

*it's in the wind<sup>®</sup>*

## Contents

<b>1</b>	<b>Message from CEO Steve Lockard</b>	4	<b>5</b>	<b>Health and Safety</b>	15
<b>2</b>	<b>About TPI</b>	5	<b>6</b>	<b>Environment</b>	17
<b>2.1</b>	<b>Markets</b>	7	<b>6.1</b>	<b>Materials and Waste</b>	17
	Wind	7			
	Transportation	7			
<b>2.2</b>	<b>Supply Chain</b>	8	<b>6.2</b>	<b>Energy and Emissions</b>	19
<b>2.3</b>	<b>Associates</b>	8	<b>6.3</b>	<b>Environmental Compliance</b>	19
<b>2.4</b>	<b>Safety</b>	9	<b>7</b>	<b>Associate Training and Development</b>	20
<b>2.5</b>	<b>Stakeholders</b>	10	<b>8</b>	<b>Communities and Economic Impacts</b>	22
	Engagement Approach	10			
<b>3</b>	<b>Materiality Assessment</b>	11	<b>9</b>	<b>2019 Performance</b>	25
	Material Topics	11			
<b>4</b>	<b>Governance and Ethics</b>	13	Environment	25	
	Board and Executive Oversight	13	People	26	
	Code of Conduct	13	<b>GRI Content Index</b>	28	
	Ethics Reporting	14	<b>SASB Disclosure — Wind Technology &amp; Project Developers</b>	35	
	Third-Party Due Diligence	14			
	External Certification	14			

This report provides information regarding TPI Composites, Inc. (TPI) environmental, social and governance (ESG) efforts for the 2019 calendar year. We aligned our material topics with the Global Reporting Initiative (GRI). This report has been prepared in accordance with the GRI Standards: Core Option. The accompanying GRI index is at the end of this report. This report also addresses the SASB standards for our industry and the accompanying SASB Disclosure is at the end of this report.

This publication covers our 13 manufacturing facilities. Please refer to the GRI index for a detailed listing by each material topic.

### **Contact Information**

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

Published: March 23, 2020

*Decarbonize & Electrify*

## 1 | Message from CEO Steve Lockard

TPI is a mission driven company. We recognize that climate change is one of the most pressing issues of our time. We are well positioned and fortunate to be a part of the solution, by advancing the decarbonization of the electric sector and supporting electrification of the vehicle fleet. In 2019, as the only independent composite wind blade manufacturer with a global footprint, we contributed to approximately 18% of the overall 53 GW global onshore wind energy market. Through our role in global clean energy growth, we believe TPI delivers planetary benefits. The wind blades we sold in 2019 have the potential to eliminate 303 million metric tons of CO<sub>2</sub> throughout their average 20-year lifespan, equivalent to emissions from over 64 million cars driven for a year with over 751 billion miles driven.

Through our sustainability efforts we have been positively impacting the communities in which we operate for years, while also improving efficiency and mitigating risk of our operations. We have embedded sustainability practices into our day-to-day operations to safeguard our people and the environment in which they work. We are extremely proud, that in 2019, TPI's associates contributed over 23,000 hours of volunteered time to serve their communities.

The success and future of our organization depends on our associates and their safety. Safety is more than a priority at TPI, it is our most important Core Value. We are committed to securing the health and safety of our associates globally. This is demonstrated in our 82% decrease in recordable incident and 78% decrease in lost time incident rates over the last four years to 0.39 and 0.21, respectively. Our rates are well below the U.S. Bureau of Labor Statistics 2018 industry average of 2.0 and 0.6 and are key indicators of the effectiveness of our health and safety program.

At TPI, we view sustainability as more than a target, it is a principle that guides us to continuously improve our business and our impacts.



Steve Lockard



### Our Vision

To accelerate global clean energy growth by manufacturing competitive and innovative composite solutions.

### Our Mission

To be the preferred global structural composite supplier and partner to the top wind turbine OEMs. We innovate to expand the use of clean energy solutions while delivering exceptional value to our customers and stakeholders.

### Our Core Values

- Safety
- Operational Excellence
- Commitment
- Integrity
- Leadership



## 2 | About TPI

We are a leading wind-blade manufacturer and accounted for approximately 18% of all sold onshore wind blades on a MW-basis globally in 2019. We reached a new high this year with over \$1.4 billion in net sales and more than 9,500 wind blades sold. We enable many of the industry's leading wind turbine original equipment manufacturers (OEMs), who have historically relied on in-house production, to outsource the manufacturing of some of their wind blades. Our advanced manufacturing facilities are strategically located around the world to serve the growing global wind market in a cost-effective manner. We also leverage our advanced composite technology and innovation to supply unique, high-strength, lightweight and durable composite product solutions to the transportation market, including passenger automotive, bus, truck, and delivery vehicle applications.

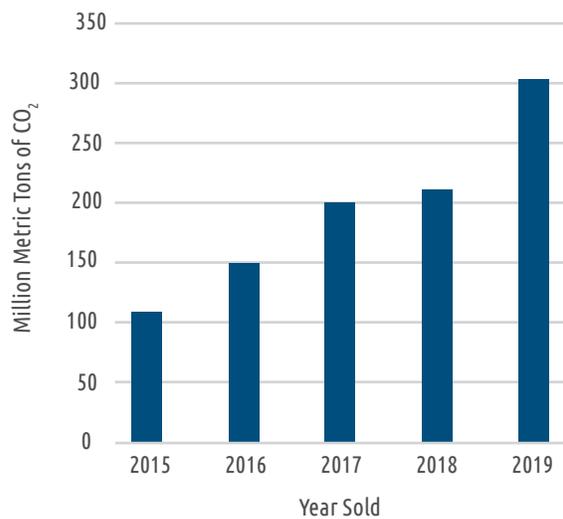
### Associates at a Glance



- U.S. | 1,300
- Asia | 2,900
- EMEA | 3,600
- Mexico | 5,500

The wind blades that we manufacture support the decarbonization of energy production, provide significant reductions in greenhouse gas (GHG) emissions, and help mitigate climate change. Over the last 5 years, the wind blades we have sold have the potential to reduce more than 980 million metric tons of CO<sub>2</sub> over their average 20-year life span<sup>1</sup>. This is equivalent to the use of more than 200 million passenger vehicles for one year in the U.S.<sup>2</sup>

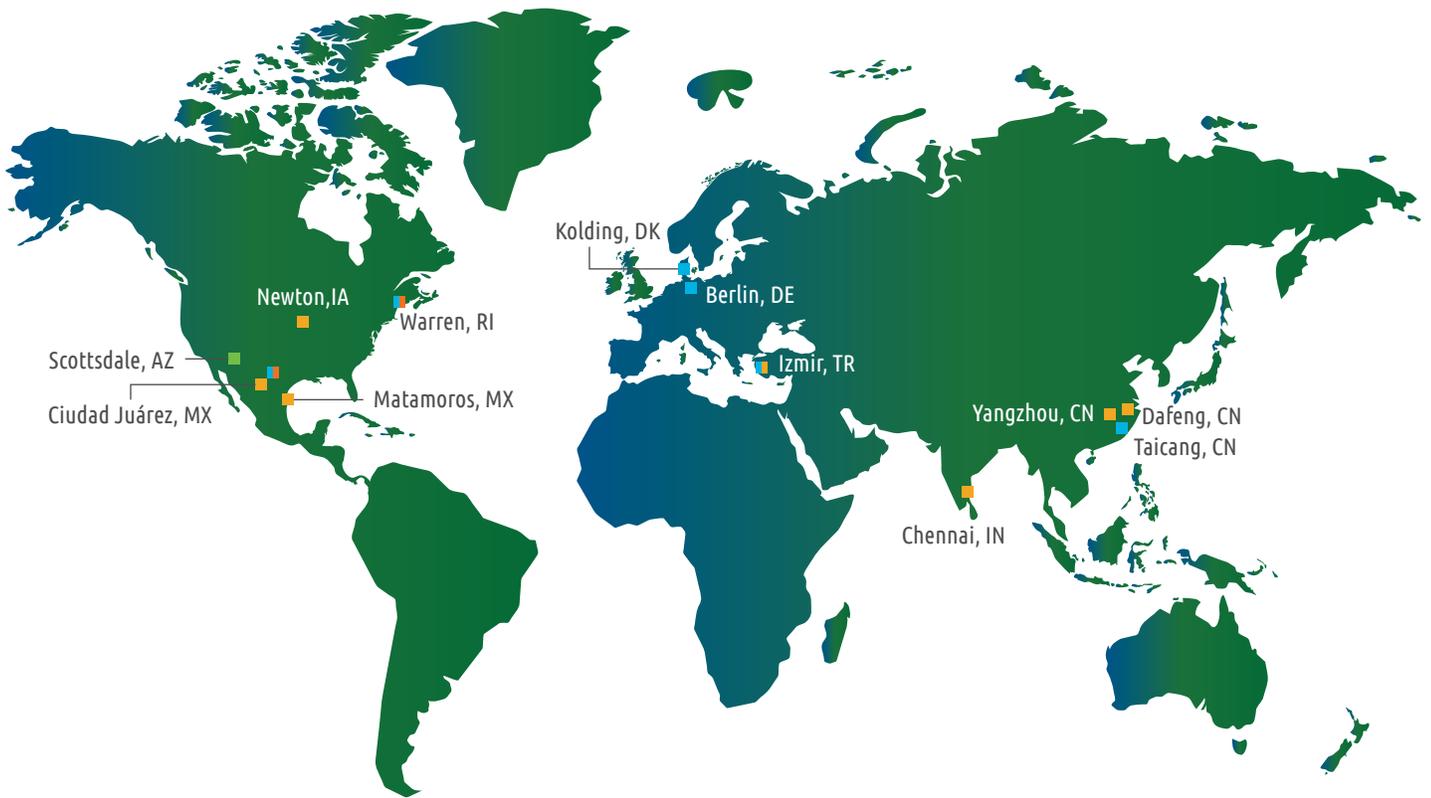
### Total CO<sub>2</sub> Reduction from Blades Sold Over Entire Product Life by Year Sold



