

# POWIN SUSTAINABILITY REPORT 2024

**Building the New Energy Future with Sustainable and Inclusive Growth** 



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### MESSAGE FROM THE CEO

I'm proud to share Powin's first Sustainability Report – a milestone that reflects our long-standing commitment to building a more responsible energy future.

We've always viewed energy storage as a lever for change. In 2024, we formalized that belief through bold action. We completed our first greenhouse gas emissions assessment, deepened our focus on ethical sourcing and traceability, elevated our cybersecurity and governance frameworks, and launched new DEI initiatives.

We believe that real progress comes from owning our impact and striving to improve it. This report is the result of asking ourselves what we do and how we can do it better. It brings visibility to the work already underway and sets the foundation for where we're going.

As a global leader in energy storage, Powin plays a vital role in accelerating energy solutions. But we also recognize that leadership in this space must be earned through innovation, transparency, accountability, and integrity.

This year's report is just the beginning. Sustainability at Powin will be an evolving journey. We will publish updates every year and build on this foundation with measurable goals and continued collaboration across our ecosystem.

Thank you to our team, partners, and stakeholders for your trust, support, and belief in our mission. Together, we're building a future worth storing.



Guny WWater

Jeff Waters Chief Executive Officer Powin





# ABOUT THIS REPORT

This inaugural Sustainability Report demonstrates our commitment to maintaining accountability through transparency by publishing a Report or update every year. This Report includes operational and program performance data from our fiscal year 2024 (January 1, 2024, through December 31, 2024). It addresses key environmental, social, and governance (ESG) topics, including our safety culture, greenhouse gas emissions, ethical business practices, responsible sourcing, diversity, equity, and inclusion (DEI), and more.

#### **Reporting Standards**

This report has been prepared in alignment with leading ESG reporting frameworks. Specifically, it references the Global Reporting Initiative (GRI) Standards, the Sustainability Accounting Standards Board (SASB) framework, and the Task Force on Climate-related Financial Disclosures (TCFD) recommendations. Indexes for each framework are included in the appendix. Powin supports the United Nations 2030 Agenda for Sustainable Development and has identified priority SDGs that align with our business activities and sustainability initiatives. These include goals related to affordable and clean energy, climate action, decent work and economic growth, and industry innovation and infrastructure.

#### **Publication Date**

We published this report on our website, powin.com, in April 2025.

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#### FEEDBACK

We welcome your questions or feedback on our 2024 Sustainability Report. Please contact us at anastasia.kornilova@ powin.com

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# **WHO** WE ARE

Powin is a U.S.-based global energy storage integrator on a mission to become the world's most trusted energy storage provider enabling clean and reliable energy. With data-driven software controls, proven hardware, and experienced end-to-end project execution, Powin delivers scalable systems tailored to meet the needs of modern energy demand. Supported by a globally diversified, ethically sourced supply chain, Powin bolsters energy distribution to alleviate grid congestion, reduce costs, and strengthen aging infrastructure. Relentlessly focused on innovation and lasting value, Powin optimizes energy management, mitigates risk, and ensures predictable energy throughout the lifetime of its projects.

Established in 2010, Powin has come a long way since the early days. And while the last decade has been punctuated with many changes, our focus on innovation has

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remained constant. We are now one of the industry leaders in the energy storage space with over 17,000 MWh of energy storage systems that have been deployed or are under construction worldwide. In 2014, we launched Powin's Battery Lab, which tests and validates cells to ensure high performance. In 2016, we began commercial operations with the launch of our first utility-scale project.

Since then, we have continued to achieve significant growth, introduce new products, and enter new markets. A major milestone for Powin came in 2023 when we announced a strategic partnership with global technology leader Hitachi Energy. In 2024, we launched Powin Pod, our newest platform that is specifically designed for utility-scale projects that are shaping the future of energy landscapes.

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# OUR MISSION & VALUES

#### Our mission is to be the world's most trusted energy storage provider.

Our dedication is unwavering. We are always innovating to deliver energy storage solutions that provide lasting value for our customers.

### Together, we are building a smarter, cleaner grid.

#### Values

As much as we're an energy storage technology company, it's our dedicated team of over 700 employees who span the globe that really makes Powin what it is. And yet, as diverse as we are, we're all drawn to our work by a drive to make a real impact. We're dedicated to doing what we can to accelerate the transition to clean energy. For us, there's nothing as fulfilling as being at the forefront of our industry.

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**Driven.** We persistently pursue excellence and results while maintaining high standards and inspiring others to achieve more. We are self-motivated to proactively identify solutions and opportunities, not just problems.

Accountable. We take ownership of decisions, actions, and outcomes while maintaining transparency and following through on commitments. We build trust through reliability and the consistent delivery of results.

Selfless. We prioritize team and organizational success over personal gain, collaboratively solving challenges while actively supporting and developing others. We value shared achievements over individual recognition and create an environment where all voices are heard.

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# PRODUCTS & SOLUTIONS

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#### Powin Pod: Hardware You Can Count On

Powin Pod is our newest, most powerful platform designed for utilityscale projects that are shaping the future of energy landscapes. Powin Pod was launched in May 2024. With unparalleled long-term system performance, safety, and availability, Powin Pod sets a new standard for energy storage.

Designed for peak performance and efficiency, the Powin Pod is a cutting-edge 5 MWh, 20' high-voltage, liquid-cooled energy storage system. This includes advanced features for safety, reliability, and cost savings, such as compliance with US domestic content and tariff policies.

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#### **Centipede: Our Modular & Scalable Energy Storage** Platform

Our modular energy segment stacks are tailored for scalability, allowing projects to expand as required. Delivered to the field fully assembled, pre-integrated, and rigorously tested within outdoor-rated enclosures, our systems are designed to save on installation cost and time. Each lineup can provide 17 MWh of energy.

### At Powin, energy storage at scale is our focus. In addition to advanced hardware, we offer software and full-stack services to optimize grid performance and accelerate the transition to cleaner, more reliable energy sources. Our solutions are tailored to developers, independent power producers, and utilities.

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#### StackOS: Data-Driven Software Controls

Meet StackOS, our integrated energy storage operating system, which manages a US-made Battery Management System (BMS) and Energy Management System (EMS). Thanks to its layered control levels, the software minimizes vulnerability to single points of failure, providing enhanced reliability and system resilience.

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#### **End-to-End Project Delivery. Every Time**

From 50 MWh to 2 GWh systems, our comprehensive services and efficient processes assure timely and cost-effective delivery. We manage every step, from engineering and logistics to commissioning and long-term servicing.

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#### **Long-Term Services**

With decades of energy storage expertise, Powin provides unparalleled service, backed by system-level warranties and guarantees of up to 20 years.

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With a globally diversified and ethically sourced supply chain, we bolster energy distribution to alleviate grid congestion, reduce costs, and strengthen aging infrastructure.

#### When Customers Choose Powin, They Get:

- Optimized energy management
- Guaranteed project execution
- Long-term financial and operational risk mitigation

We leverage data-driven insights and decades of expertise to make sure your projects launch seamlessly and deliver consistent performance over the long term.

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# POWIN **BATTERY LAB**

The Powin Battery Lab plays a crucial role in advancing energy storage safety, performance, and reliability. Established in 2014 at Powin's Engineering headquarters in Tualatin, Oregon, this world-class facility performs comprehensive testing from cell to system level. The Lab enables rigorous battery validation, vendor selection, and performance optimization, delivering the highest standards in energy storage technology.

With over one million testing hours logged and real-time monitoring of over six million battery cells in the field, Powin's Battery Lab provides unparalleled data-driven insights. Its industry-leading safety and performance testing methodologies improve battery lifespan, optimize efficiency, and ensure compliance with UL9540A, National Fire Protection Association (NFPA), and other safety standards.

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01 CELL

Cell Vendor Reports are produced by characterizing each cell against Powin's standard to ensure safe and reliable integration into our products regardless of supplier.

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It's not just the cell. Every Pack is characterized to ensure safe and reliable performance with any battery. Sophisticated models are created from the data to optimize Pack performance.

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World-class grid simulation capabilities fully validate every integration and control strategy prior to deployment.

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#### **1+ TWh**

of clean energy discharged since 2020. That's enough to power 34,482,759 homes daily or charge over 50 billion smartphones!

#### 17+ GWh

of energy storage projects deployed and under construction

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#### 9,566 MWh **Under Construction**

### **6 Office Locations**

around the World Headquartered in the US

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![](_page_9_Picture_13.jpeg)

### OUR **TOP 5** PROJECTS

![](_page_10_Picture_1.jpeg)

#### **Waratah Super Battery** (WSB)

The Waratah Super Battery will act as a 'shock absorber' in the event of any sudden power surges, including surges from bushfires or lightning strikes. The WSB will also integrate renewable energy into the grid and supply additional capacity on demand, providing the eight million people of Sydney and the surrounding area with access to reliable power.

**Power:** 850 MW **Energy:** 1,680 MWh

### **Ravenswood Microgrid**

This groundbreaking project, one of the world's largest solar + storage microgrids, will support Precision Castparts Corp's Titanium Metals Corporation, Inc. (TIMET) global aerospace manufacturing hub facility in harnessing solar energy to produce titanium products. Powin will deliver a 55 MW Centipede<sup>™</sup> Stack800 battery energy storage system to help power this first-of-its-kind renewable energy microgrid.

**Power:** 55 MW

**Energy:** 280 MWh

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SUSTAINABILITY

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**Overhill: Pulse Clean Energy** 

Pulse Clean Energy has selected Powin to deploy a 50 MW/110 MWh Battery Energy Storage System on project Overhill, located in Scotland, UK. The project will provide services to maintain balance within the power grid, enabling more renewables to be connected securely to the UK energy system.

**Power:** 50 MW

**Energy:** 110 MWh

#### **Arrow Canyon: Powin Powered Super Bowl** 2024

This battery storage project uses Powin's advanced battery energy storage system (BESS) and powers up to 76,000 homes. Arrow Canyon Solar and Battery Energy Storage System won the 2023 Solar Builder Utility-Scale Project of the Year Award. In 2024, Arrow Canyon powered the Super Bowl LVIII entirely by renewable energy sources, discharging 166 MWh of DC energy for the event.

#### **Power:** 75 MW

**Energy:** 423 MWh

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### **Angelo Storage**

Angelo Storage, co-located with the 195 MW Angelo Solar Project and Great Kiskadee Storage, will deliver 100 MW/200 MWh of capacity to the Texas grid with a 2-hour battery duration and will support grid reliability and resilience in the ERCOT market.

#### **Power:** 200 MW

**Energy:** 400 MWh

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# AVARDS & RECOGNITION

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#### **TIME Magazine's 100 Most Influential Companies**

Powin was named one of TIME Magazine's 100 Most Influential Companies, thanks to projects like the first renewablepowered Super Bowl and the 700 MW Waratah Super Battery in Australia.

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#### **Global Trailblazer Award** from the Oregon Consular Corps

Powin was honored with the Global Trailblazer Award by the Oregon Consular Corps. This recognition celebrates our steadfast market exploration, resilience in overcoming obstacles, and unwavering perseverance in seizing opportunities for large-scale energy storage systems across the globe.

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#### **Stevies International Business Awards**

Powin was recognized as a Bronze Stevie Awards winner in The 21st Annual International Business Awards Sustainability Initiative of the Year category.

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#### **2023 Makers & Manufacturers Award**

Powin received the 2023 Makers & Manufacturers Award from the Portland Business Journal, recognizing Portlandbased manufacturing companies that are driving the economy forward through innovation and excellence.

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# AVARDS & RECOGNITION

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**BloombergNEFTier 1 Energy Storage Supplier** BloombergNEF recognizes Powin as a Tier 1 Energy Storage Supplier, affirming Powin's global leadership in the industry.

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Platts Global Energy Awards: Grid Edge Finalist Powin was one of the finalists for the Platts Global Energy Awards by S&P Global Commodity Insights, known as the Oscars of the energy industry.

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#### **Energy Storage Awards: System Integrator Finalist**

Powin was a finalist in the 2024 Energy Storage Awards for System Integrator of the Year. This recognition highlights Powin's innovation, reliability, and excellence.

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Powin Company 3 Company 4 Company 5 Company 6 Company 7 Company 8 Company 9 Company 1 Company 2

#### **Top 4 in Global Energy Storage (Excluding China)** and Top 3 in the U.S.

Powin was recognized among the world's leading energy storage providers in S&P Global Commodity Insights' 2024 Battery Energy Storage System Integrator Report, ranking within the top four globally (excluding China) and securing a position as the third-largest provider in the U.S.

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#### **2023 Solar Builder Utility-Scale Project** of the Year

One of Powin's largest projects, Arrow Canyon Solar and Battery Energy Storage System, won the 2023 Solar Builder Utility-Scale Project of the Year Award. Located in the Mojave Desert, this 200 MW solar array and 375 MWh battery storage project employs 46 members of the Moapa tribe, who benefit from job training and long-term employment.

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### POWIN SUSTAINABILITY VISION

At Powin, we are focused on being the most trusted energy storage provider, leading the way to a cleaner, more sustainable future. Our vision for sustainability is rooted in innovation, responsibility, and long-term impact. We believe that energy storage plays a critical role in accelerating the global transition to renewable energy. By designing scalable, high-performance storage solutions, we empower utilities, businesses, and communities to reduce carbon emissions, improve grid resilience, and maximize the value of clean energy.

