



# Sustainability Report Overview

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Iraeta Energy Equipment Co., Ltd.

## 2025



# Letter from the Chairman

Iraeta is a Sino-Spanish joint venture specialising in advanced equipment manufacturing. Our capabilities support clean energy applications across wind, hydropower and nuclear power, as well as the circular materials sector.

As industrial upgrading and the green transition continue to reshape the global economy, we remain focused on manufacturing excellence and sustainable and take high-quality development as the primary task. Through our “FORGE AHEAD” sustainability framework, we integrate sustainability into strategy, operations and long-term value creation.

## Doing Well by Doing Green

As an important part of the global clean energy value chain, we aim not only for our products to serve energy sectors such as nuclear power, hydropower, wind power, concentrated solar power and pumped storage, but also to support the development of critical energy infrastructure such as ultra-high-voltage transmission systems, while consistently working to make manufacturing greener and more efficient.

Most of our raw materials are sourced from our own short-route electric arc furnace (EAF) steelmaking facilities, where production scrap is recycled, helping to embed low-carbon principles into manufacturing from the outset. At the same time, we continue to advance the research, development and application of low-carbon technologies such as hot charging of billets, oxy-fuel

combustion, metal additive manufacturing technologies and near-net-shape forming, thereby improving resource efficiency and green manufacturing performance. For us, the green transition is not a compliance burden, but a long-term priority for competitiveness and resilient growth.

## Driving Long-Term Sustainability through Responsibility and Innovation

Corporate value is reflected not only in products and business performance, but also in innovation capability, employee development and responsible engagement with society. Iraeta continues to pursue innovation-driven development. Through the Iraeta Industrial Research Institute, and supported by the super-large ring and cylinder rolling mill—capable of rolling diameters exceeding 21 meters, the Company conducts technical research on the material properties, process requirements and demanding performance standards of high-end forgings, while expanding its capabilities in large-scale precision manufacturing.

The successful rolling of a 21.029 metre seamless forged ring, which once again set a Guinness World Record, demonstrates the strength of Iraeta’s innovation system and manufacturing capabilities. Based on years of accumulated expertise in R&D, process engineering and manufacturing, the Company is capable of producing a wide range of forgings with a maximum single-piece weight of 300 tonnes, providing global customers with highly reliable core components for advanced equipment.

The Company also continues to strengthen employee protection, occupational health and safety management, supply chain collaboration, responsible overseas operations and community engagement, aiming to share the benefits of development with a wider range of stakeholders and ensure that value creation is underpinned by responsibility.

## Strengthening the Foundations of Sustainable Development through Robust Governance

Advanced equipment manufacturing is built not only on technology and production capacity, but also on responsibility, resilience and trust. We have continued to strengthen our corporate governance framework and improve our systems for integrity and compliance, risk management, information security and business ethics. This further embeds ESG requirements into our operations and management, supporting the Company’s long-term development through a transparent, responsible and well-governed approach to business.

Looking ahead, we will continue to focus on our core business in advanced equipment manufacturing, raise the standard of our ESG governance and practice, and further strengthen our global operating capabilities and our ability to provide clean energy system solutions. We are committed to working with all stakeholders so that every forging not only results in a product, but also helps build a safer, greener and more efficient future.

**Iraeta Energy Equipment Co., Ltd.**  
**Chairman Niu Yugang**



# About Us

## Development History: From Manufacturing Roots to Global Growth

Iraeta is committed to providing critical, reliable components for the clean energy and advanced equipment manufacturing sectors, while remaining firmly focused on forging and serving customers worldwide. The Company's growth is rooted both in the development of China's advanced equipment manufacturing industry and in the deep industrial heritage of Spain. Over time, this foundation has enabled Iraeta to build a development model geared towards global markets.

### Phase I: Industrial Foundation and Entrepreneurial Inception



Entered the wind power sector

Iraeta's development is built on the forging expertise and R&D capabilities developed through years of manufacturing practice. In 2006, the Company entered the wind power sector as an important starting point, seizing the opportunities created by the growth of China's advanced equipment manufacturing industry, while also drawing on the long-standing strengths of Spain's traditional industries in technology development, industrial systems and quality standards. This gradually laid the foundations for the Company's growth in advanced manufacturing.