<sup>1</sup> Formula = TPI Sold Estimated MWs x 1000 x Total Lifetime Hours x Estimated Turbine Capacity Factor (DOE/IRENA) x IEA emissions factor of 475 g CO<sub>2</sub>/kWh

<sup>2</sup> United States Environmental Protection Agency (EPA). (2018). [GHG Equivalencies Calculator](#)

*We have 13 manufacturing facilities with 6 million square feet in 5 countries.*



- Headquarters: Scottsdale, AZ
- Wind Blade Manufacturing Facility
- Transportation Manufacturing Facility
- Tooling / Engineering / R&D Facility

## 2.1 | Markets

### Wind

Global electricity demand is projected to increase 62% from 2018 through 2050, and generating capacity is expected to reach 19,000 gigawatts with wind making up 26% of the 2050 global power generation mix<sup>3</sup>. The levelized cost of wind energy has dropped 70% since 2009<sup>4</sup>. The key drivers that have and continue to reduce the cost of wind, are longer blades, taller towers, increased megawatt ratings, higher capacity factors, lower cost of operations and maintenance and better siting. Average wind blade lengths for TPI's customers are projected to increase by almost 50% by 2028<sup>5</sup>. We have become a key supplier to our customers in the manufacture of wind blades and related precision molding and assembly systems, and we are the only independent blade manufacturer with a global footprint. We ensure critical dedicated capacity in our global world-class facilities for our customers through long-term agreements and dedicated supplier model. This collaborative dedicated supplier model provides us with contracted volumes that generate significant revenue visibility, drive capital efficiency, and allow us to produce wind blades at a lower total delivered cost.

### Transportation

Increasing demand for weight savings continues across passenger automotive, bus, truck, and delivery vehicles, especially as the electrification trend expands. TPI's unique composite product solutions allow critical weight reductions compared to metallic components – extending range and/or providing additional optionality for battery components. In addition, we are collaborating with transportation OEMs to deliver innovative composite solutions to improve fuel economy and air quality emissions for internal combustion engine vehicles. The transportation products that we manufacture support reductions in GHG emissions. Innovative, lightweight composite truck body parts and structures are becoming increasingly critical to businesses involved in the transportation of goods and services as they are continually looking for ways to reduce costs, minimize impact to the environment and remain competitive. We continue to believe our composite solutions are ideally suited for expansion in transportation applications because of benefits resulting from weight reduction, corrosion resistance, strength, and durability. When it comes to lightweight composite bus structures, TPI is an industry leader in providing fully integrated composite structures for transit bus applications.



<sup>3</sup> BloombergNEF

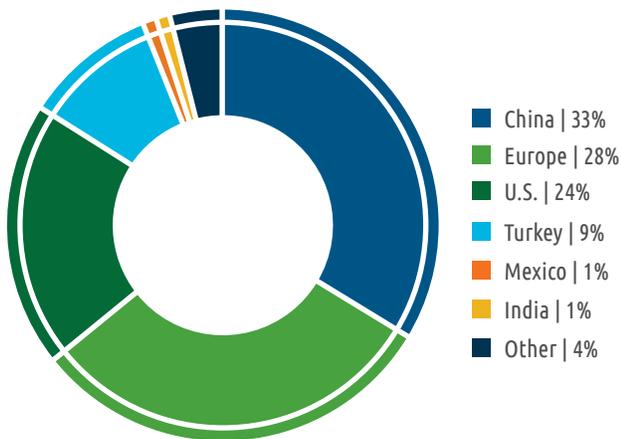
<sup>4</sup> Lazard

<sup>5</sup> Wood Mackenzie

## 2.2 | Supply Chain

We are dedicated to providing high-quality, cost-effective solutions to our customers worldwide. To do so, we leverage our procurement expertise and dedicated supplier model. 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. In addition, we implement and integrate our rigorous quality assurance systems with those of our customers. Our raw material supply chain encompasses over 750 suppliers in over 20 countries, with a supply spend of approximately 58% of our net sales in 2019, and we continue to enhance our usage of local and regional suppliers to support our operations and reduce transportation distance and carbon emissions.

### Regional Raw Material Supply Chain Spend



Total Supply Spend: \$838,500,000 USD

*“Taking care of our associates, being transparent with our stakeholders, and being stewards of the environment, are not only the right things to do, but we also believe incorporating ESG principles into our strategy, operations and culture will enable us to drive business performance, long-term sustainability and shareholder value.”*

— Bill Siwek, President

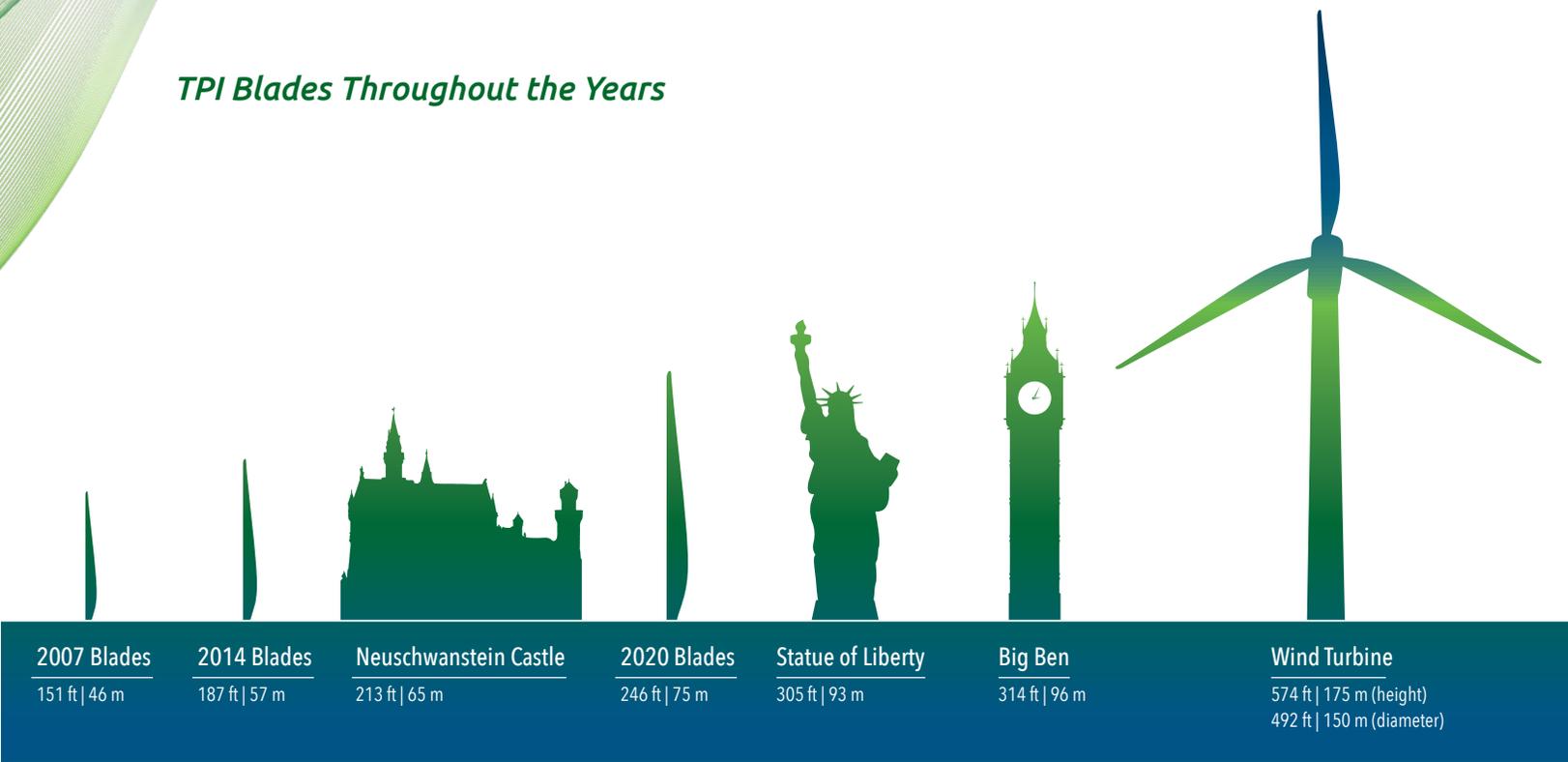
## 2.3 | Associates

Our culture is a strategic differentiator for us largely because of our highly engaged workforce. It is through our associates' efforts that we have been able to grow our net sales at a 23% CAGR over the past four years and continue to achieve high levels of performance. Our wind blade manufacturing process is more manual than most people may realize. The products we manufacture are large and weigh 15 metric tons, on average, and our associates manage most parts of the process by hand.

Our associates embrace our Core Values of Safety, Operational Excellence, Commitment, Integrity and Leadership. They have brought our values to life by applying their diverse backgrounds and skillsets to everyday actions and demonstrating high discretionary effort. We have an incredible opportunity to benefit from our diversity and to advance the positive impact that diversity and inclusion can bring. We value diversity in all forms, especially diversity of thought, and aspire to create an environment that recognizes and celebrates the benefits that come with a diverse workforce. We know that diversity of our associate population makes us better and strive to continue to improve in these areas. Without our associates, our vision to accelerate decarbonization of the electric sector by manufacturing competitive and innovative composite solutions could not be realized.

