



2023 SUSTAINABILITY REPORT

Contents

2023 PERFORMANCE HIGHLIGHTS..... 3

OVERVIEW

1	Message from the CEO	5
2	About TPI.....	7
3	Material Topics and Sustainability Goals	12

PERFORMANCE

4	Governance and Ethics	14
5	Health and Safety	17
6	Supply Chain	20
7	Research and Development.....	24
8	Associates	25
9	Communities and Economic Impacts	35
10	Environment	37

APPENDIX

11	GRI Content Index.....	44
12	SASB Disclosure – Wind Technology & Project Developers and Electrical & Electronic Equipment	50
13	Task Force on Climate-Related Financial Disclosures (TCFD).....	52
14	Independent Assurance Statement	54

Vision

To lead the energy transition through advanced technology and innovative solutions.

Mission

To deliver innovative and sustainable solutions to decarbonize and electrify the world by expanding the adoption of renewable energy. We accomplish this by cultivating an inclusive culture that attracts, develops, excites and retains exceptional talent.

Our Core Values

- Safety
- Operational Excellence
- Commitment
- Integrity
- Leadership

Decarbonize & Electrify

This report provides information regarding the sustainability efforts of TPI Composites, Inc. (TPI or the Company) (NASDAQ: TPIC) for the 2023 calendar year. We aligned our material topics to the GRI Universal Standards 2021 and this report has been prepared in accordance with such GRI Standards. The GRI index is in **section 11** of this report. This report also addresses the Sustainability Accounting Standards Board (SASB) standards of Wind Technology & Project Developers and Electrical & Electronic Equipment, which we find relevant to our industry, and the accompanying SASB Disclosures are in **section 12** of this report. Additionally, we have prepared Task Force on Climate-Related Financial Disclosures (TCFD) that can be found in **section 13** of this report. All historical data presented includes discontinued operations. For a description of our discontinued operations, see our 2023 annual report [Form 10-K](#).

DNV, an independent, third-party assurance provider, conducted a limited level assurance on selected performance indicators within this report, including select SASB Standards and GRI indicators. Assurance details can be found in the Independent Assurance Statement in **section 14**. All data denoted with a  has been externally assured. External assurance has also been provided for our direct economic impacts via our [Form 10-K](#). Sustainability reporting is expected to occur on an annual basis.

Contact Information

For questions or comments regarding this report, please contact Investor Relations at investors@tpicomposites.com or by phone at +1 (480) 315-8742.

Published: March 28, 2024

2023 Performance Highlights

**11,382**

Rated Megawatts of wind blades produced in 2023

**346 million**

Metric tons of CO2 reduced from the blades we produced in 2023 over their average 20 year life span

**33%**

Global onshore market share, excluding China

**.21**

Total Recordable Injury Rate in 2023

**.10**

Lost Time Injury Rate in 2023

**7,752**

Wind blades produced in 2023

**1.46**

Billion in net sales in 2023

**33%**

Women on our Board of Directors

**33%**

Ethnically diverse persons on our Board of Directors

Overview

1	Message from the CEO	5
2	About TPI.....	7
3	Material Topics and Sustainability Goals	12

1 Message from the CEO

Driving the Renewable Energy Transition

At TPI, our focus remains on bringing quality, innovative, and sustainable solutions to market. The role we play in the energy transition cannot be understated, especially as the world experiences firsthand the impacts of climate change. The energy transition is one of the world's greatest challenges and TPI has emerged as a driving force, resulting from our unwavering dedication to TPI's mission of decarbonizing and electrifying the world.

Governments remain committed to reducing emissions and transitioning to independent, renewable, and clean energy sources through landmark legislation such as the Inflation Reduction Act (IRA) and REPowerEU. We are well positioned to enable the anticipated growth from such policies and have entered into multi-year customer agreements to support the implementation of renewable and reliable energy. In 2023, TPI produced blades rated to provide 11,382 Megawatts which accounts for 33% of all the onshore wind market share, excluding China. We have established a dedicated global team of more than 12,300 associates who are focused on TPI's stakeholder commitments while adhering to our Core Values of Safety, Operational Excellence (Quality), Commitment, Integrity, and Leadership.

Our 2023 Progress

Safety: During 2023, we made great progress to enable a culture of safety and remain best in class. Our safety program consistently outperforms industry standards with our 2023 Total Recordable Incident Rate (TRIR) and Lost Time Incident Rate (LTIR) well below industry rates reported by the U.S. Bureau of Labor Statistics. In 2023, we achieved our goals for TRIR and LTIR, which were set to remain below 0.37 and 0.19 respectively.

Associates: We continue to pursue a culture of engagement through our Global Values in Motion Awards and global engagement surveys. We have fully embraced our IDEA (Inclusion, Diversity, Equity, and Awareness) program and three of our regions were externally recognized with awards for their commitments to diversity and inclusion.

Waste: As a continuation of our waste reduction efforts, we achieved our 5% reduction goal in production waste rate. All our regions have waste reduction projects focused specifically on optimizing production material usage.

Carbon Neutrality: We made great strides to reduce our scope 2 emissions and power our sites with renewable energy. At our locations in Türkiye we invested in two wind turbines and added more solar panels. In India, we signed a power purchase agreement (PPA) to boost the utilization of renewable energy at the site.

Supply Chain: Focusing on our supplier sustainability program remains a top priority and during 2023, of our raw material spend, 96% of critical direct material suppliers committed to TPI's supplier sustainability goals. In addition, we took an additional measure by making our Supplier Code of Conduct a standalone agreement to ensure that suppliers are aware and adhering to our expectations.

Reaffirming our Commitments

Providing the means necessary for the world to embrace renewable energy and reduce reliance on fossil fuels is the foundation of our company and we are dedicated to doing so responsibly. We formally established our sustainability program in 2019, and I remain proud of our associates' continued engagement in this important work. As we prepare for growth in the coming years, we maintain TPI's commitments to our publicly stated sustainability goals of promoting a zero-harm culture and becoming carbon neutral by the end of 2030 with 100% of our energy being procured from renewable sources.

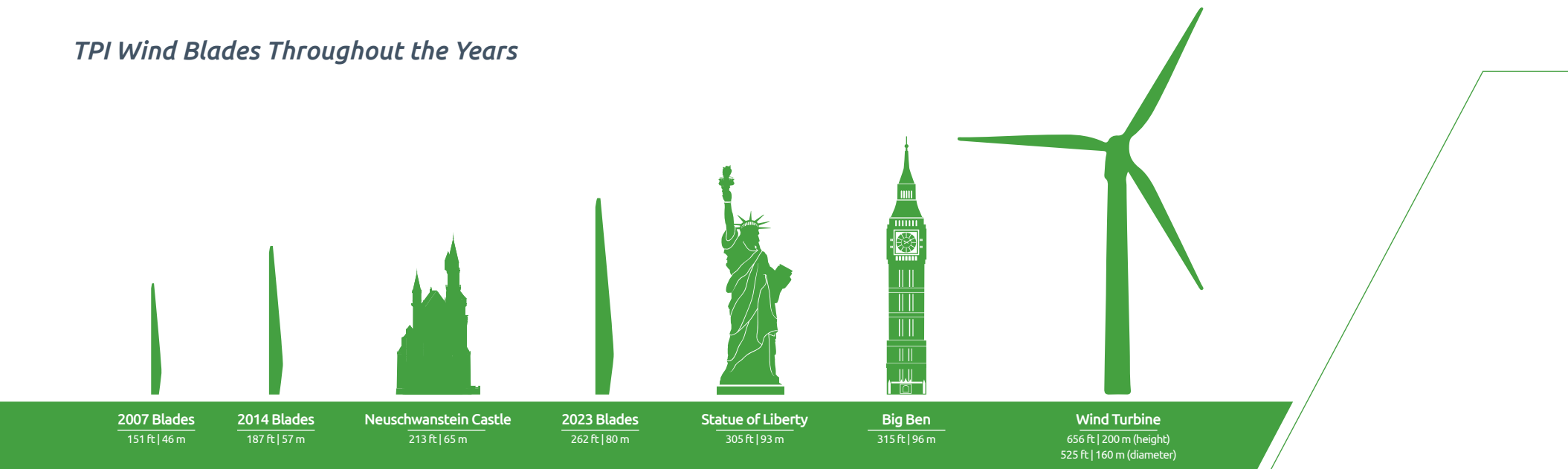
As we move forward on our sustainability journey, we will continue to set the "Sustainability Gold Standard" and drive the renewable energy transition forward for years to come.



William E. Siwek
President and CEO



TPI Wind Blades Throughout the Years

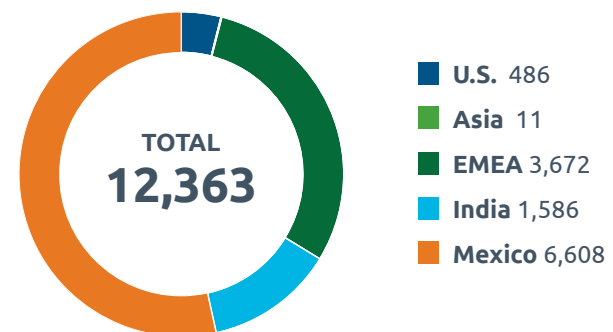


2 About TPI

We are a global company focused on innovative and sustainable solutions to decarbonize and electrify the world. We accounted for approximately 33% of all onshore wind blades on a MW-basis globally, excluding China, in 2023.¹ This year we had \$1.46 billion in net sales including discontinued operations and produced 7,752 wind blades. We are enabling many of the industry's leading wind turbine original equipment manufacturers (OEMs) to outsource the manufacturing of a larger portion of their wind blades, thus expanding their global wind blade capacity. We manufacture advanced composite products to our customers' exact specifications in facilities designed, built, and strategically located either near our customers' target markets or in low-cost, world-class locations, to minimize total delivered cost. We have leveraged our global footprint and thousands of capable associates to build a global team of experienced technicians to provide best-in-class wind blade service capabilities including preventative services, inspections, repairs, and improvements.

We also apply our advanced composite technology and innovation to supply unique, high-strength, lightweight, and durable composite product solutions for automotive markets, including passenger automotive, bus, truck, and delivery vehicle applications.

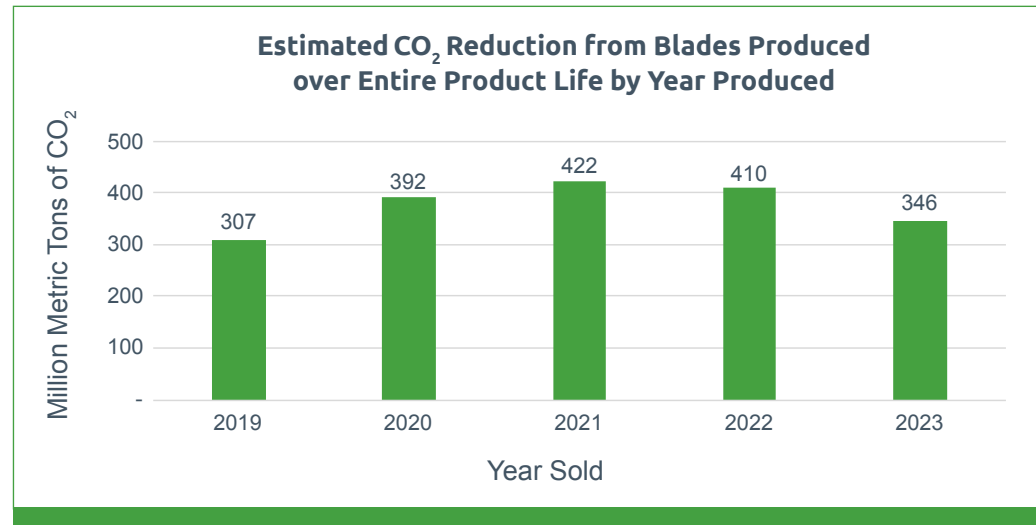
Associates at a Glance



¹ TPI's market share based on TPI MW relative to global total onshore MW, excluding China, from Wood Mackenzie, "Global Wind Power Market Outlook Update Q4 2023." Includes discontinued operations in China.

The wind blades we manufacture support the decarbonization of energy production, provide significant reductions in greenhouse gas (GHG) emissions, and help mitigate climate change.

The wind blades that we produced from 2019 to 2023 have the potential to reduce nearly 1.9 billion metric tons of CO₂ over their average 20-year life span.² This is equivalent to the electricity use of more than 370 million homes in the U.S. for one year.³



Sustainable Development Goals

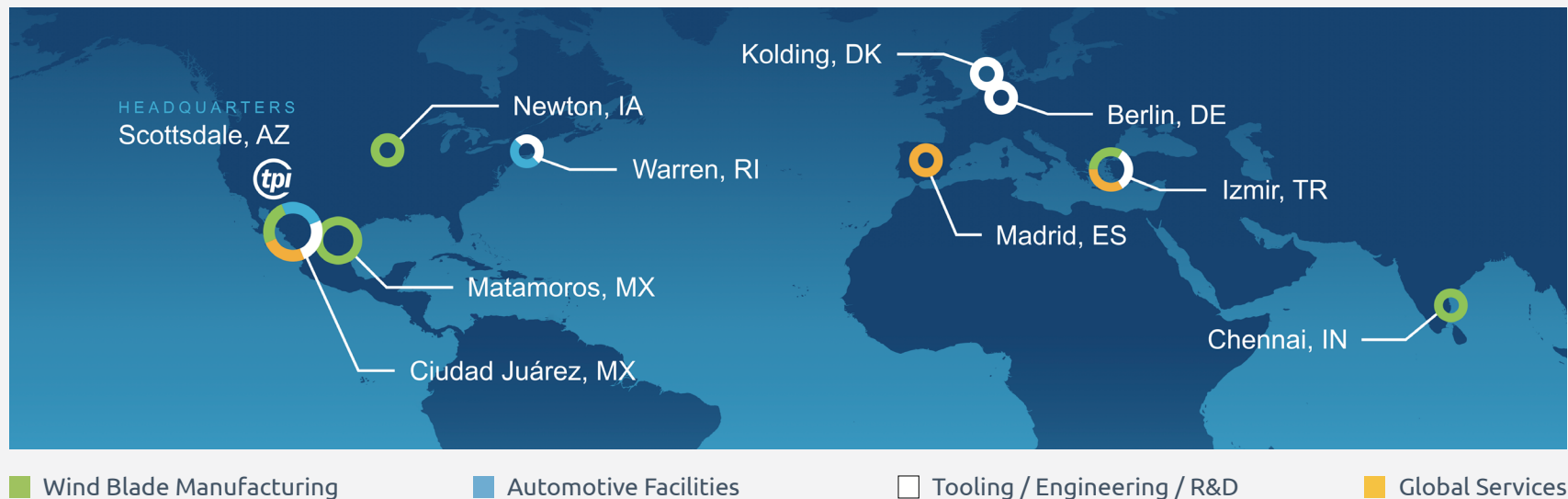
To create a shared pathway for a sustainable world, the United Nations adopted the 17 Sustainable Development Goals (SDGs). The SDGs provide specific targets intended for both governments and businesses to track their progress and address a range of topics such as gender equality, affordable and clean energy, and climate action. Our alignment to the SDGs is highlighted to the right and throughout this report.



