



On May 1, 2019 Wintershall and DEA have become Wintershall Dea. Two major shareholders, BASF and LetterOne, signed a binding agreement to merge their respective oil and gas business, in September 2018. The merger was completed on May 1, 2019.

This Sustainability Report provides information on DEA's activities in the 2018 financial year until end of April 2019. In the next year a Corporate Responsibility Report will be published on Wintershall Dea's activities in the year 2019 financial year.



# Sustainability Report 2018 / 2019

Compiled 30 April 2019



## Sustainability figures 2018

# What our data tells us



**Durability**  
120 years of company history



**Workforce**  
1,025 employees (annual average of full-time equivalents)



**Production**  
121 kboe per day



**Economic performance**  
€ 1,043 MM EBITDAX  
€ 730 MM operating result



**Future perspectives**  
€ 95 MM total expenditure for environmental protection



**Footprint for concessions operated by DEA**  
2.1 kg CO<sub>2</sub> equivalent per barrel crude oil equivalent (scope 1)



**Occupational safety**  
0 lost time injuries per 1 million hours worked (operated)

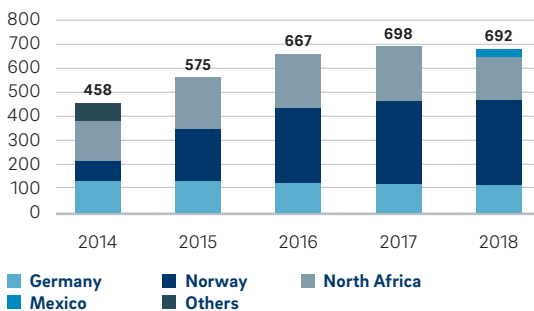


**Diversity**  
1 woman on the Board of Management (BoM),  
1 woman on the 1<sup>st</sup> management level below BoM,  
14 women on the 2<sup>nd</sup> management level below BoM (2018)



**Health rate**  
96.7 %

### Development of 2P reserves (MM boe)



### Certificates



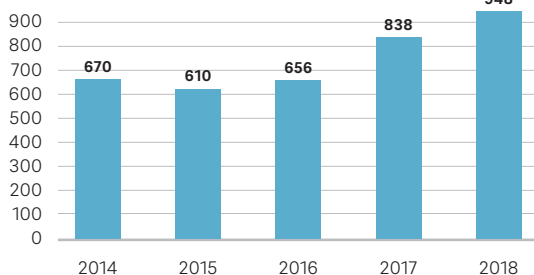
#### DEA MANAGEMENT SYSTEMS

- > Occupational Health and Safety
- > Environment
- > Quality
- > Energy\*

OHSAS 18001:2007

DIN EN ISO 14001:2015  
DIN EN ISO 9001:2015  
DIN EN ISO 50001:2011

### Investments 2018 (€ MM)



#### FURTHER CERTIFICATES

- > Safe with system incl. occupational health management\*
- > Family-friendly company\*
- > Compliance

\*only in Germany

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**Content**

# What we report on sustainability

DEA Deutsche Erdoel AG  
Sustainability Report 2018 / 2019

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## Company profile

# Who we are and what we do

DEA is an international oil and gas company based in Hamburg, Germany. Our main objective is the production of hydrocarbons. We aim to increase production in a safe, environmentally sound and sustainable manner through operational excellence. DEA has more than 120 years of experience as an operator and project partner along the entire value chain of the upstream business. Our core production countries in which we conduct development projects are Germany, Norway, Denmark, Egypt, Algeria and Mexico.

DEA IS BOTH AN OPERATOR and an active partner in national and international joint ventures, and covers the entire value chain from the exploration and development to the production of hydrocarbons. These hydrocarbons are sold directly to our customers as commodities in bilateral contracts or traded on the global markets.

Five values constitute the foundations of our corporate culture at DEA: 'Safety & Environment', 'Ethics & Sustainability', 'Employees', 'Entrepreneurship' and 'Excellence'. These values guide all DEA employees in their decision-making, behaviours and action. Internally, they describe what we demand of ourselves with regard to our activities and in our dealings with one another. Externally, they foster the reputation and credibility of DEA in the public eye.

