

# Q4 FY24 Quarterly Results

31 July 2024

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# Speakers





Tim Harris CEO and Managing Director Michael Hipwood Chief Financial Officer



# **Executive Summary**

#### Customer projects - latest and new announcements



- Announced partnership with Stanwell Corporation to collaborate on the development and deployment of Redflow's X10 battery for use in a 400 MWh large-scale project. An initial feasibility study will conduct technical and commercial due diligence for an initial 5 MWh X10 battery project.
- + Second contract secured with US Department of Defense. Funding approved for \$5m Barona project in US. EQ contract signed.
- + Significant engagement with customers around X10 product plus progression on key deals for FY25/26 Pod delivery

#### Market accelerating and critical government support announced



- + The Australian Federal Government's launched National Battery Strategy. Announced Battery Breakthrough Initiative commits A\$523m to promote the development of battery manufacturing in Australia. Strategy specifically refers to flow batteries as suitable for large stationary energy storage deployments and zinc bromine-based solutions.
- Clear indications the LDES sector is accelerating in markets where Redflow is well placed to capture growth, specifically the US and Australia. \$2bn LDES target procurement in California announced – specifically excludes lithium and pumped hydro.



### Significant Progress on X10 design program

- Hydraulic testing has been successfully completed providing important data around pressure and flow performance. The next stage of the design program is construction of a working prototype.
- + The X10 program is on track to achieve its target milestones by the end of Q2 FY25 (e.g. initial completion of first prototype, significant progress against core 10 technical design, updated commercial analysis and initial factory design)

#### Corporate



Secured A\$3.12m in funding via Entitlement Offer. Funds secured provide Redflow with additional capital as it progresses with discussions to source non-dilutive funding to accelerate product development and deliver growth strategy.

## Redflow partners with Stanwell Corporation on long-duration storage

Collaborate on the development and deployment of Redflow's new X10 battery solution for use in a largescale project of up to 400 MWh, which will serve as a potential anchor order for Redflow's planned manufacturing facility in Queensland.



### redflow

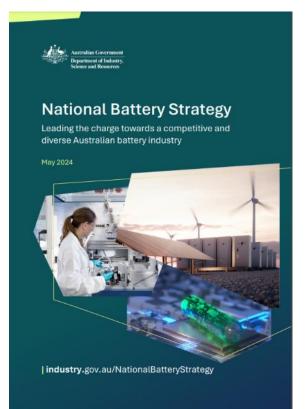
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"Stanwell has ambitious targets for energy storage within our portfolio, and we see longer duration energy storage solutions such as Redflow's as being crucial to meeting our customer demand for firmed renewable solutions,"

CEO, Stanwell Michael O'Rourke

2 July 2024

### Critical role identified in National Battery Strategy - May 2024





Different battery chemistries provide different benefits, including varying duration, cost and purpose. For example:

- Lithium-ion batteries are highly energy dense, making them suitable for weight and size sensitive applications such as EVs, electric bikes and mobile phones.
- Flow batteries, like vanadium, zinc-bromine or iron flow batteries, are cheaper to scale up and have long cycle life, making them suitable for large stationary energy storage systems.

#### \*New Battery Actions: Budget 2024–25

Battery Breakthrough Initiative: \$523 million Support to deliver the Australian Made Battery Precinct: \$5.6 m + \$200m\*

Future Made in Australia Innovation Fund: \$1.7 billion

# LDES market forces accelerating



The future of long duration energy storage Keeping the lights on in a carbon constrained world

C CLEAN ENERGY COUNCIL Advanced Long-Duration Energy Storage (ALDES) can complement transmission infrastructure, ensuring energy reliability when existing transmission lines face congestion, or when new lines face delays or environmental constraints in being built.

The Clean Energy Council's modelling shows that integrating ALDES can significantly lower system costs, reduce reliance on gas-powered generation, and facilitate the transition to a netzero carbon power system.

Clean Energy Council, The future of long duration energy storage, June 2024

June 2024



# Major LDES procurement program in California<sup>1</sup>

- + LDES portion split between **1GW of multi-day** energy storage, and another 1GW of energy storage with a discharge duration of 12+ hours.
- The CPUC has said it wants resources that do not use lithium-ion batteries or pumped hydro energy storage (PHES) technologies, which are already commercialised and deployed at scale.
- + Estimated size of total addressable opportunity from this initiative for ~A\$2bn.
- + Tender 2026, deployment ~2031.