TPI supports and cultivates a culture of high engagement. The engagement of our associates has nearly reached extraordinary normative levels. We have strong regional human resources teams and external partners that ensure that we are compliant with all current labor standards. We have provided training to all levels of leadership to foster positive labor relations and develop action plans to address changes as needed.

## TPI Blades Throughout the Years

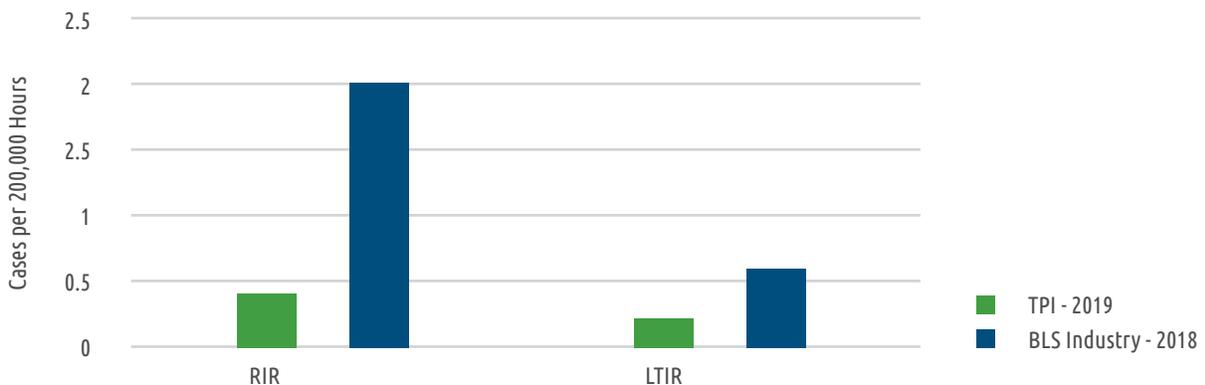


## 2.4 | Safety

Safety is our most important Core Value. We recognize that the nature of our business is very hands-on, and we are committed to protecting the well-being of all associates. At TPI, we strongly believe that every associate should return at the end of the day to their families in the same healthy condition in which they showed up for work at the beginning of their shift. We also believe that all

accidents are preventable and continue to mature our zero-harm culture. Over the last four years we have reduced our recordable incident rate by 82% to 0.39 and our lost time incident rate by 78% to 0.21 while increasing in the amount of exposure hours by 145%.

### Incident Rates<sup>6</sup>



<sup>6</sup> Industry incident rates are according to the U.S. Bureau of Labor Statistics 2018 Survey of Occupational Injuries and Illnesses NAICS code 333611

## 2.5 | Stakeholders

We actively seek out ongoing feedback from our internal and external stakeholders. We identify stakeholders to engage with by those that most impact, or are most impacted by, our business operations. This includes our associates, customers, investors, asset managers, ESG raters, industry associations and regulators.

## Engagement Approach

We regularly engage with our stakeholders via a variety of methods, such as providing information through our website, publishing quarterly and annual reports, stakeholder group specific activities, and ongoing dialogue. We conduct targeted stakeholder outreach to help identify ESG topics that are material to TPI. Each stakeholder group provides priority topics which are addressed in the respective sections of this report, and our financial performance is discussed in our Form 10-K filing.

Stakeholder Group	Method of Engagement	Priority Topics
Associates	Ongoing dialogue Annual engagement survey Focus groups Town Halls	Occupational Health and Safety Local Communities Training and Education
Customers	Ongoing dialogue Contracts Customer surveys Interviews	Energy Management Effluents and Waste Occupational Health and Safety Supplier Environmental Assessment Governance and Ethics Economic Performance
Investors/Asset Managers	Ongoing dialogue Financial reporting Investor events Interviews Quarterly earnings calls	Governance and Ethics Energy Management Training and Education Diversity and Equal Opportunity Economic Performance
ESG Raters	Research Rating process/feedback	Governance and Ethics Economic Performance Indirect Economic Impacts
Industry Associations	Research	Occupational Health and Safety Economic Performance Governance and Ethics Procurement Practices/Materials Sourcing Environmental Compliance
Regulators	Research	Occupational Health and Safety Training and Education Environmental Compliance Effluents and Waste Governance and Ethics

### 3 | Materiality Assessment

In 2018, we conducted a robust materiality assessment to identify the topics most important to our organization and our stakeholders. We completed interviews and surveys with our key internal and external stakeholders, which included associates, customers, investors, and coupled this with information from third-party ESG analysts, industry associations and regulators. Information from this engagement was then assessed based on importance to our stakeholders and impacts of our business to arrive at the relevant material topics, which can

be found in the matrix below. The underlined items represent the material topics included in this report. Items in the upper right corner represent topics that are impacted more heavily by our business and are also of higher importance to our stakeholders, such as associate health and safety due to the largely hands-on nature of our business. Items in the lower left corner represent topics that are impacted less by our business and are of lower importance to our stakeholders such as water management since we use an insignificant amount of water in our manufacturing processes.

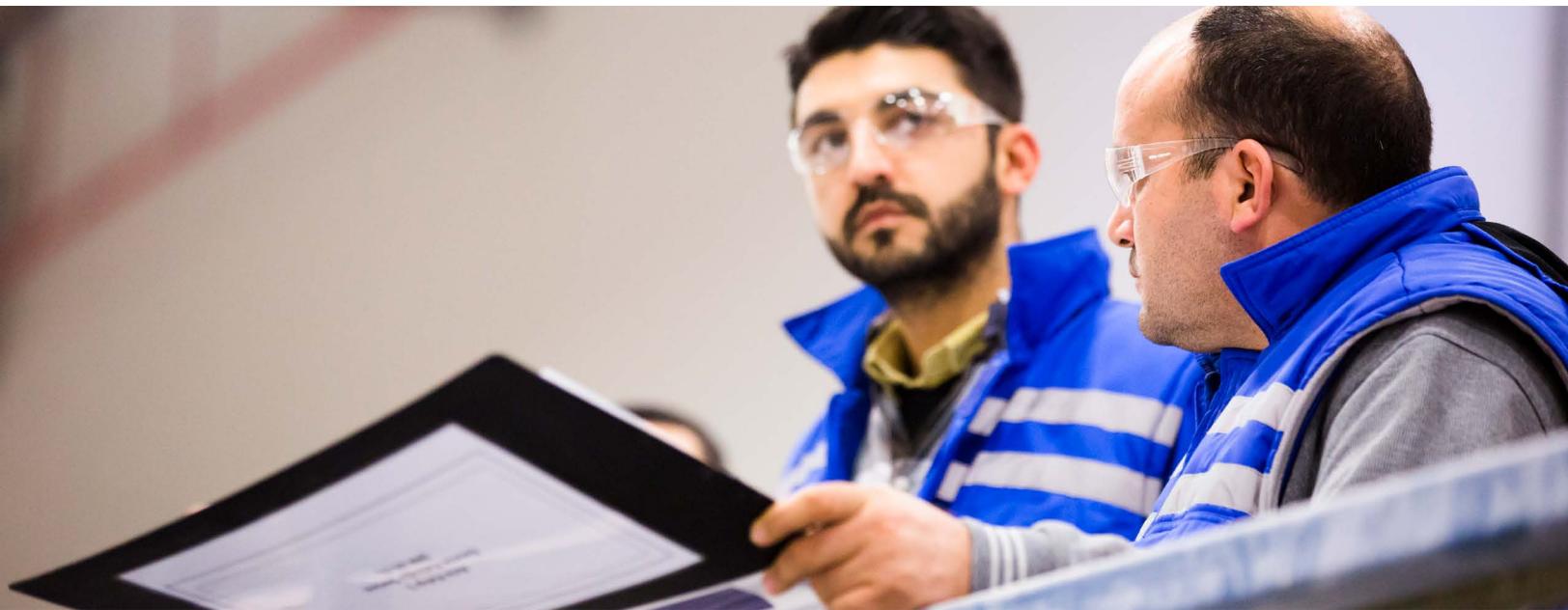




## ESG Performance Review

### *Decarbonize & Electrify*





## 4 | Governance and Ethics

We are committed to global integrity. Although everyone has a general understanding of integrity—do the right thing, even when no one is watching—applying this general concept to our day-to-day operations at TPI can be complicated. Our associates operate in multiple regions around the world with different cultural and business norms. To help ensure we follow all laws and regulations where we do business, we have developed and implemented practices to promote a culture of compliance throughout our organization.

### Board and Executive Oversight

TPI's Board of Directors is the highest governance body within the company. Members of the Board comprise the Audit Committee, which oversees fraud prevention and compliance, and Compensation Committee and the Nominating and Corporate Governance (NCG) Committee, both of which oversee diversity and board composition. The NCG Committee oversees and reviews all ESG strategies and activities, alongside TPI's senior leadership. To help align our compensation and ESG strategies, we have developed ESG metrics, which are included in our executive

compensation plans. We include safety metrics, and we may add additional ESG components in the future.

### Code of Conduct

Our Code of Business Conduct & Ethics (Code) sets a tone at the top for the entire company regarding ethical behavior. The Code covers the topics of conflicts of interest, confidentiality, preventing workplace harassment, and anti-corruption, among others. TPI's Board of Directors, in conjunction with its Audit Committee, is responsible for administering the Code, and has delegated day-to-day responsibility for administering and interpreting the Code to TPI's General Counsel who serves as TPI's Compliance Officer.

The Code and our separate Anti-Corruption Policy educate associates on anti-corruption practices and expressly prohibits direct and indirect payments that violate applicable anti-corruption laws. TPI's associates receive annual training on both the Code and the Anti-Corruption Policy and are available in their local language.

## Ethics Reporting

As part of the Code training, associates are encouraged to raise any ethical concerns either directly or anonymously. They can report concerns anonymously through a hotline that is operated by a third-party provider. Any messages submitted to the hotline are only accessible by the Company's Compliance Officer and Audit Committee Chairperson, who then decide if the concern will be investigated 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. We do not retaliate against any associate who reports ethical concerns in good faith. Posters regarding the anonymous hotline are posted at all our manufacturing facilities in the local language.

## Third-Party Due Diligence

We have implemented policies and procedures to help us evaluate the integrity of our third-party business partners. TPI has documented standards for suppliers and monitors performance throughout the supplier lifecycle. We do this by using an independent vendor assessment tool, conduct audits of our suppliers, and require suppliers to complete an annual questionnaire that identifies compliance and policies from these companies for areas such as child labor, corruption and safety.

## External Certification

We have implemented Management Systems at several of our locations according to the international standards for quality, environment, and health and safety—ISO 9001, ISO 14001, and ISO 45001, respectively. We audit our top global raw material suppliers to these standards as well. The International Organization for Standardization (ISO) develops and publishes international standards for various topics and management systems. ISO standards provide guidance and requirements on how to implement best practices for each topic. Once a company has implemented the appropriate practices, they can go through an external certification process.

As of the date of this report, we have ten facilities ISO 9001 certified, six facilities ISO 14001 certified, and four facilities ISO 45001 certified. We have a roadmap to have the remaining facilities certified by the end of 2021. Our current certifications are found on our website. 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 requirements, in accordance with industry standards, and meeting TPI's customer requirements.

*To help ensure we follow all laws and regulations where we do business, we have developed and implemented practices to promote a culture of compliance throughout our organization.*



## 5 | Health and Safety

At TPI, we aim to continuously improve our zero-harm culture. Our 13 manufacturing facilities have safety management systems in place. We currently have four facilities ISO 45001 certified, and we aim to have the remaining facilities certified as well.

We aim to align safety practices across our global facilities and to have them all meet the higher of U.S. Occupational Safety and Health Administration (OSHA) health and safety standards and local laws and regulations. Facilities that have local standards less stringent than the OSHA minimums generally adhere to the more stringent U.S. standards.

We ensure the safety of our associates in a variety of ways, starting with safety education. Safety education is the foundation for our other safety measures. Associates receive regular training on environmental, health and safety (EHS) 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

To ensure that safety behavior is properly executed, multiple measures are implemented at the facility level. These include our near miss/good catch program, weekly safety walks, and daily safety communication.

Each facility implements a near miss/good catch program where leadership educates its associates on what a near miss and good catch entails. A near miss is an incident that did not result in injury, illness or damage but had the potential to do so. A good catch is the identification of an unsafe condition or behavior that has the potential to cause harm with timely intervention and corrective action before an incident occurs. Furthermore, associates are encouraged to take an active role in identifying and reporting these incidents alongside suggestions for prevention or improvement of safety conditions or behaviors.

Each facility also conducts regular safety walks. During these walks, the leadership team inspects production processes to test associate knowledge and ensure that the physical environment is safe. Both behaviors of recognition and improvement are identified during these walks.

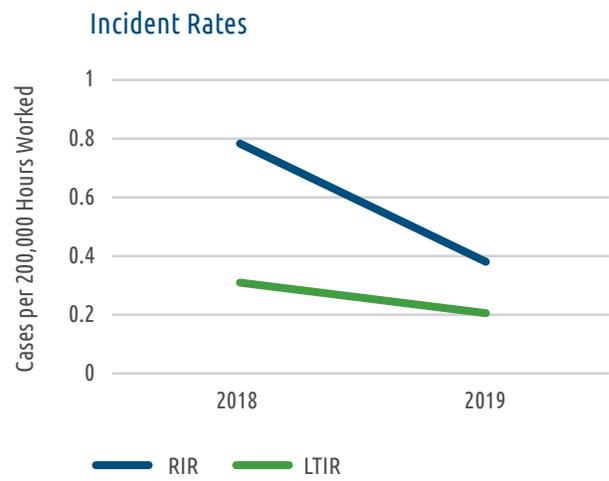
Safety hazard information is communicated to associates regularly. Communication materials are provided to associates and then discussed with leadership. Topics included in these communications revolve around recent safety hazards, issues and training.

While we employ various preventative safety measures across our operations, we understand that accidents can happen. If an injury occurs, a root cause is identified, and corrective actions are implemented to prevent the injury from happening again. All safety information is tracked and reviewed at each location and with senior management. Incidents and corrective actions are then shared across site locations, along with significant near miss/good catch incidents, to ensure that best practices are implemented globally.

In 2019, we saw a recordable incident rate of 0.39 compared to 0.78 in 2018. Our lost time incident rate in 2019 was 0.21 compared to 0.31 in 2018. We achieved these results all while increasing the number of working hours from 2018. In addition, we saw the number of near misses/good catches implemented at over 31,000.

*“Safety is more than a priority at TPI, it is our most important Core Value.”*

*— Steve Lockard, Chief Executive Officer*





## 6 | Environment

TPI directly contributes to the decarbonization of the electric sector and supports electrification of the transportation sector. Power generation and vehicles are responsible for almost half of global GHG emissions. We want to make a meaningful reduction in GHG emissions to combat climate change through the products that we manufacture and enable faster adoption at lower costs<sup>7</sup>.

We aim to maximize the positive impact we have on our environment. TPI's EHS policy provides the foundation needed to accomplish this at each of our locations. We are committed to protecting the environment and securing the health and safety of our associates and the members of the communities where we operate. We do so by fully considering EHS effects of our facilities, integrating these considerations into our business planning and decision making, empowering our associates with responsibility and education, and providing organizational structure support, directive and resources so that we may continuously improve.

All our manufacturing facilities have an environmental management system (EMS) in place. We currently

have six facilities ISO 14001 certified, and we aim to have the remaining facilities certified as well.

### 6.1 | Materials and Waste

We are actively pursuing practices to achieve better material efficiency and waste reduction through in-house research and partnering with organizations, such as the National Renewable Energy Laboratory (NREL), on topics like the recycling of retired materials and using thermoplastics.

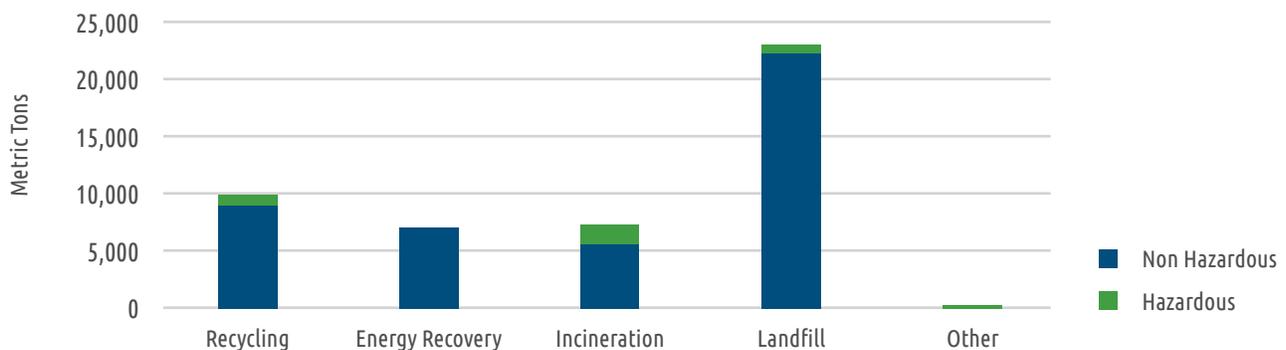
As the wind energy market continues its growth and the installed fleet ages, end-of-life options are becoming increasingly important to consider (wind blades currently have an average lifespan of 20 years). Current end-of-life options for wind blades mostly entail sending them to landfills. However, options for recycling are being developed. These recycling options include grinding down the materials to use as inputs in secondary applications.

<sup>7</sup> Intergovernmental Panel on Climate Change (IPCC). (2014). *Fifth Assessment Report (AR 5)*

Our primary materials and waste objective is to mitigate and manage the hazardous and non-biodegradable waste generated from production. We aim to reduce the amount of waste per item produced. For the waste that is generated, we aim to divert it from landfills, through recycling and energy recovery (or waste-to-energy) incineration. Energy recovery is a preferred method of waste management over treatment and disposal as it provides a source of energy generation and reduces carbon emissions due to the reduction of fossil fuel reliance<sup>8</sup>. In 2019, we had 47,992 metric tons (tons) of overall waste, with 4,049 tons of hazardous and 43,943 tons non-hazardous waste. Landfilled hazardous waste is disposed of through controlled confinement in a landfill that is lined, monitored and in compliance with government regulations. Of our non-hazardous waste we sent 8,992 tons to recycling, 5,646 tons to incineration, 7,111 tons to energy recovery, and 22,182 tons to a landfill.

*Our goal is to implement global EHS practice standards where the minimum baseline shall be the more stringent of applicable local, statutory, or United States EHS regulations, laws or standards.*

Waste by Disposal Type



Raw material is 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. Since the wind blades we build are based on our customers’ designs, the materials used to build them are generally determined by our customers. Three percent of our materials used to produce wind blades in 2019 were from renewable resources, balsa wood. We also use recycled polyethylene terephthalate (PET)

to produce wind blades. We are committed to doing our part in managing our material usage and waste production. We currently track the materials to be used in our manufacturing through our product lifecycle management system and plan to increase real-time data tracking in our enterprise resource planning system in our facilities, which we anticipate will reduce inefficiencies and improve accuracy of our material tracking. We anticipate this being completed by the end of 2021.

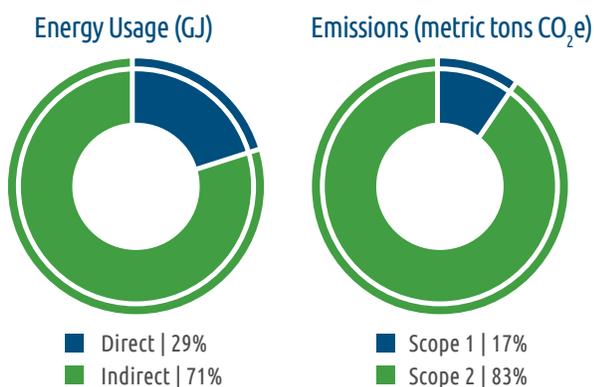
<sup>8</sup> EPA. (2019). *“Energy Recovery from the Combustion of Municipal Solid Waste (MSW)”*

## 6.2 | Energy and Emissions

We are committed to reducing the amount of emissions we contribute from our operations, and to helping others reduce their emissions and energy use through the production of wind blades and transportation products. Our current energy usage comes from local utilities and the fuel source is determined by the utilities many of whom are planning their transitions to more renewable energy. We are currently researching ways in which we can increase the amount of renewable energy we consume or offset our non-renewable energy usage.

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 power. Scope 3 emissions encompass a broader scope of indirect sources, such as associate commuting, business travel, waste disposal and others. Currently, we are focused on reporting our Scope 1 and 2 emissions and anticipate incorporating Scope 3 in future reports.

Identifying our energy consumption and calculating related emissions are the first steps in improving our performance in these areas. By understanding how much energy we use, we can find points of intervention and track our progress. In 2019, our total energy usage was 751,985 GJ. Our total Scope 1 and 2 emissions for 2019 were 91,719 metric tons CO<sub>2</sub>e. As a comparison, the potential emissions reductions from our blades sold in 2019 is estimated to be 15 million metric tons CO<sub>2</sub> for one year. This is an example of how the wind industry and TPI can make a positive impact in mitigating climate change through net CO<sub>2</sub>e reductions that significantly exceed the emissions produced from manufacturing wind blades and turbines.



## 6.3 | Environmental Compliance

At TPI, we are fundamentally committed to helping and 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. We aim to align practices across our global facilities and to have them all meet the higher of U.S. environmental laws, regulations, and standards and local equivalents. Facilities that have local laws and regulations less stringent than the U.S. minimum generally adhere to the more stringent U.S. standards. All TPI facilities are required to 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. Compliance with environmental laws and regulations are reviewed monthly to mitigate regulatory risk associated with incomplete or inaccurate tracking of reporting requirements.

Each site documents applicable environmental regulation as well as compliance requirements for retention of necessary environmental permits and reporting to government agencies. Any updates, changes or removals of regulatory requirements are also documented. All environmental inspections and instances of non-compliance with environmental laws and regulations are communicated to senior management.

In 2019, we had zero instances of significant non-compliance.



# *tpi*academy

## **7 | Associate Training and Development**

We provided more than 490,000 hours of training to our associates in 2019. Nearly every part of our production process is completed by hand, and it is through our associates' direct efforts that we deliver on our commitments to our customers and stakeholders. TPI has doubled our associate population from approximately 6,000 in 2016 to approximately 13,300 in our global facilities by the end of 2019, and we enable our associate's success through rigorous training and development programs.

TPI offers training in order to ensure that our associates are not only well-prepared for the role they are hired into, but also invested in further to provide opportunities for career development. Training and development opportunities are offered on a regular basis and include, but are not limited to: new associate orientation, onboarding, safety training, compliance training, technical training, Lean manufacturing, and leadership development. Our direct labor workforce receives significant training early in their career with TPI, and they make up the majority of our associates. They have the most direct impact on our overall performance and our operational metrics including safety, quality, delivery, and cost.

TPI offers our technical associates specialized training on manufacturing processes, quality systems, composite based material science and other job-related functional training. We launched a new program in 2019, TPI Academy, that provides our leadership teams with high-quality leadership education. Cornerstone courses of our leadership curriculum include Emotional Intelligence, Situational Leadership, Feedback and Coaching.

Training data is reported monthly to senior management by each manufacturing facility. Relevant operational indicators are also discussed during this period as they reflect the effectiveness of our associate training. TPI averaged 43 hours of training per associate in 2019.

In addition, TPI conducts surveys to determine the level of engagement among our associates. Engagement is important because it helps us determine the level of psychological investment that our associates have in TPI and their motivations to contribute to our success. Our most recent engagement results from 2019 were an overall associate engagement level of 81. This is a four-point increase from the 2017 survey, 20

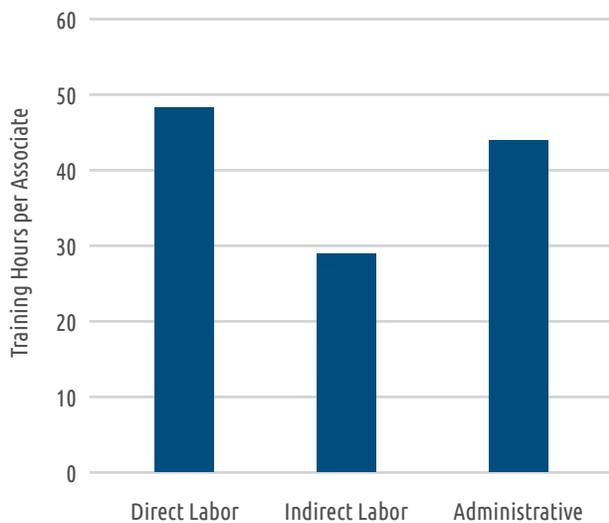
points over the manufacturing norm, and three points shy of the global extraordinary norm<sup>9</sup>. The level of participation in our most recent survey was 94%, which also tells us that our associates are willing to share their feedback.

High levels of engagement result in higher levels of performance overall, which helps us obtain our desired results. The annual engagement surveys are administered by an independent third party and the results are shared directly with senior management, and with each region and functional area. Upon receiving the results, each team develops an action plan that focuses on key areas to sustain and improve. In addition to the team plans, we also maintain an action plan focused on the top items at the overall company level to sustain and improve. These plans are reviewed monthly and all teams are held accountable for taking actions to improve the overall associate experience.

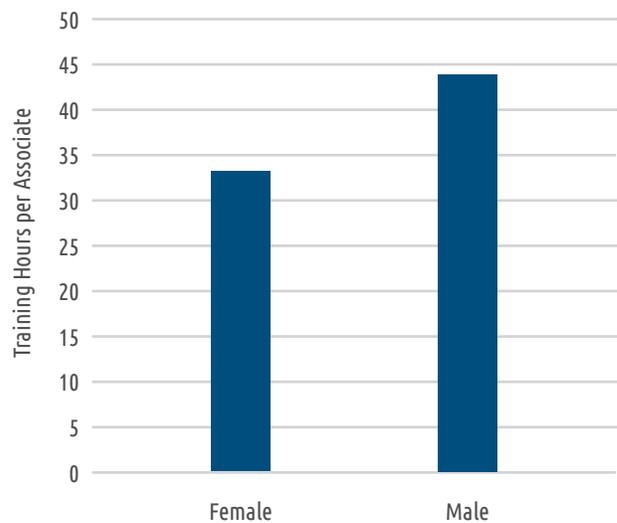
*“At TPI, we use comprehensive and standardized training methods to ensure that our associates are capable of performing their jobs effectively.”*

— Ramesh Gopalakrishnan,  
Chief Operating Officer, Wind

Training Hours per Associate by Category



Training Hours per Associate by Gender<sup>10</sup>



<sup>9</sup> Overall engagement scores and benchmarks are identified by an independent third party

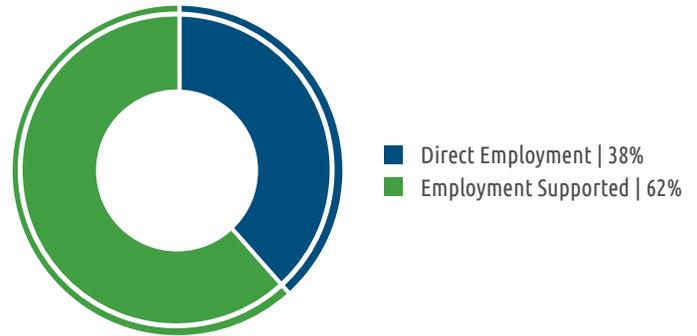
<sup>10</sup> Our direct labor associates receive a significant amount of training and are largely comprised of males, thus accounting for the difference between our male and female training hours.

## 8 | Communities and Economic Impacts

We support additional employment opportunities through our associates spending their earnings and business procurement in the regions we operate; this is often referred to as the ripple or multiplier effect. For every associate employed in manufacturing facilities, approximately 1.6 additional jobs are created in the region<sup>11,12</sup>. Therefore, for our approximately 13,300 associates directly employed at TPI, we estimate that we support a further 21,280 employment opportunities for a total of 34,580 jobs globally.

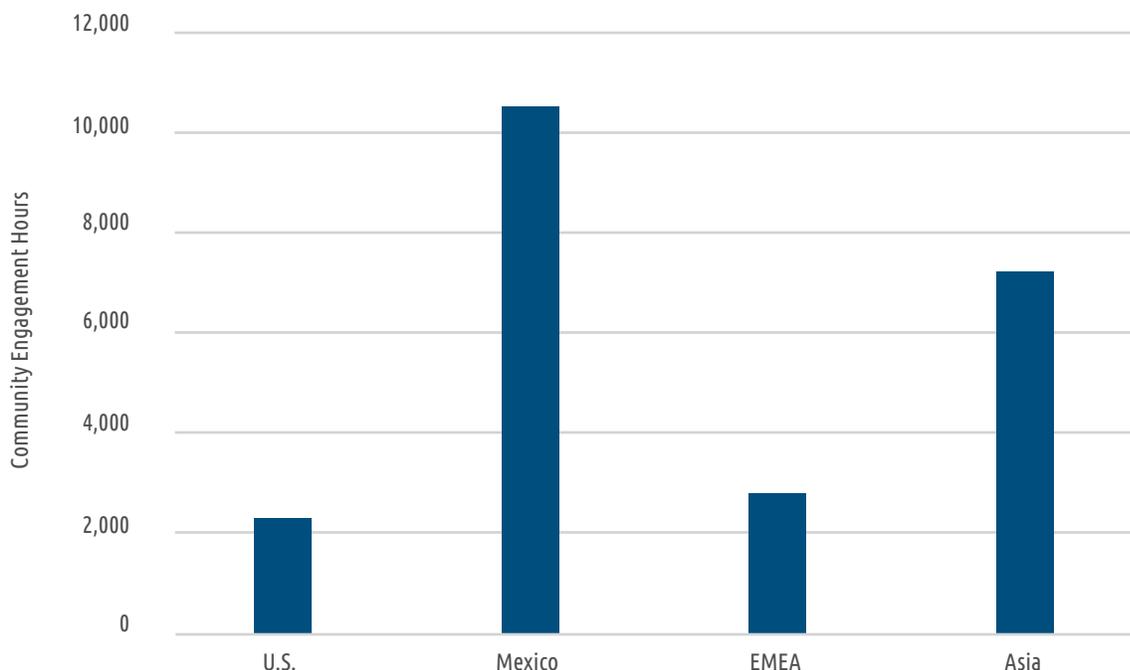
In addition to the direct economic benefits provided to the communities in which we operate, TPI has provided significant indirect benefits to our communities through monetary community investments and tens of thousands of volunteer hours provided by our associates.

### Associates Supported Through Multiplier Effect



To help guide our community engagement activities, we have developed and implemented company policies and procedures. All engagement events must align with TPI's Core Values, benefit the community (either citizens or environment), and occur outside of scheduled work hours unless preapproved. Given the diversity in our locations, we adapt our engagement activities to the needs of these communities and values of our associates.

### Community Engagement Hours by Region



<sup>11</sup> Enrico Moretti. (2010). *"Local Multipliers"*

<sup>12</sup> Vera Pavlakovich-Kochi. (2014). *"Maquiladora Related Economy of Nogales and Santa Cruz County"*

## Community Impact Highlights

Our associates and facilities around the globe are doing great work for their communities. In 2019, our community investments totaled approximately \$58,000 USD and included philanthropic support, such as through donations to local organizations. Our associates completed over 23,000 community engagement hours globally. TPI's associates take part in activities organized by TPI on their own time. They are truly giving their own personal time to give back in ways that are most important to them and align with TPI's Core Values. We have highlighted below the types of engagement activities our associates are performing year-round.

**Health and Wellness:** Our associates embody our top Core Value of safety both in and outside of their work positions. Across the globe TPI's associates participate in races and fund-raising events that provide support for areas such as cancer, among others.

**Environmental Protection:** Our associates are dedicated to having a positive impact on their environment both through their work at TPI and

*"It is amazing to me how willing our associates give freely their own time to benefit our communities globally. They are the reason we are able to give so much back."*

*— Deane Ilukowicz, Senior Vice President,  
Global Human Resources*

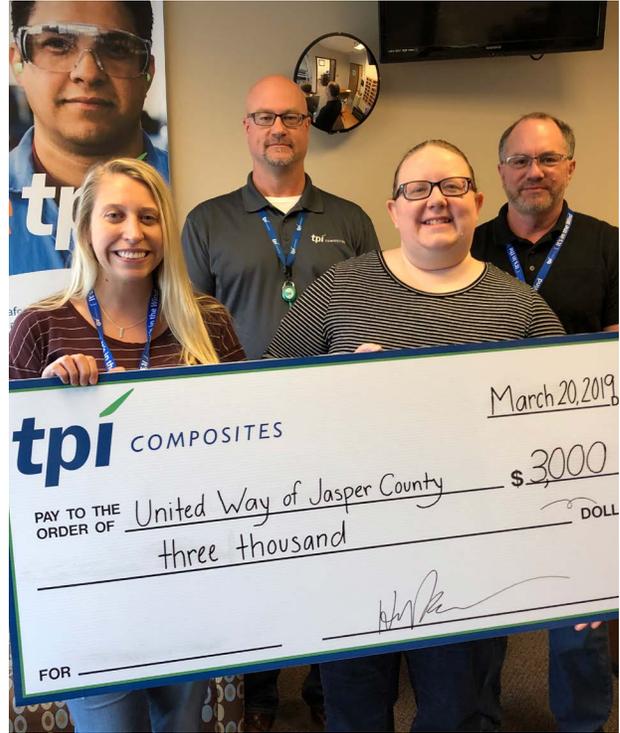


directly in their communities. Across the globe our associates participate in events that benefit the environment such as planting trees, picking up trash and providing environmental education.

**Helping Those in Need:** Our associates value their neighbors and community members. They provide benefits to their community members through activities supporting the elderly, children, those less fortunate and those with disabilities.



TPI Turkey associates donated their time and 500 saplings to support the Aegan Forest Foundation.



TPI U.S. associates dedicated over 2,000 hours of their time.

**Community Improvements:** Our associates are proud of their communities and provide direct improvements. These improvements include activities such as community park refurbishment and cleanup, and school and beach restoration projects.



TPI Mexico associates dedicated their time to clean up and maintain a community orphanage.

## 9 | 2019 Performance

### Safety

Incident rates use a standardized base rate to calculate the number of incidents per 100 associates. Please refer to the formulas below to see how these rates are calculated:

Incident Rate (IR) and Disease Rate =	$\frac{\text{Number of Incidents or Diseases X 200,000 Hours}}{\text{Number of Associate Labor Hours}}$
Lost Day Rate (LDR) =	$\frac{\text{Number of Lost Days X 200,000 Hours}}{\text{Number of Associate Labor Hours}}$

Region	Recordable IR	Lost Time IR	Lost Day Rate	Occupational Disease Rate
U.S.	1.25	0.46	22.03	0.13
Mexico	0.18	0.14	4.75	0
EMEA	0.22	0.22	5.67	0
Asia	0.48	0.19	10.65	0
<b>Total</b>	<b>0.39</b>	<b>0.21</b>	<b>8.55</b>	<b>0.01</b>
<b>Female</b>	<b>0.37</b>	<b>0.15</b>	<b>0.45</b>	<b>0</b>
<b>Male</b>	<b>0.39</b>	<b>0.21</b>	<b>9.30</b>	<b>0.02</b>

### Environment

Type of Material	Material Weight (metric tons)
Renewable	4,000
Non-Renewable	124,500
<b>Total</b>	<b>128,500</b>

Energy Type	Amount (GJ)
Total direct energy consumed	219,412
Natural gas	194,406
Fuel	25,006
Total indirect energy consumed – purchased electricity	532,573
<b>Total energy consumed</b>	<b>751,985</b>

Emissions	Amount (metric tons CO <sub>2</sub> e)
Scope 1	15,642
Scope 2	76,077
<b>Total Scope 1 and 2 emissions</b>	<b>91,719</b>
<b>Total CO<sub>2</sub> reduction from blades sold in 2019 over entire product life</b>	<b>303,000,000</b>

Waste Type	Non-Hazardous (metric tons)	Hazardous (metric tons)	Total (metric tons)
Recycling	8,992	1,089	10,081
Energy recovery	7,111	0	7,111
Landfill	22,183	823	23,006
Incineration	5,646	1,738	7,384
Other	11	399	410
<b>Total</b>	<b>43,943</b>	<b>4,049</b>	<b>47,992</b>

Environmental Compliance	Amount
Number of significant non-compliance violations	0
Significant fines	\$0 USD

## People

Location	Total
U.S.	1,300
Asia	2,900
Mexico	5,500
EMEA	3,600
<b>Total</b>	<b>13,300</b>
<b>Male</b>	<b>12,000</b>
<b>Female</b>	<b>1,300</b>

Training Hours per Associate by Category and Gender					
Training Hours per Female	Training Hours per Male	Training Hours per Direct Labor	Training Hours per Indirect Labor	Training Hours per Administrative	Training Hours per Associate
33	44	48	29	44	43

Category	Metric
Volunteer hours	23,100 hours
Community investments	\$58,000
Sites with a government approved environmental impact assessment or environmental assessment meeting local standards	100%
Sites with a community engagement program	100%

Indirect Economic Impact	Metric
Jobs created via multiplier effect	21,280 jobs
Supply spend	\$838,500,000 USD
China	33%
Europe	28%
U.S.	24%
Turkey	9%
Other	4%
Mexico	1%
India	1%

*Decarbonize  
& Electrify*

## GRI Content Index

Disclosure	GRI 102: General Disclosures 2016	External Reference																																													
102-1	TPI Composites, Inc																																														
102-2	Please refer to page 5.	<a href="#">10-K</a>																																													
102-3	8501 N. Scottsdale Road, Suite 100, Scottsdale, Arizona 85253	<a href="#">Locations</a>																																													
102-4	We are currently located in China, Denmark, Germany, India, Mexico, Turkey and the United States.	<a href="#">Locations</a>																																													
102-5	Please refer to the Cover Page of our 2019 Form 10-K for information regarding this disclosure.	<a href="#">Timeline</a> <a href="#">10-K</a>																																													
102-6	TPI is an independent composite manufacturer serving wind turbine and transportation OEMs with operations segments in the United States, Asia, Mexico and Europe, the Middle East, Africa and India.	<a href="#">Global Footprint</a>																																													
102-7	<table border="1"> <thead> <tr> <th>Location</th> <th>Facility Type</th> <th>Number of Facilities</th> </tr> </thead> <tbody> <tr> <td>Scottsdale, Arizona, U.S.</td> <td>Headquarters</td> <td>1</td> </tr> <tr> <td>Warren, Rhode Island, U.S.</td> <td>Engineering/R&amp;D Transportation Manufacturing</td> <td>1</td> </tr> <tr> <td>Kolding, Denmark</td> <td>Engineering/R&amp;D</td> <td>1</td> </tr> <tr> <td>Berlin, Germany</td> <td>Engineering/R&amp;D</td> <td>1</td> </tr> <tr> <td>Newton, Iowa, U.S.</td> <td>Blade Manufacturing</td> <td>1</td> </tr> <tr> <td>Taicang, China</td> <td>Tooling Manufacturing</td> <td>1</td> </tr> <tr> <td>Dafeng, China</td> <td>Blade Manufacturing</td> <td>1</td> </tr> <tr> <td>Yangzhou China</td> <td>Blade Manufacturing</td> <td>1</td> </tr> <tr> <td>Chennai, India</td> <td>Blade Manufacturing</td> <td>1</td> </tr> <tr> <td>Juarez, Mexico</td> <td>Blade Manufacturing</td> <td>3</td> </tr> <tr> <td>Juarez, Mexico</td> <td>Tooling and Transportation Manufacturing</td> <td>1</td> </tr> <tr> <td>Matamoros, Mexico</td> <td>Blade Manufacturing</td> <td>1</td> </tr> <tr> <td>Izmir, Turkey</td> <td>Blade Manufacturing Engineering/R&amp;D</td> <td>2</td> </tr> <tr> <td><b>Total</b></td> <td></td> <td><b>16</b></td> </tr> </tbody> </table> <p>Across all of our operations we employed approximately 13,300 full-time associates and sold 9,534 wind blades in 2019.</p> <p>Please refer to our Form 10-K to obtain information on our 2019 financials.</p>	Location	Facility Type	Number of Facilities	Scottsdale, Arizona, U.S.	Headquarters	1	Warren, Rhode Island, U.S.	Engineering/R&D Transportation Manufacturing	1	Kolding, Denmark	Engineering/R&D	1	Berlin, Germany	Engineering/R&D	1	Newton, Iowa, U.S.	Blade Manufacturing	1	Taicang, China	Tooling Manufacturing	1	Dafeng, China	Blade Manufacturing	1	Yangzhou China	Blade Manufacturing	1	Chennai, India	Blade Manufacturing	1	Juarez, Mexico	Blade Manufacturing	3	Juarez, Mexico	Tooling and Transportation Manufacturing	1	Matamoros, Mexico	Blade Manufacturing	1	Izmir, Turkey	Blade Manufacturing Engineering/R&D	2	<b>Total</b>		<b>16</b>	<a href="#">10-K</a>
Location	Facility Type	Number of Facilities																																													
Scottsdale, Arizona, U.S.	Headquarters	1																																													
Warren, Rhode Island, U.S.	Engineering/R&D Transportation Manufacturing	1																																													
Kolding, Denmark	Engineering/R&D	1																																													
Berlin, Germany	Engineering/R&D	1																																													
Newton, Iowa, U.S.	Blade Manufacturing	1																																													
Taicang, China	Tooling Manufacturing	1																																													
Dafeng, China	Blade Manufacturing	1																																													
Yangzhou China	Blade Manufacturing	1																																													
Chennai, India	Blade Manufacturing	1																																													
Juarez, Mexico	Blade Manufacturing	3																																													
Juarez, Mexico	Tooling and Transportation Manufacturing	1																																													
Matamoros, Mexico	Blade Manufacturing	1																																													
Izmir, Turkey	Blade Manufacturing Engineering/R&D	2																																													
<b>Total</b>		<b>16</b>																																													
102-8	Refer to data tables on page 26. We do not employ a significant number of part-time or temporary associates and therefore they are not broken out by these categories.																																														

Disclosure	Content	External Reference
102-9	<p>TPI purchases materials, products and services to support production across our global manufacturing locations. The largest contributor within TPI's global procurement spend is direct raw materials. The key raw materials for the wind blades we manufacture include highly advanced fiberglass fabrics, select carbon reinforcements, foam, balsa wood, resin, adhesives for assembly of molded components, gel coat or paint for preparation of cosmetic surfaces, and attachment hardware, including steel components.</p> <p>Our company's sourcing activities are managed at both global and regional levels. The global sourcing team manages the company's sourcing activities through framework contracts and drives strategic sourcing activities. Regional supply chain teams control the sourcing activities which include mainly service and indirect materials along with some local capital expenditure activities. The supply chain teams also execute operations at the site level. Most of our procurement materials are available in multiple geographic regions and in reasonably close proximity to our manufacturing facilities. Given our global footprint, TPI engages with suppliers regionally for our operations when possible. Our agreements for the supply of raw materials are designed to guarantee volumes that we believe will be required to fulfill our customers' commitments.</p>	<p><a href="#">Suppliers</a></p> <p><a href="#">Standard Terms of Purchase</a></p> <p><a href="#">Quality Requirements</a></p> <p><a href="#">10-K</a></p>
102-10	No significant changes have occurred during 2019.	
102-11	TPI manufactures products generally using designs from our customers. The responsibility for assessing the potential environmental impact of new products is led by TPI's customers. TPI is actively partnering with research organizations, such as the National Renewable Energy Laboratory (NREL), to develop composite solutions to help further reduce potential environmental impacts, such as the recycling of retired materials and using thermoplastics.	<a href="#">NREL</a>
102-12	TPI is implementing the APQP4Wind quality framework and is partnering with its customers and suppliers in order to align quality methods and procedures throughout the wind blade manufacturing lifecycle.	<a href="#">Certifications APQ4Wind</a>
102-13	<ul style="list-style-type: none"> <li>• American Wind and Energy Association (AWEA)</li> <li>• National Association of Manufacturers (NAM)</li> <li>• Women of Renewable Industries and Sustainable Energy (WRISE)</li> <li>• WindEurope</li> <li>• Turkish Wind Energy Association (TWEA/TÜREB)</li> <li>• WindSTAR University of Massachusetts Lowell</li> <li>• American Council on Renewable Energy (ACORE)</li> <li>• National Association of Corporate Directors (NACD)</li> <li>• Several other region-specific organization memberships</li> </ul>	

Disclosure	Strategy	External Reference
102-14	Mr. Lockard provides a statement at the beginning of this report, which can be found on page 4.	
<b>Ethics and Integrity</b>		
102-16	Please refer to pages 4 and 14.	<a href="#">Mission and Core Values</a>  <a href="#">Code of Conduct</a>
102-17	Please refer to pages 8 and 13.	<a href="#">Code of Conduct</a>
<b>Governance</b>		
102-18	Please refer to page 13.	<a href="#">10-K Management Team Board of Directors Committee Compositions</a>
<b>Stakeholder Engagement</b>		
102-40	Please refer to page 10.	
102-41	Certain of our associates in Turkey and at our manufacturing facility in Matamoros, Mexico are represented by a labor union. 29% of our total associates were covered by a collective labor agreement (CLA) as of December 31, 2019.	<a href="#">10-K</a>
102-42	Please refer to page 10.	
102-43	Please refer to page 10.	
102-44	Please refer to page 10.	

Disclosure	Reporting Practice	External Reference
------------	--------------------	--------------------

102-45	For information regarding this disclosure please refer to our consolidated financial statements in our Form 10-K filing.	<a href="#">10-K</a>
--------	--	----------------------

102-46	<p><i>Stakeholder Inclusiveness:</i> Please refer to page 10.</p> <p><i>Sustainability Context:</i> Our approach to sustainable development focuses not only on the environmental impact of the products we build, but also a commitment to our associates through safety programs and associate development and building strong relationships in the communities in which we operate and provide economic impact.</p> <p><i>Materiality:</i> Please refer to page 11.</p> <p><i>Completeness:</i> The information included reflects information deemed important based on our materiality assessment. Information regarding both areas that we are doing well in and areas that we have room for improvement related our sustainability impacts are included in this report. The table below shows which of our facilities are included within each topic-specific disclosure. The table below shows which of our facilities are included within each topic-specific disclosure.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="text-align: left;">Disclosure</th> <th>U.S.</th> <th>Mexico</th> <th>EMEA</th> <th>Asia</th> <th>Transport</th> <th>Tooling</th> </tr> </thead> <tbody> <tr> <td>Economic Performance (201-1)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Indirect Economic Impact (203-2)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Materials (301-1)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>Energy (302-1)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Emissions (305-1)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Emissions (305-2)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Waste (306-2)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Environmental Compliance (307-1)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Occupational Health and Safety (403-2)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Training and Education (404-1)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Local Communities (413-1)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> </tbody> </table> <p>U.S.: Iowa blade facility  Mexico: Juarez blade facilities (3), and Matamoros blade facility  EMEA: Turkey blade facilities (2)  Asia: Dafeng blade facility and Yangzhou blade facility  Transport: Iowa, U.S. transport facility and Rhode Island, U.S. facility  Tooling: Juarez, Mexico tooling facility and Taicang, China tooling facility</p>	Disclosure	U.S.	Mexico	EMEA	Asia	Transport	Tooling	Economic Performance (201-1)	X	X	X	X	X	X	Indirect Economic Impact (203-2)	X	X	X	X	X	X	Materials (301-1)	X	X	X	X			Energy (302-1)	X	X	X	X	X	X	Emissions (305-1)	X	X	X	X	X	X	Emissions (305-2)	X	X	X	X	X	X	Waste (306-2)	X	X	X	X	X	X	Environmental Compliance (307-1)	X	X	X	X	X	X	Occupational Health and Safety (403-2)	X	X	X	X	X	X	Training and Education (404-1)	X	X	X	X	X	X	Local Communities (413-1)	X	X	X	X	X	X	
Disclosure	U.S.	Mexico	EMEA	Asia	Transport	Tooling																																																																																
Economic Performance (201-1)	X	X	X	X	X	X																																																																																
Indirect Economic Impact (203-2)	X	X	X	X	X	X																																																																																
Materials (301-1)	X	X	X	X																																																																																		
Energy (302-1)	X	X	X	X	X	X																																																																																
Emissions (305-1)	X	X	X	X	X	X																																																																																
Emissions (305-2)	X	X	X	X	X	X																																																																																
Waste (306-2)	X	X	X	X	X	X																																																																																
Environmental Compliance (307-1)	X	X	X	X	X	X																																																																																
Occupational Health and Safety (403-2)	X	X	X	X	X	X																																																																																
Training and Education (404-1)	X	X	X	X	X	X																																																																																
Local Communities (413-1)	X	X	X	X	X	X																																																																																