## DEA values



Safety &  
Environment



Excellence



Employees

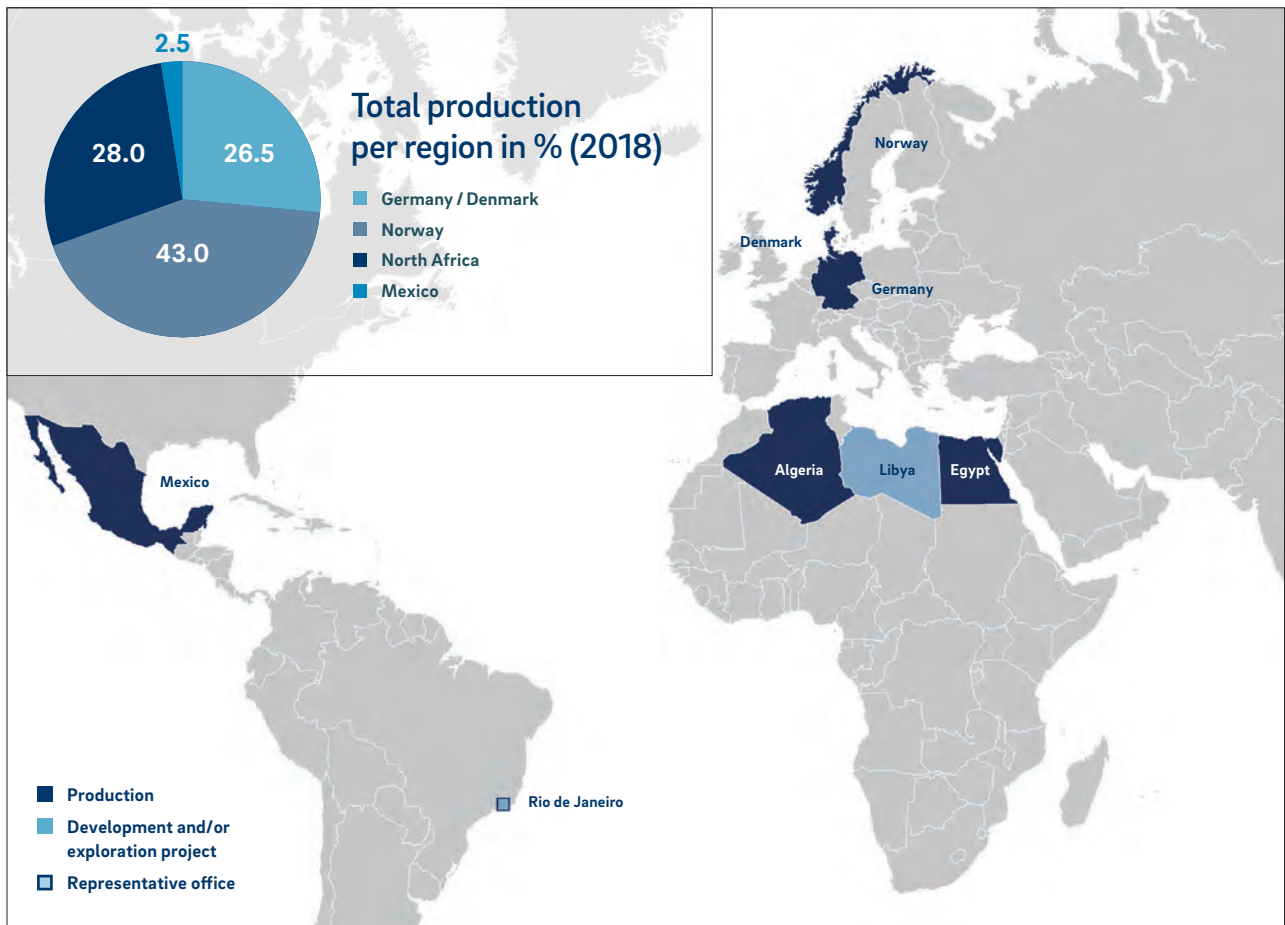


Ethics &  
Sustainability



Entrepreneurship

### Production sites (2019)



Sustainability is also integrated into our daily activities. This begins with the assessment of political and general security in the acquisition of licences in different regions of the world and continues in studies during the exploration and development of a field. Sustainability aspects are also incorporated throughout the entire production phase and ultimately accompany the process of rehabilitating sites after production has finished.

In 2018, DEA produced 121 thousand barrels (159 l) of oil equivalent per day and generated external sales of € 1,892 MM. At the end of 2018, total assets amounted to € 6,994 MM, with € 1,840 MM equity and € 5,154 MM borrowed capital. The average number of employees at DEA in 2018 was 1,025 full-time equivalents.

The parent company of the DEA Group is DEA Deutsche Erdoel AG, based in Hamburg, Germany. DEA is a subsidiary of the L1E Finance GmbH & Co. KG Group (L1E Finance Group), based in London. The Chairman of the Supervisory Board is Lord John Browne of Madingley. The Board of

Management consists of Maria Moræus Hanssen (CEO), Dmitry Avdeev (Finance) and Dirk Warzecha (Operations).

DEA is a member of the German Federal Association of Natural Gas, Crude Oil and Geothermal Energy Producers (BVEG) and the International Association of Oil & Gas Producers (IOGP).

LetterOne has signed a letter of intent with BASF regarding the merger of their subsidiaries in the oil and gas business, Wintershall and DEA respectively. The new company operates under the name of Wintershall DEA. By merging the two German companies, the shareholders are laying the foundations for further profitable growth, optimising the portfolio of the combined business and achieving synergies. Wintershall DEA has significant growth potential and is now the largest independent European exploration and production company.

## Foreword by the CEO

# Why we do what we do

DEAR READERS,

Last year, the 16-year-old Swedish girl, Greta Thunberg, began playing truant every Friday in favour of climate protection. Meanwhile, tens of thousands of schoolchildren throughout Europe are demonstrating on a regular basis. The world has a climate problem and, in the course of the climate debate, oil and gas are frequently perceived to be part of the problem. Is there any chance that our upstream business could contribute to a more sustainable economy?