² TPI Produced Estimated MWs x 1000 x Total Lifetime Hours x Estimated Turbine Capacity Factor (DOE/IRENA) x IEA emissions factor of 475 g CO₂/kW

³ Environmental Protection Agency (EPA). (2023). [GHG Equivalencies Calculator](#)

Our Locations



2.1 Markets

Wind

Wind energy is expected to make up over 30% of electricity generation in 2050 with close to 8,000 gigawatts (GW) installed compared to approximately 900 GW in 2022.⁴ This over eight times increase in installations is a significant opportunity for the wind industry and TPI. Wind power, among other renewable energy sources, is now considered one of the most cost-effective methods for generating electricity in a majority of countries worldwide.⁵

Governments continue to ramp up action on climate change, driving a surge in renewable energy adoption and emission reduction efforts. The landmark COP28 summit in Dubai saw over 200 countries reaffirm their commitment to the 1.5-degree target of the Paris Agreement, solidifying the global shift away from fossil fuels.

In the U.S., the Inflation Reduction Act (IRA) of 2022 allocated a historic \$391 billion for clean energy and climate initiatives over the next decade. As the IRA is in its final stages of clarification and implementation, its impact is already being felt with tangible investment decisions underway across the industry. The extension of the Production Tax Credit and support for U.S.-based wind energy manufacturing through the Advanced Manufacturing Production Tax Credit are key drivers of this growth. TPI and its customers are proactively preparing for the expected surge in wind installations through the introduction of new turbine models that prioritize standardization and efficiency. This strategic approach aims to meet the projected demand of almost 15 GW per year for onshore wind by 2025.⁶

⁴ International Energy Agency [World Energy Outlook \(2023\)](#)

⁵ International Energy Agency [Renewables \(2023\)](#)

⁶ Wood Mackenzie Global Wind Power Outlook (2023)



The long-term commitment included in the IRA provides crucial policy certainty for the U.S. market, paving the way for sustained growth in wind energy throughout the coming decade and beyond. This unwavering focus on renewables is not only essential for mitigating climate change but also presents exciting opportunities for economic development and job creation in the clean energy sector. Building on the momentum of REPowerEU, wind energy continues its ascent as a cornerstone of Europe's energy independence and climate ambitions. The 2023 European Wind Power Package aims to accelerate permitting and build a robust domestic manufacturing supply chain, paving the way for exceeding the revised target of 425 GW installed capacity by 2030, doubling today's figure.⁷ Notably, 2021 also saw India pledging to reach 500 GW of renewable energy capacity by 2030 and carbon neutrality by 2070, demonstrating the global urgency and increasing feasibility of a renewable energy future. These developments showcase wind energy's crucial role in driving not only climate action but also energy security, economic growth, and resilient communities.

This year, the industry dealt with quality challenges in a number of areas, caused by the recent rapid pace of new product introductions among other drivers. TPI has reiterated its commitment to quality, working with our customers to improve processes, designs, and product standardization. This will serve as a strong foundation for the expected growth this decade. TPI continues to adapt to the evolving market and we align to our customers' long-term strategies, support new product introductions, develop and operate the most competitive manufacturing footprint for the markets we serve, and provide commercial solutions to deliver the most competitive total delivered cost. Our business model is focused on ensuring TPI remains the preferred supplier to our customers as the demand for wind energy grows.



⁷ WindEurope [Wind Energy In Europe \(2024\)](#)

Automotive

At TPI, we remain committed to driving the automotive industry's rapid transition to electrification through our market-leading composite solutions. Climate change continues to necessitate EV adoption, with projections exceeding 75% of global vehicle sales being electric by 2040.⁸ Advances like infrastructure expansion, falling battery costs, and policies are accelerating this shift. Specifically, the IRA includes provisions such as the Commercial Clean Vehicle Credit, Alternative Fuel Refueling Property Credit, and the Clean Heavy-Duty Vehicle Program.

TPI empowers our diverse customer base of established OEMs and new entrants across passenger vehicles, commercial vehicles, and transit buses with lightweight, high-performance composite structures and components.

These solutions not only improve vehicle efficiency through weight reduction and enhanced corrosion resistance and thermal management, but also boast faster production lead times than their metallic alternatives.

We're unwavering in our pursuit of sustainable manufacturing practices within our automotive business unit. Continuous investments in engineering and capital equipment enable us to minimize waste and energy consumption while expanding the applications of our composite solutions for an even wider range of automotive needs. Through innovation and collaboration, TPI supports a greener, more sustainable future for the automotive industry.



⁸ BloombergNEF (2023)

3 Material Topics and Sustainability Goals

We engage with our stakeholders that most impact, or are most impacted by, our business operations. This includes our Board of Directors (Board), associates, customers, suppliers, investors, debt holders, asset managers, sustainability raters, industry associations, and regulators.

Engagement is necessary for TPI to maintain strong business relationships and ensure that all perspectives are taken into consideration when making decisions. We engage each stakeholder group in a variety of methods including engagement surveys, contractual requirements, focus groups and town halls, customer surveys, earnings calls, and rating organization responses. We also embed stakeholder engagement in our regular operational rhythm by posting information on our website, publishing quarterly and annual financial reports, and conducting targeted stakeholder outreach to receive feedback and help us identify our material topics.

2023 Material Topics

Environmental	Social	Governance
- Emissions ↑ - Materials and Waste - Environmental Compliance - End of Product Recycling - Energy Management	- Occupational Health and Safety ↑ - Diversity, Equity, and Inclusion ↑ - Labor Management ↑ - Training and Education - Local Communities - Human Rights and Supplier Due Diligence	- Governance and Ethics and Anti-Corruption ↑ - Economic Performance ↑ - Enterprise Risk Management - Procurement Practices/ Materials Sourcing - Indirect Economic Impacts

All Board approved topics identified in this table are materially important to internal and/or external stakeholders and are prioritized accordingly. Topics labeled with a wind turbine are Tier 1 topics and receive external assurance.

We review our material topics annually and incorporate the following activities:

- **Identifying relevant topics:** Desk research is conducted to account for our third-party stakeholders including sustainability rating organizations, industry associations, and regulators to ensure we were capturing their priorities and material topics most important to the wind and automotive industries.
- **Stakeholder engagement:** Throughout the year, we meet frequently with our key stakeholders in face-to-face meetings. Additionally, we survey our customers, investors, lenders, associates, Board, and senior leadership team, to reassess TPI's sustainability impacts by analyzing quantitative survey results and qualitative comments.
- **Prioritization of material topics:** Identified topics are prioritized as either Tier 1 or Tier 2 topics.

Sustainability Goals

We have the following long-term Sustainability goals:

- Promote a zero-harm culture focused on eliminating unsafe behaviors.
- Become carbon neutral by 2030 with 100% of our energy being procured from renewable sources.

TPI remains dedicated to fostering a culture of inclusion through our IDEA initiatives. These proactive steps are making a measurable impact, both in terms of fostering belonging for all associates and expanding representation of under-represented groups. We're confident that these ongoing efforts will continue to shape a company where everyone feels empowered to succeed and thrive.

Performance

4	Governance and Ethics	14
5	Health and Safety	17
6	Supply Chain	20
7	Research and Development	24
8	Associates	25
9	Communities and Economic Impacts	35
10	Environment	37

4 Governance and Ethics

Integrity is one of our Core Values and it guides our associates while conducting the Company's business and performing our daily activities. TPI operates in multiple regions around the world with different cultural and business norms, yet we follow the highest ethical standards.⁹

Code of Conduct and Anti-Corruption

Our [Code of Business Conduct & Ethics \(Code\)](#) sets the tone regarding ethical behavior and responsible business conduct. The Code covers conflicts of interest, confidentiality, preventing workplace harassment, human rights, and anti-corruption, among other important topics. TPI's Board, in conjunction with its Audit Committee, is responsible for administering the Code, and has delegated day-to-day responsibility for applying and interpreting the Code to TPI's Office of the General Counsel. The Code and our separate [Foreign Corrupt Practices Act Policy \(FCPA Policy\)](#) informs associates about the Company's anti-corruption practices and expressly prohibits direct and indirect payments that violate applicable anti-corruption laws. In 2023, TPI trained its workforce on these critical policies to ensure awareness and to reinforce compliance with our company expectations. Completion of the mandatory compliance trainings are also linked to leadership performance plans. Finally, TPI has also implemented internal compliance mechanisms and processes to ensure alignment with both the UN Global Compact Principles and the Organisation for Economic Co-operation and Development (OECD) guidelines for Multinational Businesses.

Compliance Training

Compliance is an important part of TPI's commitment to a strong ethical culture. To achieve this commitment, TPI associates receive annual training on subjects that include the Code of Conduct, Diversity & Inclusion, Workplace Harassment, Insider Trading, and Cybersecurity while new associates receive training on these commitments during onboarding.



TPI's Legal and Compliance teams regularly review and refresh our compliance training needs and requirements to reduce risks associated with TPI's global operations.

In 2023, we updated our Conflict Minerals, Anti-Bribery/Anti-Corruption, FCPA, and Human Rights policies, as well as our Supplier Code of Conduct, to ensure we are in compliance with all applicable regulations and requirements for TPI and our stakeholders.

Ethics Reporting

TPI strives to create a working environment with the highest ethical standards for our associates. Our Ethics Reporting, Open Door, and Non-Retaliation Policy (Ethics Reporting Policy), outlines numerous avenues to report any policy, legal, compliance, or ethical violations to TPI, including a QR Code and mobile device reporting tool. The Ethics Reporting Policy also encourages contact with the Office of the General Counsel, Board of Directors, or Audit Committee if there is an allegation regarding criminal conduct, violations of local laws, bribery or corruption, or financial statement irregularities. In addition, it describes TPI's open-door policy and our commitment to non-retaliation against associates that report concerns.

⁹ Committee of Sponsoring Organizations (COSO): Internal Control – Integrated Framework (2013), <https://www.coso.org/internal-control>

Associates are encouraged to report all concerns either directly or anonymously, through multiple reporting tools including the Ethics Hotline, which is operated by an independent third-party provider. Associates receive ongoing training and communication about how to report concerns, each TPI location displays posters in the local language on ethics reporting, and the Company's intranet prominently displays reporting tools for associates. Any reports submitted to the Ethics Hotline are only accessible by the Office of the General Counsel and Audit Committee Chairperson to protect the reporter's identity. All reports regarding a procedural, ethical, or policy concern are taken seriously and investigated promptly by the human resources department, the internal audit department, the internal legal department, or an external law firm, depending on the nature of the concern. To ensure ethics reporting remains effective, we identify trends in reports received and then implement appropriate action plans such as associate trainings.

TPI takes all allegations of misconduct seriously and investigates claims pursuant to the guidance provided in our Investigation Policy. The Investigation Policy seeks to ensure that all investigations are done in a consistent and impartial manner while in compliance with TPI policies and laws in the countries in which we conduct business.

Human Rights

Respect for human rights is embedded throughout the culture at TPI. Human rights protections are included within the Code, our [Supplier Code of Conduct](#), and our [Human Rights Policy](#). Our Human Rights Policy highlights TPI's explicit respect for internationally recognized human rights as established in the International Bill of Human Rights, the International Labor Organization's Declaration on Fundamental Principles and Rights at Work, the United Nations Global Compact, the United Nations Guiding Principles on Business and Human Rights, the OECD Guidelines for Multinational Enterprises, and the International Labour Organization's Core Conventions. This includes TPI's commitment to prohibiting forced and child labor, and to promoting workplace

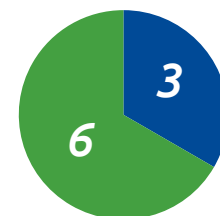
safety, freedom of association and collective bargaining, and IDEA. We also expect our associates, contractors, and suppliers to abide by our Human Rights Policy to ensure respect for human rights in all our business dealings.

Board and Executive Oversight

TPI's Board represents our most senior governance body for the Company. Nine members currently sit on the Board consisting of 33% female and 33% ethnically diverse members. Members of the Board comprise three committees: (1) the Audit Committee, which oversees fraud prevention and compliance; (2) the Compensation Committee, which oversees director and executive compensation; and (3) the Nominating and Governance Committee (NGC) which oversees sustainability, IDEA, and Board composition. Oversight for our strategies and activities related to sustainability initiatives falls under the responsibilities of the NGC, alongside the leadership team. Our Board delegates responsibility for sustainability to our CEO who manages impacts alongside our senior leadership team.

To help align our compensation and sustainability strategies, we have developed sustainability targets, which are included in our executive compensation plans. These sustainability targets include safety enhancement and waste reduction goals.

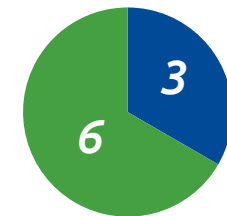
Board Gender Diversity ↑



33% Female

■ Male ■ Female

Board Ethnic Diversity ↑



33% Ethnically Diverse

■ Not Ethnically Diverse ■ Ethnically Diverse

Enterprise Risk Management

TPI uses an Enterprise Risk Management (ERM) framework to help identify and evaluate risks, including sustainability-related risks such as those identified in TPI's Task Force on Climate Related Financial Disclosures (TCFD) located on pages 52-53. Identified risks may threaten the achievement of our strategic business objectives.

Many of these risks are quantifiable and controllable, but others are external and difficult to predict (e.g., geopolitical uncertainty, global market conditions). Many of our strategic business objectives are centered around traditional business goals such as revenue and profitability but given the nature of our Company in the renewable energy sector, it is imperative we continue to lead and set the "Sustainability Gold Standard."

We prioritize our top enterprise risks and develop comprehensive action plans to mitigate potential impacts to our organization. The status of our action plans is monitored regularly by our senior leadership team and is reviewed, at least annually, by our Board.

External Certifications

We have implemented management systems at our eleven manufacturing facilities according to the international standards for quality, environment, and health and safety, ISO 9001, ISO 14001, and ISO 45001, respectively. We perform internal audits and have annual third-party surveillance audits performed to maintain our certifications as well as ensure regulatory compliance.