Sustainability is embedded in every aspect of our operations, from responsible material sourcing and ethical supply chain management to lifecycle optimization and continuous product and solution innovation. At Powin, we are shaping a smarter, more sustainable energy future—one that is resilient, equitable, and built to last.

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# OUR COMMITMENT **TO SUSTAINABILITY**

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#### Accelerating a **Clean Energy** Transition

We design and deploy energy storage systems that accelerate the adoption of renewable energy, reduce dependence on fossil fuels, and improve grid resilience.

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#### Minimizing **Environmental** Impact

We prioritize responsible sourcing, sustainable manufacturing, and efficient energy storage systems that reduce emissions, minimize waste, and promote a circular economy.

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#### **Building a** Responsible **Supply Chain**

We hold ourselves and our partners to the highest ethical and environmental standards, ensuring materials are responsibly sourced and our supply chain is transparent and resilient.

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### **Innovating for a Greener Tomorrow**

Through continuous research and development, we advance battery technology, improve energy efficiency, and explore new ways to make storage solutions more sustainable.

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#### Upholding **Accountability and Transparency**

We measure and report our environmental, social, and governance (ESG) impact, holding ourselves accountable to our sustainability goals and industry best practices.

At Powin, energy storage is more than just a technologyit is the foundation for a cleaner, more resilient, and more equitable future. Through innovation, accountability, and collaboration, we are shaping a world where sustainable energy is the standard. We are storing energy for a better tomorrow.

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### POWIN'S KEY SUSTAINABILITY PILLARS

#### **Social**

We foster positive social impact by advancing energy accessibility and supporting workforce development. Powin prioritizes safety, diversity, and inclusion, maintaining a people-first approach to energy innovation.

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#### SOCIAL

SOCIAL RESPONSIBILITY INTRODUCTION SUSTAINABILITY ENVIRONMENTAL RESPONSIBILITY

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![](_page_15_Figure_7.jpeg)

Powin is committed to accelerating the clean energy transition by providing safe, reliable, and sustainable energy storage solutions. We invest in cutting-edge technologies to enhance grid resilience, reduce carbon emissions, and enable a sustainable energy future.

#### Governance

Powin upholds the highest standards of ethics, transparency, and corporate responsibility. We comply with industry regulations, prioritize cybersecurity, and engage in responsible supply chain management to maintain integrity across all operations.

GOVERNANCE

**ENVIRONMENTAL** 

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## **MATERIAL TOPICS** & ESG ALIGNMENT

Stakeholder Group	Platforms for Engagement	Stakeholder Priorities	Frequency of Engagement	<b>Our Response to Priorities</b>
Investors	Investor presentations, reports & meetings, press releases	Energy storage performance, financial stability, ESG & sustainability, corporate governance	Quarterly and annual reports, periodic investment presentations, and direct engagement as needed	Provide transparency through reports and investor communications, address concerns proactively
Customers	Website, regular meetings and calls, on-site visits, industry events, press releases	System reliability, cost- effectiveness, sustainability, customer support	Regular communication through customer support, meetings, and surveys	Enhance customer service, improve system performance, and align with customer goals
Regulators & Governing Agencies	Media, press releases, industry events, regulatory meetings	Compliance, product safety, energy transition policies, reporting transparency	Ongoing public communication and direct regulatory engagement when required	Ensure compliance with regulations and maintain open communication with authorities
Employees	Company intranet, emails, regular town halls, employee engagement activities	Workplace safety, employee engagement, career development, diversity & inclusion	Continuous engagement via town halls, company updates, and employee feedback	Improve workplace policies based on employee feedback and industry best practices
Suppliers	Questionnaires, emails, regular meetings, calls, site visits	Supply chain resilience, ethical sourcing, compliance, sustainability practices	Annual certifications, supplier audits, ongoing communication, and meetings	Maintain a responsible supply chain, enhance supplier partnerships, and ensure compliance with sustainability policies
Non-Profit Organizations	Media, press releases, industry events, regular emails, conference participation	Sustainability, ethical sourcing, community impact, environmental responsibility	Ad hoc engagement based on sustainability initiatives and partnerships	Incorporate feedback from non- profits into sustainability strategy and ESG programs

#### Powin's material topics were identified based on internal expertise, industry best practices, regulatory requirements, and ongoing interactions with customers, investors, and policymakers. We seek input from a variety of stakeholders to collect insights that enable us to better understand the impact our business has on our team and the role they play in advancing Powin's sustainability agenda. Our approach to stakeholder engagement is outlined in the table below:

While we have not conducted a formal materiality survey, our environmental, social, and governance (ESG) priorities are aligned with global sustainability frameworks, including Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), and Task Force on Climate-related Financial Disclosures (TCFD). These topics reflect key ESG issues that significantly impact our business operations and stakeholders. Powin's ESG strategy is centered on addressing these material topics with a proactive, transparent, and impact-driven approach. By focusing on these areas, we aim to build a more sustainable, ethical, and resilient business that benefits both our stakeholders and the broader global energy transition.

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### LIST OF MATERIAL TOPICS

To ensure transparency and focus, we have categorized our material topics under three key ESG dimensions: Environmental, Social, and Governance. Each material topic plays a critical role in our sustainability strategy and business success. Below is a brief overview of their significance:

#### **Environmental**

Powin is committed to accelerating the clean energy transition by providing safe, reliable, and sustainable energy storage solutions. We invest in cutting-edge technologies to enhance grid resilience, reduce carbon emissions, and enable a sustainable energy future.

- Environmental Management & Risk Mitigation
- Carbon Footprint & GHG Emissions
- Energy Efficiency & Renewable Energy
- Water Management
- **Biodiversity Preservation**
- Recycling & Circular Economy

#### **UN SDGs:** 7 and 13

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We foster positive social impact by advancing energy accessibility and supporting workforce development. Powin prioritizes safety, diversity, and inclusion, maintaining a people-first approach to energy innovation.

- Occupational Health & Safety
- Diversity, Equity, & Inclusion (DEI)
- Workplace Culture & Employee Engagement
- Community Investment

#### **UN SDGs:** 8

Powin upholds the highest standards of ethics, transparency, and corporate responsibility. We comply with industry regulations, prioritize cybersecurity, and engage in responsible supply chain management to maintain integrity across all operations.

- Business Ethics & Corporate Integrity
- Cybersecurity & Data Protection
- Sustainable Supply Chain & Ethical Sourcing
- Continuous Improvement: Advancing Product Safety & Quality

#### **UN SDGs:** 9

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### UN SUSTAINABLE **DEVELOPMENT GOALS** ALIGNMENT

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SDG 7 Affordable and **Clean Energy** 

Ensuring universal access to reliable, sustainable, and modern energy

- Powin's battery storage systems enable the integration of renewable energy sources, reducing dependence on fossil fuels and improving grid stability.
- Our technology contributes to the scalability of solar and wind power, making clean energy more accessible and reliable for utilities, businesses, and communities.
- By working with partners across the energy sector, we contribute to the transition toward 100% clean energy.

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### SDG 8

**Decent Work and Economic** Growth

Promoting sustainable economic growth and fair labor practices

- Powin fosters a diverse and inclusive workplace, providing fair and equitable opportunities across our global operations.
- We believe in diversity, equity, and inclusion (DEI) across our workforce, providing equal opportunities for all in engineering, technology, and leadership roles.
- Our global supply chain follows strict ethical labor standards, promoting worker rights and fair wages.

Powin recognizes the urgent need for global action to address climate change, energy access, and sustainability challenges. As a leader in energy storage technology, we align our sustainability strategy with the United Nations Sustainable Development Goals (SDGs) to drive meaningful impact and contribute to a cleaner, more resilient future. Through advanced technology, responsible business practices, and strategic partnerships, we align our operations with the following SDGs:

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We believe that energy storage is the foundation for a sustainable and equitable future. By aligning our business with the UN Sustainable Development Goals, we are actively driving change that will:

- Reduce global carbon emissions
- Increase renewable energy access
- Provide stronger, more resilient infrastructure
- Drive inclusive economic growth and workforce opportunities
- Support a transparent, responsible supply chain

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# ENVIRONMENTAL RESPONSIBILITY

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# ENVIRONMENTAL RESPONSIBILITY

Powin is committed to advancing sustainable energy storage solutions that minimize environmental impact, support the transition to a low-carbon economy, and promote responsible resource management. Our environmental strategy is built around reducing greenhouse gas (GHG) emissions, improving energy efficiency, preserving biodiversity, integrating circular economy principles, and fostering a sustainable supply chain.

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### ENVIRONMENTAL MANAGEMENT & RISK MITIGATION

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#### **Environmental Governance & Compliance**

Powin is in the process of strengthening its environmental management framework. We are currently developing an Environmental, Health, Safety, & Sustainability Statement, which will be published in 2025, outlining our approach to sustainability governance, compliance, and risk management. Additionally, we are working toward achieving International Organization for Standardization (ISO) 14001 (Environmental Management System) and ISO 45001 (Safety & Health Management System) certifications by 2028, reinforcing our dedication to continuous improvement in environmental performance.

While we do not have a formally published Environmental Management System (EMS) today, Powin adheres to all applicable environmental regulations across its operations and supply chain. We actively monitor compliance with industry standards and engage with our suppliers and partners to maintain responsible environmental practices.

#### **Environmental Risk** Assessment

As a battery energy storage system (BESS) provider, Powin does not engage in land development or largescale construction. Site selection, permitting, and environmental impact assessments for BESS projects are the responsibility of developers and utilities. However, we work closely with our partners to make sure all parties maintain responsible installation practices. Our solutions' compact equipment footprint minimizes land disturbance, reducing impacts on biodiversity and natural ecosystems.

Our risk assessment process also includes supply chain environmental risks, particularly in raw material sourcing for battery components. Powin works with Tier 1 suppliers who adhere to responsible mining and ethical sourcing practices, reducing environmental risks such as deforestation, water pollution, and highemission manufacturing.

### Powin endeavors to conduct business in an environmentally responsible manner, aligning our operations with best practices for sustainability, risk management, and regulatory compliance. While Powin does not operate manufacturing facilities, we recognize the importance of proactively managing environmental risks associated with our supply chain, installation activities, and product lifecycle.

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#### **Continuous Improvement & Future Commitments**

Powin is continuously evolving its approach to environmental management. Our priorities include:

- Formalizing our environmental policies and achieving ISO 14001 and ISO 45001 certification by 2028.
- Expanding supply chain due diligence to strengthen responsible sourcing practices.
- Enhancing data collection for environmental risks, compliance, and incident reporting.
- Providing stakeholder training to maintain best practices in environmental protection across our value chain.

In 2025 Powin is undertaking an enterprise-wide audit and gap analysis to strive for compliance with all relevant environmental regulations.

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Through these efforts, Powin minimizes environmental risks, ensures compliance with global sustainability standards, and fosters a culture of environmental responsibility throughout our operations and supply chain.

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### **CARBON FOOTPRINT** & GREENHOUSE GAS (GHG) EMISSIONS

#### **Our Commitment** to Climate Action

Powin believes in the urgent need to reduce greenhouse gas (GHG) emissions and is playing an active role in the global transition to a low-carbon economy. As a leading energy storage provider, our solutions enable grid decarbonization, helping utilities, independent power producers, and commercial customers integrate more renewable energy and reduce fossil fuel dependence.

While we do not operate manufacturing facilities, our supply chain, purchased goods, and business operations contribute to GHG emissions. Powin is committed to transparently tracking, reporting, and reducing our emissions across Scopes 1, 2, and 3, which aligns our business with industry best practices, regulatory expectations, and long-term climate goals.

#### **GHG Emissions Assessment: Measuring Our Carbon Footprint**

In 2024, Powin conducted its first greenhouse gas (GHG) emissions assessment in alignment with the GHG Protocol Corporate Standard and CDP (Carbon Disclosure Project) requirements. This evaluation provides a baseline for future reductions, allowing us to set science-based targets and take meaningful climate action. The assessment was performed by Greenly, a leading third-party climate technology firm, using standardized carbon accounting methodologies. This third-party assessment meets key expectations under leading reporting frameworks such as GRI and SASB for credibility and transparency in emissions reporting.

In 2024, Powin's total greenhouse gas (GHG) emissions amounted to 927,029 tCO<sub>2</sub>e, covering Scope 1, Scope 2, and Scope 3 emissions. To assess emissions relative to business activities, Powin calculates carbon intensity based on the amount of battery energy storage deployed.