The answer is yes. Today, our industry is a key element of a sustainable economy – and can be in the future, too. After all, sustainability can only grow if there is a balanced relationship between the ecological, societal and economic aspects involved. Our energy supply must find the right mix in a stress field of environmental compatibility on the one hand, and a secure and affordable energy supply on the other. We recall that the demonstrations by yellow jacket-wearers in France were triggered by the social incompatibility of higher taxes on fossil fuels. Furthermore, on a global scale, a secure and affordable energy supply still ranks a long way ahead of climate protection in most countries.

There are still 1.3 billion people in the world without reliable access to energy – primarily those who live in countries struggling to achieve economic growth. The global demand for energy has never been so high as it is today. The International Energy Agency has estimated the annual growth in demand to be 1.2 million barrels of oil equivalent over the next five years, especially from China and India. This shows what tremendous challenges we face if we want to achieve the climate targets.

The changeover of global energy systems will take time, despite immense efforts being made. For instance, while the share of renewable energies in the European Union has more than doubled since 2004, it accounts for as little as 17.5 % of total energy consumption. And on an international scale, only 5 to 6 % of electricity is generated by solar and wind energy.

Natural gas in particular, being a low-carbon source of energy, already makes a substantial contribution to climate protection today by reducing the amount of coal and oil –

with their adverse impact on the climate – used in areas such as power generation, heating and mobility. For instance, CO<sub>2</sub> emissions decline purely by reducing the consumption of coal, but this is not enough to achieve the climate target. If we want to make faster progress, we will need to do a great deal more. The compulsory use of gas still brings enormous untapped potential.

The world's energy supply will continue to change. Technological progress is making energy from wind and solar sources increasingly profitable. Wind and solar farms are growing in number and becoming increasingly sophisticated, while heating is increasingly being used for heating, transport, commerce and industry. According to forecasts, power consumption will double by 2050, with renewable energies expected to generate half the power supply in 2035.

Flexible deployment – particularly of gas – however, will continue to play an important role in the field of energy supply, in order to compensate for the volatility and storage difficulties of wind and solar energy. Energy transition can work, particularly with the use of natural gas. Gas is a quick, cost-efficient and climate-friendly solution. Indeed, according to forecasts, gas is the only fossil source of energy that will increase its share over the medium term. The role of gas must be seen as a flexible support for the development of variable, renewable forms of energy.

In light of a above, we need to find a smart, harmonious balance between protecting the climate and securing the energy supply. What is needed is a pragmatic, flexible combination of natural gas, hydrogen, solar and wind energy, namely in an overarching model as far as electricity, heating and mobility are concerned. In order to fully exploit the potential, we have to think of energy differently – and stop seeing sectors as 'separate' from one another. Last but not least, we should consider the positive climate impact that can be achieved by separating, using and storing carbon dioxide. Policymakers must be tasked with offering incentives for the most cost-efficient solutions that reduce CO<sub>2</sub> emissions.



This year, DEA celebrated its 120-year anniversary. This makes DEA one of the oldest enterprises in the industry – an industry, like our own company, that has always succeeded in overcoming new challenges. For instance, it has helped to meet the constantly growing demand for energy on a global scale. At the same time, the industry has done justice to the continually increasing requirements regarding efficiency, safety and environmental protection. This applies in particular to DEA. In an international peer comparison, DEA managed to secure a leading position in 2018, with regard to both occupational safety and avoidance of emissions.

We need to make use of our long-standing innovative strength in order to reduce the footprint of our own production even further in the short term. This includes our methods of production, as well as which hydrocarbons we extract. At its international locations, DEA puts a wide range of different measures in place to ensure energy efficiency and the reduction of carbon dioxide, which, in turn, achieves a substantial reduction in greenhouse gases. In the future, we aim to become a leading player in the field of ecological sustainability with special emphasis on climate protection. To this end, we want to exploit the realistic potential of CO<sub>2</sub> reduction across all of our activities.

We operate in the interest of future generations. Our objective is to deal responsibly with every single one of our resources. This is why, in addition to an enhanced focus on

ecological sustainability, we have advanced five key sustainability topics – a health and safety culture, digitalisation, a learning enterprise, new ways of working, and diversity and gender equality – within the scope of international campaigns.

The subject of sustainability also includes the aspect of commercial success. A key factor in this regard is corporate size. The merger of two long-established German companies – Wintershall and DEA – on 1 May 2019 means that DEA has become part of the largest independent natural gas and crude oil company in Europe. This will open up brand new business opportunities and create economies of scale in terms of production and cost efficiency. The merger will also result in significant changes, including in the HR field. When the planned measures are implemented, the company will act in a fair, socially compatible manner. We are confident that the DEA corporate culture supports the company's commitment to sustainability, and that we will continue to act in the best interests of our stakeholders while ensuring the success of the new company, Winterhall Dea.

**Maria Moræus Hanssen**  
CEO, DEA Deutsche Erdoel AG

Hamburg, April 2019

## Governance

# What good leadership means for us

**Sustainability is a strategic pillar in the management of DEA. A system of management that pursues sustainable development enables the company to interact with customers, employees, suppliers, the general public and the environment in a responsible manner.**

**CORPORATE GOVERNANCE** refers to the whole system with which we lead and monitor our company.

Responsibilities are clearly separated from one another here: the Board of Management is responsible for leading the company, while it is the duty of the Supervisory Board to monitor and oversee DEA Deutsche Erdoel AG. Both committees work together efficiently and report transparently to one another. Our Supervisory Board consists of twelve members: six shareholder representatives and six employee representatives.