As wind power equipment has evolved towards larger-megawatt turbines and gradually expanded into more complex and demanding operating environments, including deep-sea and far-offshore areas, the Company has continuously participated in the development of industry standards and has steadily strengthened its systems for R&D validation, quality assurance, manufacturing and delivery. In doing so, it has developed integrated manufacturing capabilities for a wide range of core forged components for wind turbines across different megawatt platforms and applications.

### Phase II: Rooted in Wind Power, Achieving Technological Maturity and Leadership



Offshore wind power forgings destined for Europe

### Phase III: Advancing towards Sophisticated Equipment and Global Expansion



A 15.673-Meter Diameter Integral Seamless Forged Ring

We have continued to expand into key application fields such as nuclear power and offshore engineering. Building on our international footprint, we have further strengthened global resource coordination, thereby enhancing our integrated service capabilities for advanced manufacturing.

### Phase V: Entering a New Stage of Extreme Manufacturing



A 21.029-Meter Diameter Integral Seamless Forged Ring

We continue to strengthen our extreme manufacturing capabilities for ultra-large ring, shell, bar and shaft forgings, constantly pushing the boundaries of manufacturing in terms of size, complexity and critical applications. This provides strong support for the manufacture of key components for major equipment and for the core applications of advanced equipment, while also promoting coordinated progress across the related industrial chain.

### Phase IV: Decarbonising from the Source of Manufacturing to Empower Green Manufacturing



97+ Steel<sup>®</sup> Short-process Low-carbon Steel

By applying our proprietary 97+ Steel<sup>®</sup> produced through an electric arc furnace (EAF) route, we reduce carbon emissions at source, strengthen our green competitiveness, and support the Company's sustainable, high-quality development.

## Product Applications and R&D: Supporting Energy Security and Critical Industrial Applications

To ensure the reliable delivery of core components for energy equipment, the Company has developed systematic capabilities covering material customisation, forging, heat treatment, precision machining, testing and validation, and complex logistics. These capabilities integrate key processes, quality control and delivery assurance across the product lifecycle, providing reliable support for green energy and advanced equipment applications.

Iraeta has built its core capabilities around forging and related advanced manufacturing technologies. Its products are used across critical energy and industrial applications, from offshore wind turbines along the Atlantic coast and fourth-generation nuclear power projects on China's eastern coast, to mining operations in the mountainous regions of Peru. The Company's portfolio includes discs, rings, shell forgings, forged bars, forged shafts and wear-resistant grinding media, meeting advanced requirements for forged products across specifications ranging from 0.3 kilogrammes to 300 tonnes.

As a major global manufacturer of critical forged components, Iraeta supplies products with diverse materials, geometries and performance characteristics for energy equipment and critical industrial applications worldwide, including 25 MW offshore wind turbines, 16-metre shield tunnelling machines and 700 MW-class concentrated solar power plants. In large-scale end-use equipment, forged components are often critical embedded parts of complex systems. They perform connecting, load-bearing and supporting functions that are essential to the safe, stable and reliable operation of the equipment as a whole. Under demanding service conditions, including far-offshore, high-corrosion, high-load and long-life applications, forged components must maintain consistent performance, safety and reliability over extended periods.

Iraeta leverages its integrated industrial chain capabilities to support energy security and critical industrial applications, providing industry partners and customers with reliable operational assurance, coordinated delivery support and professional technical services.

### High-end customised R&D



**Special Alloys** Continues to develop advanced material solutions for industries including nuclear power, hydropower, wind energy, advanced refining and petrochemicals, and cement.

### Clean energy



**Nuclear power** Provided 15.673-meter-diameter support rings for fourth-generation nuclear power plants

### Low-carbon technologies



**Advanced Refining and Petrochemicals** Supporting the upgrading and green transition of refining and petrochemical operations through low-carbon technologies.



**Marine engineering** A key part of the offshore equipment industry chain



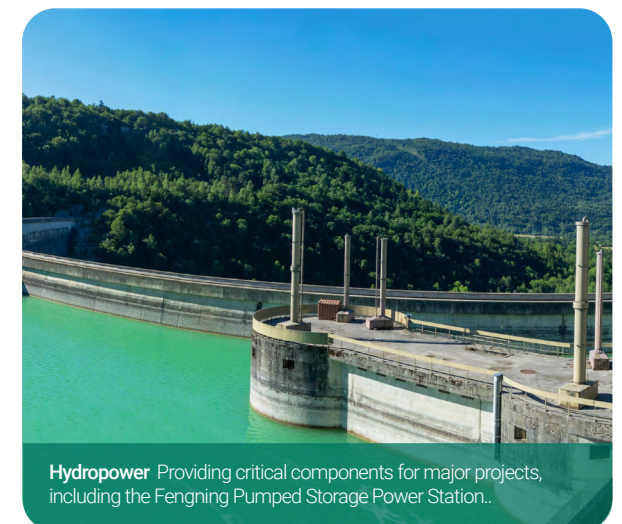
**Green mining** Providing high-performance grinding solutions to improve efficiency and reduce energy use in mining operations worldwide



**Advanced equipment** Provide critical support for major projects including aerospace, ultra-high-voltage transmission, and concentrated solar power plants



**Wind power** Supporting the development of offshore wind projects across China and Europe



**Hydropower** Providing critical components for major projects, including the Fengning Pumped Storage Power Station.

## Our Honours and Recognitions



# Our Sustainability Strategy

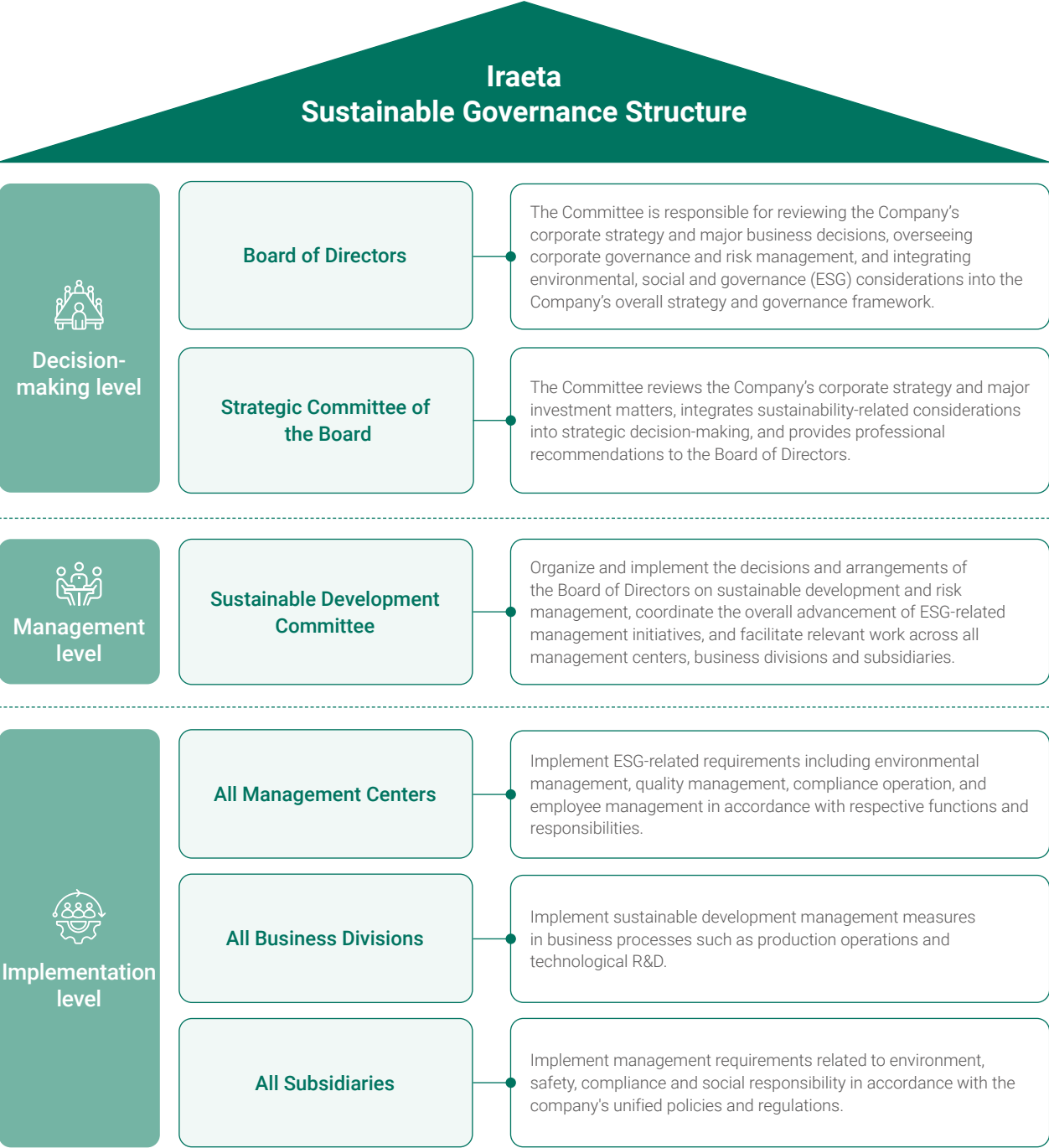
“Forge a Safer, Greener, and More Efficient Future for All” is our vision. The Company focuses on the relationship between long-term value creation and industrial responsibility. As advanced equipment manufacturing moves towards greener, smarter and more collaborative development, Iraeta integrates sustainability principles across R&D, procurement, manufacturing, delivery and governance. Together with stakeholders, the Company has established five sustainability pillars: Fundamental Reliability, Operational Intelligence, Resilient Development, Green Transformation and Empowered Symbiosis. These pillars guide Iraeta in ensuring that each product not only delivers reliable performance, but also supports the transition towards safer, greener and more efficient industries.