**Total GHG Emissions in 2024** 927,029 tCO<sub>2</sub>e

Scope 3 (Supply Chain & Indirect Emissions) 926,795 tCO<sub>2</sub>e

> Scope 1 • (Direct Emissions) 31 tCO<sub>2</sub>e

• Scope 2 (Indirect Energy Emissions) 203 tCO<sub>2</sub>e

![](_page_23_Picture_15.jpeg)

![](_page_23_Picture_17.jpeg)

#### **GHG Emissions Assessment Result**

#### **Results by Activity**

		8	
SCOPE 1	31tCO <sub>2</sub> e	<0.1t/ employee	<0.1t/M\$
SCOPE 2	203tCO <sub>2</sub> e	<0.3t/ employee	<0.1t/M\$
SCOPE 3	927ktCO <sub>2</sub> e	<1.5kt/ employee	<465t/M\$
TOTAL	927ktCO <sub>2</sub> e	<1.5kt/ employee	<465t/M\$

Powin recognizes that **Scope 3** emissions from purchased goods and services account for **99% of its total carbon** footprint. As part of its ongoing sustainability strategy, Powin is working to reduce emissions intensity by working closely with suppliers to minimize environmental impact, improve battery recycling rates, and optimize energy efficiency in operations and logistics.

![](_page_24_Figure_4.jpeg)

The amount of  $CO_{2}$ The a sequestered annually of **40** by 208k acres of growing forest\*

\*Sources: Labos1Point5, ExioBase, French National Forests Office / \*\*Food and drinks, Waste, Activities and events, Freight

		8
	Absolute tCO <sub>2</sub> e	<b>Per employee</b> tCO <sub>2</sub> e
Product purchases	918k	1.5k
Fravel and Commute	3.1k	5.1
Services purchases	3k	4.9
Assets	831	1.3
Digital	715	1.2
Energy	465	0.8
Others**	840	1.4

annual emissions	514k Paris-New York
<b>Ok Americans*</b>	round trips*

![](_page_24_Picture_13.jpeg)

![](_page_24_Picture_14.jpeg)

### GHG REDUCTION STRATEGY & EMISSION **REDUCTION INITIATIVES**

Powin is actively engaged in reducing its direct, indirect, and supply chain emissions through a multi-pronged approach that includes:

#### Scope 1 & Scope 2 **Emissions Reduction**

**Operational Energy Efficiency:** Implementing measures to optimize facility energy use, reduce electricity consumption, and transition to renewable energy sources for office operations.

**Electrification of Operations:** Reducing reliance on Supply Chain Decarbonization: Working with suppliers and logistics partners to transition toward fossil fuel-powered vehicles and equipment to minimize cleaner energy sources and transportation methods. direct emissions.

![](_page_25_Picture_6.jpeg)

#### **Scope 3 Emissions Reduction & Supplier Engagement**

Sustainable Procurement Strategy: Partnering with Tier 1 suppliers who prioritize low-carbon materials, energy-efficient manufacturing, and responsible sourcing.

**Circular Economy Initiatives:** Developing comprehensive battery recycling programs to offset emissions and reduce the demand for virgin materials.

Supply Chain "Shortening:" by identifying on-shore and near-shore supply alternates the traveled distance of components is reduced, further reducing the carbon intensity of our products.

#### **Offsetting & Carbon Neutrality Efforts**

Powin's battery recycling program plays a key role in reducing emissions associated with traditional mining and material processing.

Through our partnership with Li-Cycle, a leading lithium-ion battery recycler, Powin has made significant progress in recycling damaged, defective, and end-of-life battery modules. In 2023, Powin successfully recycled 100,000 pounds (50 tons) of battery modules. In 2024, Powin collaborated with customers to recycle 1.1 million pounds (550 tons) of battery modules. This recycling effort has resulted in an estimated 780 metric tons of CO<sub>2</sub> offsets, supporting Powin's circular economy approach.

![](_page_25_Picture_16.jpeg)

#### **Carbon Offset Investments**

Powin is exploring partnerships with verified carbon offset projects to neutralize unavoidable emissions and participate in global decarbonization efforts. By investing in offset programs and sustainable infrastructure, Powin aims to reduce the environmental impact of its supply chain and operations while advancing longterm carbon neutrality goals.

#### **BESS Deployment** & Carbon Emissions Offsets

Powin's deployed battery energy storage system projects contribute to significant carbon emissions reductions by enabling the integration of renewable energy into the power grid. As of December 31, 2024, Powin's operational projects represent a total energy storage capacity of 2,026 MW / 8,149 MWh, facilitating cleaner energy and reducing reliance on fossil fuels. Based on an estimated 2024 fleet-wide annual throughput of 3 TWh , and assuming 50–90% of that displaces fossil fuelbased electricity, Powin's systems helped avoid approximately 600,000 to 1,080,000 metric tons of CO<sub>2</sub> emissions in 2024. This demonstrates how energy storage contributes to decarbonizing the grid and enabling the clean energy transition.<sup>1</sup>

Powin is dedicated to reducing its environmental footprint while accelerating the clean energy transition. We are in the process of defining measurable reduction targets and will incorporate them in future sustainability reports. Our GHG emissions tracking and reduction strategy will evolve as we improve data accuracy, supplier accountability, and operational efficiency. By implementing science-based emissions reduction measures, improving our recycling efforts, and partnering with responsible suppliers, we are laying the foundation for long-term sustainability and climate resilience.

![](_page_26_Picture_6.jpeg)

1. Carbon reduction estimate is based on an assumed fleet-wide annual throughput of 3,000 GWh, with 50–90% displacing fossil fuel-based electricity. Using the U.S. average grid emission factor of 0.4 metric tons CO<sub>2</sub> per MWh produced from natural gas generators, estimated avoided emissions range from 600,000 to 1,080,000 metric tons of CO<sub>2</sub> annually. Source: U.S. Environmental Protection Agency (EPA), eGRID2023 Summary Tables (data published February 2024), https://www.epa.gov/egrid/power-profiler

![](_page_26_Picture_9.jpeg)

![](_page_26_Picture_12.jpeg)

![](_page_26_Picture_13.jpeg)

27

**Corporate Global Headquarters** 

Portland, OR, USA 🧊 Tualatin, OR, USA

Mesa, AZ, USA

ENERGY EFFICIENCY & RENEWABLE ENERGY

#### **Commitment to Sustainable Energy**

Powin works diligently to improve energy efficiency and expand the adoption of renewable energy across our operations and within the broader energy storage ecosystem. As a company specializing in battery energy storage systems, we play a critical role in enabling a cleaner, more sustainable energy grid by optimizing energy use, reducing reliance on fossil fuels, and supporting the integration of renewable energy sources.

efficiency data.

![](_page_27_Figure_8.jpeg)

within our offices, Battery Lab, and Arizona warehouse. Additionally, we acknowledge that contract manufacturers and supply chain partners contribute to energy consumption outside of our direct operations. Powin is working toward a structured approach to measuring and reporting energy

• Warehouse Facility Battery Lab

![](_page_27_Picture_12.jpeg)

![](_page_27_Picture_13.jpeg)

### ENERGY EFFICIENCY INITIATIVES

#### **Powin's Offices & Facilities**

At Powin, environmental responsibility is embedded not only in the solutions we deliver but also in the way we operate. We understand that the sustainability of our physical workspaces—our offices, labs, and warehouses-contributes to our broader environmental impact. As we continue to grow, we are aligning our facilities with high-performance environmental standards, reducing resource consumption, and fostering a workplace culture that reflects our sustainability values. From energy-efficient infrastructure to waste reduction initiatives, our offices serve as an extension of our mission to accelerate the transition to a cleaner, more sustainable energy future.

In June 2023, Powin transitioned its global headquarters in Portland, Oregon, to a new office space within the same city. The new facility is LEED (Leadership in Energy and Environmental Design) Gold Certified and participates in multiple energy and water efficiency initiatives, as well as a waste recycling program. Prior to this relocation, Powin operated out of a LEED Platinum Certified building, underscoring the company's ongoing dedication to sustainable work environments.

Because utilities at both the current and former Portland office locations are managed and paid directly by the property owners, Powin is unable to independently monitor or report energy consumption data for its headquarters. However, the company actively tracks and reports energy use at its companyowned facilities, including the Powin Battery Lab in Tualatin, Oregon, and the Mesa Warehouse in Arizona. (Note: Powin began occupying the Mesa Warehouse in November 2023: therefore, the 2023 data in the chart below reflects only two months of usage.)

Total energy consumption for these two facilities in 2024 was **1,268,661 kilowatt-hours (kWh)**. This increase compared to 2023 reflects a higher volume of battery cell, pack, power system controller (PSC), and transformer testing activity conducted at the Powin Battery Lab throughout the year. Moving forward, Powin is planning to track energy consumption for all six facilities under its operational control.

![](_page_28_Figure_7.jpeg)

\*For the months of Nov-Dec 2023 only

Powin is taking proactive steps to improve energy efficiency across its offices, warehouses, and project sites. Our approach includes:

- **Optimizing facilities by** implementing energy-efficient lighting, upgrading HVAC systems, and deploying smart energy controls to improve building performance.
- ✓ Leveraging data analytics to monitor energy usage and identify opportunities for efficiency improvements across operations.
- Encouraging sustainable workplace **practices** through employee engagement programs focused on energy conservation and responsible resource use.

As Powin continues to advance its sustainability initiatives, the company will establish formal energy efficiency benchmarks and set targets for reducing operational energy consumption.

![](_page_28_Picture_16.jpeg)

![](_page_28_Picture_18.jpeg)

#### **Enabling Renewable Energy Through Battery Storage**

Powin's energy storage solutions play a critical role in the expansion of renewable energy by addressing intermittency issues and improving grid reliability. Our BESS technology is designed to store surplus renewable energy from solar and wind projects, making clean energy available when needed. This capability supports the decarbonization of power grids by reducing dependence on fossil fuel-based power generation.

Key contributions of Powin's energy storage solutions include:

- Enabling renewable energy integration  $\checkmark$ by balancing supply and demand, reducing curtailment, and increasing grid stability.
- Improving energy efficiency through optimized  $\checkmark$ storage and dispatch, allowing for more effective use of clean energy.
- Reducing peak load strain on the grid by shifting  $\checkmark$ energy use away from peak demand periods and reducing reliance on carbon-intensive power plants.

Powin's energy storage technology plays a vital role in decarbonizing the power sector, enabling utilities and businesses to transition away from fossil fuel dependency while improving energy security.

![](_page_29_Picture_7.jpeg)

![](_page_29_Picture_9.jpeg)

GOVERNANCE APPENDIX

![](_page_29_Picture_12.jpeg)

![](_page_29_Picture_13.jpeg)

# WATER MANAGEMENT

Powin aims to minimize its water footprint and manage water responsibly across its operations and supply chain. As a company focused on energy storage solutions, Powin does not operate manufacturing facilities or engage in water-intensive industrial processes. However, the critical importance of sustainable water use in the broader clean energy sector and throughout our supply chain remains a priority in our sustainability efforts.

While our direct operations require only limited water use, we are monitoring our impact, engaging with key stakeholders, and integrating responsible water management practices into our broader sustainability strategy.

As Powin refines its sustainability reporting and data collection practices, we will continue to evaluate whether formal water tracking mechanisms are necessary and make sure that our approach aligns with industry best practices.

#### Water Use in Powin's **Operations**

Powin's direct water use is minimal, limited to office facilities and warehouse operations. Given that we do not own or operate industrial production sites, our activities do not involve significant water withdrawal, consumption, or discharge beyond regular office and facility maintenance.

![](_page_30_Picture_6.jpeg)

Powin does not operate water-intensive manufacturing processes.

![](_page_30_Picture_8.jpeg)

The company does not generate wastewater discharge from production activities.

Our energy storage systems do not require water consumption for operation.

Since our operational water footprint is not material, Powin does not currently maintain a formal Water Resource Management Plan. However, we continue to assess opportunities to optimize water efficiency in our facilities where possible.

![](_page_30_Picture_15.jpeg)

![](_page_30_Picture_17.jpeg)

![](_page_30_Picture_18.jpeg)

## BIODIVERSITY PRESERVATION

### **Commitment to Biodiversity Conservation**

Powin is committed to minimizing environmental impact and integrating biodiversity considerations into our supply chain and business operations. We comply with all relevant environmental regulations and standards in the regions where our company and systems operate. Powin products are designed with sustainability and renewable energy at the forefront of consideration. Reducing dependence on non-renewable energy sources such as oil and gas will have positive effects on our planet's changing climate and the risks that are associated with it. Powin equipment is designed for maximum efficiency while minimizing equipment footprint, which results in minimal impact on biodiversity and other land use concerns.

As a battery energy storage system (BESS) integrator, Powin does not own or develop land for energy storage projects. Site selection, permitting, and environmental assessments are the responsibility of project developers and utilities, who follow local, state, and federal regulations to protect biodiversity. However, Powin actively works with its suppliers and contract manufacturers to source responsibly and to reduce the environmental footprint of our supply chain.

![](_page_31_Picture_4.jpeg)

Powin's direct operations do not have a material impact on biodiversity. The company does not own or operate manufacturing facilities, and our office-based operations do not contribute to habitat loss or ecosystem degradation. As a technology provider, our role is focused on shipping BESS equipment, overseeing installation by engineering, procurement, and construction (EPC) contractors, and commissioning systems.

Since Powin does not select BESS project sites, our customers-utilities and developers—are responsible for conducting all necessary environmental impact assessments (EIA), obtaining regulatory permits, and implementing biodiversity mitigation measures before project construction begins. In regions with biodiversity-sensitive habitats, developers adhere to environmental regulations, which may include habitat restoration, species relocation, and land conservation measures. For example, the Arrow Canyon BESS project underwent federal reviews to protect biodiversity, including relocating federally protected Mojave Desert tortoises and minimizing soil disturbance during installation.