In practice, the commitment to high standards of corporate governance and responsible corporate management also means adopting a clear position on sustainability issues on the part of the company's management, as well as a close examination of opportunities and risks along the value chain and in relation to the sustainability aspects that are increasingly on the agenda.

### **DEA works in line with the German Corporate Governance Code**

We are guided by the German Corporate Governance Code (GCGC), in which the German Corporate Governance Commission sets out nationally and internationally recognised

standards of good and responsible corporate management. DEA Deutsche Erdoel AG published a declaration of conformity with the German Corporate Governance Codex back in December 2002.

The Supervisory Board, comprised of members with international experience, monitors the management of the company. This includes the development of production, costs, revenue and the earnings position, as well as corporate planning and all significant business transactions. Corporate responsibility towards the environment and society, along with issues of equal opportunities – such as the proportion of women – is also overseen by the Supervisory Board. The Audit Committee, which is appointed by the Supervisory Board, monitors the accounting process, the effectiveness of the internal control system, the risk management system and internal audit. Selecting and ensuring the independence of the auditor of the financial statements is also the responsibility of the Audit Committee.

### **Group-wide risk management at DEA**

DEA's business activities are aimed at exploiting opportunities in an optimal way, while at the same time limiting risk. A risk management system that is standardised across the Group continually uses early identification, uniform record-



ing, assessment, management and monitoring to take account of the risk aspect in all of DEA's decisions and business processes.

Risk management at DEA can be illustrated by a 'three lines of defence' model that has been adapted in line with our corporate structure. This model, based on the three lines of defence, is widely used and shows how a supervision and monitoring system works within an organisation. The graphic above uses this as a basis to demonstrate how DEA systematically identifies risks at an early stage and assesses and communicates these.

Under the first line of defence, risks are identified, assessed and ruled out or minimised where they could arise: in day-to-day business. The second security line includes risk management, controlling, QHSSE and compliance functions, and supports and monitors the first line of defence. Risks are grouped together and reported to the Audit Committee by the Risk Committee.

Under the third security line, Internal Audit monitors the adequacy and effectiveness of the processes under the first two lines of defence.

