

Vestas

Sustainability powers development

Vestas Wind Systems A/S 2017



Wind. It means the world to us.™

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About this report

Combined with Vestas annual report, this report constitutes Vestas' 'Communication on Progress' (COP)¹⁾ under the UN Global Compact. In this way, Vestas applies the option stipulated in section 99a of the Danish Financial Statements Act concerning the statutory duty of large enterprises to report non-financial information by referring to the COP report.

This report is framed around the UN Global Compact's 10 principles for responsible business conduct in the areas of human rights, labour, environment and anti-corruption.

1) Read more: www.Vestas.com/en/about/sustainability.

Leading the way to affordable and clean energy

Since Vestas joined the United Nations Global Compact initiative in 2009, we have been actively supporting the 10 principles throughout our business and value chain as part of our overall sustainability approach. Our commitment to sustainability is two-fold: How we act and do business globally as a carbon-conscious company; and how the future success of our product is paramount to a sustainable future.

2017 was a landmark year for Vestas. With a history of pioneering the modern wind industry reaching back 35 years, we decided to set out an even bolder vision for our company: to become the global leader in sustainable energy solutions. This year we joined RE100 – a global, collaborative initiative of influential businesses committed to using 100 percent renewable electricity – and made clear Vestas' commitment to stay at this level by expanding our supply of renewable electricity, as our operations and electricity consumption grows.

In 2017, Vestas also continued its active engagement in the global sustainability arena. We reiterated our commitment to support the UN Sustainable Development Goals (SDGs), which we believe can drive sustainable development towards 2030. The SDGs are integrated into Vestas' sustainability approach, with a focus on six SDGs that have been identified as goals where Vestas can add most value. Naturally, as a company with a vision to be the global leader in sustainable energy solutions, SDG 7 - Affordable and clean energy – has become our overarching goal. The additional five goals we are working with are: Climate action (SDG 13); Decent work and economic growth (SDG 8); Quality education (SDG 4); Responsible consumption & production (SDG 12); and Partnerships for the goals (SDG 17). In partnering with initiatives, such as UNLEASH, Vestas continues to proactively advance sustainable development on the global stage.

Ongoing commitment to sustainability

Vestas' commitment to sustainability is reflected in our strategy, Code of Conduct and supporting policies on human rights, labour, environment, and anti-corruption. In 2017, we continued rolling out our new Employee Code of Conduct and Business Partner Code of Conduct, with a focus on increasing awareness of our values and principles. To further strengthen employee awareness of our Employee Code of Conduct, we launched a mandatory sign-off on the Employee Code of Conduct for all salaried employees in 2017.

Vestas acknowledges that producing solutions to harness wind energy makes a small negative impact on the environment. Together with our suppliers and customers, Vestas is committed to reducing this impact to the greatest extent possible.

Minimising Vestas' environmental impacts includes the impacts which manifest over the operational lifetime of a wind turbine. We made progress in 2017 by reaching the product carbon footprint target set for 2020 – a reduction of 5 percent versus 2015 - three years ahead of schedule. We now have set a new target for a further reduction by 2020.

Since the end of 2016, Vestas has increased the share of renewable energy in our total energy consumption from 52 to 57 percent. These targets and results reveal our company's effort to decrease our carbon footprint across our business and increase our use of renewable energy.

The past year we have also been proactively incorporating our SDG commitment to our social sustainability approach, particularly focusing on emerging markets. Vestas conducts a Social Due Diligence on wind farm projects in scope to ensure that the social risks are identified and prevented and/or mitigated. Through this process, we also identify local community development opportunities, which are linked to the SDGs, and can be implemented in partnerships. Such initiatives are right now ongoing in India and Mexico.



We continue to place high importance on health and safety, as any injury is one too many. In 2017, Vestas continued its journey towards no injury by achieving a total recordable injury rate of 5.3, corresponding to a reduction of 23% compared to 2016. Despite a continued reduction in injuries, a Vestas employee and a contractor employee suffered fatal injuries. Several health and safety initiatives were started in 2017, complementing existing initiatives that continue to be rolled out.

Towards a new clean energy economy in 2018

Key to sustainability at Vestas is partnerships with our customers, suppliers, and local communities. We know that we cannot do it alone; it takes more than just technologically advanced wind turbines to bring clean, affordable and reliable energy to the world. Through our partnerships we can bring wider benefits to the environment and society.

The Vestas' vision and mission is our commitment to the planet, our stakeholders and our employees. To us, it gives us purpose and a clear direction to where the company is heading and how customers, shareholders and employees can support that journey towards a 100 percent fossil free planet.

At Vestas, we have a history of challenging the status quo and setting bolder targets to push the limits of our technology to be at the forefront of the renewable energy-transformation. We do it to grasp new business opportunities and to be a dominant player in our sustainable development. This is an ambition that is shared among our employees, shareholders and customers across the globe.

Vestas is determined to continue leading the industry, and to working with partners in government, the private sector and civil society to realise wind power's full potential as an affordable clean energy source and key climate change solution. We look forward to continuing leading the global transformation.

You can read more about our sustainability efforts in our Annual Report and on the vestas.com site.

Anders Runevad
Group President & CEO

Social and environmental highlights for the Group

	2017	2016	2015	2014	2013
SOCIAL AND ENVIRONMENTAL KEY FIGURES					
OCCUPATIONAL HEALTH & SAFETY					
Total recordable injuries (number)	243	303	335	384	307
– of which lost time injuries (number)	92	82	56	53	66
– of which fatal injuries (number)	1	0	1	0	1
CONSUMPTION OF RESOURCES					
Consumption of energy (GWh)	569	567	516	501	586
– of which renewable energy (GWh)	325	296	283	278	325
– of which renewable electricity (GWh)	264	268	257	255	309
Consumption of fresh water (1,000 m ³)	454	428	427	366	512
WASTE DISPOSAL					
Volume of waste (1,000 tonnes)	71	75	67	51	71
– of which collected for recycling (1,000 tonnes)	39	37	33	27	42
EMISSIONS					
Emission of direct CO ₂ (1,000 tonnes)	60	58	49	50	56
Emission of indirect CO ₂ (1,000 tonnes)	26	26	25	29	44
LOCAL COMMUNITY					
Environmental accidents (number)	0	0	0	0	0
Breaches of internal inspection conditions (number)	0	1	0	3	1
EMPLOYEES					
Average number of employees	22,504	21,625	18,986	16,325	16,598
Number of employees at the end of the period	23,303	21,824	20,507	17,598	15,192
SOCIAL AND ENVIRONMENTAL INDICATORS					
OCCUPATIONAL HEALTH & SAFETY					
Incidence of total recordable injuries per one million working hours	5.3	6.9	8.7	11.8	9.8
Incidence of lost time injuries per one million working hours	2.0	1.9	1.5	1.6	2.1
Absence due to illness among hourly-paid employees (%)	2.3	2.2	1.9	2.3	2.5
Absence due to illness among salaried employees (%)	1.2	1.2	1.1	1.3	1.2
PRODUCTS					
CO ₂ savings over the lifetime of the MW produced and shipped (million tonnes of CO ₂)	317	281	224	173	125
UTILISATION OF RESOURCES					
Renewable energy (%)	57	52	55	56	56
Renewable electricity for own activities (%)	100	100	100	100	100
EMPLOYEES					
Women in Board of Directors ¹⁾ and Executive Management (%)	23	23	23	23	15
Women at management level (%) ²⁾	19	19	18	18	17
Non-Danes at management level (%) ²⁾	63	60	57	54	53

1) Only Board members elected by the general meeting are included.

2) Employees at management level comprise Leadership Track positions, i.e. managers, specialists, project managers, and above.



Vestas has a goal of zero injuries and firmly believes that all injuries can be prevented if every hazard is managed and the correct behaviour is in place wherever Vestas employees and contractors are working around the globe.

Social and environmental performance

Vestas strives for driving social and environmental sustainability in operating the business and its impact on the communities where the company plays a role. This approach strives to achieve the company's mission of benefitting the planet in delivering best-in-class renewable energy solutions for Vestas' customers.

Vestas acknowledges that producing solutions to harness wind energy makes a small negative impact on the environment. Together with its suppliers and customers, Vestas is committed to reducing this impact to the greatest extent possible, and believes that it is a corporate obligation. Minimising Vestas' environmental impacts include those manifested over the operational lifetime of a wind turbine. Progress was made in 2017, with the product carbon footprint target set for 2020 – a reduction of 5 percent versus 2015 – reached three years ahead of schedule, and a target for further reduction by 2020 has been set.

Vestas continues to increase the share of renewable energy consumption and has joined the organisation RE100, underlining the commitment to 100 percent renewable electricity. Since end of 2016, Vestas has increased the share of renewable energy of its total energy consumption from 52 to 57 percent.

Vestas' commitments to sustainability are also reflected in the Code of Conduct and supporting policies on human rights, health, safety and environment. In 2017, the new Code of Conduct was rolled out to employees and business partners.

To support social sustainability, Vestas conducts Social Due Diligence to ensure social risks are mitigated and community development opportunities are identified. Such initiatives are right now ongoing in markets such as India, Mexico, and South Africa.

In 2017, Vestas continued to reduce the number of injuries and managed to stay below the target rate. Despite a continued reduction in injuries, a Vestas employee and a contractor employee suffered fatal injuries. A number of health and safety initiatives were started in 2017, complementing existing initiatives that continue to be rolled out.

Sustainability in Vestas

Vestas' vision is to be the global leader in sustainable energy solutions. This requires a global approach to sustainability that encapsulates the three core concepts: environmental, social, and economic sustainability. For Vestas, the concept of continuous improvements in these areas forms the baseline for how Vestas works.

In addition to creating sustainable products, Vestas also strives to produce them in a sustainable way. Key to sustainability at Vestas is partnerships with customers, suppliers, and local communities. Vestas believes that in the long term, it is in the best interests of the company, its employees, and its shareholders to be accountable for Vestas' impact on its surroundings: the environment as well as the local, national, and global communities.

One approach, globally

Vestas' commitment to sustainability goes beyond producing, installing, and servicing wind turbines. The company is a signatory to the international initiatives in the United Nations Global Compact and the World Economic Forum's Partnering Against Corruption Initiative. These public commitments form the foundation of Vestas' global business approach and are expressed in the company's Code of Conduct for employees and business partners.

UN Sustainable Development Goals

Furthermore, Vestas' approach is informed by the current global agenda: Vestas is committed to supporting the UN Sustainable Development Goals (SDGs). The SDGs are integrated into Vestas' sustainability approach, which allows identifying the goals where the company can add most value.

Six SDGs have been identified, which support the approach on how sustainability is powering development for Vestas and for its stakeholders and the many communities where the company plays a role. With SDG No. 7, Affordable and clean energy as the overarching goal, the other five selected SDGs are: Quality education (4); Decent work and economic growth (8); Responsible consumption & production (12); Climate action (13); and Partnerships for the goals (17).

The selected UN Sustainability Goals that will guide Vestas' sustainability approach.



Global certificates

Supporting its public commitments, Vestas' operations specifically builds on global certificates for these three standards: ISO 9001 for Quality, ISO 14001 for Environment, and OHSAS 18001 for Health and Safety.

In committing to, and implementing, international sustainability initiatives, standards, and goals spanning the sustainability spectrum, Vestas is able to back its intent to power sustainability, both within the organisation and beyond.

Communication on Progress (COP)

Combined with additional information about Vestas' sustainability initiatives at vestas.com, this annual report constitutes Vestas' 'Communication on Progress' (COP)¹⁾ under the UN Global Compact. In this way, Vestas applies the option stipulated in section 99a of the Danish Financial Statements Act concerning the statutory duty of large enterprises to report non-financial information by referring to the COP report.

The principal sustainability risks and opportunities related to Vestas' operations are identified as: occupational injuries of employees and contractors; carbon footprint of wind turbines, and impacts on human rights in communities where Vestas operates. Policies and associated due diligence address these risks and opportunities.

Code of Conduct

Vestas' commitment to social sustainability is also reflected in the way that the company works. The Vestas Employee Code of Conduct and Business Partner Code of Conduct outline the rules and principles by which Vestas expects its employees and business partners to behave. These rules and principles are based on international rules and principles and cover the areas of health and safety, human rights, bribery and corruption, environment, and protection of company assets, information and reputation.²⁾

With the launch of the new Employee and Business Partner Code of Conducts in the fourth quarter of 2016, Vestas has been focused on rolling out the new codes throughout 2017.

Salaried employees were introduced to the Code of Conduct in late 2016, and in 2017, the roll-out continued to include hourly-paid employees, with a focus on increasing awareness of Vestas' global standards. As part of their introduction to the new Employee Code of Conduct, hourly-paid employees were invited to participate in case dilemmas and discuss issues within their teams. All new salaried employees are required to complete the new Employee Code of Conduct e-learning as part of their on-boarding. High-risk employees receive tailored face-to-face training, in conjunction with the business ethics training.

Key suppliers have been introduced to the Business Partner Code of Conduct at supplier days, and it has been implemented in all contracts.

Business ethics

Vestas' compliance initiatives and processes aim to address the risks arising from changing legal and market conditions. Development of new initiatives as well as modification of existing initiatives works to ensure a risk-based and adequate compliance setup. These initiatives support an ethical behaviour among Vestas' employees and business partners by ensuring that they are familiar with its business ethical standards. Sanction screenings and Integrity Due Diligence continue to be an integrated part of the business.

In 2017, the main activities have been aimed at:

- Increasing transparency through a company-wide web-based Gifts and Business Entertainment Register
- Ensuring risk-based screening and due diligence of business partners
- Ensuring easy access for employees to information about guidelines and contact information online for the areas covered in the Vestas Employee Code of Conduct activities
- Strengthening awareness through mandatory Code of Conduct sign-off (and associated guidelines) for all salaried employees

1) Read more: www.vestas.com/en/about/sustainability.

2) The Codes of Conduct can be downloaded from vestas.com/en/investor/corporate_governance#!governanceprinciples.

EthicsLine

Vestas works to ensure that compliance violations are always brought forward and dealt with accordingly. The Employee Code of Conduct makes it mandatory for managers to report compliance violations to EthicsLine and employees are strongly encouraged to report compliance violations to their managers or via EthicsLine.

Vestas continued to raise awareness of EthicsLine in 2017. Vestas' employees, business partners, and stakeholders should always feel empowered to report unethical behaviour – anonymously or openly.

Vestas received a total of 138 cases/reports through EthicsLine in 2017, compared to 111 in 2016.

EthicsLine cases

Number

	2017	2016
Questions submitted to EthicsLine	14	8
Compliance cases reported	105	87
– hereof substantiated	31	19
– hereof non-substantiated	74	68
Cases under investigation end of year	19	16

The substantiated cases closed in 2017, including cases opened in 2016, have led to various disciplinary actions such as 22 warnings and 14 dismissals.

Human impact

Vestas considers its employees to be its most important asset. Therefore, health and safety are consistently given highest priority to provide and maintain a safe and secure workplace for all employees. Vestas is strongly committed to human rights and employees' rights, as stated in the International Bill of Human Rights and the eight core conventions of the International Labour Organization.

Employees

Throughout 2017, Vestas has experienced an increase in activity level within the service area. As a result, Vestas has increased its number of employees with 1,479, compared to 2016.

Vestas employees as at 31 December 2017

FTE

	Europe, Middle East, and Africa			Asia Pacific	Total
	Americas				
Power solutions	5,699	3,039	3,354	12,092	
Service	5,050	2,134	1,268	8,452	
Others	1,646	344	769	2,759	
Total	12,395	5,517	5,391	23,303	

Employee satisfaction

Each year, Vestas conducts an employee engagement/satisfaction survey to measure how Vestas employees perceive their daily workplace, and subsequently finds areas where Vestas can become an even better place to work. Vestas conducted the annual employee satisfaction survey in September 2017, and the response rate was 95 percent – the same as in 2016, which is a very satisfactory level.

The result of the overall satisfaction and motivation index was 71 in the 2017 survey, compared to 72 in 2016. Although a small decrease on the main satisfaction score, there is an increase in three out of eight drivers, the rest remain the same as in 2016.

The drivers are important in working with how to improve engagement with employees, and the results are used as a guide for follow-up actions.

Global bonus programme

All employees contribute to the same value creation and provide support to the same customers, regardless of whether they work in a support function or in developing, manufacturing, marketing, selling, installing, or servicing wind turbines. As such, all employees are rewarded when Vestas achieves a set of KPIs, which measure progress on Vestas' strategic goals.

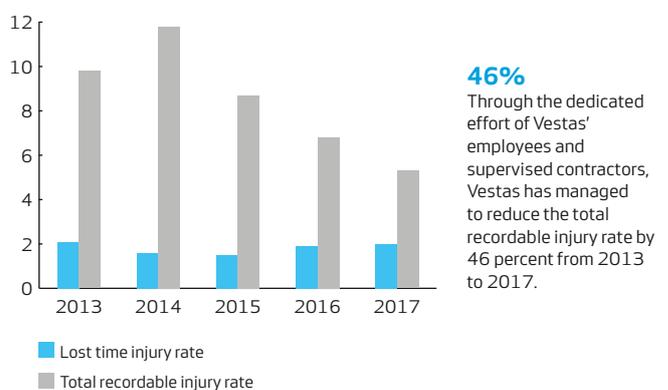
As the targets for bonus pay-out were achieved in 2017, a global bonus of EUR 11.2m will be paid out to all employees (cash effect 2018), compared to EUR 12.0m in 2016 (cash effect 2017).

Health and safety

In 2017, Vestas reduced the incidence of total recordable injuries per one million working hours to 5.3, compared to 6.9 in 2016, keeping below the target of max. 6.0. A new target of max 4.8 has been set for 2018. For the more narrow category of lost time injuries, the incidence rate was 2.0.

Incidence of injuries

Per one million working hours



The significant improvement of total recordable injuries in manufacturing is in part attributable to the Vestas Behavioural Change (VBC) programme, which is now firmly implemented in 13 factories, plus at all service sites in New Zealand and Australia. The VBC programme, which is to be rolled out to all Vestas factories and service sites, depending on local safety maturity, is an employee-led observation programme, which identifies safe and at-risk behaviours with the opportunity of immediate remedial action to prevent injuries. The VBC programme also encourages safety dialogues between employees at every level of the organisation.

While the overall incidence rate on injuries was kept at a satisfactory low level, a fatal incident tragically occurred in 2017, when a Vestas service technician fell from the nacelle of a wind turbine. Investigations by the authorities have not yet been concluded, but the incident is nevertheless a reminder of the dangers of working at heights and the importance of following Vestas' safety procedures at all times.

In addition, in March a tragic accident occurred in India at a wind power plant when an employee of a service contractor moved beyond the lockout-tagout electrical isolation boundaries. He received an electric shock and later died of his injuries. The root cause of the incident has been identified and appropriate remedial actions implemented.

Safety initiatives

With the implementation of safety initiatives, Vestas contributes to SDG No. 8, Decent work and economic growth.

A key behavioural safety training programme has been developed which, when implemented, will support the development and maturity of the Vestas safety culture. The programme, called My Team My Responsibility (MTMR), complements existing Vestas safety tools and will eventually cover all Vestas employees, customised to particular environments and job roles. Vestas' contractors will likewise be introduced to the programme.

MTMR introductory pilots have been successfully conducted in Northern Europe and several factories globally. A full internal MTMR implementation roll-out plan, dependent on the safety maturity of each region, will be identified. MTMR contractor safety workshops have also been held in Europe, China, Australia, India, and the USA. The intention is to carry out workshops on an annual basis.

An occupational health and safety strategy was launched in 2017. The overall ambition of the strategy is to raise the profile of occupational health and establish and implement a baseline standard. The ultimate goal is that when employees leave or retire from Vestas they should be able to reflect on their career and consider that their physical and mental wellbeing has been enhanced due to the conscientious focus Vestas places on occupational health and safety. The first phase of this strategy, which was to conduct a global mapping of occupational health practices, has been completed. A white paper giving guidance to the business will be produced and communicated.

In 2017, absence due to illness increased by 0.1 percentage points for hourly-paid and remained stable for salaried employees compared to 2016.

Social sustainability

Vestas has actively integrated social sustainability into its business. Building on its established sustainability approach, there is a natural link to the UN Sustainable Development Goals (SDGs). The social sustainability work contributes in particular to SDG No. 4: Quality education, and SDG No. 8: Decent work and economic growth.

Vestas recognises its responsibility to respect human rights as set out in the UN Guiding Principles on Business and Human Rights. This commitment, which includes its expectations for Vestas' business partners, is outlined in the Vestas Human Rights Policy and implemented across the organisation. Vestas' responsibility to respect human rights forms the foundation of the social sustainability approach.

Social Due Diligence

To support Vestas' emerging markets entry strategy and ensure that Vestas obtains the social license to operate, Vestas has developed a Social Due Diligence (SDD) methodology. The SDD is targeted at ensuring that social risks and impacts are identified, prevented and mitigated in Vestas wind power plant projects.

For projects in scope, Vestas conducts an assessment of the project and the affected local communities. The SDD enables, for example, identification of local community development projects. The clear strategy to work with the SDGs therefore enables prioritisation of which local community development projects to initiate.

Vestas strives to work closely with customers to assist them in securing and maintaining the social license to operate during construction and operation of projects, according to international standards. Vestas' SDD process plays a central role in informing the dialogue with the customer concerning its social license to operate in the particular project. In addition to the ongoing dialogue with relevant stakeholders, the establishment of project-level grievance mechanisms available to workers, affected local communities, and other stakeholders play a vital role. Overall, Vestas' approach contributes to lowering the societal risks associated with a project.

Local community development

Vestas understands the importance of sustainably investing in local communities. When Vestas enters new markets, builds wind power plants, sets up new factories, or expands its existing presence, the company seeks opportunities to sustainably support the local communities in which Vestas is present, with a long-term mindset.

In order to identify and prioritise opportunities, Vestas primarily focuses on education, training, and job possibilities (SDGs Nos 4 and 8) in the local area. Examples of this work include initiatives in Mexico, India, and South Africa, as described below.

In Tamaulipas, Mexico, Vestas has made an agreement with 16 universities on education and training in the field of wind energy. In cooperation with the state's Ministry of Education, Vestas will be offering the training, including onsite learning, to prepare the local labour market for the future demands in the wind power industry.

In India, Vestas' community development and engagement projects relate to manufacturing facilities and service sites, as well as wind power plants under construction, and education is a major priority area.

One ongoing initiative near Vestas' new blade factory, inaugurated in March 2017, involves training of 200 school teachers in science, math, and environmental issues. Eventually, the aim is to reach around 20,000 primary and high school students in the Indian state of Gujarat.

Similar projects have been initiated in 2017, which will benefit more than 1,700 rural school children near the EPC project site in Karnataka state and 250 school children in two villages near a service site in the Maharashtra state, through technology-aided learning and a safe school campus. The initiatives are planned to continue throughout 2018.

Apart from initiatives focused on education, in India Vestas is also working to improve sanitation in rural communities and will reach out to 2,000 children on sanitation awareness and behavioural change. This project includes the plan to provide around 800 rural households near Vestas' new blade factory with clean water in 2018.

In South Africa, Vestas complies with the Broad-Based Black Economic Empowerment (B-BBEE) legislation via initiatives that are aligned with Vestas' local community development approach and focus on education. Vestas works actively to improve educational outcomes in primary school learners, increasing capacity of teachers and principals of partner schools, and partnering with local organisations to address the contextual issues that hinder educational advancement. These initiatives target primary education as a foundation that enables broad-based economic empowerment.

Environmental impact

A single Vestas wind turbine:

- will generate around 30 to 50 times³⁾ more energy than it uses in its entire lifecycle and
- over its entire lifecycle only emits around 1 percent of carbon dioxide per kWh when compared to a coal power plant.

As the wind power industry is expected to account for a growing share of the future energy mix, it is important that Vestas acknowledges that when producing solutions to harness wind energy, a small negative impact on the environment is made.

Vestas is committed to reducing this impact to the extent possible, together with its suppliers and customers, and believes that it is a prerequisite for Vestas' continued development. Improvement in wind turbine efficiency and reduction in environmental impact both contribute to SDG No. 7, Affordable and clean energy.

3) Return on energy varies, depending on e.g. wind turbine and wind power plant configuration, including factors such as plant siting, site-specific wind conditions (i.e. low, medium, or high IEC wind), blade-swept area, wind turbine generator rating, and wind turbine hub height.

A wind turbine in operation saves CO₂ emissions. The CO₂ savings over the lifetime for the MW produced and shipped in 2017 were 317 million tonnes, an increase of 23 percent compared to 2016, due to a higher amount of MW produced and shipped in 2017.

Life cycle assessment

In 2017, 99 percent of the MW delivered by Vestas was covered by a publicly available, full ISO 14040/44 Life Cycle Assessment (LCA). The LCA is used to identify and evaluate the environmental impact throughout the lifetime of a wind power plant. Based on the LCA, informed decisions are made to reduce overall environmental impacts.

Carbon footprint

The target for reduction in product carbon footprint of 5 percent by 2020 – from a baseline of 6.9 grams CO₂ per kWh in 2015 – was met in 2017. Carbon footprint has been reduced by 7.1 percent⁴⁾ on wind turbines on the 4 MW platform. This is primarily due to significantly increased energy production in all wind classes and optimised wind turbine design, leading to lower material requirement per kWh.

A new target has been defined, which is a reduction of carbon footprint by 10 percent by 2020 from a baseline of 6.60 grams CO₂ per kWh in 2017. The carbon footprint performance has been adjusted from the 2015 baseline, which shows a slight increase in the reported CO₂ emissions due to these accounting changes.

Product waste

Vestas' target for product waste has been met and significantly exceeded, achieving an improvement of 12.5 percent, compared to a target of at least 3 percent versus a 2015 baseline. This is primarily driven by advanced blade design and construction, increasing wind turbine energy production without increasing product waste in all wind classes.

A new target for product waste is adjusted to reflect the same scope as carbon footprint, with a target of 7 percent reductions by 2020 versus a baseline of 0.178 grams waste per kWh in 2017. It should be noted that a calculation correction is made for product waste, where previously the annual energy production (AEP) was calculated for one year rather than the 20-year design life.⁵⁾

The majority of a Vestas turbine is recyclable. On the road to achieving 100 percent recyclability, the composite materials of the blades comprise the largest component yet to be made recyclable. To address this issue, Vestas continues to work in the DreamWind project (Designing Recyclable Advanced Materials for Wind Energy) that aims at developing new sustainable composite materials for blades.

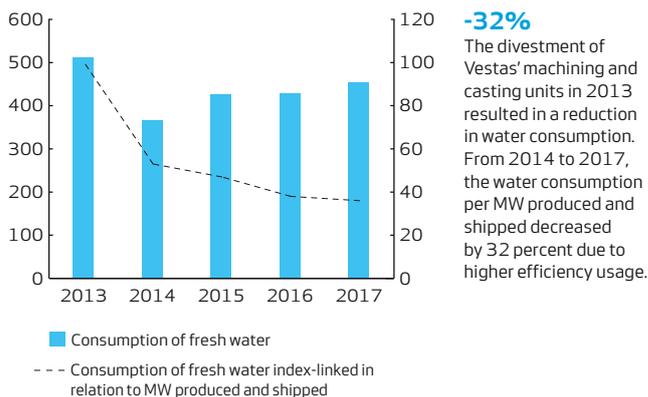
Furthermore, during wind turbine operation and maintenance, Vestas has developed new advanced repair services which include a comprehensive offering of up- and down-tower repair solutions for gearboxes, generators, minor components, and blades. This retains the maximum value of materials from an environmental and circular economic perspective. For example, Vestas' Life Cycle Assessment is used to determine the environmental benefits of repair, which shows up to 90 percent savings in material weight and up to 95 percent saving of carbon footprint for the repaired item.

Environmental performance

For Vestas' activities in designing, manufacturing, installing, and servicing wind turbines, performance is reported in terms of inputs of resources and outputs of CO₂ emissions and waste. Increased production and service in 2017 compared to 2016 was not to the same degree reflected in the consumption of water and energy and emissions of CO₂ and waste, which increased relatively less than the increased production level due to improved efficiency.

Consumption of fresh water

1,000 m³ · Index

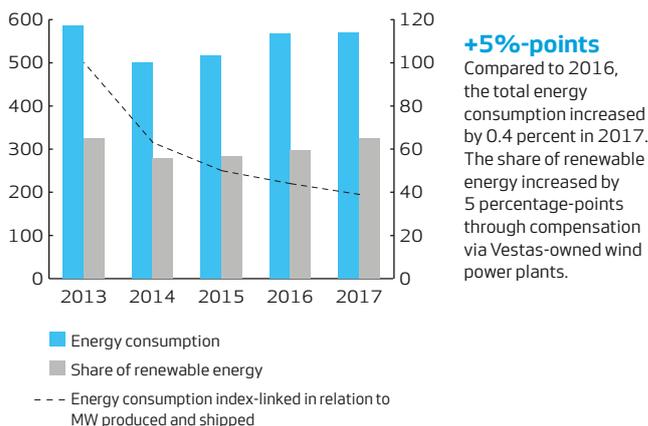


Resource utilisation

In 2017, Vestas' total energy consumption increased by 0.4 percent. When index-linked to MW produced and shipped, Vestas' energy consumption decreased 11 percent compared to 2016.

Energy consumption and share of renewable energy

1,000 MWh · Index



The target for Vestas' energy consumption is to reach a 60 percent share of renewable energy in 2020 from 55 percent in 2015. The non-renewable energy is used in equal share in Power solutions and Service. To reach the target, Vestas will improve energy efficiency, gradually transition to renewable energy, and compensate with renewable electricity from Vestas-owned wind power plants. With a combination of these options, the share of renewable energy in Vestas' total energy consumption increased from 52 percent in 2016 to 57 percent in 2017.

Vestas has defined a goal that 100 percent of electricity consumption in Vestas must come from renewable energy sources, subject to availability, which continued to be fulfilled in 2017. This was achieved partly by purchasing renewable electricity where available, and partly by compensating for the consumption of non-renewable electricity with Vestas-owned wind power plants. In 2017, Vestas joined the organisation RE100, whose members commit to 100 percent renewable electricity.

4) Results are based on the ISO LCA reports published in July 2017 for the V112-3.45 MW* (IEC1a), V126-3.45 MW* (IEC2a) and V136-3.45 MW* (IEC3a).

5) AEP was calculated for 1 year rather than over the 20-year lifetime, giving a figure for grams waste per kWh as twenty times higher than should have been for the 2015 baseline.

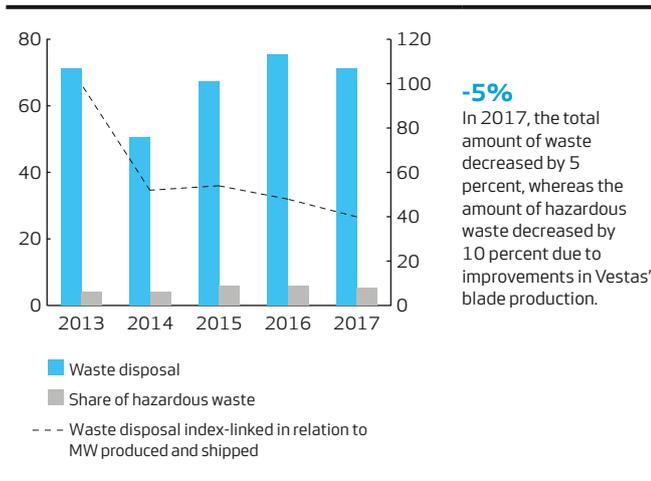
In 2017, water consumption increased by 6 percent compared to 2016, as production has started at the new blade factory in India. When index-linked to MW produced and shipped, water consumption decreased 6 percent compared to 2016.

Emissions

In 2017, the amount of waste decreased by 5 percent compared to 2016. When index-linked to MW produced and shipped in 2016, Vestas decreased its amount of waste by 16 percent compared to 2017. In 2017, 55 percent of the total volume of waste was recycled. The share of recycled waste increased 6 percentage point compared to the year before due to dedicated efforts at the blade factories in the USA. In 2017, the share of hazardous waste was 5,274 tonnes compared to 5,930 tonnes in 2016.

Waste disposal and share of hazardous waste

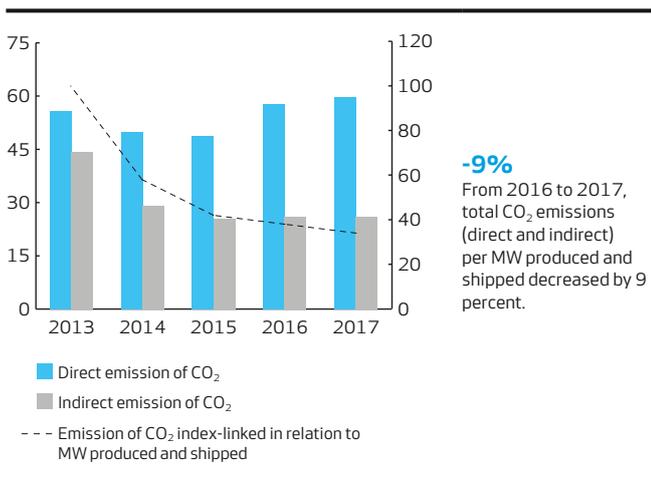
1,000 tonnes · Index



Vestas increased its direct CO₂ emissions by 3 percent in 2017, and the indirect CO₂ emissions remained stable. When index-linked to MW produced and shipped in 2017, Vestas decreased its CO₂ emissions by 9 percent compared to 2016.

Direct and indirect CO₂ emissions

1,000 tonnes · Index



Suppliers

Vestas works very closely with suppliers of components and raw materials to improve the sustainability of Vestas' products and operations. The risk management process spreads over the whole product life-cycle, starting from supplier selection. The expected conduct of its suppliers is deployed via the Business Partner Code of Conduct and is an integral part of purchase agreements. Vestas takes action to ensure that suppliers comply with its policies by screening significant suppliers on compliance with the Code of Conduct, environment, health and safety through the standards in a supplier assessment tool.

In 2017, monthly supplier scorecards have officially been rolled out to 129 key suppliers with significant focus on safety and other sustainability aspects. The supplier's scorecard performance is evaluated as part of the monthly performance dialogue meetings with suppliers as well as following up on the agreed development activities.

In 2017, 25 specific third-party Code of Conduct assessments have been executed. Additionally, 186 suppliers were assessed on site by Vestas in all regions. Of these, 116 were approved, 16 were rejected, and 54 are under approval.

Accounting policies

Accounting policies for health & safety, employees, resource utilisation, waste disposal, CO₂ emissions, local community, and products are available on page O62.

Sustainability powers development

Access to clean, affordable and reliable energy is a cornerstone of the world's increasing prosperity and development. Since 1979 Vestas has been actively contributing to the world's renewable energy mix through our wind technology. And as of 2017 with our new vision – to be the global leader in sustainable energy solutions – Vestas is reaching for new heights in providing clean, affordable and reliable energy.

Sustainability is defined by three parameters: environmental, social and economic sustainability. Core to sustainability is balancing these three parameters and taking a long-term perspective. For Vestas, the concept of continuous improvements forms the baseline for how we work. Every day we learn how to do things smarter, better, more efficient and with fewer negative impacts; making improvements whilst lowering costs and risks.

Sustainability in Vestas

Vestas' global approach to sustainability encapsulates the three core concepts: environmental, social and economic sustainability.

Environmental sustainability implies that a Vestas turbine has a positive energy balance, meaning that it produces more energy in its lifetime than it costs to producing it. In fact, it only takes 5-7.5 months for a Vestas turbine to achieve a positive energy balance.¹⁾ Furthermore, it also implies avoiding and minimising environmental impacts over the lifetime of the turbine.

But environmental sustainability is much more. It is working with our suppliers on reducing resource use, improving our production to minimise waste, and optimising transportation, installation and service to reduce emissions and impacts. All of these efforts contribute to extra flexibility, increased speed and lowering of costs.

Social sustainability is considerably complex and covers many different areas. Our commitment to respect human rights forms the basis for operating in a socially sustainable manner. It entails healthy, safe, and fair working conditions, and supply chain responsibility. Social sustainability is also ensuring that we have social license to operate, which refers to the ongoing acceptance of wind farm projects, within the local community and other stakeholders. Aspects such as land acquisition and local community development affect Vestas' ability to gain and maintain our social license to operate and thereby ensure viability of wind farm projects. At Vestas we leverage on our advanced social sustainability approach to enable execution in difficult markets. Operating in emerging markets demands special efforts to minimise risks and create opportunities, and our social license to operate approach makes it possible for Vestas to deliver in this challenging climate on time.

Social sustainability is about doing the right thing the first time, thereby avoiding expensive delays and impacting on health and safety. All of these initiatives contribute to lowering risk for our employees and our stakeholders, thereby reducing costs and increasing acceptance and ability to deliver to customers also in a long period of service.

Economic sustainability links to our company governance and profitability. By working with our customers on sustainability, we are able to identify and develop sustainable energy solutions in partnership. Our solutions positively contribute to our customers' success.

But economic sustainability also links strongly to how we do business. It is about having clear risk management procedures in place, and instilling Vestas behaviour across the organisation globally. At Vestas we are on a continuous journey to understand our markets and business environment in order to make the right decisions, thereby increasing speed and execution to secure the right orders, lowering transaction time thus lowering the cost.

Harvesting the benefits

Vestas' sustainability approach powers development by:

- Supporting partnerships with customers to identify and develop sustainable energy solutions
- Enabling our pioneering expansion into emerging markets
- Facilitating our customers' development of bankable projects, linked to international financing sustainability requirements
- Streamlining our supply chain to deliver in challenging markets, on time
- Delivering on customer sustainability requirements

Key to sustainability at Vestas is partnerships with our customers, suppliers, and local communities. We know that we cannot do it alone; it takes more than just technologically advanced wind turbines to bring clean, affordable and reliable energy to the world. Through our partnerships we are able to bring wider benefits to the environment and society.

1) This means, that within 5-7.5 months, the wind turbine has generated as much energy as the suppliers and Vestas together spend on manufacturing, transporting, installing, and dismantling the wind turbine in its 20-year lifetime.



One approach, globally

Vestas' commitment to sustainability goes beyond producing, installing and servicing turbines. We are a signatory to international initiatives the United Nations Global Compact and the World Economic Forum's Partnering Against Corruption Initiative. These public commitments form the foundation to our global business approach and are expressed in Vestas Code of Conduct for employees and business partners.

Our approach is also informed by the current global agenda: Vestas is committed to supporting the UN Sustainable Development Goals ("SDGs"). We have integrated the SDGs into our sustainability approach, which allows us to identify the goals where we can add most value. We have identified six SDGs which support our approach on how sustainability is powering development for Vestas and for our stakeholders and the many communities where we play a role. The six SDG's are: Affordable and clean energy (7); Climate action (13); Decent work and economic growth (8); Quality education (4); Responsible consumption & production (12); and Partnerships for the goals (17).

Supporting our public commitments, Vestas operations specifically builds on global certificates for these three standards: ISO 9001 for Quality, ISO 14001 for Environment, and OHSAS 18001 for Health and Safety.

In committing to, and implementing, international sustainability initiatives, standards, and goals spanning the sustainability spectrum, Vestas is able to back its intent to power sustainability, both within the organisation and beyond.

Commitments

Vestas is a signatory to the United Nations Global Compact and the World Economic Forum's Partnering Against Corruption Initiative. These commitments support our intent to power sustainability, both within the organisation and beyond.

Vestas commitments are reflected in the Code of Conduct and supporting policies, guidelines and procedures.

Code of Conduct

At Vestas, we act with integrity in everything we do. This means making the right decisions when faced with difficult situations, and ensuring that our actions match our values of Accountability, Collaboration and Simplicity. For us, a global company of more than 23,000 employees operating in over 40 countries, our Code of Conduct embodies this commitment and is supported by top management.

In 2016 we revised our Code of Conduct, splitting it into two: Employee Code of Conduct and Business Partner Code of Conduct. To read more about how we work with our Business Partner Code of Conduct, [click here](#). Our Employee Code of Conduct is a set of rules and principles for how Vestas employees are to act and behave as part of a global company. The Employee Code of Conduct goes beyond national borders, cultures and local traditions, and sets the global standard for all employees in Vestas.

All salaried employees were required to sign off on the Vestas Employee Code of Conduct in 2017. By signing off the document, all employees acknowledged that they have familiarised themselves with and understand all the topics covered in the Vestas Employee Code of Conduct. The sign off is a part of the effort at Vestas to ensure that all employees live up to the Code of Conduct rules and principles in their daily work – no matter location or position.

Policies

- [Vestas Code of Conduct](#)
- [Vestas Decision Tree](#)
- [Vestas Business Partner Code of Conduct](#)
- [Vestas Business Partner Code of Conduct Guidelines](#)
- [Quality, Health, Safety and Environmental policy](#)
- [Human Rights Policy](#)
- [Freedom of Association Policy](#)

EthicsLine

Vestas' whistle-blower system, EthicsLine, was introduced in 2007

Vestas is committed to securing an ethical environment in our company, and Vestas' EthicsLine has been established to ensure that inappropriate behavior or incidents are brought forward and handled in a fair and timely manner.

The purpose of the EthicsLine is first to ensure that Vestas employees, business partners or anyone associated with Vestas have a place to report inappropriate behavior or practices which may be experienced within the Vestas workplace. Secondly, the EthicsLine provides guidance when in doubt about ethical issues.

Vestas' EthicsLine can be used to:

- report malpractice that has been observed or is suspected;
- ask questions about Vestas policies, or difficult issues of behaviour or ethics, when the answers cannot be found elsewhere

Vestas' EthicsLine is operated by an independent company. Except where specifically prohibited by local law, anyone using Vestas' EthicsLine may remain anonymous. Subject to applicable laws, all matters reported through Vestas' EthicsLine will be investigated. Everyone involved will be treated fairly. Vestas will not tolerate retaliation against anyone who files a report in good faith, regardless of whether or not the claim can be substantiated.

UN Global Compact

Vestas committed to the United Nations [Global Compact](#) in 2009. The United Nations Global Compact is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labour, environment and anti-corruption.

With the participation in United Nations Global Compact, Vestas commits to report and publish its progress on implementing these principles in the organisation on an annual basis. The implementation of these requirements in the organisation is an integral part of the Vestas Management System.

Local networks

At Vestas, we have made an effort to demonstrate our sustainability leadership locally by joining the United Nations Global Compact Nordic Network. Vestas considers this as an opportunity to promote stronger sustainability efforts for businesses in their local context.

Memberships

- [Global Wind Energy Council \(GWEC\)](#)
- [World Economic Forum](#)
- [Global Green Growth Forum \(3GF\)](#)
- Member of 20 national wind associations around the World

Organising sustainability

To take sustainability at Vestas to the next level, a Sustainability Committee with cross-functional participation has been established. The role of the Sustainability Committee is to oversee, prioritise, and coordinate cross-functional sustainability initiatives in Vestas and ensure sustained conformity according to UN Global Compact. The committee reports to the Executive Management and has met five times in 2017, with a planned meeting frequency of four times a year going forward.

Responsibility for sustainability performance lies in the line organisation. To support the line organisation the following departments are responsible for global policies, procedures, and overall guidance related to sustainability: Health, Safety and the Environmental is managed by the Global Quality, Safety & Environment (QSE) department, CSR and the Business Ethics function are managed by the Legal & Compliance department.

Board committees

Vestas board committees oversee Vestas' focus on sustainability. In 2017, the Board of Directors held seven Audit Committee meetings, four Nomination & Compensation Committee meetings, and four Technology & Manufacturing Committee meetings.

The Audit Committee evaluates the adequacy and effectiveness of Vestas' ethics and anti-corruption programme pursuant to Vestas' Code of Conduct and the World Economic Forum Partnering Against Corruption Initiative (PACI). The cases filed in Vestas whistle blower system, Vestas Ethics Line, are reported here.

The Nomination & Compensation Committee supports the Board of Directors in overall staff-related topics, including diversity. The Technology & Manufacturing Committee evaluates sustainability performance.

Human rights

Principles 1-2

1. Businesses should support and respect the protection of internationally proclaimed human rights.
2. Businesses should make sure that they are not complicit in human rights abuses.



Human rights

Vestas recognises its responsibility to respect human rights as set out in the United Nations Universal Declaration of Human Rights and according to the framework outlined in the UN Guiding Principles on Business and Human Rights. This commitment, which includes our expectations for Vestas' business partners, is described in the [Vestas Human Rights Policy](#) and implemented across the organisation globally.

The Human Rights Policy is communicated to internal and external stakeholders on Vestas's intranet and website. In case of any complaints by employees or business partners on breaches of the Policy these can be submitted to the [Vestas EthicsLine](#).

Vestas Human Rights Policy is also supported by our [Employee Code of Conduct](#) and [Business Partner Code of Conduct](#).

Due diligence

To support Vestas' emerging markets entry strategy, Vestas has developed a Social Due Diligence (SDD) methodology. The SDD is targeted at ensuring that social risks and impacts are identified, prevented and mitigated in Vestas wind power plant projects. For projects in scope, Vestas conducts an assessment of the project and the affected local communities.

The results from the SDD include mitigation actions, which are integrated into project plans to ensure integrity in the project execution. The SDD is based on the International Finance Corporation's Environmental and Social Performance Standards and the World Bank Group's Environmental, Health, and Safety Guidelines for Wind Energy, ensuring that, regardless of where the customer obtains financing from, Vestas supports the project's execution according to accepted international standards.

As a wind turbine supplier, Vestas strives to work closely with its customers to assist them in securing and maintain the social license to operate during construction and operation, according to international standards.

Suppliers

Our business partners play an important role in Vestas' drive to reach our sustainability goals and in promoting wind energy as a beneficial solution for society as a whole.

In order to improve the sustainability of our products, Vestas works closely with sub-suppliers of components and raw materials, which today account for more than 80 per cent of the energy consumed in the product manufacturing process.

In order to ensure the health and safety of all persons involved, customers and sub-suppliers must be both aware of – and follow – the Vestas safety rules and procedures, during all stages of the turbine installation process through to service.

In order to support this partnership, Vestas has prepared a [Business Partner Code of Conduct](#) in accordance with the [UN Global Compact](#), the International Bill of Human Rights and the International Labour Organization conventions. Vestas works diligently to ensure that partners also respect the Code of Conduct, and, to the greatest extent possible, will prioritise working with business partners who are dedicated to and support Vestas' view on sustainability.

A wind turbine consists of several thousand components each with its own sub-suppliers. We also have to consider construction sites in several countries worldwide. Thus, Vestas' supply chain is broad and complex. In total, there are thousands of partners worldwide.

Responsible Supplier Management

Vestas is devoted to the principle of Responsible Supplier Management.

Purchase agreements with our suppliers today include our policies regarding human rights and environment, as well as a commitment to work with our suppliers on initiatives relating to sustainability going forward.

With 94 per cent of our signed purchase agreements based on Vestas templates, and with all of these including either directly or by reference the above principles, we believe we are well on the way.

Vestas also takes action to ensure that suppliers comply with our policies by screening significant suppliers on sustainability issues, including human rights and labour standards using the supplier assessment tool. In 2017, 25 specific third-party Code of Conduct assessments have been executed. Additionally, 186 suppliers were assessed on site by Vestas in all regions. Of these, 116 were approved, 16 were rejected, and 54 are under approval.

When so-called red flags are identified – that is when suppliers are not living up to the Vestas standards - the suppliers are requested to take corrective action.

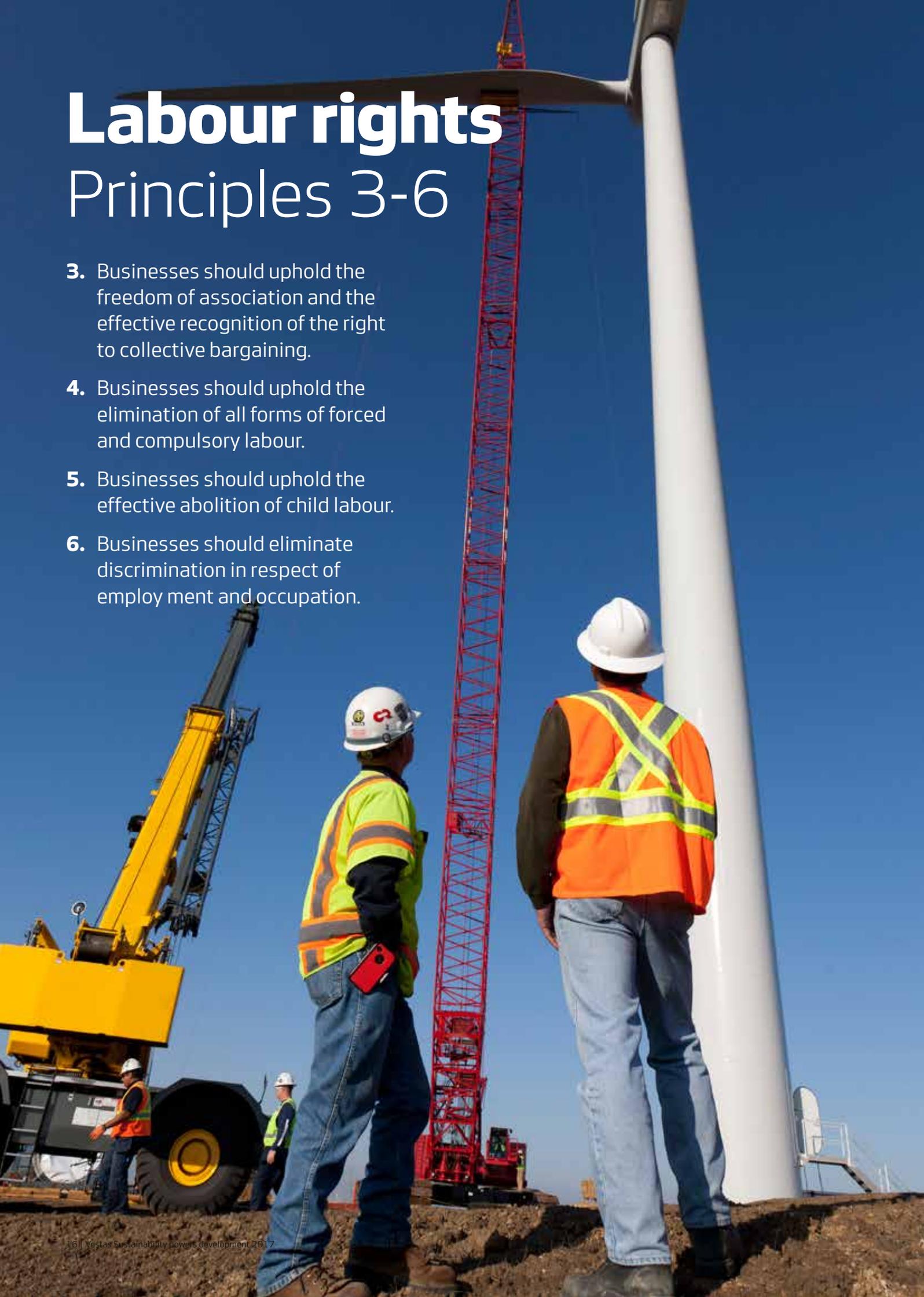
Vestas has two formal targets on sustainability in 2017, which are monitored on monthly basis:

- Suppliers safety and sustainability maturity is reported on frequent basis throughout the year for more than 100 suppliers using a standard to track the development.
- To emphasize the importance of a safe behavior at our suppliers, Vestas has a formal Safety Walk program at suppliers to ensure awareness and development of the safety practice in the supplier base.

Labour rights

Principles 3-6

3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.
4. Businesses should uphold the elimination of all forms of forced and compulsory labour.
5. Businesses should uphold the effective abolition of child labour.
6. Businesses should eliminate discrimination in respect of employment and occupation.



Labour

Safety first

It is recognized that working with wind turbines is not hazard-free. Large heavy components, dizzying heights, unpredictable weather conditions and demanding processes, to name but a few, present a challenging work environment. Vestas' unprecedented experience in the wind industry ensures these risks are identified early and where achievable eliminated by design. Unavoidable residual risks are meticulously assessed and mitigated to the lowest levels possible.

In 2017, Vestas again achieved a record low number of total recordable injuries. Significant improvement was seen in the manufacturing segments of the business with an approximate 20% decrease, further proving that Vestas ambitious goal of zero injuries is achievable. Although a number of safety initiatives were implemented in Manufacturing, analysis suggested that the Vestas Behavioural Change (VBC) program was the main contributor to this success. Supporting and improving the safety performance of the Sales Business Units will be the main area of focus for 2018. We aim to implement behavioural based safety in a number of identified strategic areas. A tailor-made region specific behavioural program called My Team My Responsibility (MTMR) will be utilized.

Vestas' close collaboration and work on overall industry safety performance continues. The contractor and supply networks are often shared across the industry and improving our work partners performance on safety is considered extremely important. In 2017 Vestas delivered Safety workshops for contractors in a number of countries around the world. These workshops were very well received and attended by the main contractors of the region. The workshops clearly deliver and outline the expected Safety standards required to work for Vestas, "If you can't work Safely you can't work for Vestas".

Vestas has throughout 2017 continued to support the Global Wind Organization (GWO), providing resource competency, support and market insight to enable the development of Industry Safety related training courses. This standardization of safety training ensures a minimum standard of competence is achieved by the applicable Vestas employees or contractors prior to any work onsite taking place. Having a recognized set standard also contributes to the efficiency and associated costs by preventing duplication of training for the industry.

It is essential that safety culture is embedded in the DNA of the global Vestas organization. This culture must be driven and cascaded down through the business by senior management and leaders. Accountability for safety is embedded and delegated throughout each level of management, however each and every employee must accept their personal responsibility for their own and their colleagues' safety. Working safely is a condition of employment at Vestas, every employee's behavior is critical to the safety effort and ultimately achieving our goal of zero injuries.

In Vestas, we continually raise awareness to the dangers of complacency. The life-saving Rules were introduced and are now firmly embedded in the foundations of safety at Vestas. These seven Rules act as a permanent reminder to employees that non-compliance or complacency could result in a serious injury or fatality.



The road to zero injuries

Near miss reporting and hazardous observations

Vestas has seen significant improvements in relation to reducing the number of injuries and we proactively act to close out any significant gaps with identified remedial action plans. To further mature we are now placing equivalent focus on the incidents with high potential for injury/fatality. Studies have identified that in industry approx. 20% of all incidents, company employees could be exposed to a life-threatening situation.

Vestas have identified a process called Life Incidents with Fatal Exposure LIFE. This process filter uses the now well-established lifesaving rules to identify any reports with potential exposure to a life-threatening situation. We simply go through each life-saving rule individually to identify if the incident was related or a contravention to that rule. Any LIFE incident identified must be prioritized and immediately acted upon to ensure any potential risk to life is eliminated. Also ensuring that control mechanisms are reinforced or created, to ensure the LIFE incident will not reoccur.

Occupational health

Vestas has an ambition that when employees leave or retire from employment with Vestas that they should be able to reflect on their career and consider that their physical and mental wellbeing has been enhanced due to the conscientious focus Vestas place on occupational health and safety.

In 2017, a project on occupational health and safety was launched. The yearly project obtained a global overview of best practices that could provide a high standard. A Global Occupational Health Committee supports and guides the company.

Safety awareness

Fostering a safety culture through awareness

Being aware of the safety hazards are key to managing and preventing them. Since 2007, Vestas has deployed a Safety Awareness Program for employees and managers to raise the awareness of safety with the ultimate objective of eliminating all lost time injuries. All operational managers and team leaders in factories, service, construction sites and offices attend courses to strengthen the safety culture throughout Vestas and instil safe behaviour.

Through safety awareness, recognition programs and safe behaviour programs Vestas is moving towards establishing a team-based responsibility for safety. Top management's commitment to keep all employees safe and emphasize safe behaviour is being expressed through their participation in safety awareness programs and their completion of Safety Walks.

A Safety Walk is an opportunity for managers in production, construction, service or administration areas to have a constructive dialogue and discuss safe behaviour identifying ways of improving safety with employees in their actual job function. The program has been successfully running since 2007 with consistently more managers participating every year. In 2017, 18,000 Safety Walks were conducted whereby the ambition of an average of twelve Safety Walks per manager was achieved once again.

Focusing on behaviour

Behaviour is identified as the main root cause in an incident or injury in the workplace. The My Team My Responsibility (MTMR) program builds on a foundation of engagement of all employees and will be the primary safety behavioural program implemented in 2018. The MTMR framework encourages agreement to which safe behaviours we want to see more of, which will inevitably lead to employees at all levels in the organisation working safer. Front line managers and supervisors work with their teams to select the behaviours they want to improve

together. They take ownership as a team and drive the change led by the supervisor. The Controls & Generators Segment was the first to pilot MTMR. In all five factories supervisors have set behaviour improvements with their teams since February 2017. Based on learnings from the pilot's the champions (trainers) and the management teams, the approach and materials have been updated. A Strategic priority program will be put in place to ensure the training and program are delivered efficiently.

Vestas Behavioural Change (VBC) program is an employee led safety observation program. It actively encourages employees to observe each other's behaviour while carrying out specific work-related tasks. Safe behaviours are encouraged, recognized and rewarded, whereas any identified at risk behaviours are stopped assessed and improved to remove the risk. The program encourages safety dialogue and taking collective responsibility for safety.

Units, functions and areas that have adopted and implemented the Vestas Behavioural Change program (VBC) have in 2017 dramatically reduced the number of reportable injuries. Vestas will continue to implement and encourage these programs to eventually reach the overall ambition of zero injuries.

Safety standards

Customers and employees expect a unified approach to safety regardless of region or country. Vestas agrees. That's why we have developed a wide variety of global processes, such as:

Incident management

A sustained effort to increase the flow of knowledge in regards to corrective and preventive actions against safety is a priority. Global knowledge sharing on a monthly basis enables proactive learning to establish best practices for reducing the number of injuries.

Contractor safety

As Vestas' own safety performance has improved strongly over the years, the performance of contractors has become increasingly important to protect both Vestas' and its contractors' employees from potential harm as well as to live up to customer expectations of safe operations. Measures implemented so far to improve the performance of contractors include pre-qualifications, standardisation of safety requirements and intensified tracking of safety performance.

Safety induction programmes

A safety induction programme for managers and employees is part of the induction programme for new employees. We do this as employees must know what to expect - and what is expected of them - as soon as they arrive.

Electrical safety

Global standards on "Electrical Safety" and "Control of Hazardous Energy" have been developed in order to eradicate electrical injuries. A range of Master Instructors cascade their knowledge into the business.

Risk and opportunities

As part of Vestas' strive for continuous improvements, its processes of assessing risks and opportunities accommodate a growing demand for alignment across areas of sustainability. The processes will ensure that all sustainability-related risks and opportunities are systematically and effectively identified, quantified, mitigated and monitored in an aligned way throughout the organisation.

Employees

Employees are crucial to staying competitive and providing customers with the best service. The company's People Pipeline – employee lifecycle – ensures that the right people are in the right functions throughout the organisation. It enables Vestas to attract, employ, reward, develop and retain the best.

Vestas attempts to foster an inclusive and diverse environment to attract employees of different nationalities. We are also dedicated to continuous improvement of competences. We do that through a variety of internal learning possibilities as well as [career development](#). Vestas

has among other things developed three [leadership tracks](#) and attractive [benefits](#).

Being a global business entails employing people of different nationalities and cultures. The business must be 'in the region, for the region'.

Recruiting

Vestas is active in over 70 countries and is constantly seeking opportunities to expand into new markets. We always seek to hire the best-suited candidates for vacant positions, based on background and merit. We do thorough assessments of both external and internal candidates, and value opportunities to promote qualified internal talents.

Training

In 2017, a total of 1,795,276 hours of training was registered resulting in an average of 79.8 hours of training per FTE.

Development

The Continuous Performance and Development process (CPD) and People Review are two of our key tools within the area of employee development.

The People Review aims to create insight into the performance and potential of our employees, and to have a structured and proactive approach to performance management, competency development, talent identification and management, and succession planning. All employees at our corporate leadership levels are mandatorily in review, but many business units choose to review all employees.

Continuous Performance & Development is about performance management, employee development and especially the continuous, real-time feedback culture supporting our leaders and employees in their everyday work life. CPD is about ensuring that all employees receive feedback on their performance and behaviour for the year, and that performance objectives are set for the coming 12 months. Development objectives focuses on ensuring the right competencies with the right people. CPD check-ins are recommended as minimum once per month aims at following-up on performance and adjusting where necessary, building manager and employee relationship, focusing on work/life balance and ensuring real-time feedback both from stakeholders and from the immediate manager.

In 2016, 95 percent of Vestas' employees responded to the Employee Survey and 85 percent of Vestas' employees conducted a Performance Feedback/Objective setting dialogue with their manager.

Compensation & Reward

Vestas is a global company and, inevitably, this means pay practices and market rates may differ by region. However, the company aims to approach each location in the same manner and with the same guidelines. Thus Vestas seeks to ensure that compensation and reward levels remain fair when comparing, for instance, locations and gender, and remain competitive when comparing to industry standards.

Exit

All employees leaving Vestas, regardless of the reason for their departure, are offered an interview as part of the exit process. This way, the company learns more about why the employee has chosen to leave Vestas, and can devise new methods for making the company more likely to attract and retain talent in the future.

When having to lay-off employees in large numbers, Vestas always ensures negotiations are conducted as quickly as possible and result in decent severance packages for all those affected. In such incidences, Vestas offers laid-off employees support for further education and outplacements.

Employees by region and function¹⁾

Number

	Europe, Middle East, and Africa	Americas	Asia Pacific	Total
Manufacturing & Global Sourcing	4,480	2,997	3,052	10,529
Sales and service	5,889	2,362	1,536	9,787
Power Solutions	1,218	42	302	1,562
Others	808	116	501	1,425
Total	12,395	5,517	5,391	23,303

Employees by region and gender¹⁾

Number

	Europe, Middle East, and Africa	Americas	Asia Pacific	Total
Female	1,817	538	705	3,060
Male	10,560	4,979	4,686	20,226
Total	12,378	5,517	5,391	23,286

Employees by age group and gender¹⁾

Number

	<31 years	31-45 years	>45 years	Total
Female	686	1,536	838	3,060
Male	5,704	10,433	4,089	20,226
Total	6,389	11,969	4,927	23,286

Employees by age group and gender¹⁾

Percent

	<31 years	31-45 years	>45 years	Total
Female	3%	7%	3%	13%
Male	24%	45%	18%	87%
Total	27%	52%	21%	100%

Employees by employment contract and gender¹⁾

Number

	Standard employment	Temporary	Total
Female	2,936	124	3,060
Male	19,639	587	22,226
Total	22,575	711	23,286

Employees (standard employment) by employment type and gender¹⁾

Number

	Full time	Part time	Total
Female	3,003	57	3,060
Male	20,184	42	22,226
Total	23,187	99	23,286

New employees by region and gender²⁾

Number

	Europe, Middle East, and Africa	Americas	Asia Pacific	Total
Female	171	282	149	602
Male	1,533	1,679	1,199	4,411
Total	1,704	1,961	1,348	5,013

New employees by age group and gender²⁾

Number

	<31 years	31-45 years	>45 years	Total
Female	281	244	77	602
Male	2,461	1,562	388	4,411
Total	2,742	1,806	465	5,013



Turnover by region³⁾

Number · Percent

	Europe, Middle East, and Africa	Americas	Asia Pacific	Total
No. employees	11,514	5,494	4,842	21,850
No. employees leaving	825	1,552	577	2,954
Turnover	7.2%	28.2%	11.9%	13.5%

Turnover by gender³⁾

Number · Percent

	Female	Male	Total
No. employees	2,910	18,940	21,850
No. employees leaving	353	2,601	2,954
Turnover	12.1%	13.7%	13.5%

Turnover by age³⁾

Number · Percent

	<31 years	31-45 years	>45 years	Total
No. employees	5,743	11,374	4,733	20,850
No. employees leaving	1,160	1,325	469	2,954
Turnover	20.2%	11.6%	9.9%	13.5%

Employees by level and age¹⁾

Percent

	<31 years	31-45 years	>45 years	Total
Management level	0.4%	8.3%	4.2%	12.9%
Other	27.0%	43.1%	17.0%	87.1%
Total	27.4%	51.4%	21.2%	100%

Employees by level and gender¹⁾

Percent

	Female	Male	Total
Management level	2.5%	10.4%	12.9%
Other	10.7%	76.4%	87.1%
Total	13.2%	86.8%	100%

Board of Directors by age group and gender⁴⁾

Percent

	<31 years	31-45 years	>45 years	Total
Female	0%	0%	25%	25%
Male	0%	0%	75%	75%
Total	0%	0%	100%	100%

1) Frozen report end 2017. Full time employment is FTE 0.9 and above. Avilon not included.

2) Entries report (employees hired January 2017 to December 2017, report not frozen)

3) Turnover report (report not frozen)

4) Only Board members elected by the general meeting are included. See http://www.vestas.com/en/investor/corporate_governance#1



Environment

Principles 7–9

- 7.** Businesses should support a precautionary approach to environmental challenges.
- 8.** Businesses should undertake initiatives to promote greater environmental responsibility.
- 9.** Businesses should encourage the development and diffusion of environmentally friendly technologies.



Environment

Climate change

Climate change poses one of the most serious challenges for mankind. The predicted effects could be both devastating and irreversible. According to the Intergovernmental Panel on Climate Change (IPCC), the effects of climate change will be broad-ranging, affecting water supplies, ecosystems, food availability, health and the economy, and will devastate coastal regions. It is crucial that greenhouse gas emissions are limited, that low carbon energy generation technologies take over, and that they provide power to more sectors through electrification.

Fossil fuel-based power generation causes poor air quality, contributes to global climate change and consumes significant amounts of water. As water becomes more scarce in many regions (a tendency that may be amplified by climate change), existing water supplies will not be sufficient in many countries to support the installation of new water-intensive power plants – putting economic growth at risk.

To mitigate climate change, power generation must globally become low-carbon, more sectors such as transport and heating need to use this low carbon electricity as a power source, and wherever water locally is or is expected to become scarce, power generation must become low-water. During operation, wind power plants do not consume water nor do they emit climate-changing greenhouse gases. Wind power is among the solutions to the challenges our world is facing today.

Sustainable Energy for All

More than 1 billion people across the globe still lack access to affordable and reliable electricity – with dramatic consequences for human health, education and economic well-being. These numbers show us that there is still much work to be done to ensure a sustainable global energy supply.

Vestas actively supports partnerships and collaborative efforts intended to advance the sustainability agenda. One of our most notable partnerships is with the UN as members of the Global Compact.

Looking into the coming years ahead, there is no doubt that the UN Sustainable Development Goals (SDGs) will be a key driver for the transition towards a sustainable and clean energy economy. The SDGs offer a universal plan to address economic, social and environmental dimensions of sustainable development.

Sustainable products

A single Vestas wind turbine will generate around 25 to 50 times more energy than it uses in its entire lifecycle and return this back to society. And, a single Vestas wind turbine only emits around one percent of carbon dioxide when compared to a coal power plant. However, it's important that we acknowledge that when producing solutions to harness wind energy a small negative impact on the environment is made. Vestas is committed to reducing this impact to the extent possible together with our suppliers and customers. This is achieved through a range of initiatives and programs that simultaneously reduce stress on the environment and improve business case certainty for our customers.

Carbon footprint

Product target for 2016-20

Even though wind energy's lifecycle carbon footprint is extremely low when compared to other sources such as coal, oil and gas, Vestas continuously strives to improve the environmental performance of its production and operations in order to further improve product performance.

The target for reduction in product carbon footprint of 5 percent by 2020 from a baseline of 6.9 grams CO₂ per kWh in 2015, has been met in 2017. Carbon footprint has been reduced by 7.1 percent¹⁾ on wind turbines on the 4 MW platform. This is primarily due to significantly increased energy production in all wind classes and optimised wind turbine design, leading to lower material requirement per kWh.

As such, a new target is established to reduce carbon footprint by 10 percent by 2020 from a baseline of 6.60 grams CO₂ per kWh in 2017. The carbon footprint performance has been adjusted from the 2015 baseline, which gives a slight increase in CO₂ emissions due to these accounting changes.

In order to further reduce its carbon footprint, Vestas needs to continue improving and optimizing wind turbine performance through technology development and innovation, as well as lowering material and energy consumption in our factories and within the supply chain.

Product achievements for 2011-15

Results released in Q3 2015, which have been externally reviewed, confirm that the turbine's environmental performance has improved significantly; where the carbon footprint of the V112-3.3 MW turbine has reduced by over 15% to 5.9 grams of CO₂ per kWh.

The reasons for improvements are firstly due to environmentally-led initiatives. Vestas has introduced a take-back scheme for customers to safely dispose worn-out switchgears. This avoids potential release of a highly potent greenhouse gas, called SF6 gas, which is reclaimed. Secondly, the wind turbine has undergone significant design improvements which have had a great impact on performance, for example, through implementing an increased generator rating that has increased from 3.0 MW to 3.3 MW, leading to increased energy production of the wind turbine, as well as the design optimisation giving reduced material requirements, particularly in relation to the turbine tower and foundations.

Today, Vestas contributes approximately seven per cent of the total CO₂ emission for the V112-3.3 MW turbine. Of the remaining amount, approximately 85-90 per cent is contributed by material and component suppliers, and 5-10 per cent is for transport of materials and components for construction, decommissioning and recycling.

Quick facts

Target for 2020:

Reduce Carbon Footprint by 10%

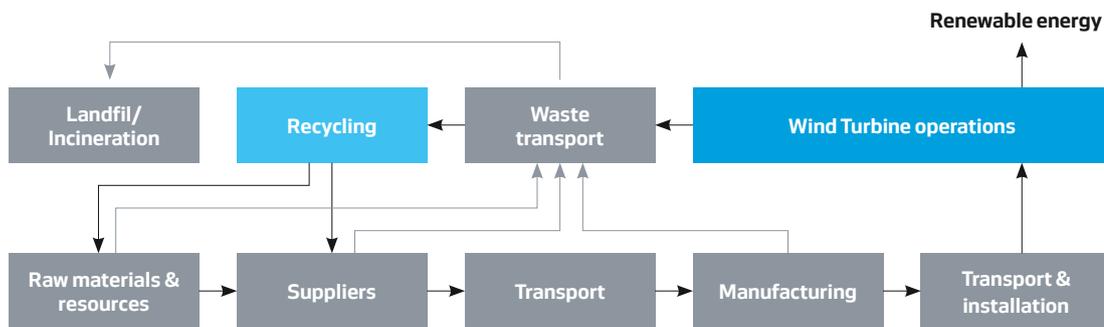
In 2017: 6.6 g CO₂/kWh*

The sum of the net greenhouse gas emissions that contribute to global warming. Quantified by 5.95 grams CO₂ equivalents/kWh.

* Baseline is the Life Cycle Assessment performed on the 4MW Platform (Mark 3A/B) which accounts for turbine performance in all wind classes: V117-3.45 MW (IEC1B, 10 m/s), and V126-3.45 MW (IEC2B, 8.5 m/s)

1) Results are based on the ISO LCA reports published in July 2017 for the V112-3.45 MW (IEC1a), V126-3.45 MW (IEC2a) and V136-3.45 MW (IEC3a).

Life Cycle Assessment scope



Life cycle assessment

Vestas strives to continually improve people's lives through having a responsible interaction with the environment, respect for society and a productive economy. To make that goal a reality Vestas works with Life Cycle Assessments (LCA) to develop increasingly energy-efficient products and production whilst mitigating the environmental impacts throughout the turbine's lifetime.

Transparency, in all instances, and especially in regards to the environmental impacts and benefits of wind power, is vital to affirm Vestas' product performance and financial competitiveness when stating the Cost of Energy.

Since 1999, Vestas has been developing Life Cycle Assessments of wind power to give a 'cradle to grave' evaluation of the environmental impacts of Vestas' products and activities. These concentrate on two key actions:

- Document the environmental performance of Vestas wind turbines
- Analyse the results to improve or develop wind turbines with less environmental impact

The studies assess a wind turbine's entire bill-of-materials accounting for the approximately 25,000 parts that make up a wind turbine. In a Life Cycle Assessment, a complete wind power plant is assessed up to the point of the electricity grid, including the wind turbine itself, foundation, site cabling and the transformer station.

Available reports

Current Portfolio

	Year
V90-1.8/2.0 MW	2011
V100-2.0 MW	2015
V110-2.0 MW	2015
V90-3.0 MW	2013
V105-3.45 MW	2017
V112-3.45 MW	2017
V117-3.45 MW	2017
V126-3.45 MW	2017
V136-3.45 MW	2017

Energy payback

Comparing energy payback

The long-term impact on the environment for a wind turbine's life cycle of 20 years is minimal when compared to that from average European electricity production by other means.

The energy balance of a wind power plant shows the relationship between the energy requirement over the whole life cycle of the power plant (i.e. to manufacture, operate, service and dispose) versus the

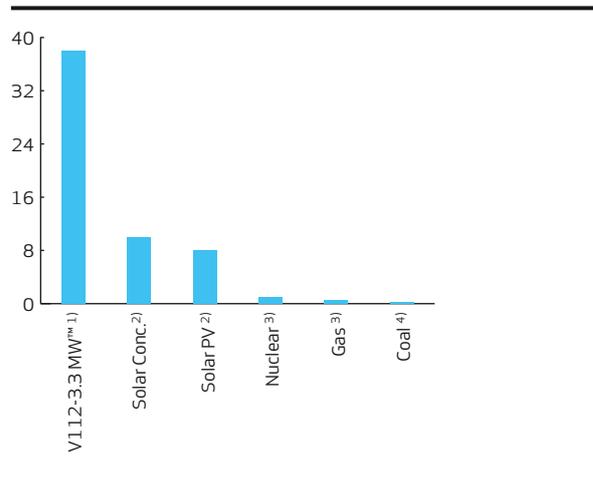
energy generated by the wind power plant. This energy payback period is measured in 'months to achieve payback', where the energy requirement for the life cycle of the power plant equals the energy it has produced. Alternatively, energy payback may be measured by 'number of times payback', where this shows the number of times more energy the wind plant generates over its lifetime versus the amount consumed during its lifetime.

For Vestas wind turbines, the breakeven period generally ranges from around five to 12 months. For instance, a V112-3.3 MW wind power plant has a payback period of 6½ months for medium wind conditions. While over the life cycle of a V112-3.3 MW wind power plant it will return 38 times more energy back to society than it consumed. So when 1 kWh is invested in a wind energy solution you get 38 kWh in return. Whereas if you invest 1kWh in coal you typically get 0.28 kWh in return¹.

Furthermore, V112-3.3 MW turbine has significantly improved its return-on energy by around 26% in 2015, compared to the previous V112-3.0 MW turbine from 2010.

Energy payback by energy source

Number of times



Sources:

- 1) Vestas, (2015). Life Cycle Assessment of Electricity Production from an onshore V112-3.3 MW Wind Plant – 21 September 2015, version 2.1. Vestas Wind Systems A/S, Hedeager 42, Aarhus N, 8200, Denmark.
- 2) The Offshore Valuation: A valuation of the UK's offshore renewable energy resource. Published in the United Kingdom 2010 by the Public Interest Research Centre. ISBN 978-0-9503648-8-9.
- 3) PE International (2012). PE International - GaBi 6 databases 2011, LBP, University of Stuttgart and PE INTERNATIONAL GmbH.
- 4) World Coal Association. Coal & the Environment - Coal Use & the Environment - Improving Efficiencies.

Material use

By knowing how Vestas' products and materials contribute to the environmental performance of the wind plant it is possible to make fact-based and informed decisions that will minimise overall environmental impacts. Life Cycle Assessment is used to provide the detailed knowledge regarding the material composition of the wind plant from a life cycle perspective. The figure shows a typical material breakdown of Vestas turbines. Typically, for example, a V112-3.3 MW turbine which is composed of around 86% metals (e.g. steel, iron, copper and aluminium), 12% polymers and composite materials, and the remainder a mixture of electronics/electrical items, lubricants and fluids, etc. A brochure of material use can be [downloaded here](#) for all turbines.

Rare Earth Elements from a Life Cycle Assessment perspective

Rare earths elements are naturally-occurring elements that, once mined and processed, can be used in a variety of industrial applications such as permanent magnets in wind turbines, hybrid car motors, components for military hardware and other high-tech applications.

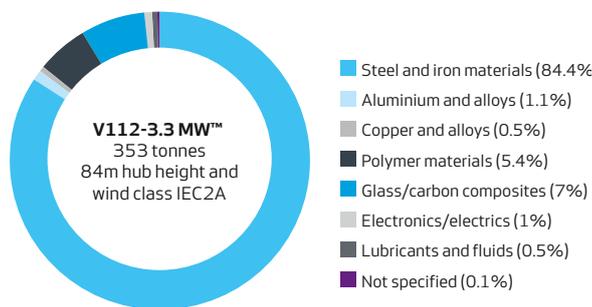
In Vestas, rare earth elements are used in the magnets found in the towers of all new models of Vestas turbines, whereas rare earth elements are only used in the permanent-magnet generators for the older GridStreamer™ turbine models (i.e. the V112-3.0 MW and the 2.0 MW GridStreamer™ platform). Vestas' current turbine range does not use rare earth elements in the generator. The rare earths elements are used to improve the performance of turbines by making the generators more efficient and more grid-compatible. This allows Vestas to reduce the size of the generator and therefore use fewer other resources (steel, composite structural materials, etc.) and create a smaller carbon footprint.

It is important to understand the difference between different types of turbine designs and how each design uses rare earths elements. There are two types of turbine drive train concepts using rare earth elements: conventional geared drive train and direct-drive (without a gearbox). The amount of rare earths elements used in direct-drive turbines is substantially higher – up to 10 times as much as a generator in a conventional drive train. Today, all Vestas turbines are based on proven technology using conventional drive trains.

The contribution of rare earth elements (such as neodymium and dysprosium) used in the turbine generator magnets, and also in the magnets used in the tower, make a negligible contribution to total resource depletion, contributing below 0.1% of total life cycle impacts¹.

Material breakdown of a V126-3.3 MW™ wind turbine

Percent



Source: Vestas, (2014). Life Cycle Assessment of Electricity Production from an onshore V112-3.3 MW Wind Plant – 6 June 2014, Version 1.0. Vestas Wind Systems A/S, Hedeager 42, Aarhus N, 8200, Denmark.

End-of-life solutions

Constantly and simultaneously lowering the Cost of Energy for wind and the environmental impact of wind power is the focus of end-of-life solutions. Through research and application on how best to recover and recycle the various components and materials in a wind turbine, after its power production ceases, the end-of-life phase enhances the overall environmental performance seen from a lifecycle perspective.

The studies also supplement knowledge on how best to design the next generation of wind turbines from an environmental perspective, as well as, how to gain the most value at end-of-life from both existing turbines and new turbines being developed.

Product waste

Product target for 2016-20

In 2016 the target for recyclability was replaced with a measure for the amount of product waste per kWh. It indicates the materials or components not recycled or reused at end-of-life.

Vestas' target for product waste has been met and significantly exceeded, achieving an improvement of 12.5 percent, compared to a target of at least 3 percent versus a 2015 baseline. This is primarily driven by advanced blade design and construction increasing wind turbine energy production without increasing product waste in all wind classes.

A new target for product waste is adjusted to reflect the same scope as carbon footprint, with a target of 7 percent reduction by 2020 versus a baseline of 0.178 grams waste per kWh in 2017. It should be noted that a calculation correction is made for product waste, where previously the annual energy production (AEP) was calculated for one year rather than the 20-year design life.²⁾

On the road to achieving 100 percent recyclability, the composite materials of the blades comprise the largest component yet to be made recyclable. To address this issue, Vestas continues to work in the DreamWind project (Designing Recyclable Advanced Materials for Wind Energy) that aims at developing new sustainable composite materials for blades; a project initiated in 2016.

In 2013 Vestas joined the GenVind Innovation Consortium to develop enabling technologies for a sustainable recycling of plastic composites and demonstrate the reuse of composite waste.

In 2011/12, Vestas carried out a complete dismantling of a wind turbine nacelle to trace additional possibilities for increasing the recyclability rate of Vestas' wind turbines.

Quick facts

Target for 2020:

Reduce Product Waste by 7%

In 2017: 0.178g Waste per kWh*

A material or component which is not recycled or reused at end-of-life. Quantified by grams Waste per kWh.

* Baseline is the Life Cycle Assessment performed on the 4MW Platform (Mark 3A/B) which accounts for turbine performance in all wind classes: V117-3.45 MW (IEC1B, 10 m/s), V126-3.45 MW (IEC2B, 8.5 m/s) and V136-3.45 MW (IEC3B, 7.5 m/s).

2) AEP was calculated for 1 year rather than over the 20 year lifetime, giving a figure for grams waste per kWh as twenty times higher than should have been for the 2015 baseline.

Product responsibility

Vestas' wind turbines, options and service offerings are the result of not only a thorough development process but also comprehensive analysis of market forecasts. The top-level Vestas process which allows us to fulfil our customer requests is known as the Vestas product market strategy. The product market strategy is the result of a complex series of analyses including market forecasts, customer trends, competition, technical predictions and grid requirements. Macro-economic factors such as national government targets for renewable energy are also studied. Based on this input, a series of strategic decisions are made regarding which products, technologies, configurations and service offerings to make available in which markets and when. By involving relevant stakeholders in the development process, requirements can be built into the design of the products at an early stage.

By knowing how Vestas' products and materials contribute to the environmental performance, it is possible to make fact-based and informed decisions at an early stage in the product design and development phases. Life Cycle Assessment is used to provide in-depth knowledge regarding the environmental 'hot spots' of the wind plant life cycle i.e. from raw material production, through to manufacturing, operation, servicing and plant decommissioning.

When designing our products, sustainability requirements are taken into consideration and ensured through Vestas' development process, the 'Vestas Way to Market'.

Vestas Way to Market

Vestas' Way to Market is Vestas' global framework for planning, managing and executing technology and product development projects and actively involving the whole value chain in our company. As such, we strive to ensure that these projects start and end with customer requirements in focus.

The core of Vestas Way to Market is the stage-gate process consisting of seven stages and seven gates with a group of gatekeepers at each stage. The gatekeepers decide whether to let the project move on to next stage, whether to rethink some aspects or stop the project. This process ensures, amongst other things, that the specification requirements are met. The specifications are based on internal Vestas commitments such as Vestas' chemical black list, international legislation such as the European directives, and internationally recognised codes and standards such as the ASMA, ISO and IEC.

In order to ensure regulatory compliance, it's our ambition to share knowledge of how regulatory requirements, including transportation and HSE requirements and grid codes requirements as well as standards and certification should be complied with in the respective departments in Vestas. The purpose is to strengthen Vestas' product regulatory compliance to ensure market access.

It is vital to identify business risks early in the development process in order to ensure that the project will not have a negative impact on Vestas' business and strategy, reputation etc. as well as on our customers' business. Risk management is a continuous process throughout the entire project, and a business risk overview is presented and reviewed at each gate meeting. It is the project manager's responsibility to identify and assess key risks and present mitigation actions. The risk analysis must include input regarding health and safety aspects, product and commercial issues, process risk analyses as well as an investigation into the IPR issues.

Continuous improvement

Part of Vestas' business approach is to constantly develop new and better technical solutions that can improve the performance of our current operating fleet or the safety connected to operating the products.

Use of new technical solutions will very often have a positive influence on the Lost Production Factor (LPF) for a given wind farm. The LPF is the share of the potential energy from the wind not harvested by the turbines. The LPF has been substantially reduced in recent years. The average LPF has been below two percent since 2012.

Operational impact

Renewable energy

As a company, Vestas aims to decrease our overall use of energy, increase our use of renewable energy, and use less carbon-intensive energy forms.

Focusing on Vestas' operations, the target for energy consumption is to reach a 60 percent share of renewable energy in 2020 from 55 percent in 2015. The road to meet the target will be both improvements in energy efficiency and further transition to renewable energy.

Vestas has a commitment to source renewable electricity where available, which is primarily done through local renewable power purchase agreements. The consumption of non-renewable electricity is compensated for with Vestas-owned wind power plants. Vestas' share of renewable electricity is today 100% and the objective is to stay at this level.

With focus on transforming the global energy market, Vestas joined in 2017 corporate group RE100, a group of global companies dedicated to increasing demand for renewable energy and committed to sourcing 100% renewable electricity. RE100 is a global, collaborative initiative of influential businesses, and underlines Vestas' commitment to a future powered by renewable energy and our joint efforts to make renewable energy an easy choice for companies. Vestas already gets 100 per cent of its electricity supply from renewable energy, and commits to stay at this level even as our operations and electricity consumption grow.

Quick facts

Target for 2020:

Achieve renewable energy of 60%

In 2017: 57%

Impact assessment

When establishing a wind farm, an important part of planning should be an assessment of the proposed location and how the proposed wind farm could potentially impact the surrounding environment. In many countries, environmental impact assessment is required by law, or is part of the environmental requirements of international financial institutions which support infrastructure projects.

In most cases Vestas' main business partner – our customers – have the primary responsibility for undertaking the environmental assessment and for developing the environmental management system for the wind plant. Vestas seeks to work closely together with our customers throughout the project life.

The environmental aspects of such an environmental assessment typically take into account direct and indirect impacts, including, for instance:

- Landscape and visual impressions
- Flora
- Fauna (e.g. birds and bats)
- Noise
- Shadows

Chemical management

Being in control of the chemicals and hazardous substances used in development, manufacturing and service of the turbines is part of our management system and essential for a sustainable company.

Only when actively working on finding safer and more environmentally friendly products does Vestas ensure a healthy workplace for our employees and minimum impact to the environment.

Chemical management at Vestas includes global procedures for approval of new chemicals, local instructions for handling, transporting and storing chemicals and a global chemical database for sharing knowledge from suppliers.

Vestas has, in cooperation with a global provider of chemical, regulatory and compliance information services, implemented a global chemical management system. This includes an online system where all employees can enter and obtain essential information about the chemicals and hazardous substances used in Vestas. Some of the essential information which is available to the employees in the database includes Safety datasheets (SDS's) and information about dangerous goods facilitating safe handling, usage, transport and disposal.

In order to adapt to continuously changing chemical legislation globally like GHS/CLP and REACH, Vestas has updated our criteria. Two lists apply; a [Material and Chemical Blacklist](#) which identifies substances that are prohibited by law and a [Material Restricted list](#) which aims to phase out substances in our product and manufacturing and service processes. The restricted list is based on the decision by Vestas management to limit the use of the most hazardous substances.

Vestas requires our suppliers to fulfil the requirements on the Chemical and Material Blacklist for all products delivered to Vestas. Vestas cannot buy products containing substances that are prohibited. If the product contains chemicals or materials restricted according to the Vestas Material Restricted list, an HSE evaluation must be performed by the supplier to ensure correct use of the chemicals and materials. Furthermore, it is expected that the supplier creates an action plan for phasing out these restricted substances and finding alternatives. In parallel, Vestas needs to assess if a time bound dispensation can be signed off and/or if the product can be substituted.

Selected environmental data for 2017

In 2017 Vestas' energy consumption was divided into the following types:

Energy consumption by source

1000 MWh

	2017
Fuels for heating (direct energy)	
Oil	6
Gas	107
Indirect energy	
Electricity (100% renewable)	264
Heat (68% renewable)	31
Fuels for transportation	
Liquefied petroleum gas (LPG)	1
Diesel oil	118
Petrol	40

In 2017 Vestas' water consumption was divided into the following types:

Water consumption by source

1000 m³

	2017
Fresh water withdrawal	
From municipal water supplies or other water utilities	383
From ground water	69
Fresh water from surface water, including water from wetlands, rivers and lakes	2
Non-fresh water withdrawal	
From surface water, including water from wetlands and oceans	0
Cooling water	
From surface water, including water from wetlands, rivers, lakes, and oceans	0

In 2017 Vestas emitted waste water to the following destinations:

Waste water

1000 m³

	2017
Treated by Vestas to public treatment facility	101
Treated by Vestas directly to environment	52
Non-treated waste water to public treatment facility	204
Non-treated waste water directly to environment	11

In 2017 Vestas disposed waste to the following destinations:

Waste disposal

1000 Tonnes

	2017
Recycling	39
Incineration	15
Landfill	17
Non-treated waste water directly to environment	11

In 2017 Vestas had the following air emissions:

Air emissions

Tonnes

	2017
VOC	258

Anti-Corruption

Principle 10

- 10.** Businesses should work against corruption in all its forms, including extortion and bribery.



Anti-corruption

Business ethics

Since 2010, Vestas has been a signatory to the Partnering Against Corruption Initiative (PACI). PACI is a business-driven global anti-corruption initiative within the World Economic Forum. As a signatory to PACI, Vestas firmly believes that corruption cannot be countered without leadership and commitment from the top management.

The Vestas Code of Conduct has a zero tolerance towards any form of bribery and any form of corruption. Vestas continuously strengthens its supporting business ethics guidelines and procedures to enable Vestas to abide by anti-corruption laws and regulations applicable to the company wherever it operates in the world. The aim of Vestas' due diligence program for its business partners is to ensure that Vestas' business partners hold at least a similar business ethics standard to that of Vestas.

As part of Vestas' anti-corruption initiatives and as part of the Code of Conduct, Vestas has introduced an online process for registering gifts, business entertainment and voluntary contributions and updated the guidelines on these topics. All Vestas employees are obliged to register gifts, business entertainment and voluntary contributions to ensure a high level of transparency.

In addition to the mandatory Code of Conduct e-learning training, face to face business ethics training is provided to employees falling within a certain risk profile. This training is part of an ongoing initiative to increase awareness and understanding of Vestas business ethics standards and expectations.





Managing sustainability

To encourage a company-wide sustainability culture, Vestas invests in nurturing and developing knowledge and skills of our employees, so everyone is empowered to work towards a shared vision of sustainability. At every level of the organisation awareness is raised to minimize sustainability risks. Decisions should always take into consideration not only the financial impacts, but also the ecological and social consequences.

Stakeholder engagement

As a global company, Vestas has many stakeholders who are interested in our sustainability performance.

We understand that our sustainability performance is an important determinant of our relationship with stakeholders. We proactively engage with stakeholders to understand their needs and concerns, and in return we address these in our decision making process.

Transparency is a fundamental concept in our engagement strategy and this underpins our different engagement efforts. We publicly disclose key sustainability information in our annual report and on Vestas.com whilst also entering into more detailed dialogues with key stakeholders.

We actively collaborate with stakeholders to positively influence not only our own sustainability performance but also that of the wider communities we operate in. For example, Vestas took a leading role in the Global Wind Organisation, developing a standard for Basic Safety Training within the framework of the organisation. Vestas has been a driving force in establishing the Sustainability forum in the Wind-Europe association for consolidating best practice in the wind power industry and driving improvements. As a first outcome, **two public papers** were published in spring 2017 consolidating insights on "Blade waste" and "Circular economy".

Vestas, at the Group level, has both categorised and prioritised stakeholders in an effort to rationalise and focus engagement efforts. Initially stakeholders are categorised based on their relationship

with Vestas, for example, customers, NGOs and policy makers. Subsequently, each stakeholder is considered in the context of a number of criteria to determine how relevant Vestas' sustainability performance is to them and conversely how important they are to Vestas' sustainability performance. Engagement can range from forming active partnerships to address common sustainability issues to a more passive engagement through, for example, the publication of the annual report. The priority given to a stakeholder is used to determine the most appropriate approach to engagement.

Our ambition to build closer partnerships and support our stakeholders is reflected in Vestas' materiality analysis.

Main stakeholders

Our main stakeholder groups

Here at Vestas, we have many different stakeholder groups with whom we interact. These include customers, shareholders, employees, policy makers, suppliers and sub-suppliers, non-governmental organisations, local communities and the media.

1. Customers

We prioritise customers as our number one stakeholder group, and to ensure an open and honest dialogue we have implemented a Customer Loyalty survey. Vestas is working with customers on an on-going basis to address sustainability issues.

2. Shareholders

Transparency is at the heart of our outreach to the investment community. The stock market experts look at Social, Economic, Environmental and Health & Safety initiatives to rate listed industrial companies.

3. Employees

Employees are Vestas' most important asset and we have a range of offerings aimed at them to ensure continuous learning and development as well as competitive benefits.

We reach out to employees through different channels to ensure that they are engaged and committed to Sustainability issues. One channel is Vestas' Safety Walks. A Safety Walk is an opportunity for managers in production, service or administration to discuss safe behavior and ways of improving safety with employees in their actual job function. We also use our Employee Survey to measure the employees' perception of their working environment. The survey is followed up by the drafting of action plans in all departments in order to act on the feedback we receive.

To ensure that employees can report malpractice or ask questions they may need an answer to if faced with ethical dilemmas at work; a Whistle-blower system, named EthicsLine is available. Except where specifically prohibited by local law anyone filing a report may remain anonymous.

4. Policy makers

At Vestas, we work closely with political stakeholders to **drive the market** for wind energy. As the energy industry is a regulated industry, we are naturally in dialogue with governments, political leaders, civil servants, interest groups and non-governmental organizations all over the world. We offer advice and information about the benefits and potential of wind power and continuously engage with policy makers in the regions and countries where we operate advocating reforms and providing best practice experience.

5. Local communities

The acceptance and trust from local communities where the wind farms are erected are important elements to obtain and maintain the social license to operate. Obtaining and maintaining the social license requires, for example, timely and effective communication, meaningful dialogue, sensitivity to local cultural norms, creating realistic expectations, and developing fair grievance mechanisms.

Vestas works together with our customers to gain and maintain the social license. We do this as a part of our Social Due Diligence. Activities related to obtaining and maintaining the social license can differ depending on the local context and the project set-up. In order to identify and prioritise activities, Vestas primarily focuses on education, training and job possibilities (linked to SDGs 4 and 8) in the local area.

Material issues

Understanding our stakeholders' opinions and priorities enables us to make better decisions and ensure that we are both a successful company and a responsible member of the community. We have therefore engaged with internal and external stakeholders to define what matters most to them and in doing so have identified what the material sustainability issues are for Vestas.

A materiality analysis is mapping topics and indicators that reflect the organization's significant economic, environmental, and social impacts. By identifying material issues we can focus our sustainability-related programs on the areas that are most important to Vestas and our stakeholders. The materiality analysis also influences how we report on sustainability issues. For example, we comment on the most material issues in the annual report and provide additional information and updates on Vestas.com.

The identification of material issues is performed through an internal stakeholder consultation involving many parts of the organization. To prioritise issues, we use internal knowledge of stakeholder expectations, Vestas surveys, external stakeholder sustainability reports, consultant input and global sustainability studies.

The materiality analysis is enhanced by consulting directly with external stakeholders such as customers and investors. Doing so gives us additional insight into their priorities and provides a useful platform for meaningful dialogue.

In 2016, the Vestas materiality analysis has identified a range of sustainability issues. Amongst these, Business Performance, Innovation, Health & Safety, Product Environmental Performance and Local Community Development are understood to be some of the most important sustainability issues.

Management systems

At Vestas, all employees must work according to Vestas Management System, which sets the standards for the environment and occupational health and safety.

Vestas has established, documented and implemented Vestas Management System (VMS) as an integrated management system. The VMS is maintained and continually improved to support the business strategy, the quality, environment and health & safety policy, Code of Conduct and CSR policies by setting objectives, analysing audit results, performance data, corrective actions, risks and opportunities and performing management review.

The Vestas Management System serves to put all external and internal Vestas sustainability requirements systematically, efficient and effectively into practice. It is Vestas' intent to make sustainability an integral component of all business processes.

In order to ensure continual improvements for sustainability performance in each area, our daily working practices are governed processes and supported by various tools – including databases and IT systems.

For example, in order to enhance communication we insist on regular internal reporting on all significant environmental aspects and reporting of health, safety and environmental incidents through our Incident Management System. This helps us identify and investigate the most relevant issues to be addressed. The solutions implemented to these issues help to continuously improve the overall Vestas sustainability performance throughout the organisation.

Certificates

Vestas is fully covered by an umbrella certificate for the management system standards OHSAS 18001:2008, ISO 14001:2015 and ISO 9001:2015.

Reporting

At Vestas we believe in being open about the way we operate with regard to the sustainability aspects of our business. To demonstrate this, we report and document the facts using readily accessible tools.

The annual report describes our overriding objective for our work in the context of sustainability. It also contains statistics on key indicators, as well as expectations for the future. Vestas' Communication on Progress to UN Global Compact consists of the Annual Report combined with additional information about Vestas' sustainability initiatives at [Vestas.com](https://vestas.com). A pdf is prepared of the additional information on the web and both documents are uploaded to UN Global Compact.

Quarterly reporting gives detailed data on significant environmental and health and safety aspects.

Recognitions

- Member company of the [FTSE4Good](#) index
- Member company of the [STOXX Global ESG Leaders](#)
- Member company of the [MSCI Indices](#) (ESG, SRI, Environmental, Climate)
- Vestas Wind Systems has been reconfirmed as a constituent of the Ethibel Sustainability Index (ESI) Excellence Europe since 20/09/2017.
- [Carbon Disclosure Project](#)

GRI and GC index

Vestas signed up to the United Nations Global Compact in 2009. We report on our implementation of the ten Global Compact Principles in the areas of human rights, labour, environment and anti-corruption.

Based on the guidance and requirements of the Global Reporting Initiative, Vestas' reporting contains Standard Disclosures from the GRI Sustainability Reporting Guidelines in the combined reporting in the Annual Report and online.

The [index](#) lists references in the Annual Report as well as online information. In addition to the GRI reporting elements, the index also contains details of topics relevant to the Global Compact Principles. The ten principles have been linked to the GRI indicators.

Vestas is implementing the UN Global Compact Advanced Programme.

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