All BESS projects Powin supports comply with environmental permitting requirements, including the National Environmental Policy Act (NEPA) in the United States, habitat and species protection regulations, and local landuse policies.

### Powin's Direct Operations & Biodiversity Impact

![](_page_31_Picture_10.jpeg)

### **Biodiversity Risks in the Battery Supply Chain**

While Powin's direct operations do not impact biodiversity, the extraction and processing of raw materials for battery production present potential environmental risks. The mining of lithium, iron, and phosphate, which are critical components of LFP batteries, can contribute to deforestation, land degradation, and water contamination if not properly managed.

Powin minimizes biodiversity risks in its supply chain by engaging with suppliers and contract manufacturers to ensure responsible sourcing. Our approach includes:

- Conducting due diligence to ascertain supplier compliance with environmental regulations and industry sustainability standards.
- Requiring suppliers to adhere to conflict minerals policies and responsible mining practices.
- Promoting battery recycling initiatives to reduce the need for virgin material extraction, helping to limit land disturbance and biodiversity loss.
- Exploring traceability solutions to track the origin of battery materials and improve transparency in supply chain sourcing.

In future reporting cycles, Powin will assess opportunities to integrate biodiversity considerations into supplier evaluation frameworks and work toward improving transparency in biodiversity-related disclosures where applicable.

![](_page_31_Picture_21.jpeg)

![](_page_32_Picture_0.jpeg)

# **RECYCLING &** CIRCULAR ECONOMY

#### **Waste Management in Powin's Operations**

While Powin does not operate manufacturing facilities, we manage waste responsibly at our offices, Battery Lab, warehouse, and project installation sites. Waste management practices are guided by our Environmental, Health, and Safety (EHS) Manual. Section 6.13 outlines current procedures, which are being updated in 2025 to align more closely with our sustainability goals.

#### **Our current practices include:**

![](_page_32_Picture_5.jpeg)

Segregation of waste streams for disposal and recycling at all facilities.

![](_page_32_Picture_7.jpeg)

Minimization of solid waste during system installations.

![](_page_32_Picture_9.jpeg)

Reuse of materials such as packaging, pallets, and crates, where safety and regulatory requirements allow.

![](_page_32_Picture_11.jpeg)

Safe handling and disposal of lithium batteries that are damaged, defective, or decommissioned.

Powin's largest waste stream is lithium-ion batteries at end-of-life. We partner with licensed third-party recyclers to provide proper transport and disposal. Our extensive battery recycling program, detailed in the Circular Economy section below, plays a key role in reducing landfill waste and recovering critical materials for reuse.

Although Powin is not required to hold licenses for waste transport, all waste requiring special handling, such as damaged batteries, is managed by certified professionals in accordance with applicable regulations.

Powin was an early adopter of safer, easier-to-recycle LFP batteries. Today, Powin continues to lead the industry with solutions that reduce environmental impact. Our waste and water management efforts reflect our broader sustainability goals for responsible resource use, both within our operations and across our supply chain.

![](_page_32_Picture_20.jpeg)

33

![](_page_33_Picture_0.jpeg)

#### **Commitment to** a Circular Economy

Powin is dedicated to advancing a circular economy by responsibly managing our energy storage systems at end-of-life (EOL). Our work extends beyond delivering advanced battery energy storage systems to prioritizing material recovery, minimizing waste, and reducing the environmental footprint of battery production and disposal. Through our battery recycling program and closed-loop initiatives, Powin is making progress with resource efficiency, landfill diversion, and the reduction of emissions associated with the mining and refining of new battery materials.

Powin is committed to transparency in how we manage material inputs, recycling efforts, and waste reduction. We apply circular economy principles in alignment with best practices in sustainability reporting, including responsible material sourcing, waste diversion, and battery recycling.

![](_page_33_Figure_4.jpeg)

Reduced need for new materials

> Up to 95% recovery rate of battery materials

![](_page_33_Figure_9.jpeg)

![](_page_33_Picture_11.jpeg)

![](_page_33_Picture_12.jpeg)

![](_page_33_Picture_13.jpeg)

#### **Battery Recycling & End-of-Life** Management

Powin provides customers with an optional battery recycling program that enables the responsible decommissioning of full or partial systems at end-of-life. This initiative ensures that our lithium iron phosphate batteries are properly handled, recycled, and reintegrated into the supply chain, contributing to a more sustainable and circular battery ecosystem.

#### Key Components of Powin's Battery Recycling Program

![](_page_34_Picture_3.jpeg)

Partnerships with Expert Recyclers: Powin collaborates with leading third-party battery recycling companies that have the infrastructure, capital, and expertise to process LFP batteries efficiently and at scale.

![](_page_34_Figure_5.jpeg)

**Closed-Loop Recycling System:** The recycled materials from Powin batteries re-enter the supply chain for use in new battery manufacturing, reducing reliance on virgin materials and contributing to a closed-loop system.

![](_page_34_Picture_7.jpeg)

**Comprehensive Electronics & Metals Recycling:** In addition to batteries, Powin ensures that electronic components and metals from energy storage systems are responsibly recycled.

![](_page_34_Picture_9.jpeg)

Certified Handling & Transportation: Powin's Field Services team is trained in 49 CFR Hazardous Materials Regulations to ensure the safe packaging, storage, and transport of decommissioned battery systems.

#### **Battery Recycling Process & Environmental Benefits**

Powin's third-party recycling partners use an advanced material recovery process that enables up to 95% efficiency in reclaiming battery-grade materials. The process includes:

Shredding: Batteries are broken down into small fragments for safe handling.

![](_page_34_Figure_14.jpeg)

Materials Recovery: Key 2 components are separated into plastics, critical metals, and "black mass" (a concentrated mixture of lithium and other metals).

Screen

**Chemical Processing:** 3 Advanced chemical treatments extract and purify individual metals, including lithium, making them suitable for reuse in new battery manufacturing.

**Reintegration into New** 4 **Batteries:** Reclaimed battery-grade materials are reintroduced into the supply chain, reducing the demand for newly mined materials.

![](_page_34_Figure_20.jpeg)

![](_page_34_Picture_21.jpeg)

![](_page_34_Picture_25.jpeg)

#### **Circular Economy Impact Metrics**

Recycling of Powin batteries results in impressive emission and resource-use reductions

![](_page_35_Picture_2.jpeg)

74% CO, emission offset factor

![](_page_35_Picture_4.jpeg)

92% NO<sub>x</sub> & SO<sub>x</sub> emission offset factors

![](_page_35_Picture_6.jpeg)

usage offset factor

By recovering valuable battery materials, Powin is reducing the carbon footprint associated with energy storage while promoting resource efficiency and sustainability.

Additionally, Powin's use of LFP battery technology contributes to a lower environmental impact compared to traditional nickel manganese cobalt (NMC) chemistry. LFP batteries:

- Do not require cobalt or nickel, reducing reliance on environmentally harmful mining practices.
- Have an extended lifespan of up to 20 years, reducing waste from more frequent battery replacements.
- Are more thermally stable and safer to handle, making them easier to recycle.

Powin envisions a closed-loop future where battery materials are continually recovered, reused, and reintegrated into new systemsminimizing environmental impact and material waste.

![](_page_35_Picture_14.jpeg)

#### **The Path Forward**

Powin is dedicated to advancing environmental sustainability through measurable actions, strategic partnerships, and innovative energy storage solutions. Our efforts to reduce greenhouse gas emissions, improve energy efficiency, minimize resource consumption, and foster a circular economy demonstrate our role in supporting the global transition to a low-carbon future.

![](_page_35_Picture_17.jpeg)

![](_page_35_Picture_21.jpeg)

![](_page_35_Picture_22.jpeg)

![](_page_35_Picture_23.jpeg)

# SOCIAL RESPONSIBILITY

![](_page_36_Picture_1.jpeg)

![](_page_36_Picture_2.jpeg)

# SOCIAL RESPONSIBILITY

#### **Our People**, **Our Commitment**

At Powin, we believe that people are at the heart of our success. Our commitment to fostering a safe, inclusive, and engaged workplace is reflected in our approach to occupational health and safety, employee well-being, community investment, and diversity, equity, and inclusion (DEI).

Our social policies and initiatives are guided by a strong foundation of governance and compliance frameworks that uphold fair treatment, workplace equity, and employee protections at all levels. Powin's key documents outline our commitments to employee rights, ethical standards, and workplace safety:

- Powin Employee Handbook: Explains employee rights, benefits, and workplace policies.
- **Employee Code of Conduct:** Details a framework for ethical behavior, integrity, and professionalism across all levels of the organization.
- Equal Employment Opportunity Policy: Reinforces our commitment to fair hiring, equal pay, and non-discrimination in all employment decisions.
- Anti-Harassment and Discrimination Policy: Supports a workplace free from harassment, bullying, and discrimination, promoting respect and dignity for all employees.
- Environmental Health & Safety (EHS) Manual: Outlines our safety policies, risk management procedures, and emergency preparedness strategies to protect employees and contractors.

as the backbone of our workplace culture and corporate responsibility. They guide our approach to workplace safety, promoting DEI, engaging with employees, and investing in the communities we serve. By embedding these values into our daily operations, we create an environment where every employee feels valued, supported, and empowered to contribute to Powin's mission of driving a sustainable future.

These documents serve

![](_page_37_Picture_18.jpeg)

![](_page_37_Picture_19.jpeg)

![](_page_37_Picture_20.jpeg)

# OCCUPATIONAL HEALTH & SAFETY

#### **Commitment to a Safe** and Healthy Workplace

Ensuring the health and safety of our employees, contractors, and stakeholders is a core priority at Powin. We are strengthening our Environmental Health & Safety (EHS) framework in 2025 to meet the highest safety standards by integrating risk assessment, proactive prevention measures, and continuous training. Through structured policies and clear accountability, we foster a workplace culture where safety is embedded in daily operations.

Our EHS Management System is structured to support regulatory compliance and provide clear guidance on risk mitigation, incident response, and emergency preparedness. The system is supported by EHS Insight, our digital platform that facilitates incident reporting, compliance tracking, and performance monitoring.

#### **Workplace Safety Policies** & Programs

Powin has developed and implemented detailed safety policies and procedures to address specific occupational risks and support employee well-being. These include:

- Fall Protection Program: Detailed procedures for working at heights to prevent falls and related injuries.
- Heat Illness Prevention Plan: Comprehensive guidelines to protect employees from heat-related illnesses, particularly in outdoor and high-temperature environments.
- Lockout/Tagout (LOTO) Procedures: Protocols for isolating and de-energizing equipment to prevent accidental startup or the release of hazardous energy during maintenance and servicing.
- Product Service Safety Guides: Protocols for safely servicing and maintaining Powin's energy storage products. • Hazard Assessment Guidance: Tools and documentation to assist in effectively identifying, assessing, and
- mitigating workplace hazards.
- high-voltage work.
- through structured assessments and real-time reporting.

These programs are regularly reviewed and updated to align with evolving best practices, technological advancements, and industry regulations.

![](_page_38_Picture_15.jpeg)

Personal Protective Equipment (PPE) Program: PPE requirements, with a specific focus on Arc-Rated PPE for

• Near Miss Reporting & Job Safety Analysis (JSA): Proactive identification and mitigation of potential safety risks

![](_page_38_Picture_18.jpeg)

![](_page_38_Picture_20.jpeg)

![](_page_38_Picture_21.jpeg)

![](_page_38_Picture_22.jpeg)

![](_page_38_Picture_23.jpeg)

#### **Employee & Contractor** Training

Powin's safety training framework ensures that employees and contractors are well-equipped to handle workplace risks. Training begins at the onboarding stage, where all new employees receive a comprehensive safety orientation covering workplace policies, emergency procedures, and critical safety protocols such as Lockout/Tagout and high-voltage system awareness.

Annual regulatory safety training reinforces best practices, compliance updates, and emerging safety risks, keeping all employees well informed. Additionally, employees in specialized roles undergo job-specific training, tailored to their daily responsibilities and associated hazards.

Contractors working with Powin are required to complete comprehensive training and competency validation before being authorized to work at customer sites. This includes core safety training, role-specific safety instruction, and product-specific handling procedures. To support compliance, all contractors must meet industry safety standards, including National Fire Protection Association (NFPA) 70E and NFPA 855 electrical safety requirements. Before being fully certified, contractors must prove competency through practical assessments and supervised work hours, demonstrating they can perform their tasks independently, safely and effectively.

All training programs are tracked through Powin's workforce management system (UKG) to maintain accountability and compliance.

#### **Risk Assessment & Compliance Monitoring**

Powin employs a structured approach to risk assessment and compliance monitoring to proactively identify and mitigate all safety risks, including:

- controls.
- dedicated EHS Audit Specialists.
- federal, and international regulations.

• Daily Job Safety Analysis (JSA) is conducted at the start of each job task to evaluate potential hazards and implement appropriate safety

• EHS Audits & Inspections are performed regularly at contract manufacturing sites to verify compliance with safety standards by

• **Regulatory Compliance & External Audits** are maintained through internal reviews and third-party assessments aligned with local, state,

• Incident Reporting is managed through EHS Insight, including initial notification, investigation and root cause analysis, and tracking corrective actions for all incidents, near misses, and environmental hazards.