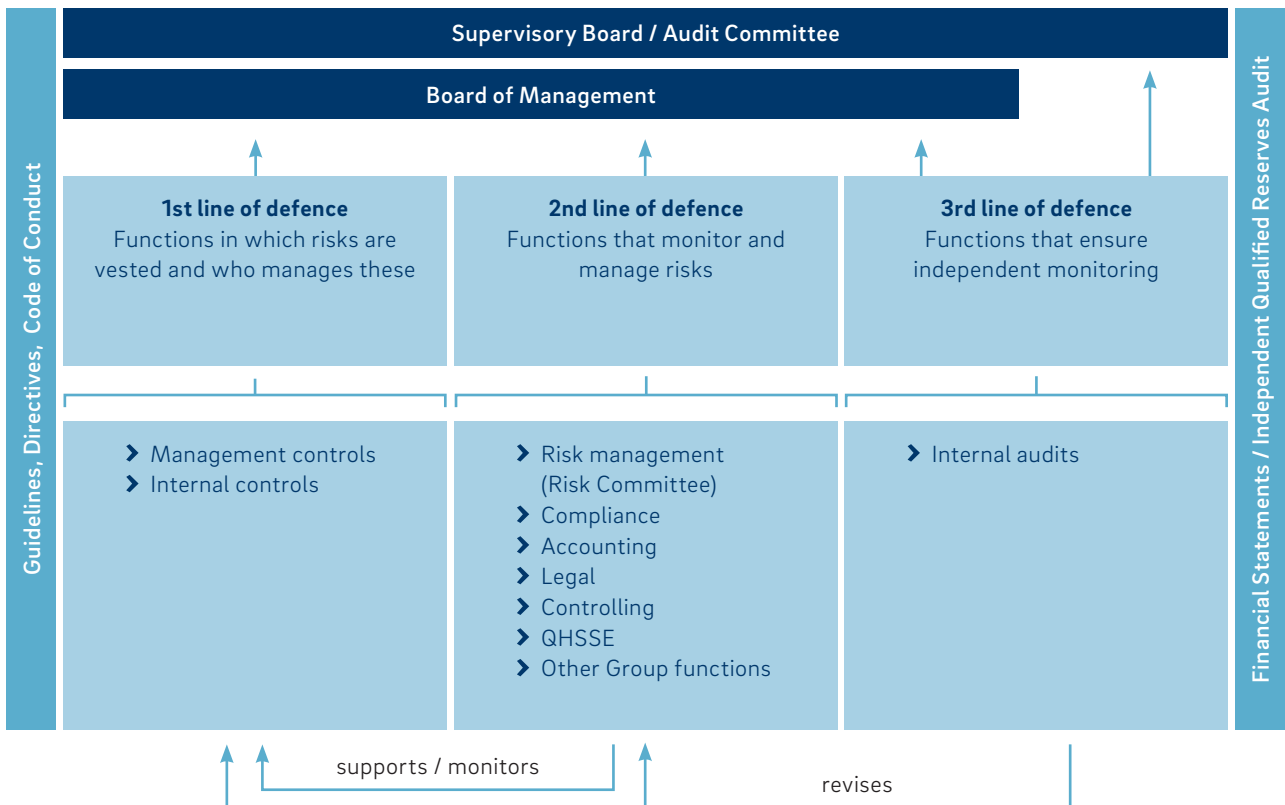
**Regular review by external experts**

Determining reserves as one of the measures of our company's economic performance is particularly important, which is why the internal controls are based on the 2007 SPE/AAPG/WPC/SPEE PRMS standards. The reserves are audited by independent experts from RPS Group Plc.

The financial statements prepared by the Board of Management for the 2017 financial year, along with the management report, have been audited by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft, Hamburg, and have been issued with an unqualified audit certificate. The consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS) as adopted by the EU and the additional requirements of German commercial law pursuant to Section 315e (1) of the German Commercial Code (HGB).

Further information about the company's corporate governance, including a complete list of the members of the Supervisory Board and Board of Management and their respective duties, responsibilities and remuneration principles, is available online on pages 70, 72 and 73 of the Annual Report 2018.

**The three lines of defence model at DEA**



## Sustainability Mission Statement

# How we intend to shape the future

**'Ethics and Sustainability', 'Safety and Environment', 'Employees', 'Entrepreneurship' and 'Excellence' are DEA's five core values. DEA is committed to conducting sustainable business. By acting responsibly towards people and the environment, we want to ensure a long-term perspective for our international exploration and production activities. We also aim to be a preferred partner based on both our environmental awareness and our technical and commercial strengths, enabling us to promote our business over the long term.**

FOSSIL FUELS will remain a cornerstone of the global energy supply for many decades. Nevertheless, their use has an impact on the environment and on the global climate. Our primary obligation is, therefore, to use our resources efficiently and responsibly. Sustainability is more than just a buzzword for us – our business activities are characterised by long-term strategies that focus exactly on this. We continuously and meticulously review all options for further reducing or avoiding adverse environmental impacts. We are aware of our responsibility towards people and the environment, and we conduct our business in the interest of, and with consideration for, future generations.

We do everything that we can to make a significant contribution to the safe, environmentally friendly and sustainable production of crude oil and natural gas. We constantly drive innovation in order to ensure that oil and gas are produced from the reservoirs in a way that is as environmentally friendly and efficient as possible. This ensures a very high level of safety for DEA's global activities. These standards also apply to the relationships with our joint venture partners.

Sustainability has been an integral part of DEA's business practice for decades – along the entire value chain. In keeping with the company's overall strategy, and taking the interests of the relevant stakeholders into account, individual areas of action and corresponding sub-strategies have emerged from the business practice over the years.

For us, sustainability represents a successful combination of business success, the assumption of social responsibility and the conservation of resources. In addition to the protection of raw materials and environmental assets, the latter includes, in particular, the health and safety of everyone involved in, or affected by, our activities. With this in mind, our compliance principles and procedures are also a key part of our strategy, which is aimed at long-term success. The DEA Code of Conduct describes how personal responsibility, integrity, loyalty and respect for others and for the environment defines the actions of DEA and its staff. In actively implementing this Code of Conduct, our management personnel bear a particular responsibility and act as role models.

Trust and respect are essential for good relations with one another. By providing prompt and accurate information, we promote confidence in what we do and strengthen our reputation. We believe in open communication and timely dialogue. We are honest, and we respect the confidentiality of information.

We treat others in the same way that we wish to be treated ourselves. Our commitment to ensuring fairness and equal opportunities, which is reflected in our policy of diversity and non-discrimination, is part of DEA's HR mission statement.

Quality, health, safety, security and the environment (QHSSE) are a priority for us. Consideration of these aspects,

as well as compliance with social standards, is an essential element for achieving economic success and equal-ranking company goals. Our commitment to sustainable development is strongly reflected in DEA's QHSSE policies. The primary responsibility for implementing these policies across all business processes lies with the corporate management. To meet this responsibility, corporate management provides the necessary resources and supervises the implementation and effectiveness of these policies using corresponding management systems. Besides the aforementioned ultimate responsibility of the Board of Management, each and every employee helps to ensure that these principles are complied with in their area of responsibility. We ask the same of our business partners and contractors.

**DEA is committed to the following principles:**

- We assume social responsibility and focus on prevention in order to protect people and the environment.
- We apply innovative technologies in our operating business in accordance with a BAT ('best available technology') concept, in order to minimise risks. We meet all legal requirements, as well as our own benchmarks, while being committed to a 'zero faults' strategy. To this end, we pursue a continual improvement of our standards. We continually analyse our processes using process indicators and derive measures for further development in order to achieve our goals.
- We apply systematic risk management to avoid and minimise risks, and pursue the opportunities that we have identified. This is additionally ensured by our emergency response organisation and our crisis and continuity management systems.
- We involve our employees in the development of operational processes and thereby promote a corporate culture that integrates sustainability aspects into day-to-day business.

