1. INTRODUCTION
   1.1 Management Statement
   1.2 ENERCON’s business
   1.3 Intention of report and sustainability approach
   1.4 The UN Sustainable Development Goals and their significance for ENERCON
   1.5 Stakeholder and materiality analyses
   1.6 Sustainability vision, strategy and goals

2. PEOPLE – the society
   2.1 Our approach with our employees and societies
   2.2 Health Management
   2.3 Safety Management
   2.4 Human rights and labour practice
   2.5 Diversity
   2.6 Employee engagement
   2.7 Local Communities
   2.8 Projects and Case Studies

3. PLANET – the environment
   3.1 The ENERCON Environmental Management Approach
   3.2 Life Cycle Assessment
   3.3 Hazardous substances and materials
   3.4 Circular Economy and Waste Management
   3.5 Water Resources Management
   3.6 Immission
   3.7 Energy
   3.8 Low carbon future and decarbonisation
   3.9 Projects and Case Studies

4. PRODUCT – the economic value
   4.1 A sustainable product for green energy
   4.2 Turnaround programme
   4.3 Implementation of comprehensive Quality Management System
   4.4 Sustainable Procurement
   4.5 Sustainable Development
   4.6 Environmental impact in costs

5. CONCLUSION
   5.1 Summary and outlook
   5.2 Memberships
   5.3 Overview of ENERCON’s contributions to sustainability

ANNEX
   ANNEX 1: Table stakeholder analysis
   ANNEX 2: Abbreviations
1. INTRODUCTION

1.1 Management Statement 4
1.2 ENERCON’s business 5
1.3 Intention of report and sustainability approach 6
1.4 The UN Sustainable Development Goals and their significance for ENERCON 7
1.5 Stakeholder and materiality analyses 11
1.6 Sustainability vision, strategy and goals 12
1.1 MANAGEMENT STATEMENT

Social and ecological sustainability must guide our economic action. Current human behaviour will require at least two additional planets to allow for the natural regeneration of the consumed resources. Satisfying the constantly growing demand for energy with fossil fuels inflicts damages to climate and the environment on an unprecedented scale. Guaranteeing the global energy supply from renewable sources is, therefore, one of the greatest and most important challenges in the fight against climate change.

Wind energy is now among the most economic sources of renewable energy. Indeed, in recent times wind energy has proven to be the cheapest form of new power generation in several parts of the world. With its innovative technology and continuously improving design ENERCON wind turbines have contributed to the considerable gains in efficiency.

We are proud of the fact that our company has been one of the leading manufacturers of wind energy converters for decades with more than 50 gigawatts of installed power and approximately 30,000 gearless turbines installed worldwide.

“Affordable and clean energy” supply is, however, only one of the 17 Sustainable Development Goals of the United Nations. Therefore, additional Sustainable Development Goals are part of ENERCON’s vision to conduct its business and operations in a responsible way. These include in particular the principles of climate protection, responsible supply chains, the commitment to provide decent work, and the conservation of biodiversity.

Our sustainability report highlights ENERCON’s ongoing efforts and contribution to achieve the Sustainable Development Goals. Our focus is on ecological aspects, summarised here under “PLANET”; on the social impact of our actions as well as the working conditions for our employees in the section “PEOPLE”; and on a product that creates economic value while respecting environment and climate under “PRODUCT”.

As ENERCON’s Management we are proud of the company’s success so far. However, we acknowledge that great challenges lie ahead. The expansion of our global core markets and the increasing internationalisation of our supply chain will not reduce our sustainability efforts. This sustainability report is an engagement to our accountability and will be updated on a regular basis. We support the Sustainable Development Goals of the United Nations and we are aligning our company strategy accordingly.

We are confident that this approach will not only benefit the environment and the society, but will also create new long-term opportunities for ENERCON.

Your ENERCON Management
1.2 ENERCON’S BUSINESS

ENERCON.
Innovative products and a future-oriented company.

OUR BUSINESS
ENERCON wind energy converters have been known for their innovative technology, outstanding reliability and excellent returns on investment for over 30 years. With a tried and tested drive system, groundbreaking technological developments and high quality standards, the company is constantly raising the bar in the wind energy industry. Its product catalogue currently includes wind energy converters ranging from 800 to 5,500 kilowatts. The German wind energy converter manufacturer has installed approximately 30,000 wind energy converters worldwide with a total power of more than 52 gigawatts (status 12/2019). As one of the leading producers of wind energy converters, ENERCON is always working to drive the global supply of renewable energy forward using its practice-oriented products and services.

For more than 30 years, ENERCON has been among the technology leaders in the wind energy sector. It was the first manufacturer to focus on a gearless drive design, and this is now a hallmark of all ENERCON wind energy converters. The company is also at the forefront in other areas such as rotor blade engineering, control systems and grid connection technology and keeps proving its great innovation capacity with a variety of new technological developments.

SOPHISTICATED DRIVE TECHNOLOGY
Constant research and development are the key to the company's continuing success, along with production and service. All the key components such as the rotor, the annular generator and the grid feed system are manufactured by reliable and highly-qualified certified suppliers. This ensures the high standard of quality and the outstanding reliability that are features of ENERCON wind energy converters. Another essential factor is the customer-oriented service, which guarantees operators and owners 97% technical availability of their WECs. This holistic concept sets high standards in technology, quality and safety, thus consolidating ENERCON’s position as one of the leading manufacturers of wind energy converters worldwide.

ENERCON SETS NEW BENCHMARKS
The product portfolio currently includes wind energy converters with power outputs ranging from 800 to 5,500 kilowatts. The latest addition is the E-160 EP5 wind energy converter with a rotor diameter of 160 metres. All ENERCON wind energy converter models are characterised by reliable technology, low maintenance and a long service life, and thus guarantee customers a high rate of return.

ENERGY FOR THE WORLD
In keeping with the mission statement 'Energy for the world', ENERCON promotes renewable solutions for supplying power the whole world over, and is committed to future technologies. To support this, ENERCON is aligning its worldwide activities to market demands. The company already has a decentralised service and sales network in over 45 countries internationally.

FINANCIAL SECURITY
ENERCON’s independence was sealed when the Aloys Wobben Stiftung (trust) was established in autumn 2012. On October 1st, founder and owner of the company Aloys Wobben transferred his shares to the trust in order to set ENERCON’s sustainable and forward looking business strategy in stone. As a result, high quality and reliable WEC technology are not the only things ENERCON’s customers can count on – they can also be sure of a high level of investment security.

For details to the product portfolio and market shares see chapter 4. PRODUCT.
1.3 INTENTION OF REPORT AND SUSTAINABILITY APPROACH

With this sustainability report, ENERCON is for the first time and voluntarily compiling an overview of its sustainability topics. The ENERCON’s contributions to sustainability are presented in a compact way just like its successes and challenges.

Because of our motivation and our high expectations of ourselves, we will communicate regularly and transparently about ENERCON’s progress in the area of ecological and social sustainability. In addition to our own commitment, the aspect of sustainability is also becoming increasingly important for our customers and other stakeholders.

In this way, the ecological and social footprint of the product is becoming crucial for investment and value creation. Sustainability thus becomes a long-term success factor for the company.

This report contains fundamental positions, the strategic alignment as well as specific sustainability issues. Those identified as material topics for ENERCON are presented in detail.

The reporting year is 2019; however, reference is also made to previous results in order to provide a good overview of sustainability at ENERCON. Subsequently, the ENERCON sustainability report will be created annually. The area of application is the ENERCON network with an international focus. The report deals with the areas of administration, production, installation and technical service, which as a whole follow the common vision: ENERGY FOR THE WORLD

Sustainability at ENERCON is based on three pillars that interlock and support each other and thus contribute to a sustainable global future describing our sustainability business:

PEOPLE – the society (chapter 2) addresses all efforts around societal concerns. Our own employees as well as the populations who are impacted by our actions will be equally considered.

PLANET – the environment (chapter 3) describes the impact on the environment and the consideration of the planetary boundaries which must be taken into account in all economic activities.

PRODUCT – the economic value (chapter 4) considers our product that creates the business value as well as the sustainability requirements for our product.

ENERCON’s sustainability efforts happen within the global context of the Sustainability Goals defined by the United Nations. ENERCON’s sustainability strategy is based on six target dimensions in order to face the challenges for the creation of a sustainable future (see 1.4). In this process, we analyse the economical, ecological and social impact of our actions. The identified material topics are reflected in the key elements of the strategy; they are described in detail in this report (see 1.6). The context analysis is based on the stakeholder and materiality analysis (see 1.5).

International standards form the basic framework for this report. In future, this report will be aligned with the GRI standard.
1.4 THE UN SUSTAINABLE DEVELOPMENT GOALS AND THEIR SIGNIFICANCE FOR ENERCON

The vision of a more sustainable future in a clean environment with social justice and reasonable economic growth is our motivation. The UN Sustainable Development Goals (SDG) describe a comprehensive vision of a Sustainable Development. The goals point out a way to face the global challenges in order to create a more sustainable world for all people on earth.

ENERCON’s contribution to the SDGs was elaborated and concretised in the sustainability strategy and defined in terms of key figures and objectives. We support the Sustainable Development Goals as follows: The business sector in which ENERCON is active promotes clean energy production (SDG 7) and thus has a direct effect on climate protection (SDG 13).

The production of wind energy converters strictly follows the principles of the responsible use of resources and the promotion of the circular economy (SDG 12).

With more than 16,000 employees in 36 countries and the targeted selection of suppliers and partners, ENERCON directly and indirectly supports decent work and economic growth (SDG 8). Preserving biodiversity and keeping any environmental impacts as small as possible are also goals of central importance to us (SDG 15). The long-term promotion of Sustainable Development would be impossible without networks and cooperation as well as joint solution finding. We provide active support to initiatives that support a Sustainable Development (SDG 17).
Ensure access to affordable, reliable, sustainable and modern energy for all

ENERCON’s core business is the provision of top-quality, efficient and innovative technologies, alongside energy systems (energy provision, conversion and storage) and energy logistics for a sustainable energy transition. By the end of 2019, ENERCON had installed 52 GW of renewable wind energy worldwide. This is a significant contribution to the sustainability goal of the provision of affordable and clean energy. This is reflected in our vision ‘Energy for the world’. We operate own wind farms and support the expansion of renewable energies through regional projects of business partners in emerging and developing countries, e.g. wind farm in Tanzania [see 3.9 Tanzania].

ENERCON'S CONTRIBUTION
Provision of top-quality, efficient and innovative technologies and energy systems

INDICATORS
- 52 GW installed worldwide and approx. 30,000 installed wind turbines worldwide by 2019
- 100% renewable energies
- 11.9 GWh since 2014 = 5,604 t avoided CO₂ emissions\(^1\) (based on calculation UBA 2020)

VISIONS
- VISION: ‘Energy for the world’
- More powerful and more energy-efficient wind energy converters
- Use of renewable energies and reduction of energy consumption
- Expansion of amount of employees using renewable energy

Take urgent action to combat climate change and its impacts

ENERCON’s contribution to the expansion of wind energy makes it possible to reach the climate protection goals worldwide and to keep global warming below the target value of 1.5 °C. The green energy installed by ENERCON totalled 52 GW by the end of 2019 and saved approx. 100 coal-fired power stations\(^2\) [based on calculation UBA 2020]. We resolutely pursue a comprehensive and goal-oriented sustainability strategy.

ENERCON'S CONTRIBUTION
Product Life Cycle Assessment [see 3.2]

INDICATORS
- Carbon footprint: 6.10 g CO₂-e/kWh (2019 value)
- 68% increase of electric cars in 2019
- Staff 100% trained

VISIONS
- Further reduction of carbon footprint (g CO₂-e/kWh) by 3% by 2020
- Strategic goal: From 2019-2022 reduction by 12% Focus on decarbonisation
- Expansion of e-mobility in vehicle fleet
- Fostering environmental awareness

Sources: 1UBA, www.umweltbundesamt.de/publikationen/entwicklung-der-spezifischen-kohlendioxid-emissionslich-erzeugten-strom-2020:
2UBA, www.umweltbundesamt.de/dokument/datenbank-kraftwerke-in-deutschland
**Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all**

With more than 16,000 employees in 36 countries and the targeted selection of suppliers and partners, ENERCON directly and indirectly supports decent work, economic growth and the promotion of sustainable standards in the supply chain. Health promotion and occupational safety are of central importance at ENERCON. Through the expansion of renewable energies, ENERCON supports both economic growth and the prevention of environmental damage.