### **Emergency Preparedness** & Incident Response

Powin has established robust emergency response procedures to assure rapid and effective action in case of workplace incidents. Each Powinmanaged site maintains a site-specific Emergency Action Plan (EAP) that outlines evacuation procedures, incident response measures, and emergency contact protocols.

Our Remote Operations Center (ROC) provides 24/7 monitoring, enabling real-time detection and response to emergency situations, including thermal runaway events (rapid battery overheating), fire incidents, and hazardous material spills. Powin collaborates with customers and local fire departments to conduct emergency response training so external stakeholders are equipped to handle safety-related scenarios involving energy storage technology.

Incident investigation is a critical component of Powin's safety program. All reported incidents undergo structured analysis using the 5 Why Root Cause Analysis method, with corrective actions implemented to prevent recurrence.

![](_page_39_Picture_21.jpeg)

![](_page_39_Picture_24.jpeg)

![](_page_39_Picture_25.jpeg)

![](_page_39_Picture_26.jpeg)

![](_page_40_Picture_0.jpeg)

## Health & Wellbeing

Powin prioritizes the overall well-being of its employees by providing access to mental health resources and wellness programs through our Employee Assistance Program (EAP). We recognize that a comprehensive approach to workplace safety extends beyond physical health and includes mental resilience and stress management support.

Our occupational health initiatives include an Injury & Illness Prevention Plan that proactively addresses workplace health risks and a COVID-19 Prevention Plan to protect employees against healthrelated workplace disruptions.

![](_page_40_Figure_5.jpeg)

#### Health & Safety Performance Metrics

Powin continuously monitors safety performance through key safety indicators, providing data-driven insights to inform our ongoing safety improvements.

![](_page_40_Figure_8.jpeg)

Performance metrics such as Total Recordable Incident Rate (TRIR) and Lost Time Incident Rate (LTIR) are regularly assessed to identify trends and implement targeted safety improvements. Powin will begin tracking the Near Miss Reporting Rate starting in 2025. In past years, we have only recorded the reported near misses, without calculating a formal rate.

Powin remains dedicated to enhancing workplace safety through technological advancements, regularly updated training programs, and a commitment to fostering a culture of shared safety responsibility. As part of our ongoing safety initiatives, we continue to refine our EHS policies, expand digital monitoring capabilities, and reinforce best practices across all levels of operations.

By prioritizing proactive risk management and continuous safety engagement, Powin ensures that every team member is protected, empowered, and equipped to contribute to a safe and sustainable work environment.

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# **DIVERSITY, EQUITY, AND INCLUSION (DEI)**

#### **Fostering an Inclusive and Equitable Workplace**

At Powin, we are dedicated to fostering an inclusive culture that welcomes the authenticity of every Powin employee, irrespective of their race, ethnicity, gender identity, sexual orientation, religion, or cultural background. We encourage all "Powineers"—our employees—to embrace personal growth daily.

By welcoming a rich array of backgrounds, perspectives, and experiences, we ignite innovation, foster creativity, and build a culture where everyone's voice is heard.

#### **Our DEI principles include:**

- Treating all members of our workforce fairly and equitably.
- Providing equal opportunity for career growth and fair compensation, regardless of gender, race, or cultural background.
- Creating and maintaining a welcoming and inclusive culture for all employees.

### **Diversity** in the US

Powin is an equal opportunity employer and strictly prohibits discrimination based on any legally protected status, including but not limited to race, gender identity, sexual orientation, disability, veteran status, and national origin. Our employment policies provide for equitable access to career growth, fair compensation practices, and a work environment that promotes inclusivity.

We track ethnic and gender diversity within our workforce to make sure that our commitment to equal opportunity reflects a culture of inclusivity where all employees have an opportunity to work together and find career fulfillment.

Our Equal Opportunity Policy provides guidelines to assure all employment decisions-whether related to hiring, promotions, compensation, or workplace policies—are made based on merit, qualifications, and business needs, free from discrimination. As a global organization with employees located worldwide, we are uniquely diverse with an inclusive and respectful culture focused on innovative solutions to advance our mission.

![](_page_41_Figure_13.jpeg)

![](_page_41_Figure_14.jpeg)

![](_page_41_Picture_18.jpeg)

### WORKPLACE CULTURE & EMPLOYEE ENGAGEMENT

#### We Flex: **Video Series**

Powin emphasizes work-life balance. Our We Flex Video Series highlights Powin's flexible work arrangements and shows how employees successfully integrate work with their personal lives. This initiative supports a culture of flexibility and autonomy, enabling our team members to maintain well-being and productivity in a way that best suits their individual needs.

### We Flex: **Education**

![](_page_42_Picture_4.jpeg)

In the first episode of our We Flex video series, we speak with Mercedes Ferris, Powin's Workplace Experience Coordinator. Her story shows how working at Powin allows her to balance fulltime work and full-time study.

#### We Flex: Work & Coaching

![](_page_42_Picture_7.jpeg)

This episode highlights Mark French, Mechanical Engineer II at Powin. Mark contributes his expertise to advancing energy storage solutions while also dedicating his time to coaching youth cross-country and track and field at Tualatin High School in Oregon.

At Powin, fostering a supportive and inclusive workplace culture is essential for employee satisfaction, productivity, and long-term engagement. Our commitment to work-life balance, diversity, equity, and inclusion, corporate wellness, and open communication creates an environment where employees feel valued, heard, and empowered to thrive both professionally and personally.

![](_page_42_Picture_11.jpeg)

![](_page_42_Picture_12.jpeg)

In this episode of We Flex, **Executive Assistant Reynacia** Derla and Director of Software **Engineering Kevin Webster discuss** how Powin's flexible work culture enables them to excel in their careers while being present for their children.

#### We Flex: **Pet Care**

![](_page_42_Picture_15.jpeg)

At Powin, flexibility extends to every aspect of our livesincluding spending quality time with furry family members! Workplace Experience Manager Ana Garay shares how Powin's accommodating culture enables her to care for pets while excelling in her role.

#### We Flex: **Elder Care**

![](_page_42_Picture_18.jpeg)

At Powin, flexibility is key– especially for those caring for aging loved ones. In this We Flex episode, Raquel Uyechi, Sr. HR Business Partner at Powin, shares her story and how Powin's work policies help employees balance caregiving with career success.

![](_page_42_Picture_22.jpeg)

![](_page_42_Picture_23.jpeg)

**DEI Celebrations:** Embracing **Diversity, Equity,** and Inclusion in the Workplace

We actively celebrate diversity and inclusivity through DEI Celebrations in our workplace, acknowledging and honoring cultural, social, and personal identities. These events provide meaningful opportunities for education, discussion, and community-building among employees.

### **Celebrating Women's History Month**

![](_page_43_Picture_3.jpeg)

At Powin, we pride ourselves on making room for everyone at the table. Inclusivity and diversity are core values that drive much of our innovation. During Women's History Month in 2024, we celebrated the many great women who have been integral to Powin's success. These women are helping to create a better tomorrow, a world that is more equitable and inclusive.

#### **Asian American** and Pacific Islander **Heritage Month**

![](_page_43_Picture_6.jpeg)

In May 2024, Powin's Tualatin, Oregon office was transformed into a colorful and celebratory environment to honor Asian American and Pacific Islander Heritage Month. We came together to celebrate the rich cultural traditions and contributions of the AAPI community with vibrant performances and delicious food.

### **Celebrating Pride** with Powineers

![](_page_43_Picture_9.jpeg)

We honored our LGBTQIA+ community and allies with a Pridethemed Happy Hour in Portland and a virtual event on Pronouns, Gender Identity, and the Queer Landscape. Our Pride Task Force curated content featuring Queer movies, books, TV shows, and profiles of notable Queer figures. Participants shared personal stories of community and allyship, encouraging others to do the same.

![](_page_43_Picture_12.jpeg)

### **Celebrating Hispanic Heritage Month**

During Hispanic Heritage Month, we honored our team's diversity

and the contributions, culture, and history of the Hispanic and Latinx communities who have enriched our industry, society, and team. Diversity fuels innovation, and we recognize the impact of the Hispanic and Latinx individuals who help power our company and the energy storage industry.

### **Family Friendly Field Day**

![](_page_43_Picture_17.jpeg)

We take our work seriously, but that doesn't mean we don't make time for fun. In September 2024, we hosted our first Family Friendly Field Day for our employees and their families in the Portland and Tualatin area. The day was filled with fun, laughter, and team spirit as we enjoyed games, delicious food, and great camaraderie!

### **Powin Winter Celebration**

![](_page_43_Picture_20.jpeg)

Our Season of Lights Celebration concluded a season of joy and giving. From in-person events to virtual fun, Powin's Winter Celebration brought together the festive spirits of Christmas, Diwali, Hanukkah, and everything that makes this time of year special. Our team donated winter clothing, helping those in need.

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![](_page_44_Picture_0.jpeg)

#### Employee Wellness

Powin prioritizes employee wellness through our Corporate Wellness Programs, which provide access to mental health resources, fitness programs, and wellness education. We empower our employees to bring their best selves to work each day by fostering holistic well-being.

#### **Celebrating Health and Wellness Awareness Month**

![](_page_44_Picture_4.jpeg)

At Powin, we are believe in fostering a healthy workplace, whether our team works remotely, at our headquarters, or in our Battery Lab.

In May 2024, we celebrated Health and Wellness Awareness Month with a rejuvenating virtual yoga class for our remote team and an energizing in-person class in our Portland office. We also hosted Ergonomics Awareness Day in our Lab in Tualatin, Oregon, to keep Powineers well informed and equipped with the tools for a safe and comfortable work environment.

![](_page_44_Picture_8.jpeg)

## **BUILDING TALENT &** FOSTERING INCLUSION

#### **Empowering Our Employees Through Professional Growth**

Powin priorities investing in our employees' continuous growth and professional development. Providing meaningful opportunities to learn, communicate, and advance within the organization contributes to individual fulfillment and collective success. Through targeted manager training, structured performance evaluations, and fostering a culture of regular communication, we actively support our teams in achieving their highest potential.

![](_page_45_Figure_3.jpeg)

#### **Bespoke Manager Training for All People Leaders:**

Powin offers customized training programs tailored specifically for all managers and people leaders. These sessions focus on enhancing leadership capabilities, communication skills, effective coaching methods, and fostering an inclusive, high-performance culture within their teams.

![](_page_45_Figure_6.jpeg)

#### **Performance & Development Reviews:**

Powin conducts structured quarterly reviews to promote open communication between employees and managers, clarify expectations, and define excellence in each role. These sessions assess both individual contributions and the behaviors that drive success, helping us to identify high performers and those needing additional support. After building strong review practices over the past two years, we will transition to a semi-annual cadence in 2025.

Mid-year reviews will center on development conversations, focusing on growth opportunities, competency alignment with core values—drive, accountability, and selflessness—and the creation of personalized development paths. Year-end reviews will concentrate on achievements, progress, and how individual impact aligns with company objectives. Across both formats, our goal is to recognize excellence, celebrate achievements, and nurture professional growth while reinforcing our culture and values.

![](_page_45_Figure_10.jpeg)

![](_page_45_Picture_11.jpeg)

#### **Culture of Clear Communication:**

We promote a culture of frequent, meaningful communication and collaboration through regularly scheduled oneon-one and team meetings. This practice supports open dialogue, consistent support, and clear alignment on organizational priorities, helping employees feel valued, supported, and engaged in their roles.

![](_page_45_Picture_15.jpeg)

![](_page_45_Picture_18.jpeg)

![](_page_45_Picture_19.jpeg)

![](_page_46_Picture_0.jpeg)

#### **Nurturing the Next Generation of Talent**

In 2024, Powin saw a substantial increase in talent attraction, with job applications growing four-fold compared to 2023. This reflects our ongoing commitment to building a diverse, inclusive, and talented workforce.

![](_page_46_Figure_4.jpeg)

Expanding Workforce Diversity & Inclusive Talent Pipelines: Powin is dedicated to cultivating a diverse workforce by partnering with community organizations and engaging with academic institutions that broaden our candidate base. As corporate members of Women in Cleantech and Sustainability, we proactively seek diverse perspectives and talent. In 2024, we successfully recruited interns from Historically Black Colleges and Universities (HBCUs) and Hispanic-Serving Institutions (HSIs), demonstrating our commitment to inclusivity. Moving forward, we continue to explore new partnerships aligned with our diversity and inclusion goals.

![](_page_46_Figure_6.jpeg)

**Partnering with MECOP and CEPOP:** Powin maintains active partnerships with the Multiple Engineering Cooperative Program (MECOP) and the Civil Engineering Cooperative Program (CECOP), which are used by multiple Oregon universities. This collaboration exemplifies effective industry-education synergy, leveraging voluntary member-company support, intensive industryuniversity interaction, and ongoing curriculum improvements informed by industry feedback.

![](_page_46_Figure_8.jpeg)

**Powineers in the Making:** Our Internship Program: Welcoming a cohort of 11 interns in 2024 reflects Powin's mission-driven commitment to nurturing future industry leaders. Our internship program provides practical experience, mentorship, and exposure to meaningful projects. It is an honor to support these bright individuals on their professional journeys, and we look forward to witnessing their continued growth and achievements.

![](_page_46_Picture_16.jpeg)

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## COMMUNITY INVESTMENT

Powin's commitment to community impact extends beyond our workforce to charitable contributions, educational initiatives, and environmental sustainability programs. Through strategic partnerships and corporate giving, we actively invest in programs that align with our values and create lasting benefits for the communities we serve.

![](_page_47_Picture_2.jpeg)

In 2024, Powin supported three charitable organizations in response to the devastation caused by Hurricane Helene in the Asheville, North Carolina area and the flooding in Valencia, Spain. We matched employee contributions to the United Way of Asheville and Buncombe County, the Asheville Humane Society, and World Central Kitchen.

#### What's Next?

We continue to focus on building community partnerships to attract the best talent, regardless of race, gender, ethnicity, age, or any other demographic. We are constantly looking for top talent to meet our evolving needs and believe in casting a wide net to improve accessibility to the opportunities at Powin.

#### Key initiatives we're advancing include:

- underrepresented communities (URC).
- connection opportunities for URC individuals.
- nonprofit) and MECOP internship programs.
- continuity.

Partnering with Portland-based The Script to support internships for individuals from

**Collaborating with Partners in Diversity** to expand networking and community-

Strengthening partnerships with Women in Cleantech and Sustainability (a U.S.

Improving management and leadership skills through targeted development initiatives. Implementing formal succession planning practices to support long-term leadership

At Powin, our commitment to social responsibility is deeply embedded in our operations—and it extends beyond compliance to fostering a culture of safety, inclusivity, and community engagement. Through rigorous occupational health and safety programs, diversity and inclusion initiatives, and impactful community investments, we are shaping a workplace that values the well-being of every employee while driving positive change beyond our walls.

As we look ahead, we are committed to continuous improvement, accountability, and meaningful action. These principles are embedded into our corporate culture, ensuring our business growth stays aligned with our mission-to create a safer, more inclusive, and socially responsible future for our employees, partners, and the communities around us.

![](_page_47_Picture_21.jpeg)

![](_page_47_Picture_22.jpeg)

# GOVERNANCE

![](_page_48_Picture_1.jpeg)

![](_page_48_Picture_2.jpeg)

![](_page_49_Picture_0.jpeg)

![](_page_49_Picture_2.jpeg)

### BUSINESS ETHICS & CORPORATE INTEGRITY

### **Commitment to Ethical Leadership** & Corporate Responsibility

At Powin, strong corporate governance is the foundation of our commitment to ethical business practices, regulatory compliance, and accountability. We operate with integrity, transparency, and responsibility to ensure that our leadership structure, policies, and governance mechanisms align with the highest standards. Powin's Board of Directors and Executive Leadership Team oversee our corporate governance framework, fostering a culture of compliance, ethical conduct, and sustainability.

We integrate environmental, social, and governance (ESG) factors into decision-making processes, risk management, and corporate policies, reinforcing our commitment to long-term value creation for stakeholders.

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![](_page_49_Picture_10.jpeg)

![](_page_50_Figure_0.jpeg)

#### **Corporate Governance & Compliance**

Powin adheres to a strong governance structure that upholds ethical business practices, promotes transparency, and safeguards corporate integrity. Our governance policies are designed to align with regulatory requirements, international business standards, and stakeholder expectations.

#### **Key Governance Policies at Powin:**

- Powin Employee Handbook: Covers employee rights, workplace policies, benefits, and expectations for professional conduct.
- Code of Ethics: Outlines expectations for ethical business conduct for all employees, supporting compliance with legal and regulatory requirements (included in the Employee Handbook).
- Supplier Code of Conduct: Establishes ethical, environmental, and labor standards for all suppliers and business partners.
- Whistleblower Policy: Provides mechanisms for employees and stakeholders to report concerns regarding ethical violations, fraud, or misconduct confidentially (included in the Employee Handbook).
- **Conflict of Interest Policy:** Sets clear boundaries that guide business decisions to prioritize the company's best interests over personal gain (included in the Supplier Code of Conduct).
- Anti-Bribery & Anti-Corruption Policy: Prohibits unethical business practices, including bribery, corruption, and improper payments (included in the Supplier Code of Conduct).

- Supplier Code of Conduct).
- activities (included in the Employee Handbook).
- regulations.

• Anti-Discrimination & Anti-Slavery Policy: Reinforces Powin's commitment to fair and inclusive workplaces, prohibiting all forms of discrimination, forced labor, and human rights violations (included in the

• Anti-Fraud Policy: Defines expectations for ethical conduct and outlines procedures for identifying, reporting, and responding to fraudulent

Human Rights Policy: Reinforces our commitment to fair labor practices, safe working conditions, and respect for human rights across our operations and supply chain (included in the Supplier Code of Conduct).

**Data Privacy Policy:** Safeguards sensitive information, mitigates cybersecurity risks, and supports compliance with data protection

![](_page_50_Picture_20.jpeg)

#### **Board Oversight & Risk Management**

Powin's Board of Directors oversee corporate governance, ESG initiatives, and risk management. Governance responsibilities include:

- Monitoring financial, regulatory, supply chain, and cybersecurity risks.
- Maintaining compliance with ESG regulations and advancing sustainability goals.
- Overseeing ethics, compliance, and corporate integrity programs.
- Upholding best practices for supply chain due diligence and responsible sourcing.

Risk management is embedded into our business strategy. This approach empowers proactive management of operational, financial, cybersecurity, environmental, and reputational risks.

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![](_page_50_Picture_30.jpeg)

# CYBERSECURITY & DATA PROTECTION

### Securing the Digital Infrastructure of Clean Energy

With the increasing digitization of energy storage solutions, cybersecurity and data protection are critical to Powin's governance framework. Powin has built a multi-layered cybersecurity approach that safeguards our battery energy storage systems (BESS), information technology (IT) and operational technology (OT) networks, customer data, and critical infrastructure from evolving cyber threats. Our security standards are guided by industry-recognized security frameworks, including NERC Critical Infrastructure Protection (CIP), System and Organization Controls (SOC) 2, National Institute of Standards and Technology (NIST) 800, and International Organization for Standardization (ISO) 27001, delivering resilience, compliance, and ongoing enhancement.

#### **Cybersecurity Governance & Compliance**

Powin's cybersecurity program is governed by a comprehensive set of internal policies that are continuously reviewed and updated to address emerging threats and align with evolving best practices within the industry. In December 2024, Powin successfully completed a SOC 2 Type 2 audit, reinforcing our commitment to data security, privacy, and compliance across our operations. The program follows a layered defense model integrating both IT and OT protections, creating a secure, resilient infrastructure that mitigates risk across every layer of our systems.

We are regularly auditing and constantly improving our cybersecurity posture. This perpetual improvement helps ensure customer BESS and data are always under customer control.

![](_page_51_Picture_8.jpeg)

![](_page_51_Picture_9.jpeg)

### **Securing Energy Storage for a Resilient Future**

Through in-house software development, continuous monitoring, and alignment with top industry standards, we ensure our energy storage solutions remain secure, resilient, and future-ready.

# **Secure by Design**

In-House Software Development: Our entire software stack is developed internally, providing full visibility and control over all system code, preventing potential vulnerabilities that could affect system operation and data security.

Multi-layered Network Protection: Segmented network architecture proactively limits intrusion spread, effectively quarantining threats and minimizing operational impact.

**Complete Code Oversight:** All operational code for our Battery Energy Storage Systems (BESS) is written internally, strictly adhering to our stringent security and quality standards throughout the Software Development Lifecycle (SDLC).

Continuous Source Code Review: Our code is regularly inspected throughout its lifecycle, swiftly identifying and resolving vulnerabilities.

Robust Data Encryption: Data protection meets stringent regulatory standards through encryption both in transit and at rest.

![](_page_52_Picture_8.jpeg)

**Dedicated Cybersecurity Team:** An expert internal cybersecurity team conducts ethical hacking and threat simulations to preemptively eliminate vulnerabilities.

**Continuous Monitoring:** Human and automated monitoring of Powin IT systems and customer BESS assets ensures round-the-clock vigilance against threats.

Customized Security Solutions: Powin has a successful history of delivering customized cybersecurity solutions to meet unique and evolving customer requirements.

Integrated Incident Response: Our robust response program combines automated threat detection, third-party expertise, and comprehensive documentation for recovery and continuity.

**Secure Supply Chain:** Our flexible supply chain strategy regularly inspects and verifies components to ensure ethical sourcing, integrity, and protection against tampering or vulnerabilities.

![](_page_52_Picture_17.jpeg)

## Verified Compliance with Highest Standards

**SOC 2 Type 2 Certification:** Our SOC 2 Type 2 certified cybersecurity program is independently audited, validating our stated practices. ISO 27001 and ISO 9001 certifications are in progress, with completion expected in 2025.

Accelerated Regulatory Compliance: Our cybersecurity framework aligns with NERC CIP, AESCSF, and NIS2 to support security best practices and streamlines customer cybersecurity compliance goals.

Industry-Standard Frameworks: Network architecture adheres to ISA/IEC 62443 framework and the Purdue Reference Model.

Supply Chain Security: Meets rigorous NIST and ISO 27001 standards, reinforcing comprehensive cybersecurity at every level.

![](_page_52_Picture_23.jpeg)

![](_page_52_Picture_26.jpeg)

#### **Technical Architecture & Platform Security**

Our system design adheres to the Purdue Model for Industrial Control Systems (ICS), implementing segmented security zones to reduce risk exposure. Powin's proprietary StackOS platform enhances this security posture through features such as Gatekeeper, a centralized control system that validates user access before any system-level actions can be performed. Secure firmware and software updates, real-time monitoring, and data encryption keep system operations safe and reliable.

#### **Incident Response & Operational Resilience**

Powin's Remote Operations Center (ROC) provides 24/7 oversight of our deployed BESS projects, monitoring for anomalies and potential threats in real time. In the event of a disruption, our systems are equipped to operate locally with secure cloud restoration capabilities that guarantee recovery within 24 hours. In 2024, Powin reported zero material cybersecurity breaches or IT outages, reflecting the strength of our incident prevention and response capabilities.

#### **Workforce Cyber Awareness & Training**

Employees are a critical line of defense in maintaining cybersecurity. All Powin employees are required to complete cybersecurity and data protection training within 30 days of hire and annually thereafter. These trainings cover topics such as data privacy, secure communication protocols, phishing awareness, and escalation procedures to create a strong culture of cyber awareness across the organization.

#### **Supplier Cybersecurity Oversight**

Cybersecurity risk management extends beyond Powin's internal operations to our global supply chain. All suppliers must adhere to Powin's cybersecurity standards, outlined in our Supplier Code of Conduct. Additionally, we utilize the Everstream Risk Management platform to monitor vendors for threats, regulatory changes, geopolitical instability, and operational risks. This establishes end-to-end cyber resilience across our procurement ecosystem.

### **Key Cybersecurity Highlights:**

- Powin's cybersecurity program is guided by a comprehensive framework and is continuously updated to address evolving threats.
- In December 2024, Powin completed a SOC 2 Type 2 audit, demonstrating compliance and security assurance across our operations.
- Powin conducts regular penetration testing, vulnerability scans, and internal security audits to proactively mitigate risks.
- All employees must complete data security and privacy training within 30 days of hire and annually thereafter.
- In 2024, no material security breaches or IT outages were reported.

Powin is continuously evolving its cybersecurity strategy to meet the demands of an increasingly digital, interconnected energy system. As we expand globally, we steadfastly focus on maintaining secure, compliant, and resilient systems that protect our customers, partners, and infrastructure, enabling the transition to a smarter, cleaner, and safer energy future.

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### **SUSTAINABLE SUPPLY CHAIN** & ETHICAL SOURCING

### **Commitment to Responsible Sourcing**

Powin is committed to building a sustainable, ethical, and transparent supply chain that aligns with our values of environmental responsibility, human rights, and governance integrity. As a leading energy storage provider, we recognize the importance of working with suppliers who share our commitment to sustainability, ethical labor practices, and regulatory compliance.

Our approach to responsible sourcing ensures that every stage of our supply chain-from raw material extraction to battery system integration—meets the highest standards of accountability and traceability. We actively engage with suppliers to reduce environmental impact, promote fair labor conditions, and increase transparency across our value chain.

#### **Supplier Environmental & Social Standards**

Powin conducts comprehensive supplier assessments to verify that our partners operate in compliance with international environmental and social standards. Our Supplier Code of Conduct and Code of Business Conduct and Ethics establish clear expectations for suppliers, covering sustainable sourcing, human rights, environmental stewardship, and compliance with labor laws.

Suppliers are expected to implement sustainable practices that reduce carbon emissions, minimize waste, and promote resource efficiency. Powin has a zerotolerance policy for forced labor, child labor, and human rights violations in our supply chain. All suppliers must comply with international labor laws, conflict minerals regulations, and environmental protection standards. Transparency and accountability are key requirements, with suppliers required to provide full visibility into sourcing practices, undergo audits, and comply with traceability requirements. Powin regularly audits suppliers to strengthen compliance and collaborates with U.S. Customs and Border Protection (CBP) to support adherence to the Uyghur Forced Labor Prevention Act (UFLPA) and other trade regulations.