- We conserve natural resources by utilising raw materials and energy as efficiently as possible and by taking measures to counteract negative environmental impacts. Right from the procurement stage, we pay attention to sustainability, environmental compatibility and energy efficiency.
- We engage in an intensive dialogue with our business partners, as well as with interested parties such as local residents, communities, public authorities and the general public. We inform them about our activities and strive to share our experiences with associations, politicians and scientists.
- We promote the health and safety of our employees in order to prevent accidents and occupational illnesses, by designing our processes and workplaces to be safe according to the latest findings.
- We take security aspects into account at an early stage of all decisions and continually adapt our security measures to changing conditions in order to ensure the safety of our employees, business partners and contractors at all times and to secure our company's commercial success.
- We rely on dedicated, motivated and qualified staff and raise our employees' sustainability awareness through information, communication and advanced training measures, as well as promoting the sustainable handling of knowledge and experience.

Our aim is to deal responsibly with all types of resources. We therefore launched six international campaigns in 2018, each focusing on key sustainability topics: ecological sustainability, a health and safety culture, digitalisation, the learning enterprise, new ways of working and, last but not least, diversity and gender equality. Our initiatives are described in detail in this report.

**Our competences shape the future. It's up to us!**



## The UN Sustainable Development Goals and how DEA contributes

# How we contribute to the UN Sustainable Development Goals

DEA supports the 17 Sustainable Development Goals (SDGs) of the United Nations. In addition to specific and practical measures that support the goals, the integration of the SDGs into external reporting offers readers and all stakeholders interested in the company an added value: as a confidence-building measure and to transparently map sustainable decision-making processes and the further development of strategic profile issues.

## SUSTAINABLE DEVELOPMENT GOALS



THE SDGs WERE OFFICIALLY ADOPTED by the United Nations in 2015. They replaced the Millennium Development Goals (MDGs) as global political objectives for ensuring sustainable development at the economic, social and ecological levels. The SDGs are backed up by various specific indicators that companies can now use to measure and document their sustainability performance. For this purpose, however, DEA has been applying the reference frameworks specific to the oil and gas industry for many years, and has applied the GRI Standards of the Global Reporting Initiative (GRI) since 2018. Based on the definition of key performance indicators, key topics and fields of action, the business case for corporate sustainability is already well established.



Most of the 17 SDGs could be related to the business context of DEA.

However, we want to focus on those that are particularly close to our business model. As part of our Health & Safety management system, we launched the large-scale 'Heroes care. Everywhere.' campaign in 2018, for instance, with which we promote a global health and safety culture at DEA and, at the same time, make our corporate contribution to SDG #3 (good health and well-being). The same applies to the positive influence of the Group-wide learning initiative, 'New Ways of Working' and 'L<sup>3</sup>' (cf. page 76/77) in accordance with development goal #4 (quality education).



As a successful business enterprise and employer of about 1,000 employees worldwide, DEA also supports the

implementation of global development goal #8, which aims to achieve permanent, broad-based and sustainable economic growth, productive full employment and the promotion of decent work. In addition, our business model makes a positive contribution to the pursuit of goal #9 (Building resilient infrastructure, promoting inclusive and sustainable industrialisation and fostering innovation) – for example, by expanding and providing gas and oil production facilities and connecting them to stable gas and oil pipeline networks, but primarily by investing heavily in the innovative technologies of our exploration and production industry, as well as in digitisation to make our processes more efficient.

With the SDGs, tangible achievements can be mapped in a global sustainability context. However, we do not want to limit ourselves to demonstrating sustainability performance achieved along our value chain by means of the symbolic SDGs. At this point of the report, we would prefer to present two special strategic profile issues of our company in their global dimension: diversity and environmental protection.

#### Gender policy: we ensure our future viability through diversity



Diversity is a key driver of our economic development. By consistently putting people first, we make diversity a dynamic growth factor. In 2018, DEA formulated a mission statement relating to equal treatment, highlighting an aspect that will

continue to shape our corporate culture in the future: never should gender, nationality, ethnicity, religion, beliefs, disability, age, sexual orientation, or identity be grounds for discrimination of any kind at DEA.

Of course, national laws such as the German General Act on Equal Treatment are absolutely binding for us. However, our commitment goes far beyond that. We actively recognise and promote the diversity of our employees because we identify them as an added value for the company, because the heterogeneity of our staff, their different perspectives and their skills increase our competitiveness and are a cornerstone of our corporate success.

Therefore, the focus on diversity is also an essential part of our strategic human resources management. We want to continuously improve the efficiency and innovative capacity of our employees and increase their motivation and identification with the company. To this end, we want to fill key decision-making positions internationally and promote the employment of women in management positions. The latter aspect – gender equality – is one of DEA's key future issues and profile and is reflected in the company's new self-image. One prime example was the appointment of a

female CEO at the beginning of 2018, which was a significant step towards gender equality for DEA, which is a role model in the industry for the appointment of women to management positions.

On the occasion of International Women's Day 2018, our CEO Maria Moræus Hanssen announced the introduction of an Equal Gender Recruiting Policy. This policy ensures that candidates of both genders are on the selection list and are taken into consideration when filling all positions. This significantly contributes to strengthening our reputation with regard to gender policy in the E&P industry – and across all industries.

