



2024 PURPOSE & SUSTAINABILITY REPORT V.2



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



We exist to transform infrastructure for a healthy, thriving planet



About this report

Armour Valve published its first Purpose Report on August 29, 2024—outlining our purpose strategy, near-term goals, and performance for partial year 2024—in order to meet Canada’s Net-Zero Challenge submission deadline. This 2024 Purpose & Sustainability Report V.2, released September 3, 2025, includes purpose performance metrics for the full 2024 year and outlines additional sustainability initiatives across people, planet, and prosperity.

We use “purpose” and “social purpose” interchangeably, following the Canadian Purpose Economy Project (CPEP)¹ definition: *a business that profitably solves problems for people and planet without causing harm, contributing to long-term well-being.*

GHG emissions data covers our Canadian operations for fiscal years 2023 and 2024, benchmarked against 2022 and year-over-year. The inventory was first calculated using the BMO Radicle Climate Smart platform², then migrated to the Carbon Hound platform³ in 2025. This report follows CPEP’s Purpose Disclosures Guidance⁴, for which our CEO & President, Liz McBeth, was interviewed. It is published in English and available at armourvalve.com/company/our-commitments/.



A note from our CEO & President

At Armour Valve, our purpose is **to transform infrastructure for a healthy, thriving planet**. We believe that business has a responsibility to ensure the prosperity of people and planet for future generations.

As we embed our purpose more deeply into our strategy and culture, we are using it to bring greater clarity to decision-making and adopting a quadruple bottom line (4BL) to measure performance holistically. We are proud of the progress we are making and remain committed to authentic purpose and transparent reporting.

Each member of our team is dedicated to achieving the highest level of stakeholder satisfaction and product and service quality. Our ownership prioritizes health, safety, environmental stewardship, and diversity, equity, inclusion, and belonging (DEIB) in planning. We actively seek out sustainable, values-aligned solutions and suppliers to help customers transform infrastructure, improve quality of life, and protect the planet for generations to come.

Liz McBeth, MBA, CEO & President

¹ purposeeconomy.ca/about-us

² commercial.bmo.com/en/ca/we-can-help/climate-smart. Conforms to the Greenhouse Gas (GHG) Protocol ghgprotocol.org

³ carbonhound.com. Conforms to the Greenhouse Gas (GHG) Protocol

⁴ purposeeconomy.ca/wp-content/uploads/2024/08/Purpose-Disclosures-Guidance.pdf



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Finding Our Purpose: Meaning and Development

We exist to transform infrastructure for a healthy, thriving planet



Our purpose aligns with three global transformations reshaping our industry and the planet: the **energy transition**, **industrial decarbonization**, and the shift to a **circular economy**. These transformations reflect urgent societal needs for secure access to affordable heat and electricity, clean water, and essential goods—delivered in ways that respect both people and the planet.

This shift is part of a broader evolution known as **Industry 5.0**⁵—the next industrial revolution. Building on the automation and digitalization of Industry 4.0, Industry 5.0 reorients industrial

strategy toward **human-centricity**, **sustainability**, and **resilience**. It challenges companies to go beyond productivity and efficiency, and to create measurable social and environmental value through innovation.

Our clients are central to this transformation. They include large energy producers, industrial facilities, campuses, and cities—all making strides toward a circular, net-zero future. Armour Valve is committed to supporting their journey and contributing to sustainable development through our business.

Our clients produce essential goods that society depends on and are making meaningful strides towards net-zero

We offer resilient infrastructure solutions that reduce waste and emissions while delivering the high-performance standards our customers rely on. Through our team's technical expertise, our manufacturing partners' high-performance products, and our industry collaborations, we are driving the transformation of energy and industrial systems to power a healthy, thriving planet.

Inspired by sustainable development & Industry 5.0

Our purpose draws inspiration from the United Nations Sustainable Development Goal (UN SDG) 9.4:

*“By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes...”*⁶

Canada's rich resource base and expertise in extractive and process technologies, engineering, and R&D position it to lead this transformation across sectors.



⁵ research-and-innovation.ec.europa.eu/research-area/industrial-research-and-innovation/industry-50_en

⁶ sdgs.un.org/goals/goal9#targets_and_indicators



Mike Huston reassembling a Conval globe valve. These in-line repairable valves result in less waste: time, money, and materials.

Photo credit CrazyKPhotography

We developed our purpose in 2022⁷, with support from the United Way BC Social Purpose Institute (SPI)⁸ and in consultation with SPI alumni and cohort members, our employees, and suppliers. Our clients are already making meaningful strides to decarbonize operations, reduce waste, and rethink resource use. But to meet Canada's 2050 net-zero target, **small and medium enterprises (SMEs)**, which make up **99% of Canadian businesses**⁹, need targeted support and practical tools to measure and manage their impacts.

That is why we actively engage with thought leaders in purpose and sustainability and share our learnings across our networks and memberships in associations such as Excellence in Manufacturing Consortium (EMC)¹⁰ and Family Enterprise Canada (FEC)¹¹. It is why we participate in EMC's Green Manufacturing

Network and in Canada's Net-Zero Challenge (NZC)¹². In addition, our CEO & President, Liz McBeth, serves on the board of FEC, has signed the Family Business Sustainability Pledge¹³ and CPEP's A Call to Purpose¹⁴, chairs the FEC Family Enterprise Impact committee, and serves as an advisor to the CPEP Social Purpose Association Group.

By aligning our purpose with the UN SDG goals and the principles of Industry 5.0 and sharing our knowledge and example as broadly as possible, Armour Valve is helping to shape a future where infrastructure is not only efficient and reliable, but also regenerative, inclusive, and resilient.

Developed and implemented collaboratively

Our purpose was developed through meaningful engagement with stakeholders who continue to shape how we implement it. As an authentic social purpose company, we've attracted advisors and supporters who would otherwise be beyond our means to hire. We have discovered that stakeholders want to see us succeed in achieving our purpose and actively support that success.

⁷ armourvalve.com/armour-valve-purpose-statement

⁸ Social Purpose Institute (Original URL: socialpurpose.ca; site inactive 2025-09-03)

⁹ ised-isde.canada.ca/site/sme-research-statistics/en/key-small-business-statistics/key-small-business-statistics-2024#s1.1

¹⁰ emccanada.org

¹¹ familyenterprise.ca

¹² canada.ca/en/services/environment/weather/climatechange/climate-plan/net-zero-emissions-2050/challenge.html

¹³ fbsd.unctad.org/pledge

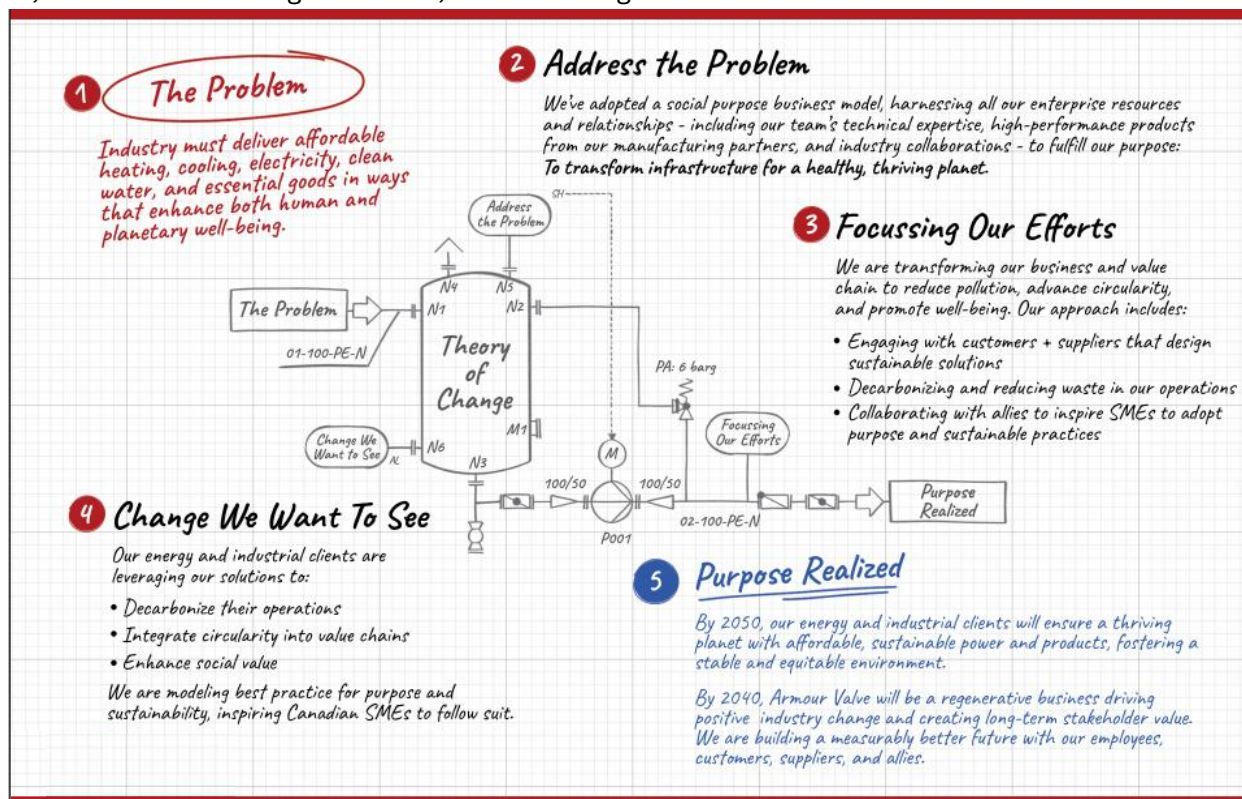
¹⁴ purposeeconomy.ca/a-call-to-purpose

The table below outlines the stakeholders involved in defining and implementing our purpose.

Category	Group	Define	Implement
Internal	Employees: Directly involved in defining and implementing our purpose	✓	✓
	Ownership: Three generations are aware of our purpose and our CEO & President (Gen2) champions purpose and sustainability in business	✓	✓
External	Supply partners: Invited to provide feedback on our purpose and to learn about green & lean manufacturing through our relationship with EMC and participation in its Green Manufacturing Network	✓	✓
	Customers: Aware of our purpose and engaging in conversations about supply chain and process innovation		✓
	Family business community: Introduced to purpose and sustainability goals through speaking engagements and our participation in Family Enterprise Impact, which activates business to contribute to sustainable development		✓
	Social purpose community: Aware of purpose through speaking engagements, networking, and alignment with CPEP	✓	✓
	Industrial community: Aware of purpose through speaking engagements, networking, and our relationship with EMC		✓

Focused on building a measurably better future

Our social purpose theory of change describes the problem we seek to solve, how we will address it, how we are focusing our efforts, and the change we want to see in the world.





This transformation is already in motion and is increasingly recognized as Industry 5.0. While Industry 4.0 emphasized automation and digitalization, Industry 5.0 reorients industrial strategy toward **delivering measurable social and environmental value** through human-centricity, sustainability, and resilience. Armour Valve's purpose is strongly aligned with these principles, as is Canada's broader industrial strategy. By accelerating the arrival of Industry 5.0 and staying true to our purpose, Armour Valve—together with our energy and industrial clients and stakeholders—will thrive and contribute to building a measurably better future.

We recognize that this journey will not be without challenges. One of the most persistent is the tension between quality and affordability. High-performance, reliable solutions often come at a premium, yet our clients face increasing pressure to manage costs. Armour Valve reframes this tension not as a trade-off, but as a **catalyst for innovation**.

We model good practice by investing in long-term partnerships, rigorous supplier evaluation, and lifecycle cost analysis that shows how quality contributes to affordability over time. Through active participation in industry networks and collaborative initiatives, we share insights and promote strategies that prioritize value and resilience. In doing so, we address the magnitude of the challenge and help shift industry norms toward more sustainable and equitable outcomes.