**ENERCON’S CONTRIBUTION**

Providing jobs worldwide
Comprehensive turnaround programme in order to increase profitability and internationalisation

**INDICATORS**

More than 16,000 employees worldwide in 36 countries

**VISIONS**

Ensuring the stability of the company by implementing the turnaround programme

Training and qualification of employees
Safe work environment through risk assessments and programmes for lowering the amount of accidents. Certified occupational Health & Safety Management System ISO 45001:2018

**INDICATORS**

72% employment rate for apprentices and dual students
2.72 LTIFR, 6.87 LTISR

**VISIONS**

Ensuring employment and qualified skilled workers
Implementing the management system requirements within the units

**Ensure sustainable consumption and production patterns**

As quality leader, ENERCON provides first-rate quality. We want nothing less than to develop the highest-quality wind energy converter on the market. The production and processes involved in the long-lived and gearless WECs are being constantly optimised by means of management systems for quality, energy and environment. The machine house nacelle was switched to a compact design in 2018. This allowed the total weight to be reduced from E-126 EP4 to E-126 EP3 by 201 t. The material efficiency was thus directly related to the responsible use of resources. ENERCON supports utilisation concepts such as continued operation, refurbishment of components (promoting the circular economy), dismantlement and recycling as well as repowering.

**ENERCON’S CONTRIBUTION**

Systematically controlled optimisation of input and output streams such as: Energy, waste, hazardous substances (substitution and exclusion criteria) and water consumption

**INDICATORS**

> 85% recovery rate of waste (2019) [see 3.6]
180,897 m³ water consumption [see 3.5]

**VISIONS**

Increase recovery rate to 90%
Waste reduction by 5% [focus on reduction and recycling]
Define concrete water base value for 2020, 3% reduction in 2021
Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss

The use of wind energy is a positive contribution in the fight against climate change. Still, ENERCON is aware of the fact that the installation and operation of wind turbines impacts regional ecosystems. ENERCON endeavours to keep the environmental impact as low as possible in all processes and activities.

**ENERCON’S CONTRIBUTION**

The land use necessary for building foundations and access roads as well as the use of the air-space change regional land ecosystems with their flora and fauna.

These interventions into landscape and ecosystems are assessed for each project, and are compensated in compliance with the legal regulations at the site, by conservation and compensation measures. ENERCON supports initiatives for the scientific analysis of the impact of wind turbines on biodiversity, and for the reduction of significant negative impacts. ENERCON was an early collaborator in the research on the risk of bat collisions and the development of suitable bat protection measures.

ENERCON is involved in a large range of study and research work concerning wind energy and biodiversity, such as the collision rate of marsh harriers, the sustainability of compensation measures, and the use of detection systems that reduce the risk of bird collisions.

The largest effect on biodiversity is in the selection and provision of suitable sites by the respective states/countries. ENERCON strives to promote greater scientific knowledge to help select sites in a way that protects biodiversity, for example through best practice examples on the successful combination of wind power generation and the preservation of biodiversity (see 2.8 Schlalach).

Revitalise the global partnership for Sustainable Development

The global challenges of climate protection and a sustainable worldwide development can only be handled successfully through joint networks and cooperation. ENERCON is active in numerous associations and institutions in order to bring about sustainable solutions.

**ENERCON’S CONTRIBUTION**

ENERCON enhances the global partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilise and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries. (see 5.2)

Examples

WindEurope: Working Group Sustainability: Sustainable supply chain, blade waste and recycling topics, dismantling and decommissioning. Participation in the Wind Harmony project, an assessment of potential for harmonisation of health & safety regulations impacting the wind industry at EU level.

Contribution in the development phase for an IRBC (International Responsible Business Conduct) Agreement for the wind industry conducted by the SER (The Social and Economic Council of the Netherlands).
The stakeholder analysis is a crucial part of the sustainability report and a fixed component of the ISO certification of the management systems which we have had for years and which require a context analysis with regard to the organisation. The context analysis is an in-depth review of internal and external issues; the stakeholder analysis and the materiality analysis are extensions of the context analysis.

Identifying the stakeholder is an ongoing process. Analyses and evaluations of the requirements formulated by stakeholders are also performed systematically. Other means for identifying stakeholder requirements are surveys conducted in the framework of internal and external business processes. This includes employee surveys, customer and supplier satisfaction surveys, and the active participation in national and international associations.

**KEY STAKEHOLDER**

The stakeholders were identified based on their impact on ENERCON’s business. All listed stakeholders and their material requirements are taken into consideration.

The following stakeholders have been identified: Customers, employees, suppliers, banks and insurance companies, political representatives, NGOs/associations, the public as well as interested parties from science. Three stakeholders will be examined in detail due to their great impact and crucial ecological and economic effects on our organisation:

- **Customer**
  Currently, customer surveys are conducted every 24 months. Our current system was able to reach 36% of our customers during the survey. Because customer relationships are a key success factor for the company, ENERCON is planning a project whose goal is to increase the efficiency of the surveys. The goal is to achieve exhaustive coverage for the satisfaction survey. This also applies to potential customers who sent enquiries to ENERCON.

- **Employee**
  In order to give all employees the opportunity to participate actively in the Sustainable Development of the company, ENERCON introduced a system for the systematic collection of suggestions for improvement. In future, targeted employee surveys will be conducted that focus on identifying sustainability requirements.

- **Supplier**
  The primary goal of Risk Management in purchasing is to establish an effective monitoring system for sustainability risks in order to control these in a preventive manner; we want to cooperate with suppliers in the early identification and systematic elimination of any sustainability deficits. The expansion of the Risk Management System will include the implementation of a software by 2021 that will systematically control these risks.

**MATERIALITY ANALYSIS OF TOPICS**

The materiality analysis examines the issues mentioned by the stakeholders as well as the topics from the context analysis. To identify the material topics, the concerns of the relevant stakeholders were evaluated. The following principles were the basis for the evaluation:

- What impact do the evaluations and decisions have on the stakeholders
- What are the effects of the economic, ecological and social aspects

The materiality analysis is partially based on surveys of selected stakeholders, assumptions and other evaluations. Consequently, a comprehensive survey of all stakeholders with regard to identifying the material sustainability topics will be conducted by 2022. These material sustainability topics were identified: Employee satisfaction and qualification, sustainability and CSR issues, environmental product and company performance, quality and innovation, business performance, health and safety, risk determination (minimising) and sustainable supplier performance.

For detailed information on the stakeholder analysis and the issues with cross references to the report chapters, refer to ANNEX 1: Table stakeholder analysis.
1.6 SUSTAINABILITY VISION, STRATEGY AND GOALS

Sustainability means for ENERCON creating a longtime added value on an ecological, economic and social level. This means a continuous improvement of our three pillars “PEOPLE, PLANET and PRODUCT” and a consistent setting of objectives and monitoring on the basis of key performance indicators. It is part of our management system by establishing standards and procedures to be followed across our sites in our worldwide operations.

Our vision, strategy with our guiding principles are the foundation of our management system and activities. With this we take a rigorous and systematic approach and place great emphasis on strengthening our HSE culture and workforce capability.

OUR VISION
ENERCON – Our contribution for safe work, good health and sustainable business. Through our products, services, operations and community involvement, we promote the efficient and environmentally responsible use of resources and the creation of safe and healthy workplaces to benefit all people worldwide.

UN Sustainability Development Goals. Our vision ‘Energy for the world’ is aimed at the worldwide delivery of sustainable, innovative products and system solutions and is thus an indispensable precondition for the implementation of climate protection measures and the active shaping of the energy transition.

We are aware of our responsibility; this includes the responsible use of resources as well as social responsibility for our employees and the society in the countries where we are active. This is firmly anchored in our corporate principle – “Responsibility”.

OUR GOALS AND STRATEGY
ENERCON has drawn up a strategy up by 2024 with the aim of keeping the impact on the environment and society as low as possible and creating holistic added value. For our 5-year strategy we have focussed on certain key elements as part of our global management system.

We evaluate our products and processes in terms of ecology and economy throughout their entire product life cycle. We perform a comprehensive analysis of the environmental effects and implement improvements along the entire value chain. Life Cycle Assessments are an important tool for the constant improvement of our environmental performance. Our goal is to actively protect our environment and to make environmental protection measurable. This is reflected in the goals we define for all processes and units.

OUR GUIDING PRINCIPLES FOR A SUSTAINABLE BUSINESS
We make a significant contribution to the worldwide availability of clean energy; this way, make an elementary contribution to achieving the

KEY ELEMENTS OF 5-YEAR SUSTAINABILITY & ENVIRONMENT STRATEGY
- Sustainability Management and CSR
- Climate protection – decarbonisation
- Hazardous materials and substances
- Circular economy
- Water and soil protection
- Emission control
- Energy
OUR GUIDING PRINCIPLES FOR SAFETY AT WORK AND A HEALTHFUL ORGANISATION

"Safety and health are top priorities for leadership conduct."
For this reason, we have strong, committed leadership figures who actively model these priorities and have a positive impact on our culture. Our employees are involved in creating safe & healthy working conditions and know the rules for safety at work.

"We have a recognised system and a healthful organisation."
We systematically design, optimise and live working conditions that promote safety & health. We effectively implement our knowledge in the organisation and ensure that we achieve our goals.

"We work well together and foster physical, mental and social well-being."
The appreciative cooperation and honest communication between the leadership and the employees foster motivation and good performance and thus support the success of the company.

INTRODUCTION

PEOPLE – the society
PLANET – the environment
PRODUCT – the economic value
CONCLUSION
ANNEX

KEY ELEMENTS OF 5-YEAR HEALTH AND SAFETY STRATEGY

- Incident Management and lessons learned
- Reporting and evaluation
- Risk Assessments
- Introduction of management system
- Regular information and communication
- Ensure competence through training and qualification
- Introduction of consistent safety rules
- Healthy leadership and work environment
- Safe and healthy behaviour

OUR PROCESS FOR GOAL SETTING AND IMPROVEMENT

1. Vision
2. Context analysis
3. Guideline
4. General goals
5. Consideration of individual goals
6. Development of plans and programmes
7. Monitoring and review based on indicators
8. Continuous improvement

The described process helps ENERCON’s leadership to systematically apply principles, systems and tools across the organisation by supporting a self-improvement mindset and streamlining efforts to improve company performance. The development of plans and programmes in our legal entities are being supported with our maturity model to identify appropriate specific goals according to the level of implementation of our management system locally. The concrete objectives are described in the specific chapters PEOPLE, PLANET and PRODUCT of this report.
MANAGEMENT APPROACH AND SYSTEMS

Our management systems help us to apply a systematic and sustainable approach for improvement and operational excellence by avoiding or mitigating adverse impacts on PEOPLE and PLANET. The Integrated Management System (IMS) of ENERCON consists of several certified functional management systems which are in an interdisciplinary manner working together: Environment ISO 14001:2015, Quality ISO 9001:2015, Health & Safety ISO 45001:2018 and Energy ISO 50001:2011.

For a company active in the renewable energy sector, sustainability topics are a central issue when planning and implementing ENERCON activities. Therefore, sustainability is an integral component of the IMS and the IMS policy. Sustainability-relevant customer and market requirements are integrated into our internal objectives.

Continuous improvement of our management systems and improvement of our sustainability performance are key components of our actions to ensure our business sustainability. We do have a process for governance and monitoring by regular auditing our systems and legal compliance. Identified legal obligations for environment, energy and health & safety are delegated, documented and tracked with the support of a technology solution.

The annual management review evaluates the effectiveness of the Integrated Management System. The results are presented to the Management to identify required measures for optimization. ENERCON works effectively with a global management system by introducing requirements and standards for all entities within the ENERCON network.

Our global requirements have to be reviewed from every entity within the ENERCON network and to be covered in the respective management system, while also considering local and business specific aspects.
ENERCON depends on the skills, commitment and behaviours of our people in all countries. Our employees are involved in creating healthy working conditions and know the rules for safety at work. They make the difference.

Bernhard Zoremba
ENERCON Global Head of HSE Management
2.1 OUR APPROACH WITH OUR EMPLOYEES AND SOCIETIES

35 years into our company history, we are proud of the 16,000 people of 85 nationalities across 36 countries who do their best every day to make the energy transition a reality. We are aware of our responsibility as an employer to create a work environment that promotes mutual respect and fairness, provides safe and healthy jobs, and fosters creativity and personal development. And we work continuously on fulfilling this responsibility to an even greater degree. In the past year for example, we were able to reduce our LTIFR rate by 15%, increase the number of training programmes held for office workers by 24% and the number of in-house programmes by 40%. Thanks to our long-term corporate strategy, we offer our employees a stable work environment and a high degree of independence on the job.

Our long-term vision would not be possible without satisfied and well-trained employees. For this reason, we invest heavily in apprenticeships, training and further education, employee health and a modern workplace. Our executive team is equally committed to their responsibility and supports our employees in their personal development and professional advancement – because involving our high-tech products is something we can only do together. The know-how of our employees and their inter-disciplinary cooperation are at the core of our technology excellence.