We are therefore well on the way to achieving the goal of gender equality in our company – and we actively support global development goal #5 of the United Nations

#### Environmental protection: we create value for a better future



Environmental protection has always been an integral part of DEA's corporate culture and a key influence for strategic decisions. There are several reasons for this. Our business model is based on harnessing a portion of the planet's natural resources for human use. We are very aware of the consequences of our economic action, especially since we directly influence the natural habitats of humans, animals and plants during the production of valuable energy.

Therefore, active environmental protection will remain one of the most important priorities in the future if we are to secure our licence to operate and our competitiveness. Appropriate environmental guidelines help all DEA employees in their to make decisions in their day-to-day work and to identify with DEA as an international operator that pursues the goal of safe, sustainable and environmentally

sound production of oil and gas today and in the future. In practice, this objective is translated into concrete implementation measures. We must continue to measure the environmental impact of our actions, apply uniform global standards that go beyond local regulations, anticipate the expectations of our stakeholders and the development of environmental standards, and finally optimise our overall environmental footprint. This also includes providing our employees with the opportunities and even incentives to work with business partners in such a way that they can play an active role in reducing the joint environmental footprint. With these efforts along our value chain – onshore and offshore – we are also supporting the United Nations' Sustainable Development Goals, specifically goals #14 and #15.

#### Energy supply and climate protection: our business case



The United Nations' Sustainable Development Goal #7 calls for ensuring access to affordable, reliable, sustainable and modern energy for all. This is a very important goal for DEA, especially since it addresses our business model and our mission directly, and focuses on a complex challenge. After all, it is not only about ensuring access to, but also about providing clean and affordable modern energy. In line with this goal, we must make our contribution within the energy mix.



We also see it as our duty to support another important aspect of Agenda 2030, which the United Nations expresses in SDG #13: Take urgent action to combat climate change and its impacts. As an oil and gas company, this poses particular challenges for DEA. Social, regulatory and economic developments in terms of greenhouse gas emissions will have an increasing impact on the energy industry as one of the biggest sources of CO<sub>2</sub> emissions and, thus, more or less directly on the business model of DEA.

Because the direct CO<sub>2</sub> emissions from the use of fossil fuels significantly contribute to climate change, many countries in Europe and around the world have already actively supported the energy transition process. More and more electricity is being generated from renewable sources. However, this electricity generation still strongly depends on the weather and the time of day. Therefore, flexible and conventional power plants are still indispensable in order to compensate for fluctuations in the production of renewable energies and to ensure an uninterrupted power supply and grid stability. Compared to coal-fired plants, gas-fired plants produce significantly less CO<sub>2</sub> emissions. They will, therefore, continue to play a decisive role in the future in terms of security of supply and climate protection.

Of course, gas and oil continue to play a decisive role in satisfying the much greater demand for energy in the heat and transport markets, which represented a large share of the energy market, compared to electricity generation, which – to some extent – can already be provided in a climate-friendly way by renewable energies or nuclear power plants.

Therefore, the solutions to the challenges arising specifically from the UN's SDGs #7 and #13 are complex and increasingly require close cooperation between different players. The environmental and social impacts of individual business activities must be precisely measured, and business models must be coordinated within the overall energy mix.

At DEA, we have set ourselves the goal of gradually improving our carbon footprint. For this purpose, we are creating the best possible transparency in order to use this knowledge to initiate reasonable and necessary measures. To this end, we need a complete insight into the energy consumption and emission values of all activities. To obtain this data, we will use all technically available options and comprehensively report on the emission values – for our own assets and joint ventures as well as for our non-operated assets and for the partner companies that provide services in the activities on behalf of DEA worldwide.

It also goes without saying that we have already integrated various projects and measures into our day-to-day business that make an active contribution to climate protection: DEA, for example, converts the produced natural gas or associated gas to generate the electricity needed for its own operational sites. Where this is not possible due to the location, the company selects local suppliers that produce clean electricity. For this purpose, for example, wind and solar energy is used in Germany and hydropower in Norway. In addition, DEA locations are increasingly supplied with renewable energy.

Our own fleet of vehicles is another area of action where we want to reduce our carbon footprint by reducing fuel consumption. In the future, we will use e-mobility options more frequently for business trips. We will install electric charging stations on our own premises and make them available to employees, visitors and local communities. A pilot project will start in 2019.

In addition, we are constantly identifying further effective ways to reduce the CO<sub>2</sub> emissions we generate. This includes the introduction of energy management systems at various locations. At our partner company, SUCO, in Egypt, for example, the measures developed within the scope of energy management have already taken effect and are saving resources.

In 2017, DEA also joined the international 'Zero Routine Flaring by 2030' initiative of the World Bank. The background to the initiative is the realisation that routine flaring of the associated gas extracted during oil production generates unnecessary CO<sub>2</sub> emissions. The initiative includes annual reporting on this matter. Irrespective of the time frame set by the initiative, DEA already meets the requirements by limiting its own flaring activities to an absolute minimum.