	ISO 9001 (Quality)	ISO 14001 (Environment)	ISO 45001 (Health and Safety)
 Certified Manufacturing Facilities	9	9	8

Furthermore, both of our facilities in Türkiye have obtained ISO 50001 (Energy Management), ISO 14046 (Water Footprint), ISO 14064 (Greenhouse Gases), and ISO 27001 (Information Security) certifications. Our automotive facilities in Rhode Island and Juarez, along with our corporate headquarters, have

achieved certification for IATF 16949 (Quality). Rhode Island also obtained ISO/IEC 17025 (Testing Calibration) certification. Additionally, our Field Service Spain entity received ISO 9001, ISO 14001, and ISO 45001 certifications for the first time this year. Our certifications can be found on our website.¹⁰

Moreover, we require our top global raw material suppliers to maintain a Quality Management System (QMS), Quality Assurance (QA), or Product Quality Plan compliant with ISO 9001, in accordance with industry standards and TPI's customers' requirements. To ensure compliance, we audit our largest global raw material suppliers to ensure consistency and standardization throughout the value chain; please see section 6 below for more information.



“ The transition to clean energy requires nothing less than excellence. Recent quality challenges, both internally and across the industry, have highlighted the need for improvements. We are facing these challenges head on and embracing them as an opportunity to redefine standards and lead the way in a new era of quality-driven clean energy. We are committed to continuous improvement, transparency, and collaboration in everything we do. ”

– Neil Jones, Chief Quality Officer

¹⁰ [TPI Composites Inc - EHS & Quality Certificates](#)

5 Health and Safety



TPI's commitment to safety remains our number one Core Value. To enable a culture of safety, our environmental, health, and safety (EHS) programs are managed by a global team of trained professionals with extensive knowledge and experience in all aspects of EHS. These global teams manage the following activities:

- Behavior Based Safety (BBS) program
- EHS Action Teams
- good-catch safety program
- weekly safety walks
- daily safety communications
- safety education
- safety committees and inspections
- risk assessments
- job safety analysis

Along with EHS leadership teams, safety committees have been implemented at all sites. These committees allow associates to participate in the improvement of their facility's safety management through monthly meetings. Committee responsibilities include the review of safety incidents, identification of safety hazards, follow-up on safety improvement action plans and more. Additionally, each of our manufacturing facilities have deployed EHS Action Teams. EHS Action Teams are small cross-functional teams of associates performing proactive EHS activities to drive continuous improvement. These teams work on projects relating to ergonomics, risk assessment, job safety analysis, and EHS inspections.

At TPI, associates have access to non-occupational medical and healthcare services which vary across our facilities. These services include on site clinics, referral to outside medical services, and private health insurance. Voluntary health promotions also vary between facilities but include preventative wellness checks, fitness and wellness benefits, healthy eating programs and more.

EHS Management

We continue to align safety practices across our global facilities and utilize ISO 45001 Certifications to standardize and strengthen our EHS Management Systems. To ensure continued compliance with our ISO 45001 certifications, our sites receive third-party surveillance audits on an annual basis and a full management system audit every three years.

TPI also utilizes a third-party tool to identify and assess EHS legal requirements. The third-party tool monitors new or changes to existing regulations and facilitates audits of our activities to ensure compliance. When gaps are identified, action plans are developed by site EHS teams. Each month, corporate EHS meets with the sites to review the EHS compliance register for accuracy, consistency, and to provide support for any escalated items.

Safety Communication and Education

Safety communication materials are provided to associates and discussed with leadership daily. Topics include recent safety hazards, issues, and training. Furthermore, associates can remove themselves from any situation they view to be hazardous to their health without fear of retaliation. Corrective action to perceived hazards are implemented as appropriate by TPI.

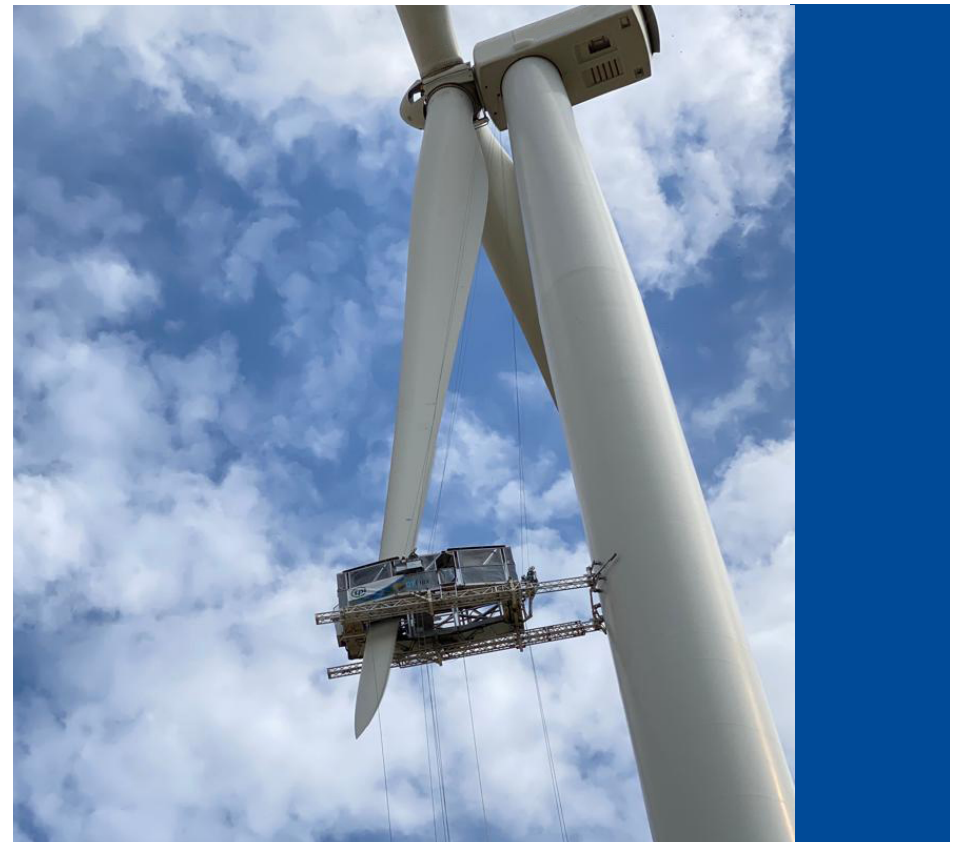
We further ensure the safety of our associates to support our zero-harm culture through safety education. Safety education is the foundation for our other safety measures. Associates receive regular training on environmental, health, and safety related topics. This training includes but is not limited to:

- general awareness EHS training
- ergonomics training
- compliance training
- hazard-specific training as required for the job or task
- fire hazard and prevention training
- hazardous material training
- equipment-specific safety training
- safety incident and corrective action training

Incident Prevention

We have implemented several programs at our facilities to prevent and manage incidents. During weekly safety walks, members of the facility leadership team observe operations to identify unsafe conditions and unsafe behaviors while engaging with associates to verify their EHS knowledge and coaching them on observed behaviors. Our standard global BBS process also ensures we provide coaching around at-risk behaviors and reinforce safe behaviors. Our BBS process continues to mature and utilizes mobile applications to capture the data through weekly observations and global trend analysis. The BBS data captured includes the number of observations made by our trained observers and categorizes the observations as safe or unsafe. These observations focus on correct PPE usage, ergonomic postures, equipment handling, and daily manufacturing safety procedures. In 2023, our facilities completed more than 3,600 observations.

While we employ various preventative safety measures across our operations, we understand that accidents may happen and have processes in place to investigate and prevent future injuries. EHS-related incidents are reported via a robust and standardized software solution. When an incident occurs, a root cause is identified, and corrective actions are implemented to address the hazard that led to the incident. All safety information is tracked and reviewed at each facility and with the leadership team. Incidents and corrective actions are then shared across facilities, along with significant good-catches, to ensure that best practices are implemented globally. A good-catch is the identification of a condition or behavior that has the potential to cause harm with timely intervention and corrective action before an incident occurs. In 2023, the number of good-catches submitted was more than 22,000.

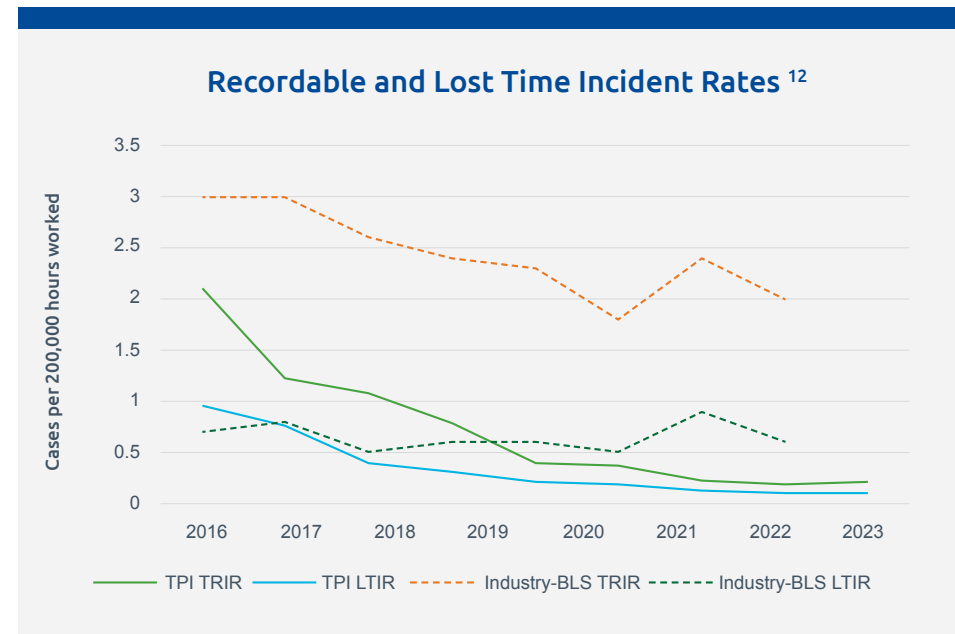


Safety Performance

Our safety program consistently outperforms industry standards and remains best in class, with our 2022 and 2023 Total Recordable Incident Rate (TRIR) and Lost Time Incident Rate (LTIR) well below the rates reported by the U.S. Bureau of Labor Statistics. In 2023, we achieved our goals for TRIR and LTIR, which were set to remain below 0.37 and 0.19 respectively.¹¹

Associate Safety	2021	2022	2023
✈ Total Recordable Injuries (number)	38	29	29
✈ Incident Rate	0.23	0.19	0.21
Injury Frequency Rate	1.14	0.93	1.03
✈ Lost Time Injuries (number)	22	16	14
✈ Incident Rate	0.13	0.10	0.10
Injury Frequency Rate	0.66	0.51	0.50
✈ High Consequence Injuries (number)	2	2	0
✈ Incident Rate	0.01	0.01	0
Injury Frequency Rate	0.06	0.06	0
✈ Fatal Injuries	0	0	0
✈ Incident Rate	0	0	0
Injury Frequency Rate	0	0	0

Contractor Safety	2021	2022	2023
✈ Total Recordable Injuries (number)	1	0	0
✈ Incident Rate	0.09	0	0
Injury Frequency Rate	0.47	0	0
✈ Lost Time Injuries (Number)	1	0	0
✈ Incident Rate	0.09	0	0
Injury Frequency Rate	0.47	0	0
✈ Fatal Injuries	0	0	0
✈ Incident Rate	0	0	0
Injury Frequency Rate	0	0	0



¹¹ Number of incidents per 100 associates. Incident Rate (IR) = Number of Incidents X 200,000/Number of Associate Labor Hours. Injury frequency rates calculate the number of injuries per year for each 1 million hours worked. Recordable incidents are based on OSHA reporting requirements and exclude first-aid injuries. Injury Frequency Rate (IFR) = Number of Injuries X 1,000,000 /Number of Associate Labor Hours. Industry incident rates are according to the U.S. Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses NAICS code 33361.

¹² Industry incident rates are according to the U.S. Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses NAICS code 333611

6 Supply Chain

Suppliers are a critical part of the extended TPI team, and they work with us every day to meet and exceed the needs of our customers. We count on our suppliers to meet the same high standards for safety, quality, delivery, and cost that we place on ourselves. In addition to upholding TPI's expectations as communicated in our policies and procedures, we actively engage with our suppliers to develop a world-class sustainability program described below.

TPI purchases materials, products, and services to support production across our global manufacturing facilities. The primary raw materials are epoxy resins and adhesives, carbon reinforcements, advanced fiberglass fabrics, core materials (balsa wood and foam), coatings, lightning protection systems, and attachment hardware. TPI prioritizes relationships and opportunities with suppliers where performance and the environmental and human rights impact of their operations and supply chain are essential considerations. We continue to expand our use of local and regional suppliers to ensure a continuous uninterrupted supply of materials, to improve flexibility and customer responsiveness, as well as to reduce transportation distance and carbon emissions.



476 *raw material suppliers*
in 25 countries



\$858 *million*
in raw material spend



138 *critical raw material suppliers*
87 % of spend

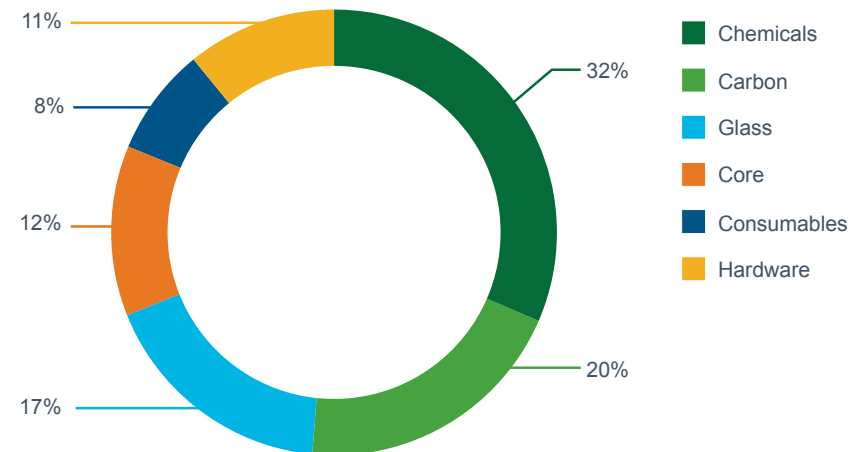
Responsible Sourcing

TPI seeks relationships with suppliers that operate in accordance with our Supplier Code of Conduct in their own operations, their supply base, and business relationships. Suppliers must respect internationally recognized human rights and comply with the policies referenced publicly on our website and incorporated within our purchasing documents and supplier agreements. These policies address areas such as child labor, working hours, business ethics and corruption, environmental standards, and occupational health and safety. We have documented standards for suppliers and monitor performance throughout the supplier lifecycle. We do this by using an independent vendor assessment tool, conducting audits, and including TPI's expectations for compliance and ethical behavior in our [Supplier Code of Conduct](#), [Human Rights Policy](#), [EHS Policy](#), [Anti-Bribery & Anti-Corruption Policy](#), and [Conflict Minerals Policy](#).

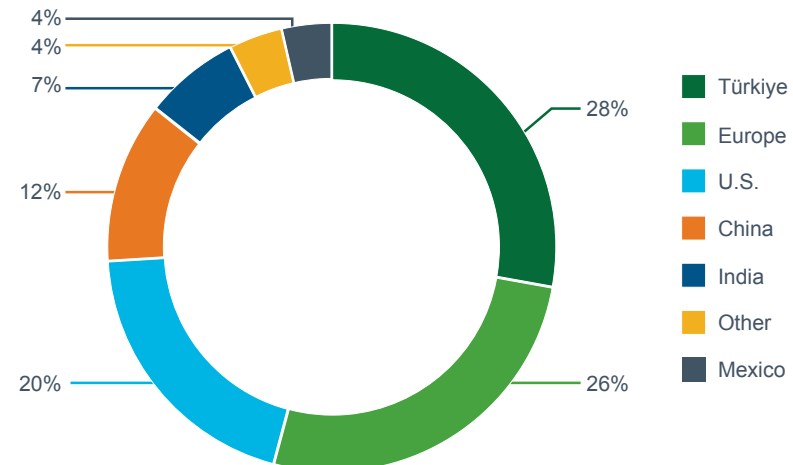
TPI takes a systematic approach to identifying and managing sustainability risk within our supply chain operations and our third-party business partners. As part of our onboarding process, all new suppliers go through an initial enhanced screening process that includes a risk assessment, risk screening, and sustainability and due diligence questionnaire. Once approved, suppliers become part of a continuous monitoring program for high-risk activity including government sanctions and adverse media covering human rights, legal and ethical, and environmental issues. Suppliers are segmented into risk categories based upon vendor category, spend, country, ownership structure, and material dependency. Suppliers of critical raw materials have additional risk management measures, including audits and scorecards, that are inclusive of EHS, quality, process control, and sustainability criteria. TPI defines critical raw material suppliers as suppliers whose goods or services have a significant impact on the competitive advantage, market success, or survival of the company. We focus our auditing on new suppliers, suppliers that we have not audited in the last three years, or suppliers with operational changes. During 2023, we audited more than 25 suppliers. All findings are addressed expeditiously to ensure that suppliers meet TPI's expectations.

In 2023, TPI did not have any significant compliance findings for existing suppliers; however, certain vendors were excluded from doing business with TPI due to high compliance risk findings during the screening and onboarding process.

Spend by Material Category



Regional Raw Material Supply Chain Spend



Supplier Sustainability Program

One of TPI's top priorities is to improve sustainability opportunities throughout our supply chain. To achieve our sustainability goals, we have established a supply chain sustainability program to require and inspire our suppliers to engage with us around sustainability priorities while also increasing transparency. The program consists of three pillars:

1. Develop a clear understanding of sustainability objectives and progress.
2. Strengthen and accelerate supplier engagement and sustainability performance.
3. Embed sustainability learning and criteria across our supply chain procedures and processes.

TPI has established the following goals with our top suppliers across key sustainability areas, including safety, carbon neutrality, waste management, and IDEA:

- **Safety:** Year-over-year reduction of incident rates with a goal and plan to drive towards zero.
- **Carbon Neutrality:** Year-over-year reduction of CO2 emissions with a goal to reach Carbon Neutral by 2030, without use of offsets.
- **Waste Management:** Year-over-year reduction of waste to landfill and incineration without energy recovery to reach zero waste by 2040.
- **IDEA:** Identify and implement initiatives that foster a culture of inclusion, diversity, equity, and awareness.

Critical Supplier Sustainable Procurement Metrics*

- 96% committed to TPI's Supplier Sustainability Objectives.
- 94% have completed an Integrated Management System (IMS) audit inclusive of sustainability criteria.
- 87% have completed an annual sustainability assessment.
- 85% have obtained ISO 14001 certifications.

* Metrics are weighted according to TPI annualized spend.

Of our 2023 raw material spend, 96% of our critical direct material suppliers have formally committed to TPI's supplier sustainability goals.

TPI continues to further integrate sustainability criteria into our sourcing and supplier management processes. During the selection process of key suppliers, we evaluate prospective suppliers' response to questionnaires and compliance with sustainability criteria. This includes corporate governance structure, management systems, human rights and safety policies, in addition to the supplier's sustainability vision, commitments and objectives. We have also started to track supplier metrics in support of TPI's supplier sustainability goals including GHG emissions (scope 1, 2, and 3), total waste generated, renewable and recyclable material content, and safety statistics. In quarterly supplier business reviews, critical suppliers present key opportunities and progress towards sustainability objectives.



Environmentally Friendly Solutions

TPI considers the environmental impact of the materials we source and prioritizes opportunities with suppliers that have independent certifications for social and environmental standards, such as Forest Stewardship Council (FSC) certifications for balsa wood. Additionally, TPI seeks more environmentally friendly material alternatives. This year, we implemented water-based paints at one of our sites in Türkiye. During 2024, we intend to approve the use of water-based paints at additional facilities in Türkiye, India, and Mexico. This material alternative promotes a healthier work environment with easier physical application and eliminates volatile organic compounds by 90%. These paints also support emission reductions by eliminating energy intensive equipment from the paint application process.

Recycling and Waste Elimination

TPI is focused on eliminating waste and promoting recyclability within the supply chain. In 2023, TPI implemented returnable packaging for core and glass kits in Türkiye to reduce the amount of waste in our supply chain. We evaluate opportunities to increase the amount of recycled PET used in our facilities based on product mix and supply, as well as ability for suppliers to recycle their own raw material waste in their manufacturing process.

Optimization

We work with suppliers and manufacturing sites to eliminate unnecessary raw material usage and environmental impacts in the manufacturing process. In 2023, TPI implemented a carbon optimization project for carbon fiber materials that resulted in less material usage in the manufacturing process. This project also resulted in a reduction in CO₂ emissions related to direct materials, since carbon fiber production produces high emissions.



7 Research and Development

As a leader of composite manufacturing, we conduct research and development (R&D) in close collaboration with our customers, industry consortia, sponsored academic research, and U.S. National Laboratories on the design, development, and deployment of innovative manufacturing materials and processes, including automation, innovative material application, and sophisticated product quality inspection tools. Our R&D efforts place high priority on driving quality through continuous process improvement, while reducing costs across our manufacturing facilities, and expanding our supply chain through cross-qualifying materials and development of both global and local suppliers. We have a broad set of R&D activities including new material technologies, new molding technologies, tooling and assembly operations, and our industry leading activities in model-based manufacturing. These efforts have resulted in an ever-expanding base of intellectual property that includes 80 U.S. and International patents and 110 pending applications that support a strong competitive position in the markets we serve.

Wind R&D

The increase of wind power installations is a result of the continuous improvement in turbine capacity factor (CF) which directly impacts the levelized cost of energy (LCOE) from wind. Increasing CF is due, in large part, to increasing rotor diameter meaning longer and more complex wind blade assemblies with increasing risk to both quality and product cost.

To address this challenge, TPI has focused much of our wind technology efforts on the emerging field of computer vision and laser measurement with the use of artificial intelligence data processing to provide real-time feedback of key production metrics and collection of historical data. The immediate impact on product quality and cycle-time reduction is now well documented and implementation across global operations is underway.

TPI's in-house computer vision-based process monitoring tool has been commissioned at our sites and is utilized to assist with cycle time analysis, resource management, process and resource optimization, and best practice sharing. The next generation of TPI's Computer Vision system that is under development focuses on minimizing the cost of poor quality and enables real-time corrective action to manufacturing anomalies as they take place on the shop floor. In addition, we are working on the development of additional non-destructive inspection technologies which will complement the process monitoring tool. These technologies will enable better identification and classification of items in the blade related to quality issues.

Automotive R&D

The level of new electric vehicle introductions by both established and new entry OEMs is driving a need for improved manufacturing efficiency. TPI has developed thermal barriers, structural components, and systems that deliver significant mass reductions and manufacturing efficiencies when compared to their alternative metallic solutions. Our manufacturing capabilities include Compression Molding, Vacuum Assisted Resin Transfer Molding, High Pressure and Light Pressure Resin Transfer Molding, and Pultrusion. Having this full range of capabilities allows us to select the process that best fits the customer's objectives while optimizing material usage, reducing in-process scrap and labor, all in a cost-effective manner. TPI's composite solutions are highly efficient while delivering real-world performance and environmental benefits.

8 Associates



TPI associates are at the center of all we do and remain essential to our organization's continued success. We strive to employ our associate's skills, ideas, and solutions to achieve our goals and promote TPI as an employer of choice.

Our associates continually display their dedication to the Company and our Core Values of Safety, Operational Excellence, Commitment, Integrity, and Leadership. They bring these Core Values to life by applying their diverse backgrounds and skillsets to everyday actions, demonstrating high discretionary effort, and embracing our Values in Motion program.

Number of Associates by Category (Headcount)	2021	2022	2023
Direct Labor	10,208	10,106	9,133
Indirect Labor	3,354	2,950	2,673
Administrative	576	566	557
Total	14,138	13,622	12,363



Global Values in Motion Awards



SAFETY

OPERATIONAL
EXCELLENCE

COMMITMENT

INTEGRITY

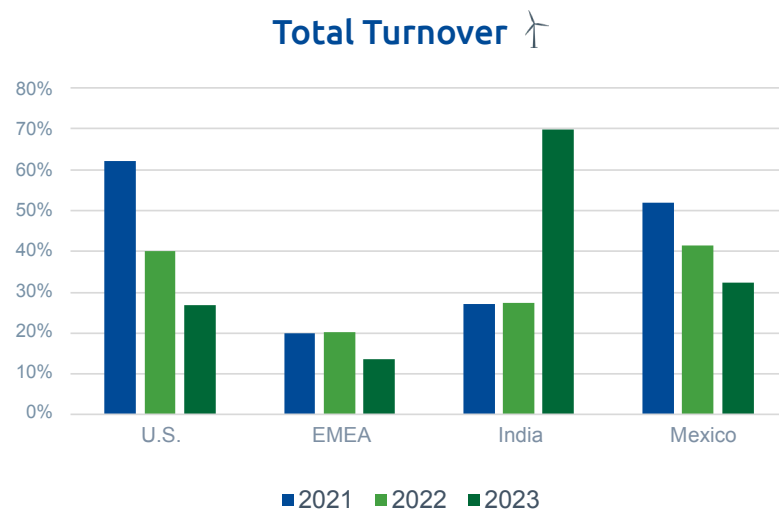
LEADERSHIP

The TPI Global Values in Motion Award is a quarterly recognition program where we highlight associates who exemplify one or more of our Core Values. Our regional leadership teams encourage associates to nominate their peers for going above and beyond in their daily work. The quarterly winners are announced globally and celebrated publicly at the regional level. From these winners, our executive team selects annual winners at the end of the year to represent each Core Value, giving them an award and global recognition.

Listening to Our Associates

At TPI, we are committed to creating a workforce that is inclusive and engaging. Nothing outweighs the importance of our associates and the consistent feedback they provide. An annual engagement survey is distributed to all associates where we collect data to understand feelings on topics related to professional growth, rewards, the environment, and more. As part of our IDEA program, we conduct an annual IDEA survey and have implemented a Continuous Listening strategy, which aims to elicit associates' feedback from networked associates monthly. These feedback mechanisms provide an anonymous space for associates to give honest responses. This year, our aggregated participation rate was 98% and we received more than 62,000 associate comments. By collecting continuous feedback, we can better support our associates in cultivating an environment where everyone feels they have a voice.

TPI leadership considers associate engagement a top priority. Around the world, our teams take time to carefully evaluate survey results, share findings with associates, and implement actionable plans specific to their region. Our action plans positively impact our overall engagement and reduce associate turnover rates in each country which are at or below their respective geographic averages in a majority of countries where TPI operates.



Our regional human resource teams and external partners help ensure we maintain compliance with all current labor standards and sustain strong relationships with our labor unions. At all levels of leadership, we have provided training to foster positive labor relations and develop action plans to address changes as needed.

Our organization's base compensation is established by benchmarking each individual position to the market median utilizing salary surveys from qualified data sources that provide local, regional, and national data on salaries earned in similar positions to TPI. TPI sponsors a review of fair pay practices annually and we utilize disparate impact analysis globally. Disparate impact analysis is a process by which companies ensure that there are no unintended differences in base compensation between associates in the same job. This review is conducted by a third-party law firm. As part of this review, we look at the pay equity between our male and female associates as well as differences between ethnic groups in the United States. The results of the 2023 review showed that we do not have statistically significant gaps in pay in the groups reviewed. Regarding additional benefits, all associates are covered either through social programs or TPI in alignment with the market. Additionally, several of our locations provide medical services through on-site doctors, food services through cafeterias, and transportation services to the facilities.

We also provide regular performance feedback throughout the year for our associates, in addition to managing our annual formal performance review process. Compensation for TPI's Global Leadership Team has variable performance-based components such as annual bonus and equity incentives. In addition, all manager-level associates and above have a variable incentive as part of their annual compensation. All incentive plans include a weighted measurement for safety, sustainability, IDEA, quality, and profitability.

The passion, commitment, and resilience of our associates is critical in helping us achieve our vision to lead the energy transition through advanced technology and innovative solutions.



New Hires by Age # and %							
	Under 30		30-50		Above 50		Total
U.S.	64	39%	81	49%	21	13%	166
Asia	0	0%	0	0%	0	0%	0
EMEA	176	33%	341	64%	15	3%	532
India	862	92%	67	7%	3	0%	932
Mexico	1,664	60%	1,048	38%	73	3%	2,785
Total	2,766	63%	1,537	35%	112	3%	4,415



Turnover by Age # and % Without Impacts							
	Under 30		30-50		Above 50		Total
U.S.	47	35%	65	49%	21	16%	133
Asia	0	0%	4	80%	1	20%	5
EMEA	276	49%	283	50%	4	1%	563
India	834	82%	182	18%	0	0%	1,016
Mexico	1,101	53%	880	43%	80	4%	2,061
Total	2,258	60%	1,414	37%	106	3%	3,778



New Hires by Gender # and %					
	Female		Male		Total
U.S.	29	17%	137	83%	166
Asia	0	0%	0	0%	0
EMEA	47	9%	485	91%	532
India	151	16%	781	84%	932
Mexico	670	24%	2,115	76%	2,785
Total	897	20%	3,518	80%	4,415



Turnover by Gender # and % Without Impacts						
	Female		Male		Total	
U.S.	19	14%	114	86%	133	27%
Asia	2	40%	3	60%	5	1%
EMEA	60	11%	503	89%	563	14%
India	123	12%	893	88%	1,016	70%
Mexico	492	24%	1,569	76%	2,061	32%
Total	696	18%	3,082	82%	3,778	29%



Some figures and percentages may not add up to the total figure or 100 percent due to rounding.

8.1 Inclusion, Diversity, Equity, and Awareness (IDEA)



At TPI we are committed to building an inclusive culture. We value diversity in all forms, especially diversity of thought. Our organization prides itself on finding talent that is dedicated to cultivating an environment where collaboration and inclusion can thrive and where everyone feels a true sense of belonging and can bring their full self to work.

We have fully embraced a new form of DE&I called IDEA (Inclusion, Diversity, Equity, and Awareness). We define these key terms as follows:

- **Inclusion** is the act of creating an environment where everyone feels a sense of belonging and is welcomed, heard, valued, and encouraged to participate fully.
- **Diversity** is all the ways in which people differ, encompassing the characteristics that make an individual or group distinct from another.
- **Equity** is fair treatment, such as providing access to opportunities for advancement and ensuring that everyone feels they can grow in the organization.
- **Awareness** is building an accountable culture of choice, facilitating learning opportunities for all, and celebrating our efforts internally and externally.

At TPI, we know that IDEA is not a destination, but a journey. We are consistently adjusting and adapting IDEA plans to put forth initiatives that are purposeful. By not being intentionally inclusive, we run the risk of being unintentionally exclusive. We believe the initiatives we have undertaken to advance IDEA have and will continue to positively affect both enhancing our culture of inclusion and increasing representation of under-represented groups.

TPI established the global [IDEA Council](#) and champion network to serve as a governing body for our IDEA strategy, initiatives, cultural change efforts, transparency, and accountability. The primary role of the IDEA Council is to connect IDEA initiatives to strategic business goals and outcomes.

The IDEA Council is also a critical driver of organizational change, establishing a dedicated focus on inclusion, diversity, and equity priorities, and managing the IDEA program.

TPI associates at all levels of the organization receive formal training on topics related to learning about IDEA and how they can be more aware of it in their everyday life. Our Inclusive Leadership training is deployed to all leaders and above. This training focuses on understanding inclusion, diversity, and equity, identifying the characteristics of an inclusive leader, and formulating a personal plan to put these characteristics into action. In 2023, our associates dedicated over 2,900 hours to IDEA trainings. Moving forward, we will focus on strengthening supplier diversity programs and continuing to embed IDEA into compensation, performance, and talent practices.





Associate Category by Gender %	Male	Female
Direct Labor	85%	15%
Indirect Labor	86%	14%
Administrative	59%	41%
Total	84%	16%

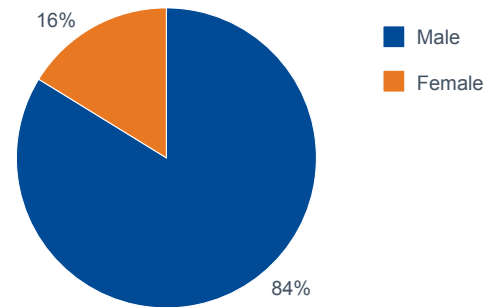


Associate Category by Ethnicity %	Asian	Black	Latino	Middle Eastern	Caucasian	Other
Direct Labor	13%	0%	56%	30%	1%	0%
Indirect Labor	13%	0%	53%	29%	4%	0%
Administrative	17%	0%	41%	17%	21%	3%
Total	13%	0%	55%	29%	2%	0%

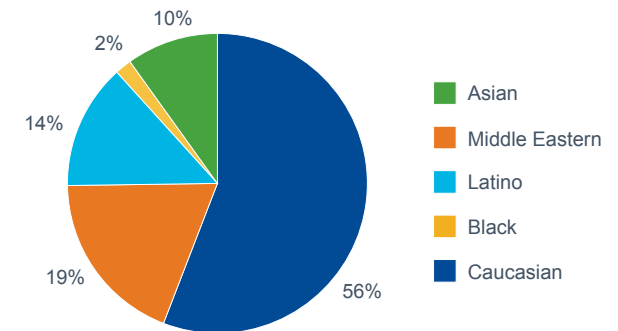


Associate Category by Age %	Under 30	30-50	Above 50
Direct Labor	44%	51%	5%
Indirect Labor	29%	65%	6%
Administrative	15%	68%	17%
Total	39%	55%	6%

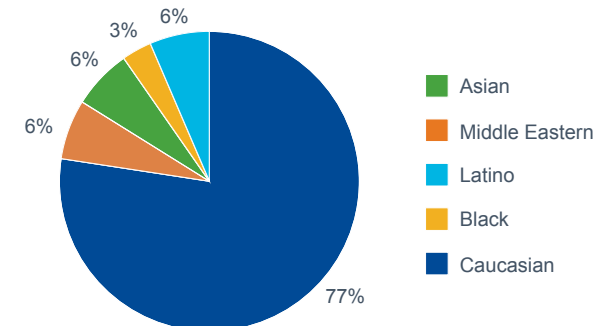
Gender Diversity Global Leadership Team



Racial/Ethnic Diversity Global Leadership Team



Racial Ethnic Diversity U.S. Leadership Team



IDEA Initiatives

CEO Action for Diversity and Inclusion Business and Individual Commitment

Our CEO, Bill Siwek, renewed the [CEO Action for Diversity and Inclusion Pledge](#), further demonstrating TPI's promise to create an inclusive culture where all associates can be themselves and have a sense of belonging. The pledge has four main goals:

1. To continue to make our workplaces trusting places to have complex, and sometimes difficult, conversations about diversity and inclusion.
2. To implement and expand unconscious bias education.
3. To share best – and unsuccessful – practices.
4. To create and share strategic inclusion and diversity plans with our Board.

This pledge signifies TPI's dedication to engaging in challenging yet essential discussions pertaining to IDEA.



Global Day of Understanding

Annually, TPI CEO Bill Siwek and Chief People Officer Deane Ilukowicz host the Global Day of Understanding. During these courageous conversations, the duo facilitates conversations with associates from all levels of the organization, focusing on matters of inclusion, diversity, and equity. This year, they spoke with approximately 100 associates from around the world. Our senior leaders also spoke with regional associates in similarly structured conversations.

“ I am proud of the work we do and the inclusive culture we continue to build at TPI. I look forward to these meaningful and transparent conversations, as we collectively work towards creating a culture where everyone has a voice and is comfortable using it. ”

– Bill Siwek, President and CEO

IDEA Initiatives

LEAP for Women

We continue to create a sense of community with our first Global Associate Resource Group (ARG) LEAP for Women. LEAP stands for lead, empower, advance, and promote. Around the world, our LEAP for Women regional champions host events and develop programs focused on supporting women. Additionally, regional champions convene globally to align on initiatives and share best practices. One ongoing global Initiative is our Women Who Inspire Panels. These panels are a series of semi-annual events that aim to inspire women at TPI by sharing stories on topics related to career development, challenges in the workplace, and general advice from women in leadership positions.



Amazing Women of TPI

2023 marked the eighth year of our Amazing Women of TPI, where we proudly recognize amazing female associates who are nominated by top regional leadership globally. To award these women, TPI created a week-long event at our corporate headquarters in Scottsdale, Arizona. Throughout the week, the women attended learning sessions and engaged in network opportunities.



In 2023, LEAP for Women was selected as the Best Affinity and Employee Resource Group at the [ALLY Energy GRIT Awards](#). Groups in this category overcome adversity to accomplish amazing achievements and have a positive impact on recruiting culture and the associate experience.

“

We are proud of our ARG members and their commitment to lead the way, empower each other, advance women through professional development, engage allies, and promote our company as an inclusive environment.

”

– Deane Ilukowicz, Chief People Officer

2023 IDEA Awards

In addition to the TPI LEAP for Women GRIT Award, TPI received numerous awards in 2023 for our dedication to IDEA.

- TPI India accepted an award for Top 100 Best Companies for Women during the Best of the Best Conference by Avatar.



- TPI Türkiye received the Gold Brandon Hall Group Excellence Award for Diversity, Equity and Inclusion and the Best Learning Program for Unconscious Bias Awareness.
- TPI Mexico was awarded the Jaime Bermúdez Cuarón Award in two areas, Social Responsibility & Inclusive Company and Social Engagement.



Additional IDEA Initiatives

- Continued to recognize October as global IDEA month.
- Celebrated International Women's Day globally with regional initiatives.
- Hosted global volunteer and awareness activities to commemorate Pride Month.
- Highlighted Breast Cancer Awareness through webinars and forums, and supported organizations through volunteering.
- Raised awareness for the International Day of Elimination of Violence against Women.





8.2 Associate Training and Development

Part of our learning culture includes a strong commitment to associate development. TPI offers training to ensure that our associates are not only well-prepared to perform the role they are hired into, but also invested in their development of knowledge, skills, and abilities to enable growth and career progression. Training and development opportunities are offered on a regular basis and include New Associate Orientation, Functional Onboarding, Safety and Compliance Training, Technical Training, and Leadership Development. Training data is reported monthly by each manufacturing facility and functional area. Relevant operational indicators are discussed during this period which reflect the effectiveness of our associate training. TPI provided almost 550,000 hours of training, an average of 44 hours per associate in 2023.

Leadership Development

Leadership development at TPI combines formal learning, individual assessment and development planning, and mentoring. Formal learning is provided at each facility and includes cornerstone skill development such as coaching, situational leadership, and emotional intelligence. In addition, TPI uses competency-based leadership assessments to create personalized individual development plans. Our formal leadership development programs at each operation are uniquely designed around senior, mid-level, and frontline leadership levels, and customized regionally to accommodate and enable cultural differences.

Mentor Programs

TPI continues to foster a culture of development through selective mentor programs. These mentor programs pair associates with management level leaders who meet regularly to help develop skills and competencies in a professional setting. The mentor programs focus on accelerating development for both the mentee and mentor by enhancing skills, promoting cross-organizational relationships, and providing opportunities for professional networking. Mentorships are evaluated on a regular basis to allow participants to share what they learned and provide feedback.

Microlearning

TPI supplements our formal educational training programs with a microlearning platform. We offer short learning modules on topics related to leadership and IDEA. A new focused topic is introduced to our leadership population every week, and our leaders can easily share key learnings with any TPI associate. This year, we had associates take over 2,100 independent courses using this platform.



TPI Academy

TPI Academy is a critical platform for developing our technical talent. TPI Academy has expanded to incorporate multiple technical disciplines within TPI such as quality and operations. The goal for our engineers and technicians is to use TPI Academy to expand their knowledge of composite technology by learning from our most knowledgeable and experienced technical subject matter experts.

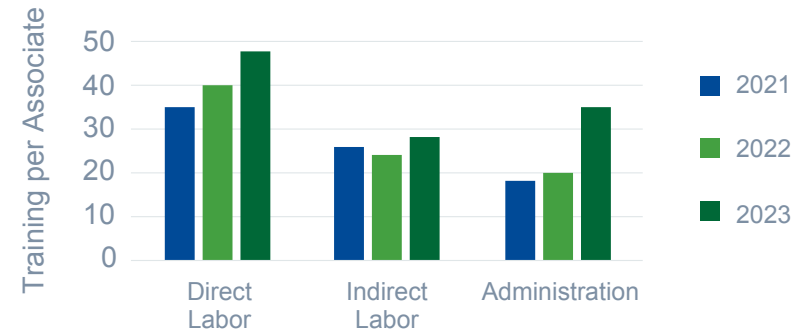
An accelerated learning path helps us lower costs, improve quality, and increase overall operational excellence. These benefits are critical to the long-term success of TPI and provide a unique competitive advantage with respect to our technical competency.



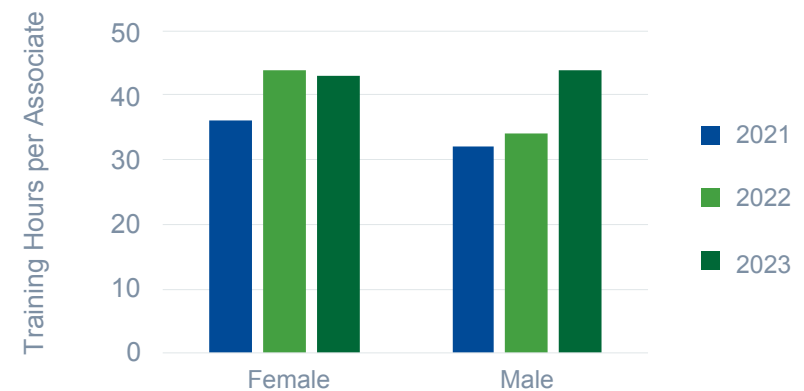
As we look ahead to our 2024 roadmap, we will:

- Continue to offer both foundational and advanced course modules.
- Ensure we have targeted training opportunities available to all technical associates based on their role, experience level, and location.
- Incorporate self-paced, eLearning modules into a broader Technical Skills Onboarding program for our newly hired technical associates.
- Continue on our journey to have a culture of learning underpin everything that comes out of TPI Academy.

Training Hours per Associate by Category



Training Hours per Associate by Gender



9 Communities and Economic Impacts



We remain both proud and inspired by the dedication our associates display to community support initiatives they are passionate about and highlight some of these activities on the pages below.



The TPI Global Community Support Program was designed to help shape, build, and improve the communities where our associates live and work. We believe volunteering builds character, provides opportunities for collaboration, creates a sense of belonging, and increases associate engagement.

The volunteer time that TPI associates contribute supports outside organizations that align with our Core Values and occur outside of scheduled work hours. Given the diversity of our locations, we adapt our engagement activities to the needs of the communities. In 2023, our associates completed more than 18,800 community engagement hours globally. We are immensely proud of the many associates who volunteered to support their local communities.



Helping those in need: Our associates value their neighbors and community members. They provide benefits to their community members through activities that support the elderly, children, those less fortunate and those with disabilities.



School Visits

TPI Spain, Germany, and UK visited with elementary students to share facts about wind energy and renewables.



Breast Cancer Awareness

Associates in Arizona participated in the Making Strides Breast Cancer Walk with the American Cancer Society.



Volunteering

In Mexico, associates volunteered at a local pet shelter where they cleaned and donated supplies.

Giving Back: TPI associates enjoy giving back to their communities through donations. This year, our associates held several events to collect and distribute items to local communities.



Preparing Meals

TPI Rhode Island visited the Ronald McDonald House Charities of New England to help prepare meals for families.



Blood Drive

In India, TPI associates donated blood to a local hospital.



Donations

TPI Türkiye donated uniforms to support a hearing-impaired football club.

10 Environment



Electricity and heat generation accounts for almost one-third of global GHG emissions.¹³ It is our vision to lead the energy transition through advanced technology and innovative solutions. In doing so, TPI directly impacts climate change by advancing the decarbonization of the electric sector and supporting the electrification of the vehicle fleet.

Our EHS Policy helps guide all TPI activities to maximize the positive impact that we have on the environment through both the products we manufacture and how we manufacture them. We are committed to protecting our associates, stakeholders, community, and the environment through operating sustainably in compliance with all applicable regulations and standards. We aim to do this by integrating EHS into our business planning and decision making, using our resources more efficiently, empowering our associates with responsibility through training and education, monitoring and managing our EHS performance in alignment with relevant ISO standards, and more.

All our manufacturing facilities have an Environmental Management System (EMS) in place. We have third parties perform annual surveillance audits, and we have nine facilities ISO 14001 certified.



In 2023, TPI India received an award for the site's commitment to sustainability and the environment through energy and waste reduction projects from the Indo American Chamber of Commerce.

¹³ <https://www.wri.org/insights/4-charts-explain-greenhouse-gas-emissions-countries-and-sectors>

10.1 Journey to Circularity

All the products TPI manufactures are based on customer designs and specifications. Once finished products leave TPI facilities, our customers install them on wind turbines or in electric vehicles. At the end of their life, the disposal of TPI manufactured parts remain the responsibility of our customers. As a manufacturing company, we recognize that while we may not oversee the final disposal of our product, it is still our responsibility to properly manage our material usage and waste production. We are committed to doing our part to increase material efficiency and recyclability, while continuing to pursue partnerships with industry consortia, OEMs, and academia on the circularity of wind blades and automotive parts.

Materials

Raw materials are the key cost driver of the products we manufacture. We aim to use our materials as efficiently as we can while still meeting the expectations and requirements of our customers. Our products are generally custom designed and built to the specifications of our customers. We currently track the materials used in our manufacturing processes through our product lifecycle management system and enterprise resource planning system. Approximately one percent of our materials used in 2023 were from renewable resources, balsa wood, and approximately three percent were from recycled sources, polyethylene terephthalate (PET). In addition, all facilities have chemical and hazardous waste management systems in accordance with laws and regulations in their respective regions.

Materials Recycling

Wind turbines are 85% to 90% recyclable, with the wind blade material constituting the remaining percentage that cannot be easily recycled, due to the nature of thermoset composites.¹⁴ Wind and composite industry leaders, such as TPI,

are focused on closing this recycling gap in order to reduce landfilling of wind energy waste. TPI is actively working toward creating sustainable end-of-life solutions by developing alternative uses for composite products reaching their end of life. We have led numerous projects to convert decommissioned wind blades into a variety of alternative uses including concrete products, cured in place pipe liners, recycled fiberglass yarns, construction panels, and structural flooring applications.

In addition to repurposing end-of-life composite products, TPI is working closely with industry and academic leaders to develop and implement solutions to enable circularity for thermoset composites. These solutions will allow for the recovery of high-quality composite materials such as glass fiber, carbon fiber, and core which can be reused in building wind blades, and other thermoset composite products. One collaboration we worked on during 2023 was with Northeastern University where a Life Cycle Assessment was conducted, and carbon footprints were calculated for various wind blade shredding techniques and recycling pathways such as pyrolysis and mechanical recycling.

We remain highly engaged in global efforts to reduce carbon emissions from our manufacturing operations, reduce waste, and implement pathways available for the reuse of as much of the waste we generate as possible. This year we participated in the preparation of five new project proposals that have been awarded by the US Department of Energy focused on wind blade recycling and sustainable materials which we will begin working on during 2024.



¹⁴ [Circular Economy: Blade recycling is a top priority for the wind industry | WindEurope](#)

Waste

Mitigating and managing waste generated from production is a key objective for TPI. Our facilities manage the waste generated according to local regulations. Our waste data is collected monthly using invoices from disposal facilities and haulers. All waste data is verified by on site EHS supervisors and through annual audits conducted at our ISO 14001 certified facilities. These processes allow TPI to understand the volume and cost of waste produced to ensure waste reduction remains a priority.

We have waste continuous improvement teams at each location, which completed waste stream analyses and developed waste reduction projects.

In a continuation of our program, in 2023, we achieved our waste rate reduction goal (5% reduction during the year) by focusing our projects on optimizing direct material usage. During 2023, both of our Türkiye sites achieved zero waste to landfill as shown in the reduction in total waste sent for landfill in the table below. In the coming years, our main focus is to encourage all sites to adopt alternative waste disposal methods instead of relying on landfilling.

This year, we had 52,585 metric tons of waste, of which 9,949 metric tons was hazardous and 42,635 metric tons was nonhazardous waste. Landfilled hazardous waste is disposed of through controlled confinement in a landfill that is lined, monitored, and in compliance with government regulations.

Waste Type ¹⁵		Non-Hazardous (metric tons)			Hazardous (metric tons)			Total (metric tons)		
	Year	2021	2022	2023	2021	2022	2023	2021	2022	2023
Waste diverted from disposal	Recycling	15,290	17,544	22,154	2,465	2,230	2,948	17,755	19,774	25,102
	Composting	1,642	1,078	1,096	0	0	0	1,642	1,078	1,096
Waste directed to disposal	Energy recovery	6,271	5,064	706	4,950	7,029	6,868	11,221	12,093	7,574
	Landfill	29,970	25,614	17,879	1,781	333	65	31,751	25,947	17,943
	Incineration	1,986	4	0	58	172	56	2,044	176	56
	Other	369	813	801	277	0	12	646	813	813
Waste generated	Total	55,528	50,118	42,635	9,531	9,763	9,949	65,059	59,881	52,585

Some figures and percentages may not add up to the total figure or 100 percent due to rounding.

¹⁵ Hazardous waste disposal methods are confirmed by hazardous waste manifests. Non-hazardous waste disposal methods are confirmed based on vendor reports. Waste is reported based on shipment dates from our facilities. The other category includes waste disposed from cafeteria grease traps and using the U.S. EPA H141 code that is stored by the waste vendor and the disposal method is not provided to TPI.



10.2 Energy and Emissions

It is our goal to become carbon neutral by the end of 2030 for scope 1 and 2 emissions, with 100% of our energy coming from renewable sources. Our scope 1 emissions are those that we produce on site through fuel combustion and refrigerant usage. Scope 2 emissions are those that we indirectly produce through the direct purchase of electricity and steam. Scope 3 emissions encompass a broader scope of indirect sources, such as purchased goods and services and upstream transportation and distribution.

We are identifying opportunities to reduce our scope 1 emissions by replacing fossil fueled equipment with electric and other alternatives. In 2023, we added a requirement to include scope 1 emissions criteria as part of our capital expenditure approval process.

We are also focused on reducing our scope 2 emissions by expanding our use of renewable energy resources. In 2023, we made great progress towards reducing our scope 2 emissions. At one of our Türkiye sites, we added more solar panels and at our other Türkiye location we invested in two wind turbines which are expected to be in service during 2024, and will provide electricity for the entire site. In India, we secured a power purchase agreement (PPA) to supply clean energy for roughly half of the site's annual electricity needs. This agreement is expected to take effect in the second quarter of 2024. We remain committed to exploring renewable energy options across all our regions, with the goal of achieving 100% renewable electricity use at each facility.



Solar panels in Türkiye.



One of the wind turbines under construction in Türkiye.

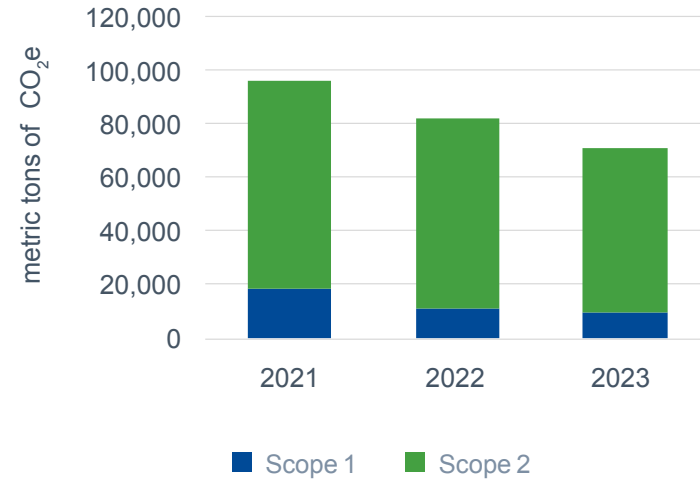
In addition, we are focused on reducing energy usage at our facilities through energy reduction projects. In 2023, our associates completed over 12 energy reduction projects. Projects completed include optimizing machinery to reduce run times when sites are closed and improving the efficiency of our lighting systems.

In 2023, our total energy usage was 647,569 gigajoules (GJ). Our total scope 1 and 2 location-based emissions were 71,295 metric tons CO₂e and our total scope 3 emissions were 1,224,000 metric tons CO₂e. Total indirect energy and emissions decreased year-over-year primarily because we closed operations at our Yangzhou, China facility.

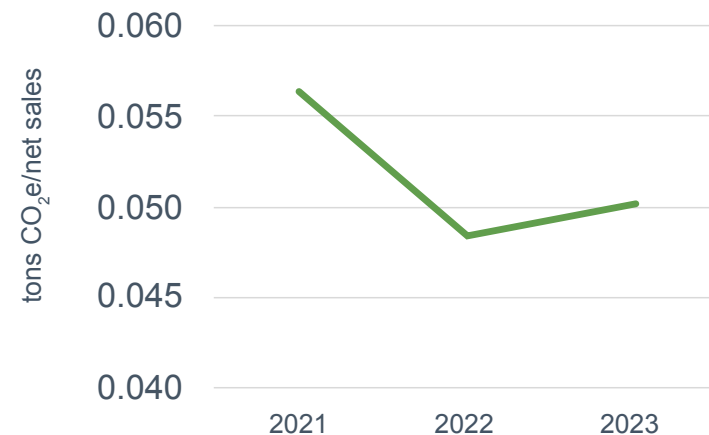
Energy Type (GJ)	2021	2022	2023
Direct energy (fuel) consumed	257,324	176,216	153,574
Indirect energy consumed – electricity and steam	630,686	603,032	493,995
 Total Energy Consumed	888,010	779,248	647,569
Renewable electricity generated onsite (solar)	32,489	40,211	25,059

Emissions (metric tons CO ₂ e)	2021	2022	2023
 Scope 1	18,392	11,155	9,610
 Scope 2 Location-Based	77,444	71,187	61,685
 Total Scope 1 and 2 Emissions Location-Based	95,836	82,343	71,295
 Scope 2 Market-Based	92,667	78,383	64,242
 Total Scope 1 and 2 Emissions Market-Based	111,059	89,538	73,852
Total Scope 3 Emissions	1,661,000	1,503,000	1,224,000

Location-Based Emissions



CO₂e Intensity¹⁶



¹⁶ Defined as scope 1 and scope 2 location-based emissions divided by annual net sales including discontinued operations excluding field service sales.

10.3 Environmental Compliance

At TPI, we are committed to safeguarding our planet for future generations. Given our global footprint, we operate in locations with varying environmental laws and regulations with the potential to impact our communities. All TPI facilities have an environmental impact assessment performed prior to starting operations of the facility, which includes an evaluation of the land prior to the start of construction. Environmental laws and regulations are reviewed to ensure compliance and mitigate regulatory risk. At TPI, we pursue a global EHS practice through which the minimum baseline shall be the most stringent out of applicable local, statutory, or EHS regulations.

Each facility documents and closely monitors applicable environmental regulations as well as compliance requirements for retention of necessary environmental permits and reporting obligations to government agencies. Any updates, changes, or removal of regulatory requirements are also documented. All environmental inspections and instances of non-compliance with environmental laws and regulations are communicated to the leadership team and immediate action is taken to come into compliance.

In 2023, we had zero instances of significant non-compliance.

Biodiversity

In 2023, several of our sites conducted biodiversity activities in their communities.



At one of our Mexico sites, associates planted saplings in the community.



Associates in India launched a Plastic Waste Cleanup Campaign and collected waste from the local community.



In Rhode Island, associates hosted a local beach cleanup.

Appendix

11	GRI Content Index.....	44
12	SASB Disclosure – Wind Technology & Project Developers and Electrical & Electronic Equipment.....	50
13	Task Force on Climate-related Financial Disclosures (TCFD).....	52
14	Independent Assurance Statement	54

11 GRI Content Index

Statement of use: TPI Composites has reported in accordance with the GRI Standards for the period January 2023 - December 2023.

Topic	Disclosure	Location	Comment
GRI 2: General Disclosures 2021			
2-1	Organizational details	2, 9, Global Footprint, Company Overview	Our headquarters is located at 9200 E Pima Center Pkwy Suite 250 Scottsdale, AZ 85258.
2-2	Entities included in the organization's sustainability reporting	10-K	Please refer to the supplemental excel data for this information in Disclosure Boundaries.
2-3	Reporting period, frequency and contact point	2	
2-4	Restatements of information		We have restated errors in our 2022 reported waste directed to (GRI 306-4) and diverted (GRI 306-5) from disposal as well as our 2022 reported Scope 1 emissions (GRI 305-1) and have updated the prior years' values accordingly. Please see the excel supplement for updated data.
2-5	External assurance	54-57	We conducted extensive research into external assurance providers and reviewed our options with the CEO and Board of Directors.
2-6	Activities, value chain and other business relationships	7, 9, 20-23, 10-K	
2-7	Employees		Please refer to the supplemental excel data for this information.
2-8	Workers who are not employees		Please refer to the supplemental excel data for this information.
2-9	Governance structure and composition	15, Proxy, 10-K, Management Team, Board of Directors, Committee Compositions	
2-10	Nomination and selection of the highest governance body	Proxy	
2-11	Chair of the highest governance body	Proxy	
2-12	Role of the highest governance body in overseeing the management of impacts	14-16, NGC Committee Charter	

Topic	Disclosure	Location	Comment
2-13	Delegation of responsibility for managing impacts	14-16	
2-14	Role of the highest governance body in sustainability reporting	14-16, NGC Committee Charter	
2-15	Conflicts of interest	Proxy	
2-16	Communication of critical concerns		All critical matters, if any, are communicated to the NGC committee and the Board at large during quarterly meetings.
2-17	Collective knowledge of the highest governance body	Board of Directors	
2-18	Evaluation of the performance of the highest governance body	Proxy	
2-19	Remuneration policies	Proxy	
2-20	Process to determine remuneration	Proxy	
2-21	Annual total compensation ratio	Proxy	
2-22	Statement on sustainable development strategy	5-6	
2-23	Policy Commitments	14-16	TPI is primarily a manufacturer that relies upon its customers to design and evaluate the environmental impacts of the products TPI produces; however, the precautionary principle is embedded into our ISO 14001 Environmental Management Systems (EMS) at each of our operating locations. Each facility and its EMS is responsible, and supported by the global EHS team, for thinking carefully about the environmental aspects that can be controlled or influenced such as waste reduction, energy consumption, and emissions. Furthermore, each facility conducts operational planning and control to minimize potential negative environmental impacts.
2-24	Embedding policy commitments	14-16	
2-25	Processes to remediate negative impacts	15, 17, 42	
2-26	Mechanisms for seeking advice and raising concerns	14-16	
2-27	Compliance with laws and regulations	14-16, 42	

Topic	Disclosure	Location	Comment
2-28	Membership associations		- American Clean Power Association (ACP) - National Association of Manufacturers (NAM) - American Composite Manufacturers Association (ACMA) - Institute for Advanced Composite Manufacturing Innovation (IACMI) - ALLY Energy - WindEurope - WindSTAR University of Massachusetts Lowell and University of Texas, Dallas - American Council on Renewable Energy (ACORE) - National Association of Corporate Directors (NACD) - Several other region-specific organization memberships
2-29	Approach to stakeholder engagement	12	
2-30	Collective bargaining agreements	Proxy	Certain of our associates in Türkiye and Matamoros, Mexico are represented by a labor union. 37% of our total associates were covered by a collective labor agreement (CLA) as of December 31, 2023. TPI determines working conditions and terms of employment for our associates based on local regulations and markets to ensure we remain a competitive employer.

GRI 3: Material Topics 2021

3-1	Process to determine material topics	12	
3-2	List of material topics	12	
3-3	Management of material topics		Please see the corresponding sections for each of our material topics to see our alignment with this standard.

GRI 201: Economic Performance 2016

3-3	Management of material topics	10-K	We divide our business operations into four geographic operating segments – the U.S., EMEA, India, and Mexico. The consolidated financial statements that can be found in our Form 10-K include the accounts of TPI Composites, Inc., and all majority owned subsidiaries. These financial statements are audited by an external party (KPMG LLP). Further information on how we manage our economic performance can be found in our Form 10-K .
201-1	Direct economic value generated and distributed	10-K	Please refer to the supplemental excel data for this information in Indirect Economic Impacts.

Topic	Disclosure	Location	Comment
GRI 203: Indirect Economic Impacts 2016			
3-3	Management of material topics	36, 42	
203-2	Significant indirect economic impacts	36, 42	Please refer to the supplemental excel data for this information in Indirect Economic Impacts.
GRI 205: Anti-Corruption 2016			
3-3	Management of material topics	14-16, FCPA Policy	
205-1	Operations Assessed for risks related to corruption ↑	14-16	TPI conducts an enterprise-wide fraud risk assessment annually of all its legal entities using a variety of evaluation criteria such as financial, operational, and geographical risk indicators. This risk assessment helps to guide, and or modify, the Company's anti-corruption and anti-bribery policies, procedures, and controls. Please refer to the supplemental excel data for additional information in Anti-Corruption.
205-2	Communication and Training about corruption policies and procedures ↑	14-16	Please refer to the supplemental excel data for this information in Anti-Corruption.
GRI 301: Materials 2016			
3-3	Management of material topics	38	
301-1	Materials used by weight or volume	38	To obtain our material usage by renewable and non-renewable resources for our wind blade and automotive production, the weight of renewable materials (balsa wood) used, and non-renewable materials per wind blade and automotive products were estimated and multiplied by the number of units produced for 2023.
301-2	Recycled input materials used	38	
GRI 302: Energy 2016			
3-3	Management of material topics	40-41, EHS Policy	
302-1	Energy consumption within the organization ↑	40-41	The conversion factors used to convert Natural Gas, Diesel, Gasoline, and Electricity into GJ were sourced from the EIA along with their conversion calculators. The conversion factor used for LPG is sourced from EL Gas .
GRI 305: Emissions 2016			
3-3	Management of material topics	40-41, EHS Policy	
305-1	Direct (Scope 1) GHG emissions ↑	40-41	Emissions for scope 1 and 2 were calculated based on operational control. Gases included are CO ₂ , CH ₄ , and N ₂ O. The Global Warming Potentials (GWPs) are from the IPCC AR6 and emissions factors are from the U.S. EPA for U.S. facilities and the IEA for our international facilities.
305-2	Energy Indirect (Scope 2) GHG emissions ↑	40-41	

Topic	Disclosure	Location	Comment
305-3	Other Indirect (Scope 3) emissions	40-41	The categories for scope 3 emissions included in the calculation are purchased goods and services, direct materials, operations costs, capital goods, fuel and energy-related activities, upstream transportation and distribution, downstream transportation and distribution, waste generated in operations, business travel, employee commuting, processing of sold products, and end of life treatment of sold products. Gases included are CO ₂ , CH ₄ , and N ₂ O. The emission factors used are from the UK Defra , Idemat, EUCIA Eco Impact Calculator , the IEA , the U.S. EPA , and customer developed emissions factors.
305-4	GHG Emissions Intensity	40-41	Gases included are CO ₂ , CH ₄ , and N ₂ O.

GRI 306: Waste 2020

3-3	Management of material topics	37-39 EHS Policy	
306-1	Waste generation and significant waste-related impacts	39	
306-2	Management of significant waste-related impacts	37-39	
306-3	Waste generated	39	
306-4	Waste diverted from disposal	39	All waste is transported offsite.
306-5	Waste directed to disposal	39	All disposal methods were conducted offsite.

GRI 307: Environmental Compliance 2016

3-3	Management of material topics	42 , EHS Policy	
307-1	Non-compliance with environmental laws and regulations	42	

GRI 401: Employment 2016

3-3	Management of material topics	25-27 , EHS Policy	
401-1	New associate hires and associate turnovers ↑	26-27	

GRI 402: Labor Management 2016

3-3	Management of material topics	25-27	
402-1	Minimum notice periods regarding operational changes		At TPI we have a philosophy to communicate what we know, when we know it, in the most thoughtful and engaging way possible. In the event that we have a significant redundancy event in one of our operations we would follow this guiding philosophy. At a minimum, we would strive to provide associates no less than a two-week notice period.

Topic	Disclosure	Location	Comment
GRI 403: Occupational Health and Safety 2012			
3-3	Management of material topics	17-19, EHS Policy, Certifications	
403-1	Occupational health and safety management system	17-19	
403-2	Hazard identification, risk assessment, and incident investigation	17-19	
403-3	Occupational health services	17-19	
403-4	Worker participation, consultation, and communication on occupational health and safety	17-19	
403-5	Worker training on occupational health and safety	17-19	
403-6	Promotion of worker health	17-19	
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	17-19	
403-9	Work-related injuries ↑	19	Please note this disclosure covers all facilities, including headquarters. The hierarchy of controls (elimination, substitution, engineering controls, administrative controls, and PPE) is executed through self-correction and leadership implementation. Audits, inspections, and observations are conducted to ensure risks are being addressed.
GRI 404: Training and Education 2016			
3-3	Management of material topics	33-34	
404-1	Average hours of training per year per associate	33-34	
GRI 405: Diversity and Equal Opportunity 2016			
3-3	Management of material topics	28-29	
405-1	Diversity of governance bodies and associates ↑	15, 29	
GRI 413: Local Communities 2016			
3-3	Management of material topics	35, EHS Policy	
413-1	Operations with a local community engagement, impact assessments, and development programs	35-36	Please refer to the supplemental excel data for this information in Community Engagement.

12 SASB Disclosure

wind Technology & Project Developers and Electrical & Electronic Equipment ^{17,18}

Activity Metrics	Category	Unit	Code	Response
Number of produced wind blades ¹⁹	Quantitative	Number	RR-WT-000.A	Wind Blades: 7,752
Number of units produced by product category			RT-EE-000.A	Automotive: 104,000
Aggregate capacity of delivered wind blades	Quantitative	Megawatts (MW)	RR-WT-000.B	11,382
Number of associates	Quantitative	Number	RT-EE-000.B	12,363
Aggregate capacity of blade contract value	Quantitative	Megawatts (MW)	RR-WT-000.D	This information has been deemed confidential.

Topic	Accounting Metrics	Category	Unit of Measure	Code	Response
Energy Management ↑	(1) Total energy consumed (2) Percentage grid electricity (3) Percentage renewable	Quantitative	Gigajoules (GJ), Percentage (%)	RT-EE-130a.1	(1) 647,569 GJ (2) 71% (3) 4%
Hazardous Waste Management	(1) Amount of hazardous waste generated, (2) Percentage recycled	Quantitative	Metric tons (t), Percentage (%)	RT-EE-150a.1	(1) 9,949 (2) 30%
	Number and aggregate quantity of reportable spills, quantity recovered	Quantitative	Number, Kilograms (kg)	RT-EE-150a.2	0 kg
Product Safety	Number of recalls issued, total units recalled	Quantitative	Number	RT-EE-250a.1	None
	Total amount of monetary losses as a result of legal proceedings associated with product safety	Quantitative	Reporting Currency	RT-EE-250a.2	None
Workforce Health & Safety ↑	(1) Total recordable incident rate (TRIR) and (2) Fatality rate for (a) Direct associates and (b) Contract associates	Quantitative	Rate	RR-WT-320a.1	Please refer to the 2023 Safety Performance table on page 19 .

¹⁷ SASB metrics refer to wind turbine information, however, as the products we manufacture are wind blades we adjusted these metrics to reflect this.

¹⁸ Because TPI manufactures wind blades only and not the complete turbine, not all the industry metrics are applicable. These include: RR-WT-410a.1 Average top head mass, RR-WT-410a.2 backlog cancellation associated with community or ecological impacts, RT-WT-440b.2 Average top head mass per turbine capacity, by wind turbine class, RT-EE-410A.1 Percentage of products by revenue that contain IEC 62474 declarable substances and RT-EE-410a.2 Percentage of products by revenue that meet ENERGY STAR® criteria.

¹⁹ We report on the number of wind blades that we have produced rather than delivered.

Topic	Accounting Metrics	Category	Unit of Measure	Code	Response
Ecological Impacts of Project Development	Description of efforts to address ecological and community impacts of wind energy production through wind blade design	Discussion and Analysis	N/A	RR-WT- 410a.3	Please refer to GRI disclosure 2-23
Materials Sourcing	Description of the management of risks associated with the use of critical materials	Discussion and Analysis	N/A	RR-WT- 440a.1 RT-EE- 440a.1	While the use of critical materials presents no direct critical material risk to TPI's operations, TPI takes material disclosure into consideration for sourcing selection to reduce the risk of regulatory exposure arising from TPI's global sourcing activities. As part of our sourcing and compliance process, TPI requires all raw material suppliers to disclose any use of conflict minerals used directly or indirectly in their own or any sub-suppliers' process. TPI's due diligence measures are further described in its Conflict Minerals Report filed with the U.S. Securities and Exchange Commission.
Materials Efficiency	Top five materials consumed, by weight	Quantitative	Metric tons (tons)	RR-WT- 440b.1	Glass: 75,000 tons Resin: 34,000 tons Carbon: 12,000 tons Core: 10,000 tons Hardware: 7,000 tons
	Description of approach to optimize materials efficiency of wind blade design	Discussion and Analysis	N/A	RR-WT- 440b.3	TPI is a build to print manufacturer of onshore wind blades, building cost-effective and high-quality wind blades according to our customers' designs. While TPI does not design wind blades or influence the design with consideration of ecological or community impacts for our customers, we do work closely with our customers to implement design changes should such considerations be made. For more information, please refer to page 38 .
Business Ethics ↑	Description of policies and practices for prevention of: (1) Corruption and bribery	Discussion and Analysis	N/A	RT-EE- 510a.1	Please refer to our Governance and Ethics section of this report on page 14 .
	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	Quantitative	Reporting Currency	RT-EE- 510a.2 RT-EE- 510a.3	None

13 Task Force on Climate-related Financial Disclosures (TCFD)

Disclosure Focus Area	Recommended Disclosure	TPI Response
Governance	1a) Describe the boards oversight of climate-related risks and opportunities.	The Nomination and Corporate Governance Committee (NGC) is responsible for overseeing and reviewing the Company's sustainability strategy and activities. The NGC meets quarterly and: • Reviews/approves the Company's sustainability goals • Monitors the Company's progress toward achieving Committee-approved sustainability goals • Evaluates strategic climate-related risks and opportunities For further information refer to the Governance and Ethics section on page 14 of this report.
	Describe management's role in assessing and managing climate-related risks and opportunities.	Given our focus on decarbonizing the electric sector and electrifying the vehicle fleet, our business strategy is aligned to positively impact climate change. TPI's leadership team is actively involved in assessing and managing climate-related risks and opportunities on a day-to-day basis. The details of this process are described in the risk management disclosure below.
Strategy	2a) Describe the climate related risks and opportunities the organization has identified over the short, medium, and long term.	TPI went through a comprehensive study that assessed climate-related risks and opportunities over the short (0-3 years), medium (4-6 years) and long term (7+ years). Through this process we arrived at risks and opportunities material to our business, with the effects of these beginning in the short-term. TPI's top climate-related opportunity lies in the shift from higher to lower carbon products, which would create an increased demand of wind blades. Additionally, TPI has the opportunity to capitalize on expected growth in our wind and global service business units. TPI views our top climate-related risk to be a delay in investments from implemented policies such as the IRA and REPowerEU until customers and wind farmers receive further clarification on these regulations. Short term this delay has the potential to negatively impact TPI's financial performance. Additionally, competition remains a top risk for TPI - viewed as competition within the renewable energy sector, such as solar and carbon sequestration.
	2b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	TPI fully supports the decarbonization of energy production and the electrification of the vehicle fleet by providing significant reductions in greenhouse gas (GHG) emissions which helps mitigate climate change. TPI is actively addressing the previously mentioned risk within our planning, and we are well positioned to pursue the climate-related opportunities identified.
	Describe the resilience of the organization's strategy, taking into consideration the different climate-related scenarios, including a 2 degree C or lower scenario.	TPI considered both a business as usual scenario (IEA Stated Policies Scenario) and a 2 degree C scenario (IEA Sustainable Development Scenario) when assessing the resilience of our business strategy. TPI has a robust strategy that is well positioned under either scenario, and our opportunities are significantly accelerated under the 2 degree C scenario.

Disclosure Focus Area	Recommended Disclosure	TPI Response
Risk Management	3a) Describe the organization's processes for identifying and assessing climate related risks.	TPI's leadership team is responsible for assessing and managing climate-related risks and opportunities. In 2023, we integrated TCFD into TPI's ERM process to enhance our ability to identify, validate, and assess potential climate-related risks and opportunities. For further information refer to the Governance and Ethics and Enterprise Risk Management sections of this report.
	3b) Describe the organization's processes for managing climate-related risks.	
	3c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	
Metrics and Targets	4a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	- Greenhouse gas emissions (scope 1 and 2) ↑ - Levelized cost of energy of wind and solar - Annual installed generation capacity of wind and solar
	4b) Disclose scope 1, 2, and, if appropriate, 3 emissions and the related risks.	Please refer to the data table on page 41 for our emissions data.
	4c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	- Carbon neutral by 2030 for scope 1 and 2 emissions, with 100% of our energy coming from renewable sources - Net sales

Independent Assurance Statement

DNV Business Assurance USA, Inc. (DNV) has been commissioned by the management of TPI Composites, Inc. (TPI) to carry out an independent limited level assurance engagement of Selected Information for calendar year 2023. The assurance was carried out from January through March 2024.



Our Conclusion:

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Selected Information is not fairly stated and has not been prepared, in all material respects, in accordance with the criteria stated. This conclusion relates only to the Selected Information and is to be read in the context of this Assurance Report, in particular, the inherent limitations explained below.

Selected Information In Scope:

The scope and boundary of our work is restricted to the performance indicators included within the Report (the Selected Information) listed below. Data verified for the period January 1, 2023, through December 31, 2023.

- Greenhouse Gas Emissions Scope 1 and 2
- Energy Consumption
- Health & Safety
 - Total Recordable Incident Rate (TRIR) per 200,000 hours
 - Lost Time Incident Rate (LTIR) per 200,000 hours
 - High Consequence Incident Rate per 200,000 hours
 - Total Fatalities
- Diversity & Inclusion
 - Associates by Category, Location, Age, Gender and Race/Ethnicity
 - Global Leadership by Age, Gender and Race/Ethnicity
 - Board of Directors by Age, Gender and Race/Ethnicity
- Employment
 - New Hires by Gender and Age
 - Turnover by Gender and Age
- Business Ethics - Bribery & Anti-Corruption
 - Monetary losses from legal proceedings
 - Operations assessed for risks
 - Communication of anti-corruption policies and procedures
 - Training on anti-corruption
- International Organization for Standardization (ISO) Certificates
 - Number of certificates - ISO 9001:2015 Quality Management Systems
 - Number of certificates - ISO 14001:2015 Environmental Management Systems
 - Number of certificates - ISO 45001:2018 Occupational Health and Safety Management Systems

Our competence, independence, and quality control

DNV's established policies and procedures are designed to ensure that DNV, its personnel and, where applicable, others are subject to independence requirements (including personnel of other entities of DNV), and to maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of sustainability assurance professionals. DNV was not involved in the preparation of any part of TPI's data or report. This is our third year of providing assurance for TPI. We adopt a balanced approach towards all stakeholders when performing our evaluation.

Statement No. DNV-2024-ASR-C682038



Standards:

- Sustainability Accounting Standards Board (SASB) – Electronic Manufacturing Services & Original Design Manufacturing, 2023-12
 - RT-EE-130a.1: Energy Management
 - RT-EE-510a.1 (1): Corruption, Bribery - Policies and Prevention Practices
 - RT-EE-510a.2: Monetary Losses (Bribery and Corruption)
- Sustainability Accounting Standards Board (SASB) – Wind Technology & Project Developers, 2023-12
 - RR-WT-320a.1: Workforce Health & Safety
- GRI Indicators
 - 205-1: Operations assessed for risks related to corruption
 - 205-2: Communication and training about anti-corruption policies and procedures
 - 302-1: Energy consumption within the organization
 - 305-1: Direct (Scope 1) GHG Emissions; 305-2: Energy indirect (Scope 2) GHG emissions
 - 401-1: New employee hires and employee turnover
 - 403-9: Work-Related Injuries
 - 405-1: Diversity of governance bodies and employees

We do not express any conclusions on any other information that may be published on TPI's website or Report for the current reporting period or for previous periods.

Scope and Approach:

We performed a **limited level** assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 revised – 'Assurance Engagements other than Audits and Reviews of Historical Financial Information' (revised), issued by the International Auditing and Assurance Standards Board. This standard requires that we comply with ethical requirements and plan and perform the assurance engagement to obtain limited assurance.

DNV applies its own management standards and compliance policies for quality control, in accordance with ISO/IEC 17029:2019 - Conformity Assessment General principles and requirements for validation and verification bodies, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

The Selected Information has been evaluated against the following reporting criteria:

- World Business Council for Sustainable Development (WBCSD) / World Resources Institute (WRI) Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard REVISED EDITION
- Sustainability Accounting Standards Board, Electrical & Electronic Equipment, October 2018
- Sustainability Accounting Standards Board, Wind Technology & Project Developers, October 2018

DNV used a risk-based approach throughout the assurance engagement, concentrating on the areas that we believe are most material for both TPI and its stakeholders. DNV applied a materiality threshold of five percent for the Selected Information.

Responsibilities of TPI and DNV

TPI has sole responsibility for:

- Preparing and presenting the Selected Information in accordance with the criteria
- Designing, implementing, and maintaining effective internal controls over the information and data, resulting in the preparation of the Selected Information that is free from material misstatements
- Measuring and reporting the Selected Information
- Contents and statements contained within the websites

In performing our assurance work, our responsibility is to the management of TPI; however, our assurance report represents our independent opinion and is intended to inform all stakeholders. DNV was not involved in the preparation of any statements or data included in the Report or website except for this Assurance Statement.

Level of Assurance

We are providing a '**limited level**' of assurance, and we planned and performed our work to obtain the evidence we considered necessary to provide a basis for our assurance opinion, so that the risk of this conclusion being in error is reduced, but not reduced completely. The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement; and the level of assurance obtained is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. We planned and performed our work to obtain the evidence we considered sufficient to provide a basis for our opinion, so that the risk of this conclusion being in error is reduced but not reduced to very low. A 'reasonable level' of assurance would have required additional work at headquarters and site levels to gain further evidence to support the basis of our assurance opinion. All assurance engagements are subject to inherent limitations as selective testing (sampling) may not detect errors, fraud, or other irregularities. Non-financial data may be subject to greater inherent uncertainty than financial data, given the nature and methods used for calculating, estimating, and determining such data. The selection of different, but acceptable, measurement techniques may result in different quantifications between different entities. The background assumptions within the software systems may not be applied consistently throughout the portfolio. DNV's assurance engagements are based on the assumption that the data and information provided by the client to us as part of our review have been provided in good faith. This includes but is not limited to sales and acquisitions, square footage, occupancy rates, data coverage, and financial/operational control. DNV expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Independent Assurance Statement.



Selected Information:

The data included within the Report, marked with the  symbol in the Report and listed below:

2023 Greenhouse Gas Emissions

▪ Scope 1 Emissions	9,610 MT CO ₂ e
▪ Scope 2 Emissions (Market-Based)	64,242 MT CO ₂ e
▪ Scope 2 Emissions (Location-Based)	61,685 MT CO ₂ e

2022 Greenhouse Gas Emissions

▪ Scope 1 Emissions ¹	11,155 MT CO ₂ e
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2023 Energy Consumption

▪ Total Energy Consumption	647,569 GJ
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2023 Employee Health & Safety

▪ Total Recordable Incident Rate (TRIR) per 200,000 hours	0.21
○ Total Number of Recordable Injuries	29
▪ Total Lost Time Incident Rate (LTIR) per 200,000 hours	0.10
○ Total Number of Lost Time Injuries	14
▪ High Consequence Incident Rate per 200,000 hours	0
▪ Total Fatalities	0

2023 Contractor Health & Safety

▪ Total Recordable Incident Rate (TRIR) per 200,000 hours	0
○ Total Number of Recordable Injuries	0
▪ Total Lost Time Incident Rate (LTIR) per 200,000 hours	0
○ Total Number of Lost Time Injuries	0
▪ Total Fatalities	0

2023 Diversity

▪ Total Associates by Category	
○ Direct Labor:	9,133
○ Indirect Labor:	2,673
○ Administrative:	557
○ Global Leadership Team:	111
▪ Total Associates by Location	U.S. 486 Mexico 6,608 Asia 11 EMEA 3,672 India 1,586
▪ Total Associates by Gender	Female: 16% (1,949) Male: 84% (10,414)
▪ Total Associates by Age	Under 30: 39% 30-50: 55% Above 50: 6%
▪ Total Associates by Ethnicity ²	Asian: 13% Black: 0% Latino: 55% Middle Eastern: 29% Caucasian: 2%
▪ Global Leadership by Gender	Female: 16% Male: 84%
▪ Global Leadership by Age	Under 30: 0% 30-50: 56% Above 50: 44%
▪ Global Leadership by Ethnicity	Asian: 10% Black: 2% Latino: 14% Middle Eastern: 19% Caucasian: 56%
▪ Board Age Diversity	Under 30: 0% 30-50: 0% Above 50: 100%
▪ Board Gender Diversity	Female: 33% Male: 67%
▪ Board Ethnic Diversity	Asian: 11% Black: 22% Latino: 0% Caucasian: 67% Other: 0%

¹ 2022 Scope 1 emissions restated from 9,210 MT CO₂e to 11,155 MT CO₂e.

² Some figures and percentages may not add up to the total figure or 100 percent due to rounding.

Independence

DNV's established policies and procedures are designed to ensure that DNV, its personnel and, where applicable, others are subject to independence requirements (including personnel of other entities of DNV) and maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of sustainability assurance professionals.

Basis of our conclusion

We are required to plan and perform our work in order to consider the risk of material misstatement of the Selected Information; our work included, but was not restricted to:

- Conducting interviews with TPI's management to obtain an understanding of the key processes, systems and controls in place to generate, aggregate and report the Selected Information
- Performing limited substantive testing on a selective basis of the Selected Information to check that data had been appropriately measured, recorded, collated and reported;
- Reviewing that the evidence, measurements and the scope provided to us by TPI for the Selected Information is prepared in line with the agreed upon procedures and criteria
- Reading the Report and narrative accompanying the Selected Information within it with regard to criteria
- Reviewing global employee rosters at year-end at individual contributor, supervisor/manager, director, and executive leadership levels to determine percent breakdown by gender, ethnic composition, and special populations
- Reviewing recordable incidents, lost time incident, total recordable incident rate (TRIR), total lost time incident rate (LTIR), number of employees (direct and indirect labors), hours worked, employee categories
- Replicating the TRIR and LTIR following the reporting criteria below:
 - OSHA Recording and Reporting Occupational Injuries and Illness
- Reviewing sample of recordable incidents and lost time incidents
- Reviewing number of monetary losses as a result of legal proceedings associated with bribery or corruption and communications and trainings related to bribery and corruption.



2023 Employment

▪ Total New Hires by Gender	Female: 20% (897) Male: 80% (3,518)
▪ Total New Hires by Age	Under 30: 63% 30-50: 35% Above 50: 3%
▪ Turnover by Gender (without impacts)	Female: 18% Male: 82%
▪ Turnover by Gender (with impacts)	Female: 16% Male: 84%
▪ Turnover By Age (without impacts)	Under 30: 60% 30-50: 37% Above 50: 3%
▪ Turnover By Age (with impacts)	Under 30: 46% 30-50: 51% Above 50: 3%

2023 Ethics

▪ TPI incurred no monetary losses as a result of legal proceedings associated with bribery or corruption	
▪ Percentage of operations assessed for risks related to corruption	100%
▪ Percentage of governance body members that the organization's anti-corruption policies and procedures have been communicated to	100%
▪ Percentage of associates that the organization's anti-corruption policies and procedures have been communicated to	100%
▪ Percentage of governance body members that have received training on anti-corruption	100%
▪ Percentage of associates that have received training on anti-corruption	99%
▪ Percentage of business partners (i.e., global suppliers) that the organization's anti-corruption policies and procedures have been communicated to	85%

2023 ISO Certifications

▪ Number of sites certified - ISO 9001:2015 Quality Management Systems	9
▪ Number of sites certified - ISO 14001:2015 Environmental Management Systems	9
▪ Number of sites certified - ISO 45001:2018 Occupational Health and Safety Management Systems	8

For and on behalf of DNV Business Assurance USA, Inc.

Katy, TX

21 March 2024

Kyle Sllon

Kyle Sllon
Lead Verifier

Digital Signer: Kyle Sllon
DN: E=kyle.sllon@dnv.com
, CN=Kyle Sllon
Date: 3/20/2024
20:39:59 -07:00

Xu, Yishuang
Digitally signed by Xu, Yishuang
Date: 2024.03.21
12:50:00 -07'00'

Yishuang Xu
Verifier

Song, Ke Karl
Digitally signed by Song, Ke Karl
Date: 2024.03.21
10:00:52 +08'00'

Ke Karl Song
Technical Reviewer

WHEN TRUST MATTERS

DNV Assurance Methods

The following methods were applied during the verification of TPI's sustainability data assertions and management processes:

- Review of documentation, data records and sources relating to the corporate sustainability data claims and assertions;
- Review of the processes and tools used to collect, aggregate and report on all sustainability data and metrics;
- Assessment of sustainability information systems and controls, including:
 - Selection and management of all relevant sustainability data and information;
 - Processes for collecting, processing, consolidating, and reporting the relevant sustainability data and information;
 - Design and maintenance of the environmental information system;
 - Systems and processes that support the sustainability information system.
- Performed sample-based audits of the processes for generating, gathering and managing the quantitative and qualitative sustainability data;
- Examination of all relevant sustainability data and information to develop evidence for the assessment of the sustainability claims and assertions made;
- Confirmation of whether the organization conforms to the verification criteria

DNV Business Assurance

DNV Business Assurance is a global provider of certification, verification, assessment and training services, helping customers to build sustainable business performance.

<https://www.dnv.com/assurance/>

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