Furthermore, ENERCON’s operations impact local societies and economies. We aim to build relationships with the communities where we operate.
2.2 HEALTH MANAGEMENT

We at ENERCON believe that a **healthful organisation** forms the foundation for motivated and healthy employees. Our global management system (which is certified according to the ISO 45001) sets the requirements for our operations to ensure a **safe and healthy working environment**. We work to reduce occupational health risks, which may include infectious diseases, stress, fatigue or other health related issues.

With our **5-year strategy and systematic approach** we have set specific goals across all business units and all levels of the organisation. In 2019 we have been training 21 health coordinators as a foundation of our Health Management System. Following our philosophy a healthful organisation needs **healthful leadership**. That is why we think, that specially trained experts will help us in establishing a healthful organisation. We have implemented a self-assessment for our business units to evaluate their organisation concerning healthful leadership, working conditions, behaviour and culture.

Furthermore, we started with an in-depth evaluation of our **risk assessment for psychological stress**. This included a survey for employees in our central administrative Business Units and additionally workshops moderated by our Occupational Health Managers. This enabled the respective departments and their leaders to find possibilities to strengthen the teams and improve well-being of our employees. Our approach was well received by the respective managers and teams. We have therefore successfully made our first steps to enhance our organisation with a healthy leadership. Our Health Management focusses strongly on supporting **culture and dialogue support**. An active occupational integration management, welcome and welfare/well-being interviews are an integral part of our ENERCON culture.

Another important pillar of our Health Management is promoting **healthy behaviour** of our employees. Since many years we are offering our employees company sports programmes at attractive conditions cooperating with external partners. We believe that fitness and well-being positively influences not only physical health of our employees, but also their work-life-balance.

---

WE BELIEVE THAT FITNESS AND WELL-BEING POSITIVELY INFLUENCES NOT ONLY PHYSICAL HEALTH OF OUR EMPLOYEES, BUT ALSO THEIR WORK-LIFE-BALANCE.
In 2019 ENERCON started a “MIND YOUR BACK” campaign in order to prevent backaches.

As a part of our 5-year strategy we have agreed on the following principles and health guidelines:

- All leaders will reflect upon their personal behaviour regarding health and communication on a yearly basis.
- We will organise focal campaigns every year. For 2020 our focus is an ergonomic work environment.
- We will intensify and improve our psychosocial counselling services for leaders and employees.

By beginning of 2020, as the COVID-19 pandemic was starting to make its progression throughout the world, we quickly took the necessary precautions to protect the health of our employees. We revised our global procedure on pandemic response at short notice and enhanced our efforts to establish safe and healthy work practices in the countries where we operate. Global and local country specific Crisis Management Teams have quickly been set up to coordinate pandemic response activities, and corporate communication channels were established to keep our staff well and reasonably informed about the pandemic situation.

An Employee Photo Campaign “Stay distant – #ENERCONTOGETHER” that we launched in April 2020 in order to give our employees all over the world the opportunity to demonstrate team spirit and give us the extra motivation we need for working in crisis mode. The campaign is still running, similar local campaigns were also started in our business units.

We also implemented several of ongoing international controls imposed by the pandemic controls con- STAY DISTANT #ENERCONTOGETHER

pandemic controls in the light lockdown and pandemic safety countries’ governments. Our own
tained inter alia: Transferring office- based personnel to remote work and closure of offices. Administrative controls such as separating technicians into fixed service teams and vans have been implemented to ensure the protection of our essential field work personnel. By this, we managed to keep COVID-19 infections at a low level throughout our business units, effectively mitigating the impact on our operations. ENERCON’s Health Management is a direct contribution to the SDG 8 “Decent work and economic growth”.

In 2019 we started our “mind your back” campaign in our project-related office activities. Our Occupational Health Managers developed exercises for our office personnel to take care of their back and raise the awareness of preventing backaches. Overall, our Health Management System achieved visible success. Compared to April 2019, our sick leave ratio has decreased by 10% by end of April 2020.
ENERCON operates under the principle "Safety at work and a healthful organisation" across the whole ENERCON network. It is essential that safety culture is fully embedded in our company and communicated across all levels. For this we have committed leaders who positively influence our culture. We expect our employees to acknowledge their responsibility for their own or their colleague’s safety. We aspire to give our employees the certainty, that they can return safely back home to their families, when carrying out their daily work.

The accident rates (e.g. LTIFR) are tracked throughout our business units constantly. In the last 4 years we have constantly achieved an annual reduction of our Lost Time Incidents by 15% from the year before. The target for 2020 is 0.46 per 200,000 working hours. We have implemented a Legal Compliance Management System to support a robust and regular review of the HSE governance within our Line Management. Therefore, the legal obligations are transparent and easy to manage. By the end of 2019 we have managed to successfully implement the system in all of our German production and service business units. We will continue to implement this system-based approach in other countries and across the whole ENERCON units. We reinforce safety within the wind industry, that’s why we do engage in external working groups like the German VDMA covering safety culture and principles for the installation phase and the wind harmony initiative.

Sustainable safety systems begin with the people, who daily perform essential field work. To support this, we have introduced the Safety Campaign “Don’t be the bravest, be the safest!” across our worldwide service operations. Our service employees worldwide selected the slogan in a survey. With the companies producing for ENERCON in Turkey, Brazil and India we provide safe working conditions by setting standards for the local population in emerging markets.

FROM PRODUCT TO WORKPLACE SAFETY

Safety at ENERCON starts with the engineering and developing of safe products. Our product conformity teams do not cover compliance only. They are assessing the impact for safe work places as well. By this we will enhance safety in all phases of the value chain of our products.

Our 5-year strategy is being implemented in specific annual action plans cascaded throughout our business units. We have refined our global procedure for Incident Management by outlining standardised criteria for analysing and reporting incidents on local and global levels across the whole ENERCON network.

By 2019 we have started to highly focus on continuous improvement and enforce the creation of lessons learned reports containing corrective actions for serious incidents or near misses that prevent reoccurrence. We continued to further revise our risk assessment procedures in order to set minimum requirements and standards applicable across the whole ENERCON network.

By the end of 2019 we successfully managed the transition from OHSAS 18001 to ISO 45001 certification, which was verified in our recertification audit in May 2020. The whole ENERCON network will be implementing an equivalent management system for Occupational Safety and Health. It is essential for us, that our employees are competent and have been properly trained to perform their task safely, especially for high-risk activities. We are regularly reviewing work-related training standards following the state of art and industry guidelines such as the principles of the Global Wind Organisation. We are operating ENERCON Training Centers across countries to offer safety trainings for our employees, contractors and customers. (see 2.8 Training department)

Our goal for 2020 is to introduce a HSE annual programme in all of our legal entities and further decrease our LTIFR by 15% compared to 2019.
2.4 HUMAN RIGHTS AND LABOUR PRACTICE

We recognise the UN Guiding Principles on Business and Human Rights as part of our responsibility as a diversified, global company. We respect all internationally acknowledged standards on human rights and labour standards.

As we state in our internal Code of Conduct, ENERCON is committed to complying with ILO Convention No. 105. Also, ENERCON complies with the United Nations regulations on human and children’s rights in particular to comply with ILO Convention No. 138 on the minimum age for employment and Convention No. 182 on the elimination of child labour.

We are committed to fair and equal treatment of all employees irrespective of their gender, age, origin, religion, handicaps and civil state. We explicitly prohibit labour practices like child labour, forced work and human trafficking as well as any form of discrimination, harassment and retaliatory measures. Our standards prohibit any activities that could be associated with compulsory work such as withdrawing passports or misleading and deceptive conduct in recruitment. We will also not tolerate any adverse impacts or malpractices, which are directly linked to our products, services or other operations by our independent business partners.

We expect all independent suppliers and business partners to respect these guiding principles, and share our efforts in continuously improving the performance in this area. We have committed to this in our Code of Conduct (section 10) as well as in the ENERCON Supplier Code of Conduct (section 9), and we are aiming to formulate a policy on human rights and labour practice.

See also chapter “Sustainable Procurement” for human rights and labour practice in the supply chain.

2.5 DIVERSITY

ENERCON prides itself as an equal opportunity employer. We believe that a diverse workforce is the key to our success and will help us in shaping the future of energy generation, with sustainable, renewable energy made accessible to every part of the world. Our values are based on responsibility, trust and respect – this brings us together, no matter who we are, what we believe and where we come from.

For us, diversity includes (but is not limited to) gender, age, culture, ethnicity, physical abilities, sexual orientation and political and religious beliefs. We are currently active in 36 countries in the world hosting the big ENERCON family. The mix backgrounds helps us to and will help us in becoming one of the global technology leaders in renewable energy.

As of today, our workforce is made up of 15.3% women with a senior leadership team share of 14.8%. We aim to continuously increase this percentage – and as it is a social phenomenon that women are less likely than men to pursue a career in the STEM field (Science, Technology, Engineering and Mathematics), we believe that it is important to expand women’s spectrum of vocational choices at an early age. In the current vocational training year, 14% of our technical apprentices and 33% of our employees in a technical dual study programme are female. Our Research & Development staff consists of 18% women, which is above the industry average.

We believe that we work best in age-mixed teams, so that generations can profit from each other’s perspectives and experiences. We employ people of all ages, aiming to keep our age structure well-balanced.
ENERCON pursues a holistic approach in Human Resources Management. Our processes are guided by the employee life cycle, from recruiting to personnel development and personnel retention all the way to the termination of the employment. The HR business partner and the HR service are responsible for these core processes vis-a-vis the executive team and the employees, with added know-how from the HR centres of excellence. This ensures that each employee has a single point of contact, who in turn has the competence to support and advise the employees and the executives with regard to the guidelines and processes adapted to the needs of the company by the CoEs (Cost of Energy). This approach promotes the sustainability vision of SDG 8 “Decent work and economic growth”. SDG 7 “Affordable and clean energy” is also supported, e.g. by reduced-price green energy for employees. [see 1.4]

**TALENT ACQUISITION**

ENERCON offers opportunities for all career levels, from recent school graduates to experts with years of professional experience. We have apprenticeship and dual study programmes in 17 different specialities (commercial and industrial/technical). University students, too, have the option of getting to know ENERCON already during their student years by writing theses or doing internships or part-time work. For many years, we have also been supporting selected students in their academic career through the Deutschlandstipendium scholarship programme.

We are convinced that the investment in the vocational training of young people pays off in the long run. In 2019, for example, we were able to offer permanent work contracts to 72% of our apprentices and dual programme students.

Our HR marketing strategy has identified specific universities where we take part in university fairs and events in order to actively recruit talented students and graduates to start their careers at ENERCON. We also participate in trade fairs and job fairs in order to reach seasoned professionals.
We evaluate the success of our HR marketing activities on the basis of recognised studies which we use for the continuous, targeted increase of our name recognition and attractiveness as employer. The Trendence study named ENERCON among the most attractive employers for young professionals in Germany. (see 2.8 Attractive employer)

ONBOARDING
We want to make sure that new employees at ENERCON have the smoothest possible start in their new jobs. For this reason, we host both domestic onboarding activities and a multi-day international onboarding event at our headquarters, which was first held in 2012. New employees attend presentations and excursions to learn not only about ENERCON but also about the whole network, they can network and receive training in selected global topics. These central onboarding efforts are combined with a training period in the respective technical department. Systematic communication is part of this training period.

PERSONNEL DEVELOPMENT AND RETENTION
A strong market position and a sustainable, globally successful strategy for ENERCON’s future requires highly trained and motivated employees as well as high executive and change competencies in the various domains. In order to strengthen these competencies and to qualify our employees for the challenges of the future, we founded the ENERCON Academy in 2017. Its motto is “Weiterbilden – Weiterkommen” – Learn More, Do More. The academy supports the employees of our central functions in Germany where our headquarters are located; at our international locations, we have smaller HR development units that support the employees there with regard to local development and training issues.

In 2019, almost every one of the 2,324 employees in our central functions attended a training day at the academy – we are proud of the fact that our in-house training programme as well as the ENERCON Academy have earned their spot as an ENERCON brand and that in many issues concerning further education, our employees view the company as their partner. Product-specific training and instruction are provided by the Training Centers. They serve employees as well as customers, service providers and operators/owners (see 2.8 Training department).

We attach great value to supporting our employees at the various functional divisions and managerial levels in their complex jobs by providing company-specific advanced training programmes. With regard to the executive track, for example, the overarching intention is to systematically increase the leadership quality (even further) and in this manner to align the company with the continuously changing demands of the global market. This strengthens the ability of the executives to provide skilful, effective and sustainable leadership at ENERCON both individually and as part of the executive team based on common ground. For this purpose, we are planning to develop and implement Leadership Principles in 2020 that will make ENERCON’s expectations of its executives transparent and will also provide a guideline for executives and employees.