SUSTAINABILITY MANAGEMENT AT DEA

# How we pursue sustainability

DEA is committed to sustainable business development. By acting responsibly in relation to humankind and the environment, we want to safeguard the long-term development of our international exploration and production activities.







DEA

## Stakeholders and dialogue

# What we stand for

DEA's corporate culture is built on an honest, respectful and fair interaction with our stakeholders.

OUR STAKEHOLDERS consist of a broad spectrum of people and social groups ranging from our employees to policymakers at all levels, and including non-governmental organisations. We engage in an open dialogue with them all. We want to know our stakeholders' expectations and to explain the way we think and act. This is a proven foundation upon which we serve to the many parties involved.

## DEA insists on honest communication

A wide range of stakeholders in society makes demands on DEA, and we intend to meet as many of these expectations as possible. This is why we engage in transparent and constructive communication with our stakeholders and take the measures required to continually improve our stakeholder relations. This is particularly the case when we have operational responsibility, which is why our stakeholder management previously focused on Germany. However, with increasing operational responsibility abroad, we are now expanding our communication internationally.

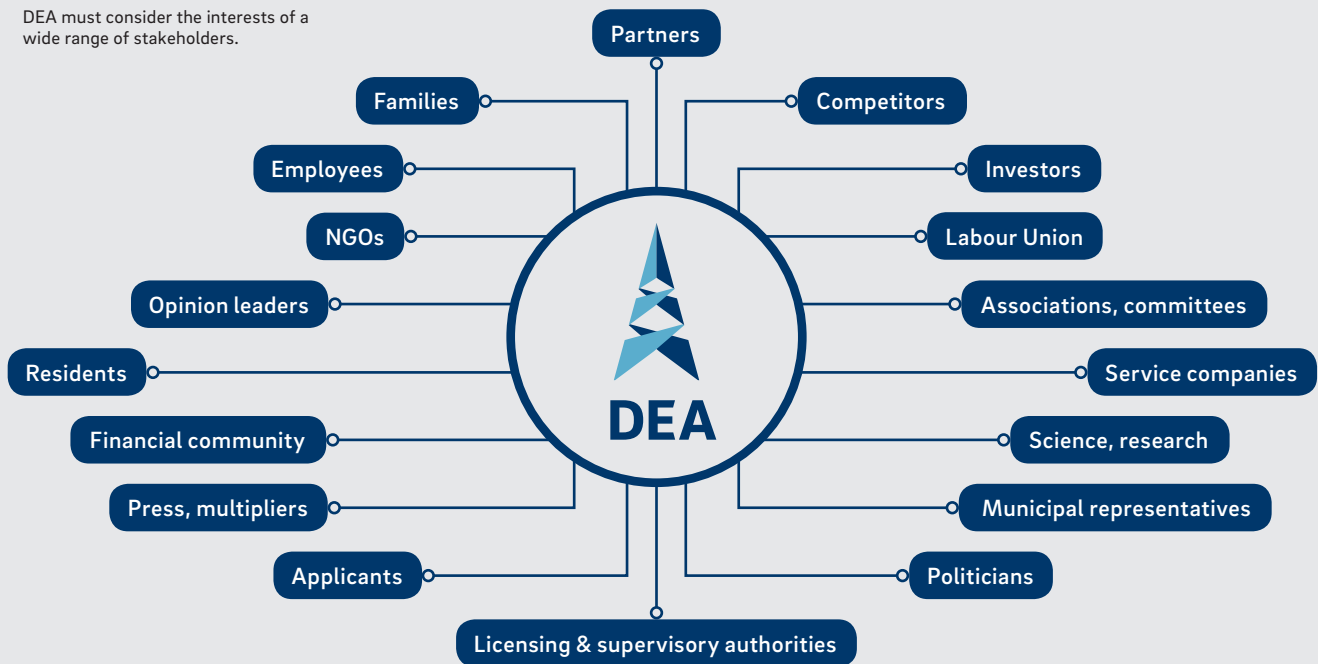
As an international exploration and production company for natural gas and crude oil, DEA has a wealth of expertise which is also relevant to political and social discussions. Our stakeholders' expectations are extremely diverse. From their employer, staff expect participation and development opportunities, a safe and healthy workplace and fair pay. Society expects us to substantially contribute towards a stable and long-term energy supply, and politicians financially participate in the use of natural resources via duties and taxes.

## Successful communication needs guidelines

Open and honest communication is generally important in our industry. This is why the Executive Board of the German Federal Association of Natural Gas, Crude Oil and Geothermal Energy Producers (BVEG) issued communication guidelines for member companies, in which it sets out key transparency standards with which DEA also complies:

- › We see communication with the general public as a foundation for socially viable solutions.
- › We provide information in a transparent, understandable, comprehensive and prompt manner, and ensure that such information can be accessed by all parties concerned.
- › We actively and openly engage in dialogue, which we enter into at an early stage, and take account of different interests and opinions.
- › Together with citizens, we are committed to creating opportunities to act in the interests of the common good.
- › We handle external proposals transparently and weigh up all criteria before making a decision.
- › We ask for respect and show this to all parties involved.

DEA must consider the interests of a wide range of stakeholders.



At the same time, however, transparency with regard to our activities, planned projects and their potential effects on health, