricity.

ATEN generated electricity is expected to 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 vents a significant quantity of ‘low’ grade waste heat to atmosphere. This quantity of unexploited waste heat presents an outstanding opportunity for the commercial roll-out of ATEN.

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 from existing multiple sources. Volt’s priority target markets for the commercialization of the ATEN Technology include the resources and industrial processing sectors.

The salient ATEN Waste Heat to Power technology benefits that resonate with power station owners include:

- Baseload, zero emission incremental power generation (Scope 1 Emission reduction) compatible with Solar Hybrid systems with high penetration;
- Levelised Cost of Electricity (LCOE)<sup>1</sup> up to ~50% lower than gas and ~80% lower than diesel generation;
- LCOE\* ~50% lower than an equivalent annual generation Solar/Battery Energy Storage System (BESS);
- CAPEX ~60% lower than Solar / BESS based on identical annual generation and zero emission performance;
- Hydrogen co-firing capability;
- Carbon Credits (CFI) Act 2011 Offset Project / ACCU & pending Safeguard Mechanism Credit legislation eligibility; and
- Zero water & operational personnel requirements

The ATEN system is eligible for Australian Carbon Credit Units (ACCU) and Safeguard Mechanism Credits (SMCs) in certain circumstances pursuant to Australia’s pending Safeguard Mechanism legislation designed to reduce greenhouse gas emissions at Australia’s large industrial, resource and energy sector asset fleet.

**1 Levelised Cost of Energy (LCOE) is based on new ATEN zero emission capacity and operating costs and variable costs of fueled generation (where relevant) in the WA Pilbara region and the ARENA LCOE calculation methodology @ 8% discount rate and 20-year project life including ACCUs (\$25/ACCU) and Solar RECs (\$35/REC) as applicable.**

**2 Levelised Cost of Hydrogen (LCOH) is based on the LCOE methodology above inclusive of OEM supplier & EPC installation estimates of the capital and operating costs of hydrogen production via alkaline water electrolysis in the WA Pilbara region.**