Continuous development is a key element of our personnel retention strategy. In addition, we offer different kinds of benefits depending on the local market conditions, for example flexible working hours and part-time models, company pension schemes, health insurance, disability insurance, cafeterias/lunch tickets, reduced-price health and fitness offerings reduced-price green energy, child care and employee events.
We also work continuously on our basic salary structure in order to ensure transparency and fairness internally as well as competitiveness externally.

In the past year, we honoured more than 700 employees in Germany alone who celebrated 10, 20, 25 or 30 years with ENERCON. Many employees spend their entire career with us until their own retirement. We strive to make ENERCON a workplace that supports family life. Depending on the legal framework of the respective country, all our employees may take parental leave.

Furthermore, we offer our employees different child care solutions including our own kindergarten “KITA Wirbelwind” close to our headquarter offices. The company’s own daycare centre was opened in 2014 and offers flexible, year-round, all-day care. 70% of the places are reserved for ENERCON employees. We also offer a variety of flexible working time policies and are in the process of designing a mobile working policy, both of which are helping to reconcile work and family life at every stage of life.

EXITING EMPLOYEES

We strive to ensure the professional development of our employees within ENERCON and to provide them with a long-term professional perspective. If an employee wishes to continue their career outside of ENERCON, our goal is to make their exit and the transition towards a possible replacement as smooth as possible. This includes the search for a replacement candidate and arranging the handover to the (interim) successor. Exit interviews are part of the regular process in order to identify the reasons for the employee’s resignation, as well as corresponding ideas for improvement.

In 2018 and 2019, the difficult market situation in Europe forced us to make extensive changes to our product portfolio and production network. Unfortunately, lay-offs at some of our production partners’ plants were unavoidable. All efforts were made in concert with the employee representatives in order to mitigate the impact of the lay-offs on the affected individuals. In addition to individual severance payments and job fairs held locally at the company premises, millions of euros were invested in transitional employment companies, which allowed not only an adequate exit but also provided further education and retraining programmes to help with finding new permanent employment.

EMPLOYEE COMMUNICATION

In recent years, we have put a lot work into creating continuous communication within the company. By now, our executives have established structured communication from the corporate leadership team to every employee (top-down communication) that is accompanied by regular employee communication on the intranet. ENERCON is currently in the middle of the turnaround, a period of change. For this reason, we have created a dedicated e-mail address that employees can use to send in questions, concerns and suggested improvements.

We consider it very important to involve our employees as much as possible in this process of change and to improve internal communication. For this reason, we started a professional employee survey in early June of 2020 in order to extract valuable insights from our employees’ feedback and to identify additional potential for development. We also plan additional activation measures for the coming months and years so that these changes will move us closer to our vision: ENERGY FOR THE WORLD.
ENERCON has always been committed to decentralised energy generation with the greatest possible local value creation. In the company’s founding years, cooperation with farmers and local stakeholders formed the basis for innovation and growth in Germany.

Rural areas can benefit from the income from plant operation as well as lease payments, and also from the compensation areas for nature conservation. After many years of close cooperation, ENERCON can rely on a solid network of community engagement, electricity providers, farmers as well as regional planners. These networks are created nationally as well as internationally. In many countries, parts of the added value from wind energy projects are used to preserve and promote biodiversity through compensation measures.

Support for wind energy projects is consensual if planning processes are transparent and involve the Local Communities. This means that the acceptance of wind energy projects depends primarily on trust and fairness and sets high standards for project development. Financial participation allows many communities and citizens to benefit in multiple ways from neighbouring wind energy projects. The projects generate work for local handicrafts and tax revenue for the communities. They strengthen the local purchasing power and bring leasing income to local landowners.

One example is the presence of ENERCON in the Havelland-Fläming region (in the state of Brandenburg/Germany): In this area, an overall system solution for a decentralised energy supply from renewable sources was realised by companies, private households and communities. The energy self-sufficient village is a model for communities worldwide.

Another model project for active community engagement is the Schalach wind farm in Brandenburg/Germany with 22 wind energy converters (see 2.8 Schalach).

Additionally, on the international level ENERCON creates value for Local Communities. Examples include the installation of the first wind farm in cooperation with Native American communities in Canada, the creation of a mobile tower production facility in Uruguay, and the largest community wind farm in the Netherlands (Krammer wind farm). The benefits arising from the CSR project in Ghana/Africa (see 2.8 wind farm CSR) and the wind farm in Tanzania (see 3.9 Tanzania) are described in more detail in those Case Studies. With these national and international efforts, ENERCON supports the United Nations Sustainable Development Goals, primarily SDG 7, 8 and 15 (see 1.4).

The independent value-added chain through the use of wind energy thus makes a considerable contribution to the local population worldwide. ENERCON is striving for long-term, reliable framework conditions that enable small and medium-sized enterprises to participate in sustainable energy supply. Together with the Local Communities, we can develop project-specific solutions. Customers benefit from our experience of almost four decades of realising wind power projects. In turn, ENERCON achieves greater local acceptance of wind power installations.
2.8 PROJECTS AND CASE STUDIES

CASE STUDY: DEVELOPING A WIND FARM PROJECT WITH CORPORATE SOCIAL RESPONSIBILITY

Corporate Social Responsibility: Community investments are an important component of the project. Social projects are supported over the whole lifetime of the project. The companies behind the wind farm do not only want to develop clean electricity projects, but to give to the local population and especially to the local youths and their families live perspectives.

Project: FINANCIAL SUPPORT FOR ORPHANAGE CLASSROOM
ENERCON GmbH and NEK (project developer) financially support the construction of the 3-unit classroom for the community. The opening took place on 9th June 2019.

Project: COMMUNITY ENGAGEMENT EVENTS
It is important for us to develop the project in a social sustainable manner with all stakeholders involved. Community information events around the project area took place and even more will follow. The involved communities are highly interested that this project will create local labour opportunities for skilled and less educated persons.

Julia Segebade
HR Specialist Marketing

CASE STUDY: MOST ATTRACTIVE EMPLOYER AMONG YOUNG PROFESSIONALS 2019

The barometer study conducted by Trendence, a leading consultancy and market research firm, named ENERCON among the most attractive employers for young professionals in Germany in the “utilities and environment” sector. This makes us really proud. The study polled more than 20,000 academic professionals from different fields who averaged four and a half years of professional experience. The questions concerned for example on preferred employers and career planning as well as optimal application processes. Trendence analysed the data by industries. The data reflected the mood among the ‘young professionals’ target group. Our ranking shows that we are on the right track and inspires us to keep evolving continuously in order to remain a preferred employer among young professionals and hopefully be recommended by them in their fields.

Maike Lüninghöner
Sales Engineer Africa

Follow the latest developments on the project homepage.
CASE STUDY: SAFETY AMBASSADORS (SAFETY PERFORMANCE)

In the Netherlands, France & Belgium we started with the introduction of a behaviour based safety programme. This included workshops for the leadership regarding their commitment to safety, safety awareness trainings for the middle management and involvement of all employees in a specific safety culture survey. As a part of the programme we have started to train interested employees as safety Ambassadors. We believe that all positions within our organisation should be committed to safety, therefore there should be no barrier for interested persons to show their engagement. The initial launch of the training of the Safety Ambassadors was a success for us.

In 2020 we will continue to further implement similar programmes in the future throughout our business units. We will continue to further implement several behaviour based safety programmes, focussing on the hazards of trips and falls alongside dropped objects in 2020. We encourage our employees to actively observe each other’s behaviour while performing specific tasks. While unsafe work practices are stopped and assessed, we intend to reward safe work practices as an overall improvement to our performance.

Henri Snijder
Regional HSE Manager (Belgium, France, Netherlands)

CASE STUDY: ENERCON TRAINING DEPARTMENT (EMPLOYEE DEVELOPMENT)

The long-term success of the company will not be possible without motivated and well-trained employees. For this reason, the personal and professional development of our employees is firmly anchored in ENERCON’s corporate culture. Training and instruction are arranged and conducted by training centres. In 2019, we put in an effort of 7,181 days to train a total of 31,734 people.

In order to ensure a consistent high standard with regard to the training environment, contents and further development, the “No Tolerance for Training Errors” programme was implemented in 2019. It introduces new standards for trainers and training design. In September 2019, the new customer Training Center building was opened in Lichtenau (North Rhine-Westphalia/Germany). Currently, we are implementing a Learning Management System in order to optimise training planning and organisation, introduce training paths and enable self-directed online learning.

Rena Ahlfeld
Group Leader Standardisation
CASE STUDY: CITIZEN PARTICIPATION IN SCHLALACH (COMMUNITY ENGAGEMENT)

As many regions, the Havelland-Fläming region (Brandenburg/Germany) must face the coming challenges of dwindling populations in rural areas and the effect of the demographic change. In cooperation with local stakeholders, ENERCON realised a shareholding scheme with high value creation for the local community. Out of the 22 wind energy converters, one ENERCON E-101 has been operated by local residents since 2017. A foundation was set up for the community that shares in the electricity sales of the entire wind farm; in addition, compensation measures for nature conservation valued at 1.1 million euros were able to be realised locally in cooperation with the community. The newly planted rows of trees, hedges and meadow orchards provide protection and food to local wildlife. A total of 50 hectares of agricultural fields in the region that had been intensively farmed were converted into structurally rich habitats for meadow birds and great bustards. Landowners and farmers enjoy the lease income and care compensation for the entire lifetime of the wind farm. In addition, in the village of Schlalach a construction waste landfill site could be removed after more than 30 years. Today, this area is used by the local sports club as a playing field.

Vera Sibler
Head of Environmental Project Support

CASE STUDY: ENERCON WINDFARM SERVICES IRELAND RECEIVES EMPLOYEE WELLBEING ACCOLADE

The Keep Well Mark Accreditation is an external accreditation and it was awarded to ENERCON Windfarm Services Ireland ltd by IBEC (Irish Business and Employers Confederation) on November 15th 2019. The KeepWell Mark™, introduced by IBEC®, is an evidence-based workplace wellbeing accreditation and is based on a set of health and wellbeing standards that we in ENERCON Windfarm Services Ireland ltd achieved through the promotion and implementation of wellbeing practices in our workplace. In January 2019, ENERCON Ireland signed up to this pledge as we wanted to make a strong commitment to improving our workplace wellbeing practices across all levels of the business. The onsite assessment took place in early November and involved a review of evidence of wellbeing across the company and interviews with stakeholders of the company. We are only at the start of our journey and 2020/2021 will take us even further with more emphasis on mental wellbeing amongst other important areas. Since our accreditation, we have also been shortlisted in ‘the KeepWell Awards 2020’ for Medium Company of the year with an announcement on the award to be made in August 2020.

Shinead Murphy
HR Business Partner

The planetary boundaries must be taken into account in all businesses. We at ENERCON are continuously reviewing and improving our activities with regards to their environmental impact. This is an essential contribution to advance climate protection.

Kerstin Dorenbusch
ENERCON Head of Sustainability and Environment
3.1 THE ENERCON ENVIRONMENTAL MANAGEMENT APPROACH

The Environmental Management as an elementary pillar of sustainability guarantees the constant improvement of our environmental performance, as well as the efficient use and conservation of natural resources. The efficiency of actions aimed at optimising our environmental performance is continually checked and improved by actively monitoring our processes, products and activities for their environmental impact. This monitoring takes place via audits and the management review, amongst others.

Goals for environmental improvement are defined in the areas of carbon footprint, hazardous materials, waste and circular economy, energy, water resources and immissions. The Life Cycle Assessment is a key factor in analysing and evaluating the product-related environmental impact and implementing optimisation actions at all life cycle phases.

The environmental aspects are analysed and evaluated with regard to their impact. A risk-and-opportunity-based approach is applied to identify the significant environmental aspects. The resulting corrective and preventive actions, as well as emergency preparedness and response actions, are implemented consistently. Environmentally-relevant customer and market requirements are integrated into our objectives and decisions. To engage in biodiversity topics, project-related aspects are assessed and specific measures are realised. [see 2.7]

ENERCON’s most important environmental aspects are assigned to environmental departments with defined responsibilities: Hazardous substances, circular economy, water resources, Immissions and energy. Additionally, standardised system specifications can be applied to the whole ENERCON network. Those specifications are related to indicators, legal obligations and systematic structures (e.g. to define local responsibilities).