## The Five Pillars of Our Sustainability Strategy



Our Sustainable Governance Structure

To support the Company’s high-quality development in the context of China’s “dual carbon” goals (carbon peaking and carbon neutrality), the Board of Directors established a dedicated Sustainability Committee in 2021. The Committee is responsible for policy analysis, as well as the development and implementation of decarbonisation strategies and action plans.

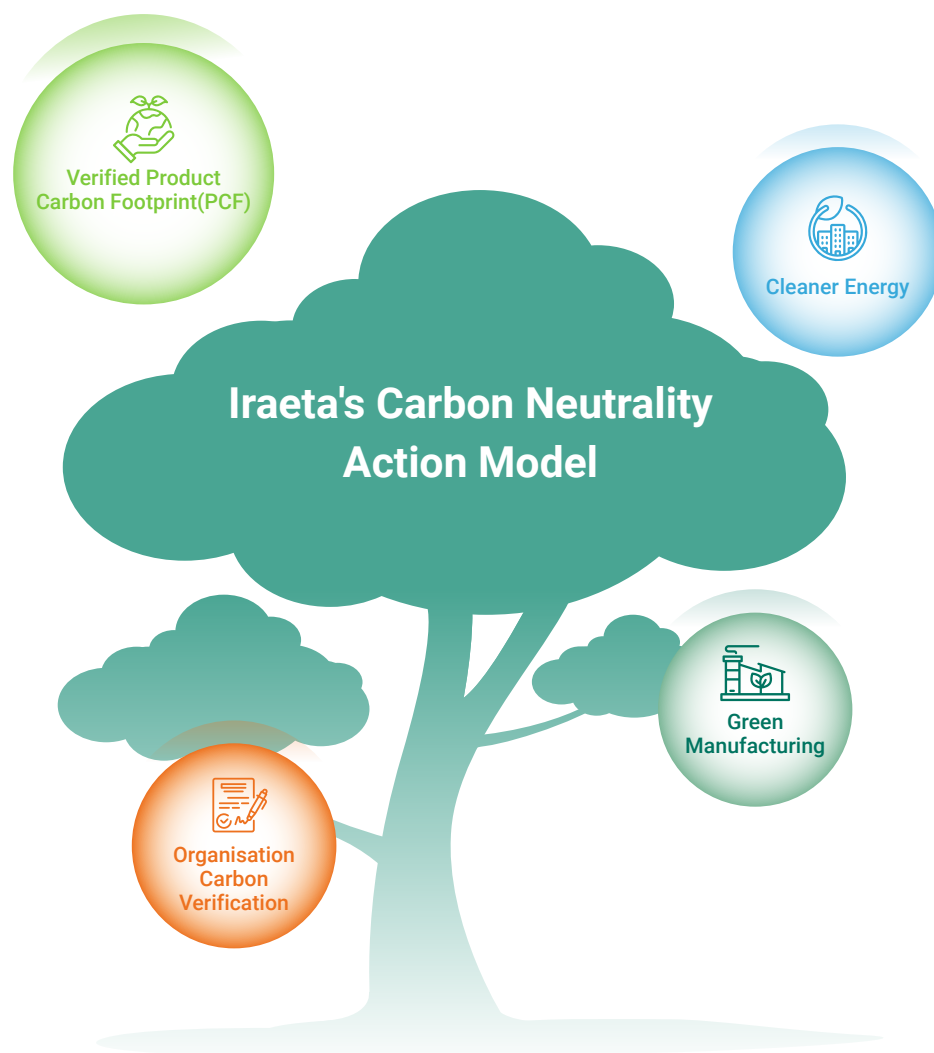




Environmental

## Carbon Neutrality Action

We have consistently regarded climate action as an essential component of sustainable development. We uphold environmental compliance standards, promote the transition towards efficient energy use, advance water conservation, adopt cleaner production methods, and advance responsible material lifecycle management, progressing towards harmonious coexistence with nature.



Distributed solar PV Systems

### Passing on Solar Power: 30 Million kWh of Self-Generated Green Electricity

In 2025, focusing on energy structure optimisation and the upgrading of green manufacturing, Iraeta continued to advance the development of distributed solar PV systems, with cumulative installed capacity reaching 23 MW, further strengthening the Company's clean energy supply capacity. The project adopted a "self-generation for self-consumption with low-voltage grid connection" model, prioritising the electricity needs of production and converting solar energy into operational power on site.

Upon full operation, annual power generation is expected to reach nearly 30 million kWh, effectively replacing purchased electricity, reducing reliance on conventional energy sources and supporting the transition towards a lower-carbon energy structure.





## Greening the Land for a Low-Carbon Future

In the Basque region of Spain, Iraeta and Lurguia Fundazioa have turned their climate action commitments into tangible, nature-based initiatives. From 2025 to early 2026, 600 native trees and shrubs were planted, restoring a mixed-species forest on ecologically fragile land previously dominated by monoculture industrial pine plantations.

According to the carbon sequestration model recognised by IHOBE (the Basque Environmental Agency), this 10,500-square-metre forest is expected to absorb 214 tonnes of CO<sub>2</sub> over the next 40 years. As the trees will not be harvested and many species have lifespans well beyond 40 years, the actual carbon sequestration will be substantially higher. For Iraeta, this initiative goes beyond a simple carbon offset; it reflects a long-term commitment, embedding environmental responsibility into local ecosystems and leaving a legacy for future generations.

Forest Restoration and Carbon Sequestration Initiative in Spain



## Traceable Carbon Footprint, Starting from 2021

Since 2021, Iraeta has established a continuous and traceable annual carbon emissions data management system. Carbon accounting has been conducted in accordance with ISO 14064 and third-party verified, ensuring that each emission reduction effort is supported by evidence.

Starting with product carbon footprint assessment and verification for ring forgings in 2021, Iraeta expanded the verification scope to five core product categories by 2024. Life cycle assessments have been conducted in accordance with ISO 14044, integrating green principles across raw materials, energy use and process design, and embedding low-carbon performance into products from the outset.



Five core categories of products have completed product carbon footprint (PCF) verification



Greenhouse Gas Verification Statement (2022-2024)

## "Green and Circular" Industry

We embed circular principles into our corporate DNA and are committed to building a green and circular value chain from raw materials to end use, providing low-carbon and circular solutions for the clean energy industry.

### Iraeta's Circular Economy Action Model

We establish a plant-level closed-loop material system, enabling self-generated scrap steel, process by-products and retired components to re-enter the production chain and gain renewed value through circular use.