1. California Public Utilities Commission Proposed Decision Determining Need for Centralized Procurement of Long Lead-time Resources, July 19, 2024 <a href="https://www.cpuc.ca.gov/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/ab1373/ab1373\_pd\_factsheet\_071924.pdf">https://www.cpuc.ca.gov/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/ab1373/ab1373\_pd\_factsheet\_071924.pdf</a>

### Key projects on track for delivery and revenue

**Energy Queensland** Final contracts completed and signed July 2024. Battery deliveries expected in <sup>~</sup>\$3.2m in FY25<sup>2</sup> Q2 FY25. Initial invoice submitted. project 4 MWh Formal notice to proceed received. Received initial deposit of AUD\$6.42m over **Paskenta Microgrid** quarter. Adjusted delivery timetable by developer indicates battery production <sup>~</sup>\$15m in FY26<sup>2</sup> 15 MWh and delivery expected to commence in Q3 FY25. HORIZON **Horizon Power** Final contracting expected to be concluded in coming weeks. Pilbara site ~\$0.5m in FY25<sup>3</sup> POWER 400 kWh confirmed. Target Pod delivery around end Q3FY25. 2 x US DoD Stewart Air Force base: Engineering and design is on track to meet the US **Microgrid projects** DoD milestones, with Pod delivery commencing in Q2 FY25. <sup>°</sup>\$4m total in FY25<sup>2</sup> 1.2 - 1.4 MWh + Sigonella Air Force base: on track for Pod delivery in Q2 FY25. 400 kWh Project formally received the grant funding approval from the California Energy Commission (CEC) for \$A13.5m with matched funding by the Barona Tribal **Barona Microgrid** Community of \$A6.1m - total project budget ~A\$19.6m. <sup>~</sup>\$5m in FY26<sup>3</sup> 6.6 MWh Anticipated deployment of the 6.6 MWh Redflow system expected in FY26 with formal timetable to be agreed with the end customer. Negotiations between the US DOE, CEC, Faraday and the end customer for **US DOE Valley Children's Hospital** this 34 MWh LDES project are continuing and Redflow expects final ~\$25m in FY27<sup>3</sup> ENERGY project ~34 MWh contracting to be completed in H1 FY25. Target X10 delivery in early 2027.



Estimates only. Specific revenue and timing of recognising revenue to be confirmed at time of final contracting, and other factors such as production/delivery milestones.
Expected revenue.
Revenue opportunity.

Financial impact<sup>1</sup>

### X10 is the natural evolution of our current systems and designed for larger scale projects

ILLUSTRATIVE DESIGN

system **Auxiliary systems** X10 stack **Re-designed electrical** architecture to enhance system efficiency and reduce system costs.

### **External cooling**

**Optimising battery** thermal management to improve system efficiency and reduce operating costs.

Optimally integrated and scalable stack design, based on the natural evolution of the current stack technology.

### **Key customer requirements** met by X10

Natural product evolution of Pod200/ZBM3, e.g., chemistry and stack technology, which have extensive operational track record

Market Competitive product CAPEX

8h+ duration

MWh+ scale

Modular design for rapid scalability

Designed and manufactured for ease of maintainability in the field for O&M efficiency

Turnkey solution for ease of transportation, field deployment and low installation costs - key customer requirement



# X10 Program update

On track to achieving its first target milestones by the end of Q2 FY25

### Hydraulic testing



Hydraulic multi-stack and pipework manifold testing for flow rate equalisation and critical point pressure determination



### Initial prototype

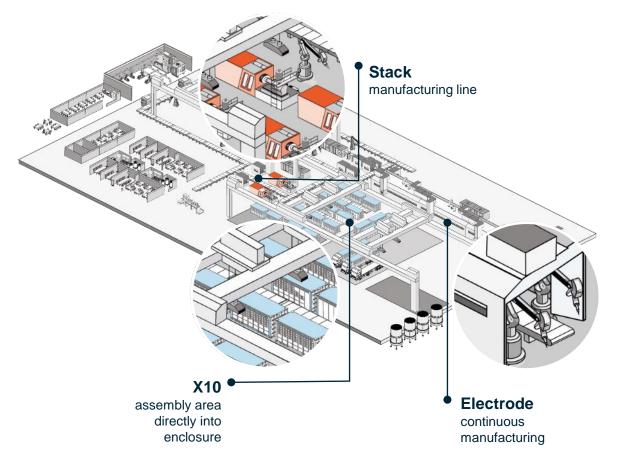


Target August 24 for initial test

Focus on multi stack hydraulics to analyse electrolyte performance (esp. bromine complex management) using existing stacks, single tanks and pumps and multi-stack firmware and software

# Planning commenced for new advanced manufacturing facility

Preliminary QLD factory design



Redflow has advanced scoping plans to commission a **new manufacturing facility in 2026.** Commencing a jointly-funded feasibility study for a **Queensland-based facility** with the state government.