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![](_page_54_Picture_12.jpeg)

#### Conflict **Minerals Policy**

Powin is committed to our supply chain remaining free from conflict minerals that contribute to human rights violations, unethical labor practices, or environmental degradation. We require all suppliers to uphold responsible sourcing practices and comply with international due diligence standards, including the Organisation for Economic Co-operation and Development (OECD) Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas.

Powin does not source materials from high-risk regions and mandates that all suppliers sign agreements affirming compliance with ethical business standards, conflict-free sourcing, and fair labor practices. Our Supplier Code of Conduct outlines these requirements and also addresses issues such as anti-bribery, anti-corruption, human rights protections, and environmental responsibility.

To strengthen oversight, Powin utilizes the Everstream Risk Management System, a real-time supply chain monitoring platform that identifies potential violations, geopolitical risks, and supplier compliance gaps. This system supports proactive risk mitigation by providing alerts on global trade disruptions, regulatory changes, and environmental or labor-related concerns within our supplier network.

We prioritize transparency and accountability in our supply chain. Through ongoing supplier engagement, robust due diligence measures, and continuous monitoring, we work diligently to ensure that all materials used in our energy storage systems align with ethical sourcing standards and global sustainability goals.

### **Reducing Environmental Impact** in the Supply Chain

Powin is actively working to reduce our supply chain's carbon footprint and environmental impact by partnering with suppliers who have made commitments to use more renewable energy, clean transportation, and responsible waste management practices. Sustainable logistics efforts are underway to optimize transportation emissions through supply chain efficiencies. Circular economy initiatives, such as our battery recycling program, support the recovery and reuse of valuable battery materials, reducing the need for virgin resource extraction.

#### **Traceability & Ethical Sourcing** of Raw Materials

Powin recognizes the risks associated with battery material sourcing, particularly in the mining of lithium, iron, and phosphate for lithium iron phosphate (LFP) batteries. To ensure ethical and sustainable material sourcing, Powin's responsible sourcing strategy includes measures to:

- challenges in complex global supply chains.

By focusing on supply chain sustainability, Powin aims to minimize the negative environmental and social impacts associated with battery material extraction while promoting a more circular and ethical energy storage industry.

• Vet Suppliers for Responsible Mining Practices: Our due diligence process confirms that suppliers adhere to conflict-free sourcing standards and minimize environmental harm.

Encourage Supplier Certifications: We support the adoption of sustainability certifications, such as ISO 14001 for environmental management and IRMA (Initiative for Responsible Mining Assurance).

• Increase Supply Chain Transparency: Powin is working toward improving raw material traceability, despite

• **Prioritize Recycling Over New Mining:** Our battery recycling program helps reduce the demand for newly mined materials by reintegrating recovered battery-grade materials into production.

![](_page_55_Picture_20.jpeg)

![](_page_55_Picture_22.jpeg)

![](_page_55_Picture_23.jpeg)

![](_page_56_Picture_0.jpeg)

![](_page_56_Picture_1.jpeg)

## 

#### **Enhancing Supply Chain Transparency: Strategic Partnership with Circulor and Battery Passport Integration**

Powin is embarking on a strategic partnership with Circulor, the leader in bringing traceability and sustainability to supply chains, to improve supply chain transparency and material traceability in alignment with evolving regulatory and sustainability requirements. This collaboration will implement Circulor's traceability-as-a-service platform, enabling real-time monitoring of key raw materials—including lithium, natural graphite, aluminum, copper, and steel—across Powin's supplier network. By integrating Circulor's PROVE platform, Powin will strengthen supplier accountability, carbon emissions tracking, and compliance with the EU Battery Regulation and forthcoming Battery Passport requirements.

Through this initiative, Powin and Circulor will map supply chain participants, track the carbon footprint of battery packs, and validate the recycled content of materials, ensuring compliance with global sustainability regulations. The platform will also provide automated supply chain insights and anomaly detection, allowing Powin to proactively address risks and improve supplier engagement. This partnership reflects Powin's commitment to supply chain resilience, ethical sourcing, and continuous sustainability improvements in the battery energy storage sector.

#### **Supplier Diversity & Social Responsibility**

Powin believes that a diverse and inclusive supply chain fosters innovation, strengthens communities, and promotes economic growth. The company actively seeks partnerships with minority-owned, women-owned, veteran-owned, LGBT-owned, and small business enterprises to promote equitable business opportunities. Supplier diversity participation is a priority, with efforts to provide equitable procurement opportunities based on performance, quality, and sustainability criteria. Supporting small businesses and fostering economic growth in the regions we serve is integral to Powin's long-term strategy.

While progress has been made, Powin recognizes that supplier diversity is an ongoing journey and we aim to further expand inclusivity and equity within our procurement processes.

#### **Governance, Compliance & Continuous Improvement**

Powin enforces strict governance policies to maintain ethical, compliant supply chain operations that are aligned with global sustainability standards. The Supplier Code of Conduct outlines expectations regarding anti-corruption, fair labor practices, environmental sustainability, and supply chain transparency.

To maintain compliance and accountability, Powin conducts regular supplier audits to verify adherence to ethical and environmental standards. Suppliers are required to sign agreements committing to legal compliance and responsible business practices. Corrective action is taken against non-compliant suppliers, including contract termination when necessary. Powin continuously reviews sourcing practices to align with evolving global regulations and industry best practices. We actively audit suppliers and enforce zero tolerance for human rights violations, unethical labor practices, and environmental non-compliance in our supply chain.

![](_page_56_Picture_14.jpeg)

![](_page_56_Picture_24.jpeg)

### ADVANCING PRODUCT **SAFETY & QUALITY**

At Powin, innovation and continuous improvement drive our commitment to safe, reliable, and efficient energy storage solutions. Since our founding in 2010, we have launched five generations of battery technology, with each iteration advancing safety, performance, and sustainability. In May 2024, we introduced the Powin Pod, a 5 MWh liquid-cooled energy storage system, designed for enhanced thermal performance, safety, and reliability—all powered by our proprietary StackOS software.

We are dedicated to staying ahead of market needs through ongoing research, rigorous product testing, and advanced engineering validation. Our state-of-the-art Powin Battery Lab in Tualatin, Oregon, plays a key role in ensuring product safety, reliability, and longevity before system deployment.

![](_page_57_Picture_3.jpeg)

- Maritime container (20ft/40ft/53ft)
- Container level cooling & FSS
- Pre-assembled empty container to be filled on site
- Non-Standardized Solution

![](_page_57_Picture_9.jpeg)

![](_page_57_Picture_10.jpeg)

<b>'P</b>	<b>Stack 360E</b> 1500V   360kWh	<b>Stack750</b> 1500V   750kWh	<b>Stack 800/840</b> 1500V   800kWh	Powin Pod 1500VDC/ 425.98 kWh
				Pod is Powin's first liquid cooled BESS, enabling

![](_page_57_Figure_12.jpeg)

- Modular
- String level design / safety / cooling
- Easier Deployment
- Complete Factory Stack Assembly

With unparalleled long-term system performance, safety, and availability, Powin Pod sets a new standard for energy storage solutions.

a leap in performance across the board.

- Superior Energy Density
- Reduced Installation Time
- Enhanced Lifetime
- Higher Efficiency

![](_page_57_Picture_24.jpeg)

![](_page_57_Picture_25.jpeg)

#### **Prioritizing Safety** in Every Stage of **Development**

Safety is embedded into every stage of Powin's battery energy storage systems (BESS), from product design and supplier qualification to manufacturing, deployment, and ongoing monitoring. We oversee the entire product lifecycle, assuring that each system meets the highest industry standards and delivers safe, efficient, and longlasting energy storage solutions. Powin adheres to key global safety and testing standards to make certain that our BESS meet the highest levels of reliability and operational integrity.

![](_page_58_Picture_2.jpeg)

Lithium Iron Phosphate cells have demonstrated an advanced safety profile attributed to a higher thermal runaway temperature

Modules are designed to prevent thermal runaway propagation as shown by UL9540A testing

![](_page_58_Picture_6.jpeg)

![](_page_58_Picture_7.jpeg)

### **Enclosure Design**

Engineered to provide batteries with an optimal safety environment including emergency sensing, integrated fire control panel, UPS backup, and active/passive ventilation

### Safety **Standards &** Testing

- ✓ UL 9540A
- ✓ UL 1973
- ✓ UL1642
- ✓ NFPA855
- ✓ NFPA69
- ✓ Large-Scale Burn
- ✓ IEC 62619
- ✓ IEC 61000-6-2
- ✓ IEC 62477
- ✓ UN 3840
- ✓ UN 38.3

![](_page_58_Picture_24.jpeg)

![](_page_58_Picture_25.jpeg)

#### **Engineering Safer Battery Technology: Powin Pod**

The Powin Pod introduces our most advanced safety features yet, incorporating:

![](_page_59_Picture_2.jpeg)

#### FIRE SUPPRESSION AT THE PACK LEVEL

The Powin Pod's advanced Fire Suppression System (FSS) proactively mitigates fire and thermal runaway risks within the battery pack, protecting your investment and minimizing downtime. In the event of a thermal incident at the cell level, the system swiftly deploys aerosol to contain the issue and prevent it from spreading to adjacent packs.

![](_page_59_Picture_5.jpeg)

![](_page_59_Picture_6.jpeg)

#### **OPTIMIZED THERMAL PERFORMANCE**

Our liquid cooling system ensures stable internal temperatures within the battery pack, significantly improving safety and extending the system's lifespan. By utilizing parallel flow channels, our design optimizes thermal performance, allowing each cell to cool more efficiently and evenly.

This approach reduces flow resistance by 85% and minimizes temperature differences by 2.78°C, resulting in uniform cooling and degradation, which in turn prolongs cell life and increases available energy compared to traditional series flow designs.

#### **BATTERY PACK** Maximum Safety, Efficiency, and Reliability

The Powin Pod Pack is a state-of-the-art battery module designed with advanced features that deliver optimal performance, safety, and reliability.

Through these innovations, Powin continuously refines its battery safety systems to improve system performance, reduce downtime, and lower operational risks.

#### **ENGINEERED FOR UNMATCHED** RELIABILITY

The Powin Pod, our first liquid-cooled BESS, represents a significant leap in performance. Its advanced coolant distribution system is meticulously designed for efficiency, reliability, and ease of service. Each module undergoes rigorous leak detection tests during assembly, and any potential issues are resolved long before reaching your site.

#### **COMPREHENSIVE FIRE SAFETY AT THE** SYSTEM LEVEL

Powin Pod features multiple detection devices in every segment, providing maximum protection. Cell-Level Monitoring tracks voltage and temperature on each cell, allowing for early detection of potential failures and proactive removal of a stack before issues arise. Emergency Sensing provides 24/7 monitoring of critical detectors. The Integrated Fire Control Panel (FCP) connects smoke and heat detectors to a central system, which is linked to a broader site-level emergency response network for comprehensive safety management.

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#### **Software-Driven Safety & Optimization: StackOS**

Beyond hardware, Powin's in-house, US-built StackOS software plays a crucial role in supporting safety, system uptime, and grid optimization.

#### StackOS integrates firmware, energy management, and advanced analytics to:

- Enhance Safety: Utilizes advanced fault detection, automated response mechanisms, and real-time monitoring to prevent incidents before they escalate.
- Improve Energy Availability: Leverages one of the largest cell-level operational datasets to optimize power output and prevent downtime.
- Enable Deep System Insights: Provides real-time, granular visibility into system performance down to the individual cell level.
- Offer Market & Application Flexibility: Supports multiple grid applications, market participation models, and site-level configurations to optimize energy dispatch.

Through ongoing StackOS enhancements, Powin is at the forefront of intelligent energy storage with industryleading safety, efficiency, and performance across all operating conditions.

![](_page_60_Figure_9.jpeg)

![](_page_60_Figure_11.jpeg)

### **A Commitment** to Quality & Compliance

Powin upholds the highest standards of quality, reliability, and regulatory compliance across our entire energy storage portfolio. Our supplier qualification process aligns with ISO 9001 quality management standards, demonstrating our commitment to quality, safety, and ongoing improvements. Regular quality audits evaluate product and manufacturing quality, safety, system performance, and adherence to industry best practices.

![](_page_60_Figure_14.jpeg)

**POWIN** SUSTAINABILITY REPORT 2024

![](_page_60_Picture_16.jpeg)

![](_page_60_Picture_17.jpeg)

Powin's approach to governance is rooted in ethical leadership, regulatory compliance, and continuous enhancement of systems that uphold transparency, accountability, and stakeholder trust. From safeguarding digital infrastructure and enforcing rigorous cybersecurity protocols to fostering responsible sourcing and strengthening supplier oversight, we embed integrity into every aspect of our operations. Through robust risk management, board-level ESG oversight, and the integration of evolving global standards, Powin ensures that our governance framework supports our business objectives and reinforces our commitment to sustainability, innovation, and corporate responsibility.

As we grow and evolve, we remain steadfast in our mission to lead with integrity, build resilient systems, and drive meaningful impact across the energy transition.

![](_page_61_Picture_2.jpeg)

![](_page_61_Picture_6.jpeg)

### LOOKING AHEAD: **OUR ESG** ROADMAP

As we publish our first Sustainability Report, we recognize that ESG is not a destination it's a journey of continuous improvement. This report reflects the foundation we've built in 2024. Looking ahead, we are committed to strengthening our impact with greater transparency, measurable goals, and deeper engagement across our value chain.

Below is our roadmap for the year ahead and beyond:

![](_page_62_Picture_3.jpeg)

#### **Establish Reduction Targets**

Define and publish emissions reduction targets for Scope 1, 2, and material Scope 3 categories aligned with the Paris Agreement.

#### **Advance Circularity**

Expand our Battery Recycling and Reuse Program in 2025 by exploring additional certified partners to maximize impact and improve product lifecycle transparency.

#### Launch Battery Passport Program

Initiate the Battery Passport program to align with EU Regulation 2023/1542, ensuring traceability of battery components and full lifecycle transparency from production to end-of-life for access to European markets. Achieve complete product carbon footprint tracking by the end of 2026.

![](_page_62_Picture_11.jpeg)

#### **Enhance Health & Safety Tracking**

While we have historically tracked specific safety KPI's, we previously had not established formal performance goals or targets as an organization. Beginning in 2025, we have established several measurable performance goals in which to focus organizational safety-culture. These KPI's will be continually evaluated and adjusted as needed for continuous improvement in future years.

#### **Establish ESG Leadership & Formalize Program**

Appoint a dedicated ESG Manager and build out a formal ESG function to lead strategy execution, crossfunctional coordination, and employee engagement.

![](_page_62_Picture_16.jpeg)

#### Formally Integrate ESG into Board Oversight

Establish a Board-level ESG Committee or designate executive-level ESG oversight responsibility.

#### Advance Cybersecurity Maturity

Continuously evolve our cybersecurity protocols in line with emerging risks.

As we look to the future, Powin will remain faithful to its long-term commitment to building a more sustainable, inclusive, and resilient energy future. These values are embedded in our governance approach to ensure that as we grow, we do so with integrity, transparency, and long-term accountability.

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![](_page_62_Picture_24.jpeg)

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### **GRI Index (Core Level)**

GRI Disclosure	Торіс	Report Section	Notes
GRI 2-1	Organizational details	Who We Are	
GRI 2-2	Entities included in the organization's sustainability reporting	About This Report	
GRI 2-3	Reporting period, frequency, and contact point	About This Report	
GRI 2-4	Restatements of information	N/A – First Report	No restatements made
GRI 2-5	External assurance	GHG Emissions Section	Limited assurance pending – Greenly
GRI 2-6	Activities, value chain, and other business relationships	Who We Are	
GRI 2-7	Employees	Social Responsibility	
GRI 2-8	Workers who are not employees	Social Responsibility	To be expanded in future reports
GRI 2-9	Governance structure and composition	Governance Section	
GRI 2-10	Nomination and selection of the highest governance body	Governance Section	
GRI 2-11	Chair of the highest governance body	Governance Section	
GRI 2-12	Role of the highest governance body in overseeing the management of impacts	Governance Section	
GRI 2-13	Delegation of responsibility for managing impacts	Governance Section	
GRI 2-14	Role of the highest governance body in sustainability reporting	Governance Section	
GRI 2-15	Conflicts of interest	Governance Section	General policy in place
GRI 2-16	Communication of critical concerns	Governance Section - Ethics Hotline	
GRI 2-17	Collective knowledge of the highest governance body	Governance Section	
GRI 2-18	Evaluation of the performance of the highest governance body	Not included	To be disclosed in future
GRI 2-19	Remuneration policies	Not disclosed	To be developed
GRI 2-20	Process to determine remuneration	Not disclosed	To be developed
GRI 2-21	Annual total compensation ratio	Not disclosed	To be developed

GRI Disclosure	Торіс	Report Section	Notes
GRI 2-22	Statement on sustainable development strategy	Message from the CEO	
GRI 2-23	Policy commitments	Governance Section	
GRI 2-24	Embedding policy commitments	Governance Section	
GRI 2-25	Processes to remediate negative impacts	Governance Section - Ethics	
GRI 2-26	Mechanisms for seeking advice and raising concerns	Governance Section - Ethics Hotline	
GRI 2-27	Compliance with laws and regulations	Governance Section	
GRI 2-29	Approach to stakeholder engagement	Material Topics and ESG Alignment	
GRI 3-1	Process to determine material topics	Material Topics and ESG Alignment	
GRI 3-2	List of material topics	Material Topics and ESG Alignment	
GRI 3-3	Management of material topics	Environmental, Social & Governance Sections	
GRI 305-1	Direct (Scope 1) GHG emissions	Carbon Footprint & GHG Emissions	
GRI 305-2	Energy indirect (Scope 2) GHG emissions	Carbon Footprint & GHG Emissions	
GRI 305-3	Other indirect (Scope 3) GHG emissions	Carbon Footprint & GHG Emissions	
GRI 305-5	Reduction of GHG emissions	GHG Reduction Strategy	
GRI 403-1	Occupational health and safety management system	Social Responsibility	
GRI 403-2	Hazard identification, risk assessment, and incident investigation	Social Responsibility	
GRI 403-5	Worker training on occupational health and safety	Social Responsibility	
GRI 403-9	Work-related injuries	Social Responsibility	Summary data available
GRI 405-1	Diversity of governance bodies and employees	Social Responsibility - DEI	
GRI 414-1	New suppliers screened using social criteria	Governance - Supply Chain	
GRI 414-2	Negative social impacts in the supply chain and actions taken	Governance - Supply Chain	

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### SASB Index

SASB Code	Disclosure Topic	Report Section	Notes
RR0202-01	Total greenhouse gas (GHG) emissions, % covered under emissions-limiting regulations	GHG Emissions Section	Total emissions disclosed. emissions currently covere under formal cap-and-trad regulatory schemes.
RR0202-02	Air emissions of key pollutants	Not applicable - Powin does not operate manufacturing facilities	No material emissions from operations. Not applicable
RR0202-03	Number of incidents of non-compliance associated with air quality permits, standards, and regulations	Governance Section -Compliance	No incidents reported.
RR0202-04	Total recordable incident rate (TRIR) and near miss frequency rate (NMFR)	Social Responsibility - Occupational Health & Safety	TRIR provided; NMFR to be included in future reportin
RR0202-05	Description of efforts to integrate environmental, health, and safety considerations into project planning and management	Social Responsibility & Environmental Sections	Powin incorporates EHS standards in supplier and sengagement.
RR0202-06	Amount of waste generated and percentage recycled	Environmental - Recycling & Circular Economy	Battery recycling data inclu general facility waste repor in progress.
RR0202-07	Description of the management of risks associated with the use of critical materials	Governance - Supply Chain, Environmental - Sourcing	Traceability and responsib sourcing policies in place; UFLPA compliance address
RR0202-08	Percentage of products by revenue that contain critical materials	Not yet disclosed	To be included in future re once data is segmented.
RR0202-09	Percentage of products that are recyclable or reusable at end of life	Environmental - Circular Economy	LFP-based systems and ac recycling partnerships sup circularity.
RR0202-10	Discussion of strategy to manage the environmental impact of product lifecycle	Environmental - Recycling, Environmental Management & Circularity	Li-Cycle partnership and circular economy initiatives described.
RR0202-11	Discussion of security measures and product performance standards	Governance - Cybersecurity, Product Safety	Covers BMS/EMS integrati NERC-CIP compliance, fire suppression features.
RR0202-12	Total amount of monetary losses as a result of legal proceedings associated with product safety	Governance - Risk & Legal	No monetary losses report 2024.

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#### **TCFD Index**

Powin recognizes the critical role of climate-related risks and opportunities in shaping the future of energy storage. As a company operating in an industry directly impacted by extreme weather events, regulatory shifts, and market transitions, we are committed to integrating climate considerations into our strategic planning and business operations.

While we have not yet conducted a formal climate risk analysis, climate-related factors are assessed during Executive Leadership Strategic Planning meetings, influencing our risk management, innovation strategies, and supply chain resilience efforts. Powin is working toward a more structured approach to climate governance, aligning with industry best practices and the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations.

This TCFD Crosswalk outlines Powin's current approach to climate-related governance, strategy, risk management, and metrics, as well as our plans for enhanced climate integration in the future.

#### Governance

TCFD Recommendation	Powin's Approach
Describe the board's oversight of climate-related risks and opportunities.	Climate-related risks and opportunities are discussed during Executive Leadership Strategic Planning meetings. These discussions help shape strategic pillars, ensuring climate considerations are integrated into long-term decision-making.
Describe management's role in assessing and managing climate- related risks and opportunities.	Powin's leadership team assesses climate-related risks as part of the company's risk management, innovation, and supply chain resilience strategy. While a formal climate risk management process is still evolving, sustainability considerations are embedded in broader business decisions.

#### Strategy

TCFD Recommendation	Powin's Approach
Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	<ul> <li>Powin operates in a sector directly impacted by climate-related factors.</li> <li>Identified risks and opportunities include: <ul> <li>Short-Term (0-3 years): Supply chain volatility due to extreme weather →</li> <li>Opportunity: Increased demand for resilient energy storage.</li> </ul> </li> <li>Medium-Term (3-10 years): Evolving regulatory requirements → Opportunity Expansion of renewable energy storage.</li> <li>Long-Term (10+ years): Market shifts toward low-carbon, recyclable battery technologies → Opportunity: Sustainable product innovation.</li> </ul>
Describe the impact of climate- related risks and opportunities on the organization's businesses, strategy, and financial planning.	Climate-related risks are increasingly integrated into strategic planning, supply chain management, and product development. Investments in supplier diversification and circular battery solutions help mitigate transition risks and enhance business resilience.
Describe the resilience of the organization's strategy, taking into consideration different climate- related scenarios, including a 2°C or lower scenario.	While Powin has not yet conducted a formal climate scenario analysis, the company ensures that broader climate considerations inform corporate strategy.

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#### **Risk Management**

TCFD Recommendation	Powin's Approach
Describe the organization's processes for identifying and assessing climate-related risks.	Climate risks are considered in Executive Leadershi economic and political factors, to guide decision-ma management process has not yet been established.
Describe the organization's processes for managing climate-related risks.	<ul> <li>Powin mitigates climate-related risks through:</li> <li>Supplier diversification to reduce reliance on regions</li> <li>Investment in circular battery solutions to align works</li> <li>Operational risk assessments via Job Safety Analysis</li> <li>battery testing.</li> </ul>
Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	Climate risks are considered within broader risk man Powin has not yet developed a dedicated climate ris

#### **Metrics & Targets**

TCFD Recommendation	Powin's Approach
Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Powin has not yet developed specific climate risk me emissions offsets from its lithium battery recycling p performance indicator. We currently track certain er waste metrics.
Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	<ul> <li>Total Emissions in 2024: 927,029 tCO<sub>2</sub>e</li> <li>Scope 1 (Direct Emissions): 31 tCO<sub>2</sub>e</li> <li>Scope 2 (Indirect Energy Emissions): 203 tCO<sub>2</sub>e</li> <li>Scope 3 (Supply Chain &amp; Indirect Emissions): 926</li> </ul>
Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Powin has not yet set formal climate-related targets, with industry best practices, including TCFD recomm

ip Strategic Planning meetings, alongside aking. However, a formal climate risk

ions vulnerable to climate disruptions. vith global sustainability regulations. lyses (JSAs) at project sites and prior to

nagement and strategic planning efforts, but sk assessment framework.

netrics. However, the company tracks GHG program as one of the key sustainability energy consumption, emissions, water, and

6,795 tCO<sub>2</sub>e

, but is working toward greater alignment mendations.

#### **Next Steps for Climate Integration**

As Powin continues to advance its sustainability program, future actions include:

- Developing a structured climate risk management framework to enhance resilience.
- Improving climate-related disclosures, including GHG emissions transparency.
- Integrating scenario analysis to assess long-term climate risks and opportunities.
- Setting measurable sustainability targets aligned with global best practices.

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#### **Forward-Looking Statement**

This Sustainability Report contains forward-looking statements that reflect Powin's current expectations, plans, and projections regarding our environmental, social, and governance (ESG) initiatives, business operations, and future performance. These statements are based on assumptions and estimates that we believe are reasonable as of the publication date; however, they are subject to risks, uncertainties, and changes in circumstances that may cause actual results, performance, or achievements to differ materially from those expressed or implied.

Forward-looking statements include but are not limited to expectations around Powin's emissions reduction strategies, supply chain sustainability efforts, ESG goals, product innovations, compliance with future regulatory requirements, and our progress toward achieving certifications such as ISO 14001 (Environmental Management System) and ISO 45001 (Safety & Health Management System). Words such as "aim," "anticipate," "believe," "committed," "continue," "enhance," "ensure," "estimate," "expect," "goal," "intend," "may," "plan," "potential," "target," "will," and similar expressions are intended to identify forward-looking statements.

Powin undertakes no obligation to update or revise any forward-looking statements in this report, whether as a result of new information, future events, or otherwise. Readers are cautioned not to place undue reliance on these statements and to consider the inherent uncertainties involved in predicting future outcomes.

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![](_page_67_Figure_6.jpeg)