Fisher Barton

# Renewable Energy

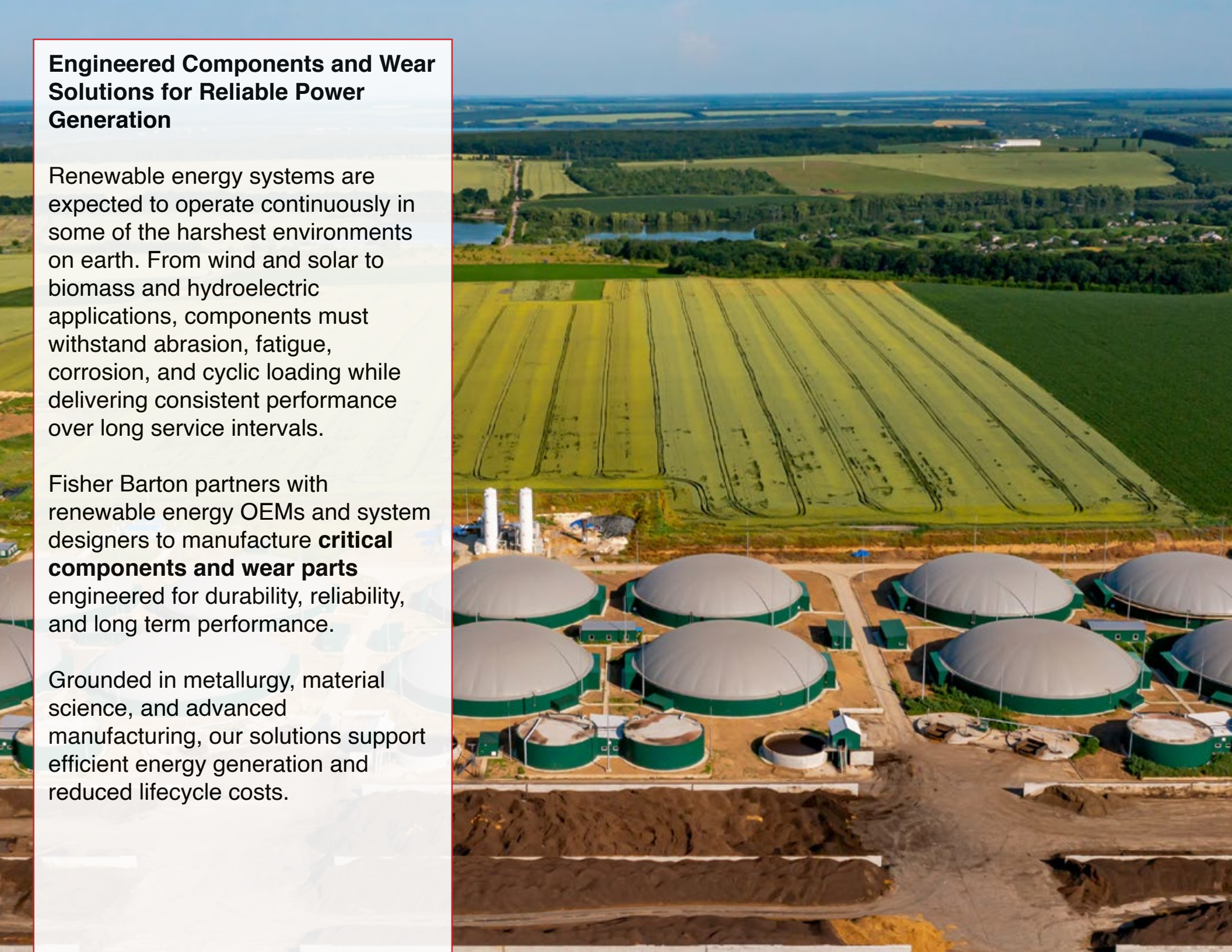
Engineered Components and Wear Solutions
for Reliable Power Generation

## Engineered Components and Wear Solutions for Reliable Power Generation

Renewable energy systems are expected to operate continuously in some of the harshest environments on earth. From wind and solar to biomass and hydroelectric applications, components must withstand abrasion, fatigue, corrosion, and cyclic loading while delivering consistent performance over long service intervals.