This facility will produce **Redflow's new X10 product**, adopting **highly automated manufacturing processes** to enable a **reduced cost and improved product life** 

Queensland can serve as Redflow's **as a global hub**, centralising stack manufacturing for deployment to global assembly centres





annual production target

>10X increase in Redflow's annual production capacity



150+ Direct jobs generated in QLD

Subject to business plan approval



Source: Preliminary internal Redflow QLD factory employment projections; Preliminary internal Redflow QLD factory design / production plans

# **Financial Summary**

Redflow Cash Movement	AUD\$ 000
FY24 Q3 Cash Movement	-4,760
FY24 Q4 Cash Movement	4,529
Increase of	9,289
Due to	
Increased Advertising & Marketing	-29
Decreased Interest Received	-40
Increased product manufacturing and operating costs	-16
Decreased Staff Costs	58
Decreased Research and Development	1
Increased Administration and Corporate costs	-106
Increased Receipts from Customers	6,371
Increased Intellectual Property	-8
Decreased Plant & Equipment	46
Decreased Income Tax Paid	28
Increase in Equity Securities	3,124
Increased equity securities transaction costs	-142
Other Savings	2
Total	9,289

 In Q4 FY24, net cash received in Operating, Investing and Financing Activities was \$4.529 million, an increase of \$9.289 million compared with Q3 FY24.

 The \$9.289 million net cash inflow in Q4 was primarily due to customer deposits/receipts of \$6.371m and an increase in capital raising of \$2.982 million net of associated costs.



# Clear and consistent strategy

Will continue to deliver growth in FY24 and beyond



### ENERGY FOCUSED APPLICATIONS

- + Solar/wind + storage, renewables integration.
- Medium to long duration focus 8+ hours.
- Industries and applications where safety paramount (e.g. mining).
- + Leverage hibernation and duration attributes.



### COMMERCIAL AND INDUSTRIAL (C&I) CUSTOMERS

- + Small C&I deployments 1+ MWh.
- Medium to larger C&I deployments behind the meter focus 2 – 50 MWh.
- + Promote unique fire safety vs lithium.
- Basis to move into grid-scale opportunities – 50 MWh+.



### US AND AUSTRALIA AS CORE MARKETS

- US California and other markets with large LDES energy storage needs and drive for diversification.
- Queensland Government energy storage strategy supporting acceleration of ambition.
- + Continued growth of opportunities in the broader Australian market.
- Pursue deals in other markets where opportunity is compelling.

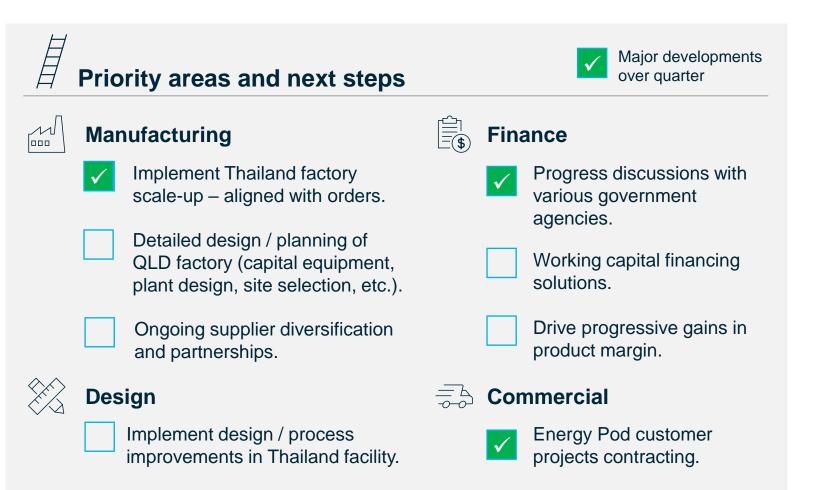


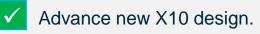
# Redflow has a clear and focused plan to scale-up



- Filled production capacity out to early 2025 with customer orders.
- Detailed scale-up plan for Thailand factory to align with customer delivery requirements
- Design optimisation for cost of ZBM3.
- Preliminary design of new X10 product.









Engage on X10 scaled future commitments.







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