Disclosure	Reporting Practice	External Reference
102-47	Please refer to page 11.	
102-48	TPI has not previously published a sustainability report and thus there are no significant restatements of information for 2019 performance.	
102-49	TPI has not previously published a sustainability report and thus no changes in reporting apply.	
102-50	The reporting period encompasses the 2019 calendar year, unless stated otherwise.	
102-51	This is the first Sustainability Report for TPI and was published on March 23, 2020.	
102-52	Sustainability reporting is expected to occur on an annual basis.	
102-53	Please contact Investor Relations regarding any questions or feedback: <a href="mailto:investors@tpicomposites.com">investors@tpicomposites.com</a> or by phone at +1(480)315-8742.	<a href="#">Investor Relations</a>
102-54	This report has been completed in accordance with the GRI Standards: Core Option.	
102-55	Please refer to pages 28 - 34.	<a href="#">GRI Index</a>
102-56	This report has not been externally assured in full. However, external assurance is provided for our direct economic impacts via the auditing that occurs for our Form 10-K. Additionally, we have several internal verification processes in place that help ensure the information provided in this report is accurate.	
<b>GRI 201: Economic Performance 2016</b>		
Management Approach	We divide our business operations into four geographic operating segments – the U.S., Asia, Mexico, and Europe, the Middle East, Africa and India (EMEAI). 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.	<a href="#">10-K</a>
201-1 Direct economic value generated and distributed	Our consolidated financial statements are audited by an independent third party and are available for view on our website. Furthermore, an analysis of regional financial performance is included in our Form 10-K.  We are proud of our involvement in our communities and want to highlight the direct investments we have made. Please refer to the data table on page 26.	<a href="#">10-K</a>
<b>GRI 301: Materials 2016</b>		
Management Approach	For more information regarding our material management please refer to page 18 of this report.	
301-1 Materials used by weight or volume	Please refer to the data table on page 26.  To obtain our material usage by renewable and non-renewable resources for our wind blade production the weight of renewable materials (balsa wood) used per blade was estimated and multiplied by the number of blades sold for 2019. We then excluded this value from the total weight of our blades to identify the non-renewable material weight.	

Disclosure	GRI 302: Energy 2016 and GRI 305: Emissions 2016	External Reference
Management Approach	For more information regarding our energy and emissions management please refer to page 19 of this report.	
302-1 Energy consumption within the organization	Please refer to the data tables on page 25.  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.	<a href="#">EIA Conversion</a>  <a href="#">EL Gas</a>
305-1 Direct (Scope 1) GHG emissions	Please refer to the data tables on page 25.  Emissions were calculated based on operational control. Gases included are CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O. The Global Warming Potentials (GWPs) are from the IPCC AR5 and emissions factors are from the U.S. EPA. The GHG Protocol Refrigeration and Air-Conditioning Equipment tool was used to calculate these emissions.	<a href="#">GHG Tool</a> <a href="#">EPA Emissions Factors GWPs IPCC AR5</a>
305-2 Indirect (Scope 2) GHG emissions	Please refer to the data tables on page 25.  Emissions were calculated based on operational control. Gases included are CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O. The GWPs are from the IPCC AR5 and emissions factors are from the U.S. EPA for our U.S. sites and the IEA for our international sites.	<a href="#">EPA Emissions Factors IEA Emissions Factors GWPs IPCC AR5</a>
GRI 306: Effluents and Waste 2016		
Management Approach	For more information regarding our waste management please refer to page 17 of this report.	
306-2 Waste by type and disposal method	Please refer to the data tables on page 26.  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 using the U.S. EPA H141 code that is stored by the waste vendor and the disposal method is not provided to TPI.	
GRI 307: Environmental Compliance 2016		
Management Approach	For more information regarding our environmental compliance management please refer to page 19 of this report.	<a href="#">Certifications</a> <a href="#">EHS Policy</a>
307-1 Non-compliance with environmental laws and regulations	Monetary Value of Significant Fines: \$0 Total number of non-monetary sanctions: 0	

Disclosure	GRI 403: Occupational Health and Safety 2016	External Reference
Management Approach	For more information regarding our health and safety management please refer to page 15 - 16 of this report. Please note this disclosure covers all facilities, including headquarters.	<a href="#">Certifications EHS Policy</a>
403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	<p>Please refer to the data tables on page 25. We had zero fatalities across regions and genders.</p> <p>Recordable incidents are based on OSHA reporting requirements and exclude first-aid injuries. Lost days due to injury are recorded in calendar days and start when an associate misses their next scheduled workday. Types of injuries include lacerations, fractures, strains, contusions and others. Absentee data has been omitted from this report due to the availability of information, and we do not anticipate reporting on this topic in the future because it is not included in the 2018 GRI 403 (Occupational Health and Safety) standard.</p>	
GRI 404: Training and Education 2016		
Management Approach	For more information regarding our training management, please refer to page 20 - 21 of this report.	
404-1 Average hours of training per year per employee	Please refer to data tables on page 26.	
GRI 413: Local Communities 2016 and GRI 203: Indirect Economic Impacts 2016		
Management Approach	For more information regarding our community management, please refer to page 22 of this report.	
413-1 Operations with local community engagement, impact assessments, and development programs	<p>Please refer to data tables on page 26.</p> <p>Further details on the types of community engagement can be found in the <i>Community Engagement Highlights</i> section of this report on page 23 - 24.</p>	
203-2 Significant indirect economic impacts	Please refer to data tables on page 27.	

## SASB Disclosure – Wind Technology & Project Developers <sup>13,14</sup>

Activity Metrics	Category	Unit	Code	Response
Number of delivered wind blades	Quantitative	Number	RR-WT-000.A	9,534
Aggregate capacity of delivered wind blades	Quantitative	Megawatts (MW)	RR-WT-000.B	9,324
Amount of blade contract value	Quantitative	Reporting currency	RR-WT-000.C	\$2.8 billion USD to \$5.2 billion USD
Aggregate capacity of blade contract value	Quantitative	Megawatts (MW)	RR-WT-000.D	This information has been deemed confidential.

Topic	Accounting Metric	Category	Unit of Measure	Code	Response
Workforce Health & Safety	(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Quantitative	Rate	RR-WT-320a.1	Please refer to 2019 Performance – Safety table on page 25.
Ecological Impacts of Project Development	Description of efforts to address ecological and community impacts of wind energy production through blade design	Discussion and Analysis	N/A	RR-WT-410a.3	Please refer to GRI disclosure 102-11.
Materials Sourcing	Description of the management of risks associated with the use of critical materials	Discussion and Analysis	N/A	RR-WT-440a.1	TPI does not source any rare earth metals or materials associated with conflict minerals to produce wind blades. However, as part of our Global Sourcing Process, TPI still requires all global material suppliers to disclose any use of conflict minerals used directly or indirectly in their own or any sub-suppliers' process. While there is no direct critical material risk for TPI's operations, TPI takes material disclosure into consideration for sourcing selection in order to eliminate any risk of regulatory exposure within the supply chain.

<sup>13</sup> SASB metrics refer to wind turbine information, however, as the products we manufacture are wind blades we adjusted these metrics to reflect this.

<sup>14</sup> Because TPI manufactures blades only and not the complete turbine, not all of the industry metrics for Wind Technology & Project Developers are applicable. These include: metrics within the Ecological impacts of Project Development topic, RR-WT-410a.1 Average top head mass, RR-WT-410a.2 backlog cancellation associated with community or ecological impacts, and within the Materials Efficiency topic, RT-WT-440b.2 Average top head mass per turbine capacity, by wind turbine class.

Topic	Accounting Metric	Category	Unit of Measure	Code	Response
Materials Efficiency	Top five materials consumed, by weight	Quantitative	Metric tons (tons)	RR-WT-440b.1	Glass: 72,000 tons Resin: 48,000 tons Core: 10,000 tons Carbon: 10,000 tons Coating: 3,000 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 effect and high-quality blades according to our customers' designs. While TPI does not design 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 18.



**TPI Composites, Inc.**

8501 N Scottsdale Road, Suite 100

Scottsdale, AZ 85253

**(480) 305-8910**

**[www.tpicomposites.com](http://www.tpicomposites.com)**

**Decarbonize  
& Electrify**