Living Our Purpose: Authentic Integration

Since 2023, Armour Valve has been embedding its purpose—**transforming infrastructure for a healthy, thriving planet**—across all areas of the business. This section outlines how we are aligning our operations with our purpose, evolving towards a **quadruple bottom line**¹⁵ (4BL), and making early progress on our near-term purpose goals.

In this initial phase, we're prioritizing initiatives that deliver measurable impact across multiple 4BL quadrants, including process efficiencies, cost-saving measures, and improvements that benefit people, planet, and prosperity. Initiatives not directly tied to our purpose are detailed in *Appendix 5. Sustainability: People, Planet, and Prosperity*.



Strategy and purpose alignment

In 2024 and 2025, we reimagined our **vision, mission, values, and business model** to align fully with our purpose—ensuring every aspect of our organization is focused on creating long-term value for stakeholders and contributing to a measurably better future.

¹⁵ The original triple bottom line (TBL) was coined by John Elkington in 1994 and includes profit, people and planet. The 4BL that includes purpose evolved from this but is not attributed to a single author.



Vision: To be the partner of choice for forward-thinking leaders shaping Industry 5.0—delivering advanced valve and equipment solutions that accelerate sustainable transformation and industrial resilience.

Mission: We deliver innovative specialty valve and equipment solutions that uphold the highest standards in quality, safety, and performance—creating enduring value and equipping our clients to thrive in a future shaped by intelligent, sustainable industry.

As a family-owned business with over 50 years of experience, Armour Valve serves clients across Canada and the USA with specialty valves, piping, instrumentation, and controls. Our 28 full-time employees support complex process challenges with solutions from globally respected manufacturers. In 2024, we enhanced our supplier screening process to include **social and environmental criteria**¹⁶, reinforcing our role as a responsible link in our customers' supply chains.

Our 4BL business model enables our positive impact to scale with our business as we fulfill our social purpose. We believe that this model is key to our sustained profitability, family ownership, and stakeholder satisfaction.

Purpose as a strategic lens

Our purpose guides where we focus our efforts and how we make decisions. We have defined five core strategies to activate our purpose and support sustainable development.

Our purpose is the decision lens that defines and directs our strategy and where to devote our energy and efforts

Social Purpose Strategy	Examples
1. Engage customers transforming processes for societal and environmental benefit	District energy systems, hydrogen blending, hydro and nuclear power
2. Partner with manufacturers offering resilient, innovative infrastructure solutions	Boehmer hydrogen-ready valves, Conval repairable products, FCI energy saving valves, VRG emissions-reducing valves
3. Account for and reduce GHG emissions , including scope 3 linked to transporting goods and people	Emissions tracked for 2022–2024, LED lighting, electric forklift, non-forest biomass paper ¹⁷
4. Collaborate with allies to activate SMEs around purpose and sustainability	Shared our story via networks (CPEP, EMC, FEC, NZC, SPI), events (Globe Xchange, Purpose in Business Week ¹⁸), and publications (Globe & Mail, National Observer)
5. Measure and improve stakeholder satisfaction and purpose engagement	Customer satisfaction and net promoter score (NPS); employee NPS, retention, satisfaction and engagement; supplier satisfaction

¹⁶ New suppliers are asked to disclose their ethics, human rights, and environmental policies.

¹⁷ Sugar Sheet from socialprint.com

¹⁸ Social Purpose Institute, Purpose in Business Week (Original URL:socialpurpose.ca/social-purpose-resources/events-social-purpose-institute/purpose-in-business-week; site inactive 2025-09-03)



Near-term goals and metrics

We have set ambitious goals to guide our progress and measure our impact:

Goal	Metric
Derive 50% of revenue from purpose-aligned revenue streams ¹⁹ by 2026	% of revenues from energy transition and circular economy processes
Reduce GHG emissions by 40% by 2030 and reach net-zero by 2040	% reduction in scopes 1, 2, and 3 emissions
Model 4BL practices and activate SMEs	Speaking engagements, publications, print media mentions
Measure and improve stakeholder satisfaction and purpose engagement	Customer satisfaction and NPS; employee NPS, retention, satisfaction and engagement; supplier satisfaction

Purpose goals can be proposed by anyone at Armour Valve. Initial goals were developed by Liz McBeth using best practice guidance, discussed with the Management Team, and launched at the department level. Feedback loops ensure shared ownership in bringing our purpose to life.

Purpose as a value driver

As low carbon and circular approaches take root, new segments, processes, and technologies aligned with our purpose, values, and Industry 5.0 will fuel our growth.

- **Markets:** Clean and circular segments requiring high quality solutions
- **Customers:** Facilities implementing carbon and waste reduction and reuse
- **Technology:** Manufacturers introducing clean, innovative technologies needing partners to bring solutions to market

Our purpose strengthens our ability to attract and retain talent, inspires future family ownership, and simplifies decision-making by aligning actions with values. It fosters innovation, encouraging our team to challenge assumptions, explore new ideas, and enhance our offerings to better serve customers and communities. It also delivers bottom line benefits. Between 2023 and 2024, we reduced our energy consumption by 29%, which resulted in a 26% reduction in energy costs.



Our partner Boehmer’s ball valves are hydrogen-ready and in use in energy transition projects across Canada.

Photo courtesy of ATCO

What does our purpose mean to you?
Always considering ways customers can save
on product, time, waste, and cost

¹⁹ Refer to Appendix 2. Definition of purpose-aligned revenue streams.



As industry evolves toward decarbonization and circularity, our purpose positions us for long-term success. It guides investments in sustainable technologies, circular practices, and partnerships that amplify our impact. By embedding purpose into operations, we are modeling good practice and helping shape it. Through collaboration with suppliers, clients, and networks, we contribute to building resilient, equitable, and future-ready industrial systems.

Enabling Culture and Accountability

Core values

At Armour Valve, our culture is rooted in six core values that ensure our people, our customers, and the society we serve can **THRIVE**. The first four values define how we work together; the final two reflect how our work supports those around us. As a family business, providing for the needs of current and future generations is integral to sustaining our ownership model.

- **Teamwork:** Collaborate to solve problems and make industry more sustainable.
- **Health:** Protect the health of our planet and the wellbeing of our people.
- **Respect:** Demonstrate respect for people and the planet through the quality of our products and practices.
- **Integrity:** Uphold the highest ethical standards in all decisions and actions.
- **Vision:** Envision a sustainable future and act decisively today.
- **Excellence:** Deliver the highest levels of satisfaction, wasting no resources, potential or opportunity.

These values link to and reinforce our purpose and foster a culture of accountability, innovation, and shared ownership. When we THRIVE together, we succeed.



Our purpose is proudly displayed in our entryway and our office is a place of welcome for all who work there or visit.



Employee engagement

To authentically integrate purpose into our culture, our HR team conducted one-on-one interviews with every employee. These conversations revealed what our team values most about Armour Valve, their personal aspirations, and the changes they want to see in the world. Notably, employees with over a decade of tenure consistently cited solving customer problems as a key source of purpose and motivation.

Our purpose channels this dedication toward a larger goal: solving sustainability challenges alongside our energy and industrial clients. Our purpose is reinforced through internal and external communications—from social media and email signatures to office décor, business forms, and our website.

Our purpose channels our dedication to customers towards a larger goal: solving sustainability issues alongside our clients and manufacturing partners

Process transformation

We are embedding purpose across all functional areas of our business. The table below outlines actions taken and planned to align operations with purpose goals:

Functional Area	Changes Implemented (2023-2024)	Changes Planned (2025-2030)
HR	Purpose embedded in job descriptions, interviews, employee survey, and performance reviews	Sustainability 101 and net-zero homes training in 2025; EV stipend for employees by 2030
Sales & Marketing	Sustainable promotional items; Trained on Selling with Purpose; Digital product catalog generator	Purpose engagement measured in customer and supplier satisfaction surveys
Operations	LED lighting; Sustainable packaging; Electric forklift and pump truck; Consolidated shipments to reduce emissions	Energy audit in 2025; Explore emissions reduction and clean fleet transitions
Service	Remote training for customer maintenance personnel	Transition service vehicles to hybrid/electric at end-of-life
General Administration	Hybrid work; Sugar Sheet paper; Purpose integrated into business forms and collateral	Purpose added to all meeting agendas in 2025
Senior Management	Purpose strategy and governance model; Signatories to NZC, A Call to Purpose, and Family Business Sustainability Pledge	Introduce purpose KPIs in 2026; Expand reporting to include non-purpose sustainability goals

Governance and accountability

Social purpose at Armour Valve is championed by our CEO & President, Liz McBeth, with support from the Executive team. Together, they approve our purpose, values, and strategy, and ensure alignment with our culture in collaboration with Management and HR.

Our purpose was first approved in 2022 and will become a standing agenda item in executive, management, and department meetings starting in 2025. KPIs and incentives are being developed



for implementation in 2026. Further training in social purpose is planned for all employees to ensure broad ownership and input into planning.

The following teams and individuals are activated to advance purpose integration:

- **Executive team:** Oversees purpose integration, manages risks and opportunities
- **Management team:** Leads activities to achieve purpose goals
- **Sales & Marketing:** Support clients implementing energy transition and circular economy projects
- **Product Task Force:** Evaluates partners and products aligned with our purpose
- **Human Resources:** Integrates purpose into culture and processes
- **Financial & Sustainability Accounting Technician:** Measures progress towards purpose goals
- **Health, Safety & Environment (HSE) committee and Operations:** Drive net-zero initiatives
- **All Employees:** Responsible for stakeholder satisfaction



Risks and opportunities

We have identified material risks and opportunities related to our purpose. Our strategies are designed to mitigate risks and pursue opportunities that strengthen our business and impact.

Risks to our purpose:	Risks from our purpose:
<ul style="list-style-type: none">• Shifts in public sentiment slow investment in energy transition and circularity• Technologies prove too costly or unreliable to implement• Customers undervalue purpose and sustainability in purchasing decisions	<ul style="list-style-type: none">• Misalignment with stakeholder values or misunderstanding of 4BL as anti-profit• Reputation risk if purpose is not lived authentically• Emissions increase as we grow, making our net-zero target more difficult to achieve
Opportunities from our purpose:	
<ul style="list-style-type: none">• Growth in emerging market segments and technologies• Strategic alliances with like-minded businesses• Attraction and retention of purpose-driven talent• Efficiency and cost savings through emissions and waste reduction• Innovation to solve client and societal challenges	



Measuring Purpose Progress

We are in the early stages of implementing purpose across our business and have made meaningful progress on our near-term goals. While mid- and long-term goals are still in development, our net-zero target by 2040 anchors our ambition. In 2025-26 we will prepare our data and process for audit and identify our mid-term purpose goals.

Goal	Metric	2023	2024
Grow with purpose	% revenues derived from energy transition and circular economy processes (50% by end of 2026) ²⁰	25.67%	39% ↑
Reduce emissions to net-zero	% reduction in scopes 1, 2 and 3 GHG emissions (40% by 2030, net zero by 2040) ²¹ compared to baseline year 2022	Compared to baseline Scope 1: -29.06% Scope 2: 0.00% Scope 3: -14.75%	Compared to baseline Scope 1: -59.01% ↓ Scope 2: -13.36% ↓ Scope 3: -9.39% or -81.91% ↓
Model 4BL & activate SMEs	Speaking engagements and print media mentions ²²	Speaking engagements: 8 Print media: 0	Speaking engagements: 3 ✓ Print media: 2 ✓ 1 st report on all 4BL initiatives ✓
Measure and improve stakeholder satisfaction/engagement	Customer Satisfaction >90% (annually)	94%	89.5% ↓
	Employee retention >90% (annual)	96%	96% ✓
	Employee purpose engagement > 70% fully engaged by 2026 (even years), baseline 2023	57% fully engaged 29% somewhat 14% not yet	63% fully engaged ↑ 37% somewhat ↑ 0% not yet ✓
	Net Promoter Scores (NPS) • Customers >8 (annually, baseline 2023) • Employees >8 (even years, baseline 2024) • Suppliers >7 (every 5 years baseline 2025)	Customer: 8	Customer: 8.74 ↑ Employee: 9.1 ✓ Supplier: 2025

Notable observations

- **Scope 2:** The electricity bill for our offices will be difficult to reduce further unless we add off-grid emission-free sources (Solar, Wind). Converting to electric heat pumps and decreasing Scope 1, will increase Scope 2.
- **Scope 3 reduction:** 2022 and 2023 Transport of Goods by road were estimated as full truck shipments. 2024 data was calculated as both full truck load and adjusted to proportion of full truck, using the shipment weight for accuracy. The difference is significant (-9.39% under the 2023 approach and -81.91% using the new approach). We will re-calculate 2022-2023 and adjust comparisons in our *2025 Purpose & Sustainability Report* for consistency in reporting.
- **Speaking engagements and print media mentions:** We have restated these numbers following a thorough review.
- **Satisfaction:** Lower customer satisfaction is partly due to low response. Respondents were happy to recommend Armour Valve (NPS improvement) but one instance of dissatisfaction skewed the final result. Surveys no longer draw enough response and customer/supplier retention metrics will be explored as measures of satisfaction in the next report update.
- **Purpose engagement:** Employees are more engaged with our purpose and we are approaching our near-term target of 70%.

*Everyone at Armour Valve is responsible
for stakeholder satisfaction*

²⁰ Refer to *Appendix 2. Definition of energy transition and circular processes* for details.

²¹ Refer to *Appendix 3. GHG inventory, scenario analysis, and mitigation strategies* for details about our net-zero progress, year-over-year comparison data, and changes to our measurement platform and process.

²² Refer to *Appendix 4. Speaking engagements and print media mentions (2023-2024)*



Appendices

1. Purpose disclosures index

Armour Valve used the below aspects of the Purpose Disclosures Guidance developed by CPEP²³ to inform this update to our 2024 report. While we were able to address more of the disclosures, there are still some aspects that need to be built into our process. These are marked TBD and will be addressed in future reporting years.

Disclosure Element	Disclosure Objective	Reference
A. Purpose Meaning and Development	Organization's stated purpose and what it means in specific terms	Page 2
	How the purpose was developed or updated, including the role of stakeholders	Pages 2-4
	How users can access purpose disclosures	About this report
B. Business Model and Prospects	How the purpose drives the organization's commercial success	Pages 5-7
	How the organization leverages, or is changing its business model to achieve its purpose	Pages 5-6
	How the organization engages its value chain, relationships and stakeholders to achieve its purpose	Pages 4, 6, 9
C. Strategy	How any vision statement of the organization reflects its purpose	Pages 5-6
	How the organization's strategic business goals, objectives and targets provide a pathway to realizing the purpose	Pages 5-8
	Commercial and financial impact of the purpose	Page 7
	How the organization resources the purpose financially	TBD
D. Culture and Human Resources	How the organization aligns its culture with its purpose	Pages 8-9
	How the organization integrates its purpose in human resource management	Pages 8-9
E. Governance and Accountability	How responsibilities for purpose oversight are reflected in board terms or reference, mandates, role descriptions and other related policies	Pages 9-10

²³ purposeeconomy.ca/wp-content/uploads/2024/08/Purpose-Disclosures-Guidance.pdf



	Management's role in the governance processes, controls and procedures used to monitor, manage and oversee purpose integration and achievement	Pages 9-10
	How board recruitment, education and evaluation contribute to oversight of the purpose	TBD
	Management's role in the governance processes, controls and procedures used to monitor, manage and oversee purpose integration and achievement	Pages 9-10
	How purpose integration and achievement are reflected in CEO and executive objectives and incentives	TBD
F. Risks and Opportunities	Significant risks or opportunities to the achievement of purpose or arising from the pursuit of purpose	Page 10
	How the organization identifies and manages significant risks to the purpose (risks that could affect achievement of its purpose)	TBD
	How the organization identifies and manages significant risk from the organization pursuing its purpose	TBD
	How the organization identifies and manages significant opportunities for or from the organization's purpose	TBD
G. Measurement	Organization's purpose measurement framework for evaluating purpose integration (process) and purpose achievement (performance)	Page 11
	Actual results in relation to process and performance targets	Page 11
	Assumptions, methods and standards that support reliability and promote credibility of metrics	TBD
	Methods to enhance the quality and credibility of disclosures	TBD



2. Definition of purpose-aligned revenue streams

Our purpose is to **transform industry for a healthy, thriving planet**. We view the energy transition and pivot to a more circular economy as an ongoing process—marked by innovation, adaptation, and multiple transitions on the path to net-zero.

We have committed to the near-term goal of achieving 50% of revenues derived from purpose-aligned revenue streams by 2026.

Industry will undergo multiple transitions on the path to net-zero

The tables below outline the revenue streams included in our purpose revenue calculations for 2023 and 2024. Our definition will continue to evolve as lower-carbon energy and industrial technologies emerge.

2023 Revenue Streams	Segments
District Energy	Campuses and communities implementing or expanding district energy systems (DES)
Natural Gas	Hydrogen and renewable natural gas blending; emissions prevention
Pulp & Paper	Recycled paper processes
Spare Parts	All segments (supporting longevity, repairability and circularity)
2024 Revenue Streams	Segments
Clean Energy	Alternative fuels (biomass, biofuel, biogas/RNG, ethanol); carbon capture; advanced energy storage; district energy systems; hydro, hydrogen, geothermal, nuclear, solar, and wind power
Circular Processes	Recycled paper and recycled plastic
Emissions prevention	VRG emissions-reducing technologies
Energy savings	FCI energy saving valves
Natural Gas	Hydrogen and RNG blending
Spare Parts	All segments (supporting longevity, repairability and circularity)

While additional segments were included in the 2024 measurement, most contributed only a small share of total sales, resulting in a **negligible impact on overall performance**. As our portfolio and industry evolve, we expect these to grow in relevance and contribution.



3. GHG inventory, scenario analysis and mitigation strategies

Armour Valve is excited to participate in Canada's Net-Zero Challenge and play our part in establishing a more resilient, circular, and sustainable energy and industrial landscape. Our first interim goal is to achieve a 40% reduction in each scope by 2030. Our net-zero target is 2040. It starts with taking on the challenge ourselves and authentically transforming our business, which led us to include scope 3 emissions in our inventory, despite SMEs being exempt. It is also why we do not intend to use carbon offsets until all other options are exhausted.

GHG Inventory

The first table below compares our year-over-year emissions from baseline year 2022-2024 in TCO₂e. The second table provides a detailed breakdown of scopes 1, 2 and 3 by category.

GHG Emissions by Scope

GHG Emissions Summary ²⁴	2022 (TCO ₂ e)	2023 (TCO ₂ e)	YoY % Difference	2024 (TCO ₂ e)	YoY % Difference
Scope 1	69.83	49.54	-29.06%	28.62	-42.23%
Scope 2	2.32	2.32	0.00%	2.01	-13.36%
Scope 3	624.45	532.33	-14.75%	565.81/112.99	6.29%/-78.77% ²⁵
Total	696.60	584.19	-16.14%	143.62	-75.42
GHG Emissions Detail (TCO ₂ e)	2022	2023	YoY (%)	2024	YoY % Difference
Scope 1	69.83	49.54	-29.06	28.62	-42.23%
Equipment	1.40	2.16	54.29	1.96	-9.26%
Heat Generation	68.43	47.38	-30.76	26.66	-43.73%
Scope 2	2.32	2.32	0.00	2.01	-13.36%
Electricity (purchased)	2.32	2.32	0.00	2.01	-13.36%
Scope 3	624.46	532.33	-14.75	112.99	-78.77%
Electricity (unmetered)	5.83	2.92	-49.91	3.36	15.07%
Heat (unmetered)	17.79	4.69	-73.64	3.24	-30.92%
Accommodations	1.57	1.66	5.73	1.82	9.64%
Garbage	1.72	1.87	8.72	1.57	-16.04
Paper	0.51	0.00	-100.00	0.00	0.00%
Transporting Goods (Air)	76.08	89.70	17.90	51.03	-43.11%
Transporting Goods (Road)	476.14	399.78	-16.04	464.06/11.24	16.08%/-97.19%
Transporting Goods (Water)	2.13	6.95	226.29	1.29	-81.44%
Transporting People (Air)	15.87	10.54	-33.59	20.38	93.36%
Transporting People (Road)	4.68	6.43	37.39	9.17	42.61%
Staff Commuting	22.14	7.79	-64.81	9.89	26.96%
Total	696.61	584.19	-16.14	143.62/596.44	-75.42%/2.10%

²⁴ 2022-2023 data measured using BMO Radicle Climate Smart and 2024 data using CarbonHound. Both platforms comply with the GHG Protocol.

²⁵ Road transport of goods calculated by weight (2024) rather than full truck estimate (2022-23); both results shown.



Notable changes and observations

With the completion of our head office move in 2023, 2024 marks our first full year in the new location. This is reflected in our Scope 1 emissions reduction as we did not have to include emissions from 2 sites, one of which had no insulation for heating. We expect it will be more difficult to reduce Scope 1 going forward without additional HVAC improvements, for example switching from boilers to electric heat pumps.

Raw Scope 3 numbers are highly dependent on the level of business activity; analyzing these figures as rate of emissions by level of activity (usually Revenue or Expenses) should help identify areas of impact to target. The largest apparent change rests in Scope 3, where we made a change to the calculation of Transportation of Goods by road. In the first two years of GHG accounting, we were estimating based on whole truck loads, where that was rarely the case in our shipments. For 2024, we were able to calculate the estimates based on shipment weight, which drastically reduced the emissions estimate. We are including both adjusted and full truck figures for comparison. We plan to recalculate 2022 and 2023 emissions estimates to the adjusted estimate for this category when we are firmly established in our new GHG accounting software. We continue to seek Canadian freight carriers with electric- or hydrogen-powered fleets as primary options.

Other Scope 3 increases in transporting people (by road and air) are the result of an expansion of the sales team, as well as some concerted travel efforts to tradeshow and suppliers. Staff have also made more frequent trips to the office as we have settled into the new space.

For 2025, we are expecting some natural increases as our Calgary office re-opened at a new location and we were able bring all Armour Valve members into Toronto for our Sales Conference.

Net-zero scenario analysis

We chose the International Energy Association's **Net Zero Emissions by 2050 Scenario**²⁶ for this analysis because energy touches every sector and because this

scenario prioritizes orderly transition, safeguarding energy security, and the need for fair and equitable global cooperation. This scenario aligns with the transformation we want to achieve through our social purpose that will take place in stages, over time. For us to thrive as a business Canada needs a competitive economy that attracts investment and talent seeking prosperity and a high quality of life. The scenario timeframe aligns with Canada's Net-Zero Challenge goal to encourage businesses to transition their operations to net-zero emissions by 2050.

We believe that most of the technology required to get Canadian industry to net-zero by 2050 already exists or is in development and that remaining challenges are primarily economic and socio-political. We further believe that emissions reporting will be mandatory, even for SMEs like Armour Valve, long before 2050. Therefore, we have set a net-zero target of 2040 and a first interim

Canada's economy must remain strong to compete for investment and talent as we pursue net-zero by 2050

²⁶ [iea.org/reports/global-energy-and-climate-model/net-zero-emissions-by-2050-scenario-nze](https://www.iea.org/reports/global-energy-and-climate-model/net-zero-emissions-by-2050-scenario-nze)



target of 40% reduction of each scope by 2030. Furthermore, we have included our most significant scope 3 emissions that we are able to measure and control.

We believe that significant opportunities exist in the decarbonization of industry for Armour Valve both as a supplier of products needed for energy transition, decarbonization and circular economy processes and as a responsible link in our customers' supply chains.

The governance and accountability approach described on pages 9-10 of this report applies to managing our progress towards net-zero, which is a key success factor for achieving our purpose.

Risk mitigation strategies

We have identified the following transition and physical risks related to **achieving our first net-zero interim target of 40% reduction in GHG emissions by 2030**. The Executive team is responsible for monitoring risk and developing mitigation strategies.

Transition risks	Mitigation strategies	Severity
Scopes 1 and 2: Our office and warehouse spaces are leased and we require approval to make upgrades	We have received approval to complete an energy audit of our heating system and aim to switch to either electric heat pumps or more efficient natural gas equipment over time. We will also introduce smart thermostats, pending approval by the building owner. If low emission upgrades are not approved, we can move to LEED certified premises before 2030, more of which are coming to market for lease and for purchase.	Low
Scope 3: Armour Valve grows and our scope 3 emissions grow and become harder to manage and mitigate	In addition to monitoring the transportation sector for clean fuel shipping options, in an expansion scenario, we will actively look for LEED certified buildings to lease or purchase. We will train our staff on net-zero homes and encourage them to consider ZEVs by offering a stipend.	Medium
Scope 3: Transportation sector does not offer viable alternatives to fossil-fuel shipping by 2030	Unable to reduce our scope 3 emissions related to upstream and downstream transportation and distribution of goods by 40%, we would either need to explore offsets or restate baseline emissions and focus on scopes 1 and 2 emissions. We are exempt from reporting on scope 3 as a SME. In the meantime, our Operations department is reducing delivery pickup days and looking for software to help consolidate outbound shipping for efficiency.	High
Regulatory uncertainty or delay in carbon pricing or incentives	Monitor federal and provincial policy developments; engage with industry associations to stay informed and advocate for SME-friendly programs	Medium
Supplier resistance or lack of readiness to decarbonize	Engage suppliers in purpose and sustainability conversations; prioritize partnerships with suppliers committed to emissions reduction	Medium
Limited internal capacity to track and report emissions accurately	Invest in training and tools for sustainability accounting; use third-party support for emissions tracking and verification	Low



Physical risks	Mitigation strategies	Severity
Wildfires and coastal flooding are a risk to our customers and the communities they serve and impede our business activities when they impact transportation of goods or result in evacuations and plant closures	Our operations team has expertise and relationships with logistics companies that have helped us through these challenges in the past and our customers are developing their own climate risk mitigation plans.	High
Extreme heat and cold will increase demand for heating, cooling, and electricity that could strain the grid. Lack of reliable power would prevent us from providing a comfortable work environment for employees and high service level to customers	We are at risk if power in our head office goes down and few of our staff have backup power generation in their homes. We have yet to experience a significant outage in our new location. If these become frequent and more severe, we will explore mitigation strategies. Widespread decarbonization of energy and industry will help to reduce the occurrence of extreme weather events that negatively impact our customers and suppliers.	High
Supply chain disruptions due to climate-related events (e.g., droughts, storms, wildfires)	Strengthen logistics partnerships and improve inventory planning	High
Increased insurance costs or coverage limitations due to climate risk	Review insurance policies regularly; explore coverage options that account for climate-related disruptions	Medium
Employee health impacts from extreme weather (e.g., heat stress, poor air quality)	Improve indoor air quality and temperature control; offer flexible work arrangements during extreme conditions	Medium
Water scarcity affecting operations or suppliers	Monitor water use and efficiency; engage suppliers on water stewardship practices	Low



4. Speaking engagements and print mentions (2023-2024)

Speaking engagements

1. **2024: EMC Green Manufacturing Network** – Co-presenter, Going Green - without the Green-washing
2. **2024: FEC Symposium** – Panelist, Impact Leadership Transitions
3. **2024: Social Purpose Institute** – Panelist, Coffee on Purpose: A conversation on adopting and implementing social purpose with family-owned businesses
4. **2023: Social Purpose Institute** – Panelist, Webcast on Social Purpose
5. **2023: The Globe and Mail** – Panelist, [The Purpose Economy: Reshaping the metrics of business success](#)
6. **2023: Social Purpose Institute** – Panelist, Levering Social Purpose Procurement and Trade Associations to Bring Your Social Purpose to Life Workshop
7. **2023: Families Summit of Minds 2023** – Panelist, Social Impact: Profound Change or Elaborate Charade?
8. **2023: FEC Community Call** – Panelist, Embedding Social Sustainability Goals into Your Business
9. **2023: Social Purpose Institute** – Panelist, How Social Purpose Leaders Can Bring a Company's Purpose to Life
10. **2023: Celebrating Family Enterprise Toronto** – Panelist discussion featuring Liz McBeth sharing personal journeys as women in a family business.
11. **2023: Celebrating Family Enterprise Toronto** – Panelist discussion featuring Liz McBeth discussing the importance of sustainability in family business

Print mentions

- **2024: Canada's National Observer** - [Family business commits to climate solutions | Canada's National Observer: Climate News](#)
- **2024: The Globe and Mail** - [More women are taking over family businesses, but can face added scrutiny in the role](#)



5. Sustainability: People, Planet, and Prosperity

Since 2023, Armour Valve has been on a transformative journey to embed our social purpose and sustainability in every facet of our operations. As part of this evolution, we have adopted a quadruple bottom line (4BL) business model—measuring performance across **purpose, people, planet, and prosperity**.

Our inaugural 2024 Social Purpose Report focused on our purpose goals and performance. This new appendix to V.2 of the report introduces sustainability initiatives that are not directly related to our social purpose. These initiatives reflect our commitment to advancing environmental, social, and economic outcomes that extend beyond our core purpose.

We define sustainability through the lens of the United Nations:

“Meeting the needs of the present without compromising the ability of future generations to meet their own needs.”²⁷

We apply a **zero-waste sustainability framework** to guide sustainability decision-making—ensuring we waste no human potential, company or planetary resources, or opportunity to contribute to shared prosperity. In a small business like ours, there is no room for waste.

What follows is a summary of sustainability initiatives we have implemented or plan to implement. While we are still in the early stages of embedding sustainability into our business, our focus is on internal improvements and direct impacts. Our long-term goal is to achieve measurable financial, social, and environmental returns that demonstrate the value of sustainable business practices—for our company and our stakeholders.

Between 2023 and 2024, we reduced our energy consumption by 29%, which resulted in a 26% reduction in energy costs. This is an illustration of how the 4BL model works, with all 4 aspects interconnected. We are not yet in a position to offer additional proof points and performance metrics. Rather, we highlight initiatives that we have implemented and those we are planning to implement between 2025 and 2030.



People: Waste no potential

Our commitment: We are passionate about fostering an inclusive workplace that values diversity and celebrates the unique experiences and talents of each individual. We strive to provide a healthy, safe, and balanced environment where every team member can thrive, build skills and expertise, connect meaningfully with others, and deliver their best performance.

²⁷ un.org/en/academic-impact/sustainability



Near-term internal goal: Provide decent, well-paid work opportunities and a positive work environment where employees can thrive personally and professionally.

SDG	Theme	Implemented (pre-2025)	Planned (2025-2030)
1: No poverty 2: Zero hunger	Equity and well-being	<ul style="list-style-type: none"> Pay equity initiative to reduce disparity between long-tenured employees and those hired during wage inflation 	<ul style="list-style-type: none"> Continue implementing equitable pay structures Grow healthy fruits, vegetables and herbs in our head office
3: Good health and well-being	Physical and mental health	<ul style="list-style-type: none"> Adopted Health as a core value Celebrated birthdays and life milestones Created Community Manager role (currently vacant) Developed a process for supporting employees new to Canada Expanded benefits offered to employees Hosted regular social and team-building events Hosted retirement planning seminar Installed fitness centre, ping pong table, and puzzling table Invited dog owners to bring their pups to work; helped socialize dogs fostered by employees Provided support during health challenges and bereavement Zero health and safety incidents 	<ul style="list-style-type: none"> Host mental well-being seminars Launch company-wide fitness challenges; local run/walk group Track care days used for self-care, caregiving, and volunteer time off (VTO)
4: Quality education	Learning and development	<ul style="list-style-type: none"> Accessible professional and personal development Career pathing and transitions Coaching opportunities Formal, funded training program Internships 	<ul style="list-style-type: none"> AI readiness training for all staff Internships for local underserved youth Opt-in financial literacy workshops
10: Reduced inequalities	Inclusion and access	<ul style="list-style-type: none"> Embedded DEIB into our HR practices Ensured no gender wage gap Hired newcomers and supported career launches in Canada 	<ul style="list-style-type: none"> Continue improving our DEIB practices

Planet: Waste no resources

Our commitment: Armour Valve supplies products and services that reduce waste and emissions, and as a signatory to **Canada's Net-Zero Challenge**, we are committed to becoming a **net-zero business by 2040**. As an **ISO 9001** registered company, we continuously improve and streamline our processes to minimize resource use and optimize time and cost investment, all in service of better outcomes for our customers, employees, and the planet.

Near-term internal goal: Reduce waste and emissions across our operations and, where possible, throughout our value chain.



SDG	Theme	Implemented (pre-2025)	Planned (2025-2030)
6: Clean water and sanitation	Water conservation	<ul style="list-style-type: none"> Filtered water available 	<ul style="list-style-type: none"> Install advanced water filtration unit
7: Affordable and clean energy	Energy transition	<i>All initiatives tied to our purpose</i>	<i>All initiatives tied to our purpose</i>
11: Sustainable cities and communities	Waste reduction	<ul style="list-style-type: none"> General waste reduction practice 	<ul style="list-style-type: none"> Expand green bin and recycling options
12: Responsible consumption and production	Resource efficiency	<ul style="list-style-type: none"> Paperless operations where possible Remote inspection and drop shipping to reduce emissions and physical strain Remote training and client interaction Reuse cardboard boxes Reuse paper waste in packaging Sustainable promotional gear 	<ul style="list-style-type: none"> Expand product lines with environmental benefits Implement lean processes Increase resource-use efficiency Review procurement practices
14: Life below water	Marine protection	<i>No specific initiatives implemented</i>	<i>Considering future initiatives such as reducing microplastic waste or supporting waterway cleanups</i>
15: Life on land	Biodiversity and land stewardship	<i>No specific initiatives implemented</i>	<i>Considering initiatives like native plant landscaping, pollinator support, or tree planting partnerships</i>

Prosperity: Waste no opportunity

Our commitment: As signatories to the **Family Business Sustainability Pledge**, Armour Valve is committed to building a sustainable future for our business across generations. Prosperity flows from our dedication to purpose, our passion for solving customer challenges, and our investment in enduring stakeholder relationships.

In today's business landscape, it is imperative to demonstrate that sustainability is not just a value—but a strategic driver of long-term success. We believe that responsible ownership, governance, and innovation are key to unlocking prosperity for our company, our partners, and our communities.

Near-term internal goal: Learn and model responsible business, ownership, and governance practices that enable us to manage risk and pursue opportunities for prosperity—while sharing the good practices we learn and implement with others.

SDG	Theme	Implemented (pre-2025)	Planned (2025-2030)
8: Decent work and economic growth	Growth & opportunity	<ul style="list-style-type: none"> Initiated pay equity to address gender- and tenure-based disparities 	<ul style="list-style-type: none"> Create 5 new jobs by 2027 Relaunch co-op/internship program



SDG	Theme	Implemented (pre-2025)	Planned (2025-2030)
16: Peace, justice and strong institutions	Governance & accountability	<ul style="list-style-type: none"> Sustainability topic included in department and management meetings 	<ul style="list-style-type: none"> Form advisory board Introduce purpose and sustainability KPIs for Executive and Management teams Succession planning workshop for managers
17: Partnership for the goals	Collaboration & influence	<ul style="list-style-type: none"> Leveraged partner network to collaborate across industrial and family/small business “sectors” 	<ul style="list-style-type: none"> Continue to leverage partner network Engage partners committed to net-zero Host Green Manufacturing seminar for our employees and partners