ENERCON has a certified Environmental Management System according to ISO 14001:2015 and an Energy Management System according to ISO 50001:2011 in place. Continuous improvement of our management systems, efficient use of resources and improvement of our environmental performance are key components of our actions to ensure sustainability. Environmental Management thereby contributes to our company’s sustainable and successful global growth and is a contribution to the following SDGs: 7, 12, 13 and 15.
3.2 LIFE CYCLE ASSESSMENT

In line with the vision ‘Energy for the world’, ENERCON pursues the goal of developing sustainable, leading-edge and future-ready solutions for renewable energy generation and energy supply for the growing global energy demand and thus making a valuable contribution to climate protection. This applies in particular to wind energy converters (WEC), whose operation facilitates the resource-saving extraction of energy from renewable energy sources. The holistic approach of the LCA is aimed at a systematic and comprehensive analysis of environmental aspects and potential environmental impacts throughout the entire product life cycle, from raw materials extraction to final disposal (DIN EN ISO 14040). This makes it possible to recognise optimisation potential with regard to the environmental impact of the product. This LCA follows the structure of international standards ISO 14040 and ISO 14044.

The purpose of the LCA is to identify the major causes of the environmental impacts at each life cycle stage, and to develop options for reducing the environmental impacts. These results will be integrated into the development of future WEC types.
In 2019, ENERCON set itself the goal of lowering the carbon footprint of its products by 12% by the year 2022. This goal is being pursued in the development of the EP3 platform; annual 3% goals have been formulated. With a baseline of 6.49 g CO₂-e/kWh, the partial goal for 2019 (< 6.30 g CO₂-e/kWh) has been met. The analysis of the E-138 EP3 E1 on a 111-metre steel tower resulted in a CF of 6.24 g CO₂-e/kWh. Over the coming years, the company is pursuing an improvement of the environmental performance of its products through the development of the E-138 EP3 E2 and E-138 EP3 E3. Our achievements in research and development are crucial for lowering the energy demand (CED) and optimising energy production. Innovative technologies and processes for WEC installation help improve the environmental performance along with the optimisation of wind energy converter technology.

**MAJOR LCA INDICATORS**

- Global warming potential (GWP/carbon footprint)
- Cumulated primary energy demand (CED)
- Energy payback time (EPBT)
- Harvest factor (HF)

ENERCON is currently working on collecting these indicators for all wind energy converters of the product portfolio.
The reports and the results can be made available upon request. Enercon is running this LCA project with the goal of improving the environmental performance of its products; in doing so, the company bases its LCA strategy on the assessment of WECs of the new EP5 platform. The findings of the Life Cycle Assessment of these innovative wind energy converters will help promote affordable and clean energy (SDG 7) and sustainable production (SDG 12). Energy-efficient and powerful wind energy converters can thus further enhance their positive contribution to climate protection (SDG 13).

### LATEST RESULTS OF THE LCA PROJECT

<table>
<thead>
<tr>
<th>Model</th>
<th>Height (m)</th>
<th>GWP (g CO₂-e/kWh)</th>
<th>CED (MWh)</th>
<th>EPBT (month)</th>
<th>HF</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-92 HT</td>
<td>98</td>
<td>5.53</td>
<td>4.981</td>
<td>6.81</td>
<td>44.0</td>
</tr>
<tr>
<td>E-115 E1 HT</td>
<td>135</td>
<td>6.82</td>
<td>7.71</td>
<td>38.9</td>
<td></td>
</tr>
<tr>
<td>E-138 EP3 ST</td>
<td>111</td>
<td>6.24</td>
<td>7.410</td>
<td>8.00</td>
<td>37.5</td>
</tr>
</tbody>
</table>

- **GWP**: Global warming potential
- **CED**: Cumulated energy demand
- **EPBT**: Energy payback time
- **HF**: Harvest factor
3.3 HAZARDOUS SUBSTANCES AND MATERIALS

Hazardous substances/materials are substances, mixtures or products with hazardous components. They may cause acute or chronic damage to human health, be flammable or explosive or highly hazardous to the environment.

For this reason, the use and handling of hazardous substances is subject to many legal regulations. For the protection of its employees and of the environment ENERCON has instituted additional restrictions on the use of hazardous substances. These substance groups/high-risk substances listed in the box alongside are subject to restricted use at ENERCON. When new wind energy converters are developed, avoiding or substituting these substances is already an integral part of the development process.

ENERCON-wide procedure instructions on the use of hazardous substances ensure that the legal regulations as well as the usage restrictions imposed by ENERCON are being observed. The protection of our employees and of the environment is our main concern; for this reason, the following principles have been implemented:

- Hazardous substances are used only if there is no alternative (substitution check)
- Hazardous substances are introduced only after an approval process
- For each hazardous substance, a risk assessment at work as well as instructions for safe use must exist
- Each employee receives training before commencing work

Restriction of use/exclusion criteria substance groups
- Carcinogenicity: Category 1A & 1B
- Mutagenicity: Category 1A & 1B
- Reproductive toxicity: Category 1A & 1B
- Acute toxicity: Category 1 & 2
- Radioactivity (All)
- Explosion hazard (All)
- Aquatic Acute & Chronic: Category 1
- All listed substances of the REACH regulation article 59
These principles apply to all ENERCON companies, even if they go beyond the protection level of the applicable national regulations.

In addition, we have set ourselves the goal of checking existing products with regard to such hazardous properties and to substitute them where possible. Thanks to the continued efforts of the various departments, we were able to REDUCE THE NUMBER OF HIGH-RISK SUBSTANCES BY 53 SUBSTANCES IN 2019.

The goal is to replace all high-risk substances with less hazardous substances or to avoid them completely by 2022.

All hazardous substances are subject to systematic monitoring in order to ensure compliance with legal regulations and to be able to act quickly when changes occur. A particular focus is currently placed on the candidate list for the REACH Regulation (according to article 59) as well as the planned introduction of the SCIP database for registering products that contain substances of very high concern (SVHC).

Minimising the risks regarding the handling of chemicals is a significant contribution to SDG 8; a safe work environment and a reduced presence of hazardous substances in combination with safe work processes create a healthy workplace.
ENCON uses a **Central Waste Management System** that spans the entire life cycle of the wind energy converter. The amount of waste generated during the life cycle stages of production, installation, use (service) and end of life are monitored, evaluated and optimised. The preferred approach is to prevent waste in accordance with the waste hierarchy. The complete collection of the extensive data is done in various categories. The waste quantities are differentiated by hazardous and non-hazardous waste. In addition, the disposal methods are used to determine the recovery rate. The data are collected empirically based on the disposal documentation.

In combination with Hazardous Substances Management and the substitution of hazardous substances it initiated, we were able to significantly **reduce the hazardous wastes in recent years** (see graphic). The introduction of water-based paint was a contributing factor, as was the reduction of substances with high hazard potentials, for example.
In the course of the optimisation of waste streams and the drive for a continuous improvement of our environmental performance, waste quantities are also considered as relative indicators in relation to the output. At the ENERCON level, the reduction of waste per installed MW was defined as the goal. Due to lower installation figures in 2019, the 5% target for waste reduction could not be achieved. Within the framework of ENERCON’s sustainability strategy, the company has set itself the goal again in 2020 to reduce the annual production of waste per installed MW by 5% (relative to the output); to achieve this goal by 2024, there will be annual projects for waste prevention and recycling.

ENERCON uses its Waste Management System not just to reduce the amount of waste but also to transfer the used materials into high-value recovery processes after their use. This allowed us to continuously increase the recycling rates of production wastes in recent years.

In order to reach this goal, ENERCON considers wastes also at the product level and is committed to a constant evolution of its wind energy converters that takes into account the material properties with a view to the subsequent recovery of these materials. In total, approx. 85% of the wind energy converters can be integrated into recycling processes and thus into the circular economy. This result is based on the amounts and assumptions for recovery rates of the individual materials of the WEC-type E-92, made in the lately finished LCA considering literature values.

In addition, ENERCON is working hard on minimising the use of composite materials, most prevalent in rotor blade manufacturing, and on collaborating in the development of high-value recycling processes. For this reason, ENERCON became involved in the WindEurope working group on sustainability in 2019 with regard to issues around waste and recycling, and is also active in the dismantling and decommissioning task force.

Supporting the circular economy also means using recyclates. In order to reduce the need for balsa wood, for example, PET foam made from recycled PET is used instead (see 3.9 Recycling PET). These actions as well as the centralised Waste Management System are intended to help strengthen the circular economy, save resources, and thus promote sustainable production (SDG 12).
3.5 WATER RESOURCES MANAGEMENT

The consumption of water, an essential resource for life, and the protection of the aquatic environment have been identified as one of the major environmental aspects at ENERCON. In order to minimise any negative environmental impacts caused by ENERCON’s activities, the resource water needs to be protected. We are addressing the identified risks, e.g. those caused by water-hazardous substances.

Within the ENERCON network the water consumption during the entire life cycle can be monitored, evaluated and optimised in the long term. The amount of fresh water from local water utilities in 2019 totalled 180,897 m³. This includes the national administration, international production and installation with its foundation construction [some data have been rounded] and the grouting of the prestressing tendons. The distribution of the consumed quantities shows that the largest consumer of water is the production (53%). These extensive data were collected during the set-up of the Water Resources Management. The water data collection period for this report covers 2019 and is to be understood in a 12-month cycle (not the calendar year). The data were reported by the ENERCON network.

One goal defined in ENERCON’s sustainability strategy for 2020 is the improvement and standardisation of the water data base. One focus will be to record the water consumption of the globally active service locations and administrative units in more detail. This will yield an even more concrete total indicator. In addition, the 2020 base value is used for a planned 3% reduction by 2021.

The ongoing internationalisation means that the production and installation of wind energy converters and their components are moving increasingly into water-stressed regions. This can include Brazil, India and Turkey (share of total water consumption: Turkey 5%, Brazil 8%). The relevant water-stressed regions should be identified, balanced and specially accompanied by water projects. [see 3.9 Brazil]
The wind energy converter as a product is analysed in greater detail by means of the Life Cycle Assessment (LCA). The water consumption is identified and analysed for specific WEC types [see 3.2].

The very design of ENERCON wind energy converters reduces the use of water-hazardous substances to a minimum. For example, the use of a direct-drive annular generator (gearless) saves large quantities of gear oil. Furthermore, the wind turbine is mainly air-cooled without any need of coolants. The use of electromechanical components such as yaw drives and pitch drives reduces large quantities of hydraulic fluid.

There are several safety devices in place that prevent water-hazardous substances from leaking out of the wind energy converter (e.g. closed systems). The continuous remote monitoring system of the wind energy converters ensures the early detection of malfunctions. Countermeasures are immediately implemented. Technical measures for the sealing of the machine house prevent contamination caused by draining precipitation water.

Water in production processes is primarily used for cleaning and manufacturing purposes. In concrete towers and foundations, water is processed directly. The treatment of wastewater is performed in local treatment facilities. At the concrete tower factories, for example, the production water is re-conditioned and re-used. In some cases precipitation water is discharged through seepage trenches or surface water. This is approved and controlled by local authorities, nationally.

A contamination of the aquatic environment with pollutants (such as oil) is being prevented by implemented emergency response systems. At construction sites, any ground water emerging in the excavated foundation pit is being drained off. As part of the building permit procedure, the authorities decide whether water protection measures are required.

The company divisions have regulations regarding the use of hazardous substances e.g. in case of water hazard. Following a precautionary approach and addressing risks out of possible accidents, water-hazard substances are continuously substituted (goal of the sustainability strategy). Moreover, hazardous substances that are chronically and acutely hazardous to the aquatic environment belong to the substance groups with exclusion criteria. [see 3.3]

The goals defined in the Water Resources Management support the global vision of sustainable consumption and production patterns as intended by SDG 12 of the United Nations. [see 1.4].
3.6 IMMISSION

ENERCON operates a Central Immission Control Management System. Following the analysis of the production processes, this system focuses on monitoring and optimising the consumption of Volatile Organic Compounds (VOC). The data are collected using empirical methods. Various measures have continuously reduced the VOC quantities in recent years. We achieved a 52% reduction in 2019. ENERCON’s sustainability strategy is aiming at a further reduction of VOC consumption by at least 5% annually between now and 2024.

The development and introduction of hydro coatings in the manufacturing of generators, nacelles and towers enabled us to significantly reduce the VOC quantities (see 3.9 Hydro coating). The introduction of VOC-free detergents and ECO cleaners, too, helped reduce VOCs in various areas. Aside from the immission of hydrocarbons, WEC development at ENERCON is also concerned with minimising the environmental impacts of its products for example due to noise and shadow casting.

With regard to immission control, ENERCON is also concerned with the monitoring and reduction of greenhouse gases; however, this extremely important issue will be considered separately (see 3.8).

The goals of Immission Control Management include both preserving of resources (SDG 12) by using less VOCs and contributing to climate protection (SDG 13) by minimising the use of climate forcers.
ENERCON’s core business is the provision of top-quality, efficient and innovative technologies and energy systems (energy provision, conversion and storage) and energy logistics for a sustainable energy transition. By the end of 2019, ENERCON had installed a total power of 52 GW of renewable energy.

For the sustainable use of energy, ENERCON operates a certified Energy Management System according to ISO 50001. Energy Management is aligned with Sustainable Energy Procurement and energy use along the value creation chain of wind energy converters according to ENERCON’s energy policies for the greatest possible resource efficiency in production.

For this purpose, ENERCON uses a central Energy Management System that is represented at the various company locations by local energy teams who collect and analyse local energy consumption data and work towards reducing energy consumption.

All national companies without ISO 50001 certification whose energy consumption exceeds 500,000 kWh/a are audited using a multi-site procedure according to DIN 16247-1. The guideline is to achieve an annual improvement of 1.35% compared to the previous year.

Since 2015 all national ENERCON sites have been receiving all of their electricity from renewable energies. We are currently developing a corresponding programme for collecting the data regarding energy sources and energy costs at our international partners. This project is scheduled to be completed in 2021.

ENERGY CONSUMPTION
For the year 2019, we identified the following international consumption figures for the different energy sources.

2019 ENERGY CONSUMPTION BY ENERGY SOURCES

- District heating: 19,420,814 kWh
- Gas: 77,295,573 kWh
- Fuel: 37,597,276 kWh
- Electricity: 103,220,978 kWh
- Heating oil: 1,525,323 kWh
Because the energy consumption by the vehicle fleet has been identified as a significant aspect, ENERCON is taking various measures aimed at reducing fuel consumption. One measure is the constant increase of the share of electric vehicles. In 2019, the fleet of electric vehicles grew by almost 70% compared to the previous year. The majority of short-distance trips using pool cars between sites at the company headquarters can be made emission-free. The use of electric-drive utility vehicles is also increasing. The significant energy consumption by service vehicles will be reduced through driver training, the use of vehicles with emission-lowering technology and weight reduction projects. In order to promote e-mobility for utility vehicles, long-term tests are being conducted in close cooperation with major car manufacturers. Electric vehicles have been a fixed component of the company car portfolio since 2018 in order to reduce the energy consumption from fossil fuels.

**PROMOTION OF RENEWABLE ENERGIES**

Employees receive an offer to purchase their electricity from renewable sources (energy mix of 85% hydropower, 15% wind energy) so that they have an opportunity to promote the use of renewable energies in their private lives, too. In 2019, ENERCON employees purchased 2,987 MWh of electricity from renewable energies. In the years since 2014, ENERCON employees bought a total of 11.9 GWh. This means that by the end of 2019, CO₂ emissions of ~5,600 tons were saved.

In 2020, we are setting up a cooperation with the EWE utility for the purpose of expanding renewable energies. We also support the expansion of renewable energies through regional projects of independent business partners in emerging economies and third-world countries, for example the expansion of a wind farm in Tanzania. [see 3.9 Tanzania]

ENERCON’s efforts to save energy and promote the use of renewable energies are a contribution towards fulfilling SDG 7. In addition, the fuel saving measures can help preserve the fossil fuel resources (SDG 12). Altogether, this constitutes a crucial contribution to climate protection (SDG 13).
ENERCON is striving to reduce its greenhouse gas (GHG) emissions. In addition to the assessment and reduction of product-related emissions (see 3.2), ENERCON is also concerned with identifying and reducing its company-related emissions. As a long-term goal, ENERCON is supporting the EU in its efforts for a climate-neutral economy; the company is therefore also aligning itself with the climate neutrality goal. As part of this challenging path towards climate neutrality, ENERCON will increase its focus on the issues of the GHG protocol and science-based targets. To create a basis for these efforts, the collection of greenhouse gas emission data will be expanded significantly in the various scopes and areas of activity. In particular, the data collection for upstream and downstream processes (scope 3) has been pinpointed as a challenge that ENERCON will focus on over the next few years as part of its action plan.

The analysis of CO₂ emissions has been calculated and analysed based on the consumption figures measured so far. The consideration of other greenhouse gases according to the Kyoto Protocol will be included in future efforts.

THE EMISSIONS ARE SEPARATED IN THE GHG SCOPES 1-3 AS FOLLOWS:

**Scope 1:** Direct emissions within the scope of ENERCON GmbH (e.g. fuel consumption and combustion plants)

**Scope 2:** Indirect emissions within the scope of ENERCON GmbH (e.g. electricity)

**Scope 3:** Emissions from upstream and downstream processes of ENERCON GmbH (e.g. emissions at production sites of independent suppliers)

Previous analyses of the direct GHG emissions referred primarily to the analysis of emissions caused by fleet vehicle activities because these have been identified as the most significant source of GHG with an impact on the atmosphere in ENERCON’s **scope 1**.

For the 2019 period, a national fuel consumption of 3,145,848 litres was recorded using empirical methods. 94.6% of the consumed fuel is diesel fuel. Based on the total consumption and taking into account the different emission classes of the vehicles that make up the fleet, we calculated emissions of 9,294 tons CO₂-e. ENERCON strives to lower these emissions continuously; one strategy is a shift towards **e-mobility** (see 3.7). The energy produced from natural gas was assessed at 1,288 MWh, which corresponds to CO₂ emissions of 260 tons.
At its national administration and production sites, ENERCON uses 100% electricity from renewable energies. **Scope 2** covers the emissions from the electricity consumed at administration sites. For 2019, an electricity consumption of 1,692 MWh was identified. Because all of it came from renewable energies, this did not cause any greenhouse gas emissions according to **UNFCCC**.

Due to ENERCON’s corporate structure, emissions from production and installation activities are within **scope 3**; so far, the following analyses have been calculated.

**ENERCON pursues the goal of green logistics – a sustainable transport of its goods.** Whenever possible and economically feasible, ENERCON prefers the transport by rail instead of truck or ship because of its idea of sustainability. Regarding the transport of goods, ship and railroad are much better in terms of sustainability than the transport by trucks. Goods traffic can contribute a big part to reduce the global CO2 emissions. Therefore, ENERCON uses its own means of transport by **E-Ship 1** (Wind-hybrid commercial cargo ship) and e.g.o.o (railroad company). By reference to the tonne-kilometres per rail, a comparison of the CO2 emissions to conventional trucks emissions could be created.

The study of the transports since 2008 by the end of 2019 shows a **total saving of 350,700 t CO2**. The engine or the E-Ship is supported by four Flettner rotors and saves 15-20% emissions per year in comparison to conventional transport ships. This means emissions of **12,600 t CO2 per year** can be avoided.

Going forward, ENERCON plans to expand its **GHG reporting**, to reduce the emissions in the long term until reaching climate neutrality, and to minimise the use of fossil fuels for this purpose. To achieve this, GHG Management will be assigned **science-based targets** by 2021. The monitoring of greenhouse gases is intended to contribute to climate protection (SDG 13) by minimising the release of climate active substances. Saving on fossil fuels also supports SDG 12, responsible consumption and production.

---

**CO2 EMISSIONS OF SCOPE 3 (T CO2)**

- **0% Electricity**
- **2% Heating oil**
- **8% Fuel**
- **69% Natural gas**
- **21% District heating**

The emissions are caused primarily by the consumption of natural gas and district heating as shown:

---


8,9,10,11 Landesamt für Umwelt Brandenburg, [www.lfu.brandenburg.de/cms/detail.php/bb1.c.523833.de](http://www.lfu.brandenburg.de/cms/detail.php/bb1.c.523833.de)

12 UBA, [www.umweltbundesamt.de/sites/default/files/medien/publikation/long/3476.pdf](http://www.umweltbundesamt.de/sites/default/files/medien/publikation/long/3476.pdf)
3.9 PROJECTS AND CASE STUDIES

CASE STUDY: WATER RESOURCES MANAGEMENT IN BRAZIL

Some of ENERCON’s components (rotor blades, generators and concrete towers) are manufactured in Brazil, partially in arid regions. In 2016, projects were started to collect rainwater and to clean sanitation and process wastewater in small treatment plants. Purified water is used to irrigate landscaped areas that could not exist otherwise due to the regional drought. Rainwater is used in sanitation installations and specific process steps. As a result in 2019 a total of 5,840 m³ of recycled water could be used at three Brazilian locations (Pecém, Juazeiro, Sorocaba). This corresponds to 3% of ENERCON’s worldwide consumption of fresh water [see 3.5].

Wagner Zampa
Head of Integrated Management System (Quality, Health & Safety, Environment)

CASE STUDY: CHADS AS RAW MATERIALS IN FOUNDRY (CIRCULAR ECONOMY)

In its efforts to reduce waste quantities and to channel any generated wastes into high-value recycling, ENERCON also employs a direct recovery of valuable wastes. For example, the punching waste from the Stanztechnologie in Aurich, a punching plant that produces segment plates and pole sheets for generator manufacturing, are used at the Guss-Zentrum Ostfriesland foundry as raw materials for the production of cast components. In 2019, this process was able to channel 8,896 tons of metal waste into high-value recycling without any re-conditioning effort.

Klaus Kieselhorst
Environmental Coordinator Generator
CASE STUDY: HYDRO COATING OF WEC-COMONENTS (CLIMATE ACTION/EMISSIONS)

In order to reduce the use of volatile organic compounds (VOC), ENERCON started to use water-based paint for the corrosion protection of its generator and tower components. The introduction of hydro coatings for nacelle components is currently being investigated. Hydro coatings meet the Quality Management criteria for the effective protection of the WEC and they also reduce the amount of VOCs used. At induction generator production, for example, the switch to hydro coatings lowered the VOC quantities by approx. 80% per generator.

CASE STUDY: ENERCON INSTALLS FIRST WIND FARM IN TANZANIA

ENERCON commissioned the first wind energy converters in Tanzania in June 2020, to extend local and renewable energy in developing countries. Three E-53 wind energy converters with a hub height of 72 m and a total power of 2.4 MW have been commissioned in the Southern Highlands of Tanzania in the Mufindi District, 580 km west of the port city and commercial hub Dar-Es-Salaam. These wind energy converters are the first to be installed in the country at all. The decision to use ENERCON technology was based largely on its excellent grid connection systems. This was a requirement for the project, as it is part of a rural electrification programme consisting of small hydropower plants and wind energy to supply power to the local tea industry and around 42 villages in the surrounding area.

The three WECs will demonstrate the sophisticated technology and high quality for which ENERCON is known to other potential partners, such as the national utility Tanesco.

Thomas Barkmann
Regional Manager Sales for Africa and Italy
CASE STUDY: RECYCLING OF GLASS FIBRE WOVEN FABRIC IN THE ROTOR BLADE PRODUCTION (CIRCULAR ECONOMY)

The production of rotor blades requires large quantities of glass-fibre woven fabric for making the composite materials. This creates a significant amount of glass fibre waste. In cooperation with the Danish recycling specialist UComposite, ENERCON was able to create a high-value recycling process for a portion of this waste. About 18% of the fabric scraps can be turned into glass-fibre products using an energy-saving and emission-saving process. The production of recycling fibres uses approx. 60 kWh per ton. Conventional processes for primary glass fibre use approx. 8,055 kWh per ton. This means that per produced ton of recycling material, emissions of approx. 1.84 tons of CO₂ can be saved. The recycling products can be used for new, high-value applications in the automotive industry or in construction material production.

Kevin Barknowitz
Coordinator Environment & Energy Rotorblade

CASE STUDY: RECYCLING PET IN ROTOR BLADES (CIRCULAR ECONOMY)

Building rotor blades requires balsa wood. While this is a self-regenerating raw material, it often competes for space with rain forest areas that should be preserved. For this reason, balsa wood is increasingly being replaced with PET foam in the production of ENERCON rotor blades. At this point, we were able to replace nearly 75% of the balsa wood quantities. In 2019, ENERCON used approx. 18,000 cubic metres of PET foam for the production of rotor blades. These foam products consist of 75% recycled PET. In 2020, the proportion and quantity of PET foam use will increase further.

Jens Hordschik
Global Procurement/Buyer Chemical Parts

Source: UComposites, www.ucomposites.com
Growing market expectations and our own ambition for a high quality and sustainable product drive the required energy transition worldwide.

Stefan Lütkemeyer  
ENERCON Sales Director
4.1 A SUSTAINABLE PRODUCT FOR GREEN ENERGY

The vision of a more sustainable world is an interdisciplinary field that combines ecological issues (PLANET) with social issues (PEOPLE). These two aspects have the same relevance as the economic added value (PRODUCT). These three pillars form the foundation of a sustainable business model.

PRODUCT means that ENERCON and its business field, the wind energy converter, provide the market with a core solution for driving Sustainable Development.

In addition, ENERCON is expanding its main business field with systems for energy supply and energy conversion in order to create a sustainable system solution for a holistic, decentralised energy model. The economic value created by the production, sale and operation of the wind energy converter thus also creates added value for PEOPLE and PLANET.

At the same time, we are conscious of the fact that all economic activity has an impact on people and the environment. We endeavour to avoid any negative impacts as much as possible. One way of doing this is the implementation of preventive measures and a high sustainability standard in our processes and our supply chain.

The product-related environmental relevance is explained in detail in the section PLANET in the relevant chapters: Circular Economy and Waste Management, Life Cycle Assessment and Water Resources Management.

Through the production of innovative technologies in top quality, ENERCON is making an active contribution: Clean ENERGY FOR THE WORLD. ENERCON is market-leading with its low-maintenance and durable wind turbines, this contributes actively to our sustainability performance.

In this manner, ENERCON is meeting the global challenge of a vision for Sustainable Development and promotes SDG 7 [see 1.4]. To meet the new challenges in the market, ENERCON initiated its turnaround programme, accompanied by an extensive quality programme. Sustainable Procurement rounds off the sustainable overall concept of linking PEOPLE, PLANET and PRODUCT.
For many years, ENERCON’s innovative strength and commitment to top quality have made their mark on the wind energy sector and contributed to its success, in particular in Germany. More recently, however, the industry has been facing massive changes of the framework conditions in its target markets and business fields.

This is most noticeable in the domestic market in Germany, which finds itself in difficulties after some political reforms. This affects the entire wind energy sector and ENERCON, too. In particular the plummeting installation figures have caused significant losses for the first time.

ENERCON is responding to this situation with a comprehensive turnaround programme in order to find its way back to profitability and success. In a time that is marked by great uncertainty and risks, this stabilises the company’s situation and at the same time, accelerates the process of reorientation towards international markets and new business fields that has already begun. Against this background, a restructuring of management has taken place. The expanded management team around Managing Director Hans-Dieter Kettwig helps ENERCON meet the more dynamic requirements involved in the international orientation even better.

Product and technology development is key to the turnaround. We want to retain our technology leadership in our core business, wind energy converters, and need to adapt the product portfolio to an international customer base. In order to meet the increasing market and customer requirements, we press ahead with our technology development aimed at rigorously aligning all products with the lowest cost of energy. To this end, we need to accelerate our development efforts even more, lower the production costs for our new WECs, and further increase quality. This reorientation demands far-reaching changes in sales, procurement, production, project management and other company divisions.

In this situation, ENERCON has the invaluable advantage of its independence. ENERCON is owned by the Aloys Wobben Stiftung, a trust that defines a long-term vision for the orientation of the company. The trust fully backs and supports the company’s turnaround. ENERCON is also independent from a financial perspective. Reserves were created in good years and turned into a solid equity ratio that now provides stability and security.

The turnaround presents many challenges for ENERCON – but it also provides the opportunity to do things differently and better in the future. At all levels of the company, we are working together towards this goal in the firm conviction that after this new orientation, ENERCON will return to its former strength! In the framework of a transparent information culture, we are communicating this ENERCON sustainability report.
4.3 IMPLEMENTATION OF COMPREHENSIVE QUALITY MANAGEMENT SYSTEM

ENERCON commits to Quality. Relevant operations and processes of ENERCON are certified according to ISO 9001:2015. ENERCON continuously develops its products, processes and employees.

OUR COMMON CONSENSUS FOR QUALITY

“*We are committed to quality*” – “We are pioneers in the area of quality and performance. For this, we design, optimise and put into practice our quality processes, which are based on the requirements of the quality standard. Our processes effectively implement the organisation’s strategy and ensure that our targets are achieved.”

“*We celebrate market success*” – “We know and fulfil the expectations of our customers around the world. Through our actions, we promote the rapid introduction of new technology and engineering of the highest standard and support the establishment and expansion of technological leadership.”

“*We cooperate closely*” – “Through efficient cooperation within and between the company divisions, we identify potential quality risks at an early stage, take preventive measures and react effectively to quality non-conformities. We reduce all types of defects and continuously improve our quality.”

KEY ELEMENTS FOR QUALITY

“*Right first time*” (RFT) – “We understand ‘Right First Time’ as a commitment to our internal and external customers to always deliver our results without error for immediate use. Our understanding goes further in our approach. The following applies at ENERCON: ‘Right first time, every time’.”

“*On time in full*” (OTIF) – “Our supply chain is the biggest challenge for 2020. In order to meet this challenge together, the ‘one time in full’ approach applies. Our customers can expect all our internal and external deliveries on time and in full. We see this as an essential performance requirement for the future of ENERCON.”

“*Make it happen*” (MIH) – “We know our strengths and weaknesses and know where to start in order to improve. We want to do this together. We will set ourselves realistic goals for this. Everyone needs to understand the goals, plan their resources for them and realise successful implementation.”

ENERCON’s Quality Management focuses on reliable, technologically mature and long-lasting technology as well as full customer satisfaction. In this manner, we ensure the sustainability of the company and contribute actively to the improvement of environmental performance.
4.4 SUSTAINABLE PROCUREMENT

As a result of rapidly changing market requirements and globalisation, Global Procurement focuses on internationalisation of sourcing processes. This restructuring will have far-reaching effects on the structural organisation of purchasing and supply chains. In the course of this change, procurement has initiated decisive change processes and measures to take account of the changed framework conditions.

As a result of this internationalisation, the topic of “Sustainable Procurement” is an additional important topic that procurement is increasingly facing. Global Procurement with its responsibility for the supply chain plays a key role in the implementation of sustainable goals. The resulting company principles and performance demands are the roots of ENERCON’s success and at the same time guiding principles for decisions within the company. One of our company principles is “responsibility” and this includes the responsibility within our supply chain and related environmental and social aspects.

SUSTAINABILITY AND SUPPLIER MANAGEMENT

The development of sustainable supply chain criteria are extended for all our suppliers worldwide. Our understanding of sustainability is also reflected in our Supplier Code of Conduct, which addresses legal and ethical principles such as: Compliance with applicable laws in general and more specifically with regards to gifts and benefits, fair competition, conflicts of interest, money laundering, embargo and trade control regulations, ENERCON property and confidentiality, occupational health and safety and environmental protection, tolerance and equal opportunities (including gender equality), forced labour, child labour.

The supplier has to comply with the requirements of the Supplier Code of Conduct, which is part of the business relationship between the supplier and ENERCON. It is mandatory for every ENERCON supplier to contractually commit to the respected requirements. As a further enrichment, a mandatory self-assessment questionnaire was introduced and integrated into the procurement process. The questionnaire allows an in-depth examination of each supplier with regard to a wide range of sustainability criteria.

Organisational Governance
- Certified Management Systems
- Quality Management
- Environmental Management
- Health and Safety Management
- Labour and human rights
- HSE Policies Management schemes and instructions
- Occupational Health & Safety HS/labour practice
- KPIs
- Environment/Climate Actions
- Fair operating practices
- Community involvement & development
- Environmental risks and impacts
- Standards and processes for subcontractors
- Reporting standards

Potential new suppliers are visited, checked and evaluated on site. This on-site assessment, which precedes every contractual commitment, also serves to check that suppliers are acting in compliance. If deviations from company guidelines or legal compliance are identified, either an action plan is drawn up in cooperation with the supplier to enable the supplier to systematically address these deviations or the supplier’s qualification is not followed up. Current suppliers are also checked in the course of regular audits with regard to sustainability criteria.
The aim is to cooperate systematically with all involved partners in order to outline the upcoming challenges in terms of sustainability together with the suppliers and to develop perspectives goals on achievement.

From the beginning suppliers shall support on reliable and sustainable supply chain. Sustainability criteria are increasingly being integrated into onsite assessments, e.g. using a system of key figures for procurement.

This enables to compare the suppliers in terms of sustainability and highlights the gaps. Sustainability aspects will become an increasingly decisive criterion for the selection of new suppliers. Thus, it is integrated in the annual assessment of suppliers. The compliance check is also an essential criteria of qualification. Every new strategic partner as well as selected existing suppliers are subjected to a systematic screening process, which primarily covers the area of business ethics. The contractual partner ensures its entire business environment. To ensure the entire process of supplier life cycle, ENERCON is working with digitalised solutions. It will enable the targeted qualification and evaluation especially under sustainability criteria.

The digitalised configuration figured in 2019 and being practiced by ENERCON to meet the requirements of Sustainable Procurement. It will also facilitate the monitoring of compliance with environmental legislation and promote transparency within the supply chain.

SUPPLIER RISK MANAGEMENT AND SUSTAINABILITY

The primary objective of Risk Management in Global Procurement is to establish effective monitoring of sustainability risks. If risks of sustainability issues in the supply chain are pre-identified, mitigation plans will be addressed and documented. ENERCON has implemented a more detailed risk assessment and supplier audits for special minerals and products. These audits will take place for more than tier 1 suppliers. With the aim of extending the digitalised Risk Management System for procurement, all relevant sustainability issues are visualised at country, material group and supplier level by 2021.

CLIMATE CHANGE AND GLOBAL SUPPLY CHAIN

Impact of emissions from the supplier production facilities and transports are considered in our risk methodology and supplier evaluation criteria. In order to minimise emissions as much as possible, new production facilities were set up in the target markets. To avoid emissions, storage concepts were optimised. Sourcing strategy set that ENERCON prefer suppliers in nearest markets.
4.5 SUSTAINABLE DEVELOPMENT

SUSTAINABLE AND ECOLOGICAL PRODUCT DEVELOPMENT

The sustainable and ecological evaluation that is part of the development process of wind energy converters includes the analysis of product-related environmental impacts of new WEC concepts.

The goal is to avoid or reduce product-related environmental impacts during the entire life cycle. To this end, the new WEC concepts are evaluated with regard to environmental and social criteria such as substances of very high concern (SVHC), substances that are hazardous for people and the environment, conflict minerals and the recycling ability of the materials. Where possible and necessary, the substances and materials will be substituted.

In this manner, ENERCON is making an active contribution to the enhanced environmentally-friendliness and recycling ability of new WEC generations.
4.6 ENVIRONMENTAL IMPACT IN COSTS

According to the Umweltbundesamt\textsuperscript{14} (German Federal Environmental Agency) the emission of CO\textsubscript{2} creates costs for the national economy that amount to € 180 per ton of CO\textsubscript{2}. By this calculation the emissions saved through the supply of renewable electricity to employees and the reduction of VOCs could avoid costs of approx. € 1 million to the economy.

The 68 tons of VOC that have been saved (see 3.6) for the year 2019 correspond to 213 tons of CO\textsubscript{2}\textsuperscript{15} and thus a value of € 38,400 of environmental costs. The savings through the employee electricity scheme result from the emissions saved since 2014 and, assuming 5,604 tons CO\textsubscript{2} correspond to a value of € 1,008,720.

At all its national administration and production sites, ENERCON uses electricity from renewable energies that do not cause any net CO\textsubscript{2} emissions. Compared to the German electricity mix, which creates 468 g CO\textsubscript{2} per kWh according to the Umweltbundesamt\textsuperscript{16}, large quantities of CO\textsubscript{2} emissions were avoided. In 2019 for scope 2, 792 tons of CO\textsubscript{2} and for scope 3, even 46,724 tons of CO\textsubscript{2} were not introduced into the atmosphere which the use of conventional electricity would have produced. This corresponds to a value of 8.55 million euros of damage to the national economy that were able to be prevented.

In the range of transports and green logistics, ENERCON was able to avoid environmental costs by using the E-Ship and the own railroad company. With the use of four Flettner rotors, E-Ship did not only saved around 4,200 tons of fuels per year with a value of ~ € 2.5 million, it also avoided 12,600 t of CO\textsubscript{2} and a damage to the national economy of € 2.27 million. Since 2008 the own railroad company started the transports of ENERCON components by rail, a damage of € 34.3 million was avoided (by the end of 2019) compared to the transport of the same goods by conventional trucks (calculated by tonne-kilometre). Altogether, the efforts to climate protection of ENERCON not only generated savings of emissions and costs, it also saved a national economic damage into the millions.

AVOIDED CO\textsubscript{2} IN 2019

\begin{figure}
\centering
\includegraphics[width=\textwidth]{avoided_co2.png}
\caption{Avoided CO\textsubscript{2} in 2019}
\end{figure}

SAVED ECONOMIC ENVIRONMENTAL COSTS IN 2019

\begin{figure}
\centering
\includegraphics[width=\textwidth]{saved_costs.png}
\caption{Saved economic environmental costs in 2019}
\end{figure}

\textsuperscript{14} UBA, www.umweltbundesamt.de/daten/umwelt-wirtschaft/gesellschaftliche-kosten-von-umweltbelastungen#flk/makrossten-von-treibhausgas-emissionen
5. CONCLUSION

5.1 Summary and outlook 56
5.2 Memberships 57
5.3 Overview of ENERCON’s contributions to sustainability 58

ANNEX
ANNEX 1: Table stakeholder analysis 59
ANNEX 2: Abbreviations 60
5.1 SUMMARY AND OUTLOOK

Since ENERCON was founded over 30 years ago, the vision of the company founder Aloys Wobben – ‘Energy for the world’ – has guided our corporate actions. We accept responsibility for sustainable, pioneering, future-proof concepts for producing and supplying renewable energy with the goal of making a crucial contribution towards meeting the growing global demand for energy through our sustainable solutions. The vision of a sustainable future is a challenge for the whole world, and only together will we be able to handle it. ENERCON is making a significant contribution to this with more than 16,000 employees in 36 countries.

ENERCON recognises its responsibility in the context of the society (PEOPLE), the environment (PLANET) and with regard to the economic impact (PRODUCT) and has taken necessary actions. These measures are based on the UN SDGs and are embedded in the 5-year sustainability strategy. The realisation of the sustainability programme is being rigorously pursued by all units. The operative focus includes Health & Safety Management (PEOPLE), the responsible use of resources, the carbon footprint (PLANET) and Sustainable Procurement (PRODUCT).

This voluntary sustainability report is the framework for the annual communication of the achieved progress. This allows us to fulfil the expectations of our stakeholders and live up to our own commitment. Both are of crucial importance for our strategic alignment. The global installed wind power of 52 GW by the end of 2019 was able to replace approx. 100 coal-fired power plants. In this manner, ENERCON’s portfolio is making a crucial contribution to climate protection and will continue to increase the share of renewable energies on the market in the future. This is crucial for climate protection – which needs to limit global warming to 1.5°C.

Some of ENERCON’s major contributions to sustainability are shown in the overview graphic 5.3. For years, ENERCON has been championing the use of lower-emission transport and operates the E-Ship as well as electric locomotive engines. ENERCON facilities themselves use power from renewable energies. All emissions that are saved avoid immense environmental costs that would burden the national economy. ENERCON’s efforts were able to avoid a total of 15.5 million euros of damage to the national economy in 2019 (see 4.6).

In line with our vision of making renewable energy available worldwide, it is not just the industrialised countries that benefit – emerging economies and developing countries also have access to the renewable energy technology. In particular in those regions where there is no or no reliable power supply system, independent decentralised energy systems provide a better quality of life for Local Communities. This harmonises with the UN sustainability goal of “affordable and clean energy”. ENERCON is particularly active in Tanzania and Ghana (see 2.8 Wind farm CSR and 3.9 Tanzania). Such local infrastructure projects are easy to implement quickly in almost any country in order to set up a local renewable energy supply without causing excessive environmental damage.

Even if great challenges are still ahead, ENERCON can also look back on the many successes of the past. They are the basis for our future sustainable business in the framework of global Sustainable Development. ENERCON’s activities will continue to strive towards a low carbon future which can be optimally combined with renewable energies. Ambitious goals need a solid network of stakeholders. Successful work coalitions, motivated employees and our energetic and visionary management will accompany ENERCON on its way into a sustainable future.
5.2 MEMBERSHIPS

We are actively involved in several international and national associations and initiatives around the world. The overarching goal is to drive a sustainable energy transition worldwide. This supports the SDG 17 to revitalise the global partnerships for a Sustainable Development. Overview of the most important international memberships and participations with ENERCON contribution:

GWEC is a member-based organisation that represents the entire wind energy sector in more than 80 countries. ENERCON is a board-level member and actively participates in discussions on topics concerning Sustainable Development and environmental aspects of wind energy.

With more than 400 members active in over 35 countries, Wind Europe is the voice of the wind industry in Europe. ENERCON is actively contributing to the work of Wind Europe and engaging in a working group on sustainability issues. Topics currently on the agenda include decommissioning and dismantling/sustainable supply chain/recycling and circular economy.

Active participation in the development phase of an IRBC (International Responsible Business Conduct) agreement for the wind Industry conducted by the Social and Economic Council of the Netherlands (SER), www.imvoconvenanten.nl/en

ENERCON participates in the Renewable Industry Advisory Board which advises the IEA on a variety of issues concerning the renewable energy industries’ value chain. www.iea.org
5.3 OVERVIEW OF ENERCON’S CONTRIBUTIONS TO SUSTAINABILITY

AVOIDED CO₂ IN 2019
86,309 T

LCA TARGET REACHED
REDUCTION OF 3% 6.24 g CO₂-e/kWh for E-138 EP3

INCREASE OF PERCENTAGE OF E-CARS 68%

INCREASE OF THE RECYCLING RATE >85%

ALL NATIONAL PRODUCTION PLANTS POWERED BY RENEWABLES 100%

INSTALLED RENEWABLE ENERGY 52 GW

INCREASED NUMBER OF DIFFERENT NATIONALITIES 85

15% LOST TIME INCIDENT REDUCTION

52% VOC REDUCTION

OVERVIEW OF ENERCON’S CONTRIBUTIONS TO SUSTAINABILITY
## ANNEX 1: TABLE STAKEHOLDER ANALYSIS

<table>
<thead>
<tr>
<th>STAKEHOLDER ENGAGEMENT</th>
<th>KEY TOPIC AND CONCERNS</th>
<th>ORIGIN OF STAKEHOLDER VIEWS</th>
<th>REFERENCE TO REPORT CHAPTER</th>
</tr>
</thead>
</table>
| Customer                | - Profitable and efficient WECs  
- Quality & innovation  
- Trust  
- Sustainability & CSR topics requirements  
- Environmental product & company performance | - Customer survey  
- Customer enquiries  
- Analysis of tender  
- Market research | 1 Introduction (1.6)  
2 People (2.1 – 2.3)  
3 Planet (3.2 – 3.3)  
4 Product (4.1, 4.3) |
| Employee                | - Employee satisfaction and qualification  
- Health and safety  
- Fair wages  
- Good working conditions & atmosphere  
- Family-friendliness  
- Job security  
- Environmental friendliness and social commitment  
- Equal opportunities  
- Good leadership style  
- Career development | - Evaluation of staff appraisal interviews  
- Continuous evaluation of job portals  
- Employee surveys  
- Job & family audit  
- Participation in and evaluation of studies  
- Enquiries about training needs | 1 Introduction (1.6)  
2 People (2.1 – 2.8)  
3 Planet (3.3) |
| Supplier                | - Sustainable supplier performance  
- Close collaboration  
- Long-term partnership  
- Reliable framework conditions  
- Grow know-how mutually  
- Risk Management | - Regular supplier audits  
- Regular supplier meetings  
- Supplier workshops | 1 Introduction (1.6)  
2 People (2.1 – 2.8)  
3 Planet (3.3)  
4 Product (4.2) |
| Associations/NGO/public | - Sustainable business concept  
- Safety for local residents including the supply chain  
- Collaboration for industry solution for sustainability issues | - Direct enquiries  
- Evaluation of media and other reports | 1 Introduction (1.5)  
2 People (2.4 – 2.8) |
| Banks/insurance companies | - Risk determination (minimising)  
- Trust  
- Performance capabilities  
- Business performance | - Regular talks  
- Annual on-site inspections  
- Risk analysis | 4 Product (4.2) |
| Authorities & politicians | - Compliance with legal requirements  
- Support for implementation of goals  
- Support for further development of legal provisions  
- Create and secure jobs | - Direct enquiries  
- Enquiries from associations  
- Analysis of legal requirements | 1 Introduction (1.5)  
3 Planet (3.3)  
4 Product (4.2) |
| Science                | - Cooperation  
- Qualification | - Enquiries about cooperation with scientific institutions/studies/scientific projects | 2 People (2.6) |
# ANNEX 2: ABBREVIATIONS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CED</td>
<td>Cumulated (primary) Energy Demand</td>
</tr>
<tr>
<td>CoE</td>
<td>Cost of Energy</td>
</tr>
<tr>
<td>CO₂</td>
<td>Carbon Dioxide</td>
</tr>
<tr>
<td>CO₂-e</td>
<td>Carbon Dioxide equivalent</td>
</tr>
<tr>
<td>CSR</td>
<td>Corporate Social Responsibility</td>
</tr>
<tr>
<td>DIN</td>
<td>Deutsches Institut für Normung (German Institute for Standardization)</td>
</tr>
<tr>
<td>EPBT</td>
<td>Energy Payback Time</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>E-160 EP5</td>
<td>ENERCON – 160 (rotor diameter in metres); ENERCON Platform 5 (5 MW)</td>
</tr>
<tr>
<td>GHG</td>
<td>Green House Gases</td>
</tr>
<tr>
<td>GRI</td>
<td>Global Reporting Initiative</td>
</tr>
<tr>
<td>GWP</td>
<td>Global Warming Potential</td>
</tr>
<tr>
<td>HF</td>
<td>Harvest Factor</td>
</tr>
<tr>
<td>HR</td>
<td>Human Resources</td>
</tr>
<tr>
<td>HSE</td>
<td>Health &amp; Safety and Environment</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>IMS</td>
<td>Integrated Management System</td>
</tr>
<tr>
<td>IRBC</td>
<td>International Responsible Business Conduct</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>KPI</td>
<td>Key Performance Indicator</td>
</tr>
<tr>
<td>LCA</td>
<td>Life Cycle Assessment</td>
</tr>
<tr>
<td>LTIFR</td>
<td>Lost Time Incidents Frequency Rate</td>
</tr>
<tr>
<td>LTISR</td>
<td>Lost Time Incidents Severity Rate</td>
</tr>
<tr>
<td>NGO</td>
<td>Non Governmental Organisation</td>
</tr>
<tr>
<td>OHSAS</td>
<td>Occupational Health and Safety Assessment Series</td>
</tr>
<tr>
<td>PET</td>
<td>Polyethylene Terephthalate</td>
</tr>
<tr>
<td>RE</td>
<td>Renewable Energy</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals [EU regulation]</td>
</tr>
<tr>
<td>SCIP</td>
<td>Substances of Concern In articles as such or in complex objects [Products]</td>
</tr>
<tr>
<td>SDG</td>
<td>Sustainable Development Goals (of the United Nations)</td>
</tr>
<tr>
<td>SER</td>
<td>The Social and Economic Council of the Netherlands</td>
</tr>
<tr>
<td>SVHC</td>
<td>Substances of Very High Concern</td>
</tr>
<tr>
<td>UBA</td>
<td>Umweltbundesamt (Federal Environment Agency)</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
</tr>
<tr>
<td>VDMA</td>
<td>Verband Deutscher Maschinen- und Anlagenbau e.V. (German Engineering Federation)</td>
</tr>
<tr>
<td>VOC</td>
<td>Volatile Organic Compounds</td>
</tr>
<tr>
<td>WEC</td>
<td>Wind Energy Converter</td>
</tr>
</tbody>
</table>
Project sponsor: Jost Backhaus (COO), Bernhard Zoremba
Project manager: Kerstin Dorenbusch
Project team: Silke Hauschild, Mai Linh Nguyen, Dominik Reichhardt, Mathias Robbe
Content provided by the following ENERCON employees:
Jurgen Berlin, Antje Czottka, Anna Dittmar, Manuela Duhlies, Christopher Frey, Simo Führt, Daniel Hartmann, Birgit Heinze, Peter Herrmann, Viktor Knobloch, Thomas Kossack, Anand Kumar, Helge Kusch, Marilena Madderken, Kerstin Pillar-Knus, Vera Sibler, Mateus Siwek, Philipp Vohrer, Maria Wenske, Daniel Wiczek, Nils Zaayenga
Design: smz GmbH, Hamburg
Copyright: All photos, illustrations, texts, images, graphic representations, insofar as this is not expressly stated to the contrary, are the property of ENERCON GmbH and may not be reproduced, changed, transmitted or used otherwise without the prior written consent of ENERCON GmbH.
Privacy protection: Within the framework of your subscription, we will collect and process your personal data to the extent necessary. For more information please visit www.enercon.de/en/privacy-policy.
Note sources: Information, data, and especially empirical values to the different essential themes of this report come from internal sources of the ENERCON Group, if they are not noted as external sources.
Note e-document: In the interest of environmental protection and conservation of resources (e. g. paper, printer ink), this sustainability report is an electronic document, which is explicitly not published as a brochure. Therefore we expressly recommend not to print this report. We have therefore created this report interactively so that you can quickly find all relevant topics on sustainability. Thank you for your contribution to environmental protection and your interest in the ENERCON sustainability report.