Fisher Barton partners with renewable energy OEMs and system designers to manufacture **critical components and wear parts** engineered for durability, reliability, and long term performance.

Grounded in metallurgy, material science, and advanced manufacturing, our solutions support efficient energy generation and reduced lifecycle costs.



## Components and Wear Parts for Renewable Energy Applications

Across renewable energy platforms, Fisher Barton manufactures a wide range of components designed to perform under demanding operating conditions, including:

- Shafts, hubs, and rotating components
- Structural brackets and load bearing parts
- Wear plates, liners, and protective surfaces
- Cutting and processing components for biomass systems
- Custom machined and fabricated assemblies

Each component is engineered to meet the specific mechanical, environmental, and wear challenges associated with renewable energy production.

## Common Renewable Energy Wear Challenges

Renewable energy equipment is exposed to a unique combination of stressors that can accelerate wear and failure:

- Continuous cyclic loading and fatigue
- Abrasive wear from particulates, debris, and biomass materials
- Corrosion from moisture, humidity, salt air, and environmental exposure
- Impact and erosion in high flow or high velocity systems
- Long operating cycles with limited maintenance windows

These challenges demand components designed with the right balance of strength, toughness, and surface protection—areas where Fisher Barton's expertise delivers measurable value.

## Metallurgy & Material Science: The Foundation of Performance

Fisher Barton's Technology Center applies deep metallurgy and material science expertise to renewable energy applications. By understanding how materials behave under real world operating conditions, we engineer solutions that address the root causes of wear and failure.

### Our capabilities include:

- Application specific alloy selection for strength, toughness, and wear resistance
- Microstructure optimization through controlled heat treatment
- Failure analysis to identify wear mechanisms and improvement opportunities
- Material pairing strategies that balance substrates and surface treatments

This science driven approach ensures components are designed for their actual service environment—not theoretical conditions.

## Engineered Surface Solutions for Extended Component Life

Many renewable energy components benefit from advanced surface engineering to protect against wear, corrosion, and erosion. Fisher Barton offers a range of coating and surface technologies tailored to renewable energy demands.

### Surface solutions include:

- Thermal spray coatings for abrasion and corrosion resistance
- Laser cladding and hardfacing for high wear and impact prone areas
- Proprietary surface enhancement processes to improve bond strength and durability
- Low friction systems to reduce heat generation and material loss

These technologies are applied strategically to extend service life while maintaining component integrity.

## Stray Voltage

Stray voltage is a critical safety and reliability concern in wind energy systems, particularly within turbines where electrical generation, grounding systems, and conductive structures operate in close proximity. Uncontrolled stray voltage can pose risks to maintenance personnel, accelerate component wear, and contribute to premature equipment failure. Advanced ceramic coatings play an important role in mitigating these risks by providing an electrically insulating, wear-resistant barrier on critical components within the turbine. By reducing unintended electrical pathways, these coatings help protect both people and equipment, improving operational safety while extending component life in demanding wind energy environments.

## Advanced Manufacturing for Renewable Energy Systems

Fisher Barton's vertically integrated manufacturing capabilities allow renewable energy OEMs to consolidate suppliers while improving quality and consistency.

### Our manufacturing strengths include:

- CNC machining for tight tolerance rotating and structural components
- Laser and waterjet cutting for complex geometries and hardened materials
- Robotic welding and joining for repeatable structural integrity
- Grinding, finishing, and surface preparation for performance critical interfaces
- Integrated prototyping to support design validation and rapid iteration

From prototype through production, our processes are built for repeatability and scale.

## Why Renewable Energy OEMs Choose Fisher Barton

- Proven experience manufacturing high duty components and wear parts
- Metallurgy driven engineering approach to reduce premature failure
- Advanced surface technologies tailored to real world environments
- Vertically integrated manufacturing for quality and supply chain control
- Solutions designed to improve reliability, uptime, and lifecycle performance

**Fisher Barton is more than a component manufacturer—we're an engineering partner helping renewable energy systems perform reliably, efficiently, and sustainably.**

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