#### Recycling and Circular Reuse



#### Green steel for manufacturing



Through cascading energy utilisation, we interlink resources such as metals, heat and power into a closed-loop system, ensuring that resources are fully utilised at each stage of the cycle.

#### Green product design

By embedding green principles at the product design stage, we prioritise recyclability, lightweighting, low-energy production, and the long service life of forgings in extreme environments.

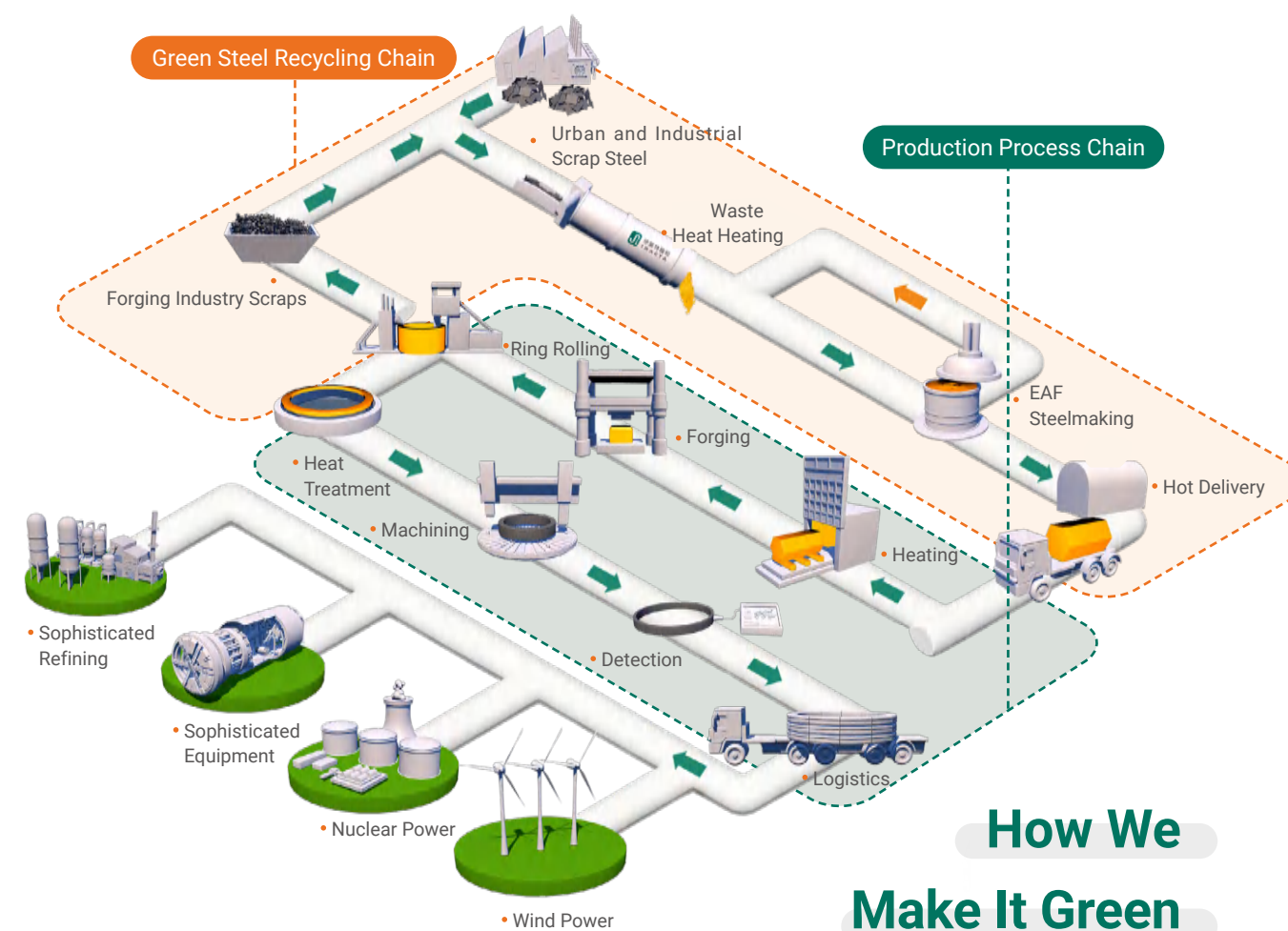


## Building an Industrial Model of "Green Forging and Closed-loop Circulation"

By establishing a full-chain innovation system, Iraeta continuously extends upstream along the value chain, enabling efficient resource circulation—recycling scrap generated across Iraeta's operations, including steel filings and offcuts and incorporating recycled scrap steel from traceable sources into a close-loop material cycle. Through short-process steelmaking technology, these materials are transformed back into high-quality forging raw materials.

In 2025, the Company's short-process steel was verified in accordance with ISO 14021 for recycled content, with scrap steel accounting for 97.76%, close to 100%. The Company has registered the Iraeta 97+ steel® low carbon brand in Europe for its self-produced short-process steel in Europe, empowering its green development at the front end of its products.

Compared with the traditional long-process route, the short-process model reduces the carbon footprint per tonne of steel from 1.8–2 tonnes to approximately 0.8 tonnes, representing a reduction of around 60%. This low-carbon chain not only reduces resource consumption and carbon emissions in the wind power equipment manufacturing, but also reduces the overall carbon footprint of the wind power value chain at the source, providing solid and sustainable support for the high-quality development of clean energy.



S  
Social



## Building a Green Future Together with Customers

We have evolved from a single component supplier into an "extension of our customers' R&D department", leveraging the efficient flow and circular utilisation of resources to unlock sustainable solutions for the future. Driven by technological innovation, we integrate efficient resource flow and circular utilisation throughout across the "materials – processes – products – services" chain. We ensure that every resource is fully utilised within a closed loop, replacing traditional energy intensive products with more energy-efficient and environmentally friendly forging solutions, and driving the transition of high-end equipment manufacturing towards sustainability.



### Pushing the Limits of Forging to Support Core Industrial Sectors

Materials science is one of the core foundations of forging. Iraeta has long been engaged in dedicated research and has established the Li Yiyi Academician Workstation with the Institute of Metal Research, Chinese Academy of Sciences. Starting from the highly challenging task of achieving material purification and homogenisation, we have deeply integrated core technologies such as advanced metal forming technologies and radial-axial forged rolling technologies. This has enabled multiple breakthroughs in high-end precision manufacturing across fields such as fourth-generation nuclear power and deep-sea equipment, providing domestically controllable key components for major national equipment. At the same time, we remain at the forefront of advanced manufacturing. Beginning with the production of cyclotron forgings for proton therapy systems, we have continuously achieved technological breakthroughs and business expansion across fields such as nuclear medicine.



Extra-large Diameter Thin-walled Cylinder



H.E. Ms. Marta Betanzos, Ambassador of Spain to China, Visits Iraeta Green Industrial Park



## Supporting Denmark's Key Clean Energy Project and Creating a New Global Benchmark for Green Collaboration

As a key clean energy project in Denmark, the project, once completed, will generate enough renewable electricity to power over one million Danish households and will become the largest offshore wind farm in Denmark to date.

Since the launch of the project, the Company has rapidly established a dedicated team to implement stringent monitoring and dynamic optimisation across the entire process, including forging, heat treatment and machining, ensuring delivery schedules through precision manufacturing processes and efficient production capabilities. The project adopts 15 MW large-scale offshore wind turbines and low-carbon, environmentally friendly technologies, practising green development concepts throughout its lifecycle. It is a landmark project in Europe's efforts to advance energy transition and achieve carbon neutrality goals.

Deep Participation in the Construction of Offshore Wind Farms



## Achieving Shared Growth with Employees

The growth of every employee is the cornerstone of our sustainable development. We uphold the principles of equality, voluntariness and consensus through consultation. Through diversified recruitment channels, we attract a wide range of talent and firmly oppose all forms of employment discrimination in recruitment. We ensure that candidates are not treated unfairly on the grounds of ethnicity, gender, religion, age, marital status or other factors, while creating opportunities for shared growth for every employee in our business operations.

## Protecting Women through the Rule of Law, with a Human Touch

At Iraeta, we believe that a company's human touch is reflected not only in the advancement of its products and technologies, but also in the care it extends to every employee and every community. In collaboration with local judicial authorities and professional legal teams, Iraeta has officially established a Women's Legal Aid Centre, providing female employees and women in surrounding communities with free legal consultations, support in safeguarding their rights, and dispute mediation services.

From workplace equality to personal safety, the Centre provides women with accessible legal support in a professional and compassionate way. Whether it's listening when they feel uncertain or offering support in difficult times, we are always there for them, ensuring that the rule of law reaches every corner.



Establishment of a Women's Legal Aid Centre



Bringing the team together through spirited sports activities, where sweat and laughter reflect the energy of our company.



Engaging employees and their families in safety-themed activities, turning safety awareness into a shared understanding through participation, interaction and family involvement.



Recognising veterans and supporting their inclusion through dedicated engagement activities.

# Sharing the Benefits of Development with the Community

We uphold the belief of "giving back to the communities that support us", integrating corporate citizenship into our actions. In 2025, through the Iraeta Sunshine Charity Foundation, we actively contributed to global community development and China's rural revitalisation through financial contributions, joint project development, and employee volunteer engagement. We ensured that every act of goodwill makes a difference and that the benefits of development are shared with society, generating both economic value and meaningful social impact.



On International Childhood Cancer Day, we stand with children around the world and offer our support and encouragement.



We are concerned about the health and well-being of the elderly, and we consistently visit senior residents in the communities surrounding the Company each year, bringing warmth and companionship.



We believe in the power of curiosity and collaborate with local primary schools to organise science visits, planting the seeds of exploration in children's minds.



## Protecting Our Shared Green Environment and Rooting Environmental Awareness Across Generations

In regions with sparse vegetation and fragile ecosystems, every tree is invaluable. In 2025, our subsidiary FIHI collaborated with local schools in Zestoa, Spain, to launch this year's native tree planting programme. On 12 November, more than 40 employees and children joined the children in planting saplings by hand.

Under the guidance of volunteers, children learned about native plant species, participated in soil preparation and watering, and developed an understanding of the connection between life and nature, as well as a sense of responsibility for protecting the Earth. When environmental awareness moves from the classroom to the land, and from the company to the school, "green" ceases to be an abstract concept and becomes a belief passed down through generations.

Forjas Iraeta Organised a Tree-planting Activity with Local Schools in Spain



Governance

## Corporate Governance and Effective Decision-making

We have established a modern corporate governance structure with clearly defined responsibilities, mutual checks and balances, and coordinated operations. With the shareholders' general meeting as the highest authority, we ensure sound decision-making, efficient execution and effective oversight. During the reporting period, our corporate governance system continued to operate steadily, providing strong institutional support for strategy implementation and sustainable development.

## Competition Order and Business Compliance



Recognised by customs authorities in multiple countries and regions for our strong internal controls, financial standing, legal compliance and trade security, we obtained AEO certification in 2026.

We uphold compliant operations and strictly maintain safeguards against monopolistic practices, truthful communications, and trade secret protection at every stage. In 2025, the Company was not involved in any litigation or investigation related to monopolistic practices, nor were there any disputes or penalties arising from misleading communications. No major incidents of trade secret leakage or other unfair competition disputes occurred, ensuring steady and sustainable development under a strong compliance framework.

## Integrity, Compliance and Fair Market Practices

We adhere to the principles of fair competition and maintain market order through a transparent and well-regulated environment. During the reporting period, the Company was not involved in any litigation, administrative penalties, or major adverse events arising from bribery, corruption, or fraudulent conduct, reflecting the robustness of our integrity and compliance management system.



Specialised Internal Training on Compliant Operation and Financial Risk Management

## Risk Management and Process Control

Guided by the principle of "prevention first, end-to-end control, and continuous optimization", we have developed a comprehensive risk management system spanning all aspects of our operations, from business management to production – for risk identification, assessment, monitoring, response, and improvement. Fully integrated into critical processes such as R&D, manufacturing, and delivery, this system enables the ongoing enhancement of compliant operations and quality risk control. Through robust, prudent and responsible management practices, we aim to safeguard the safety and reliability of our products across their entire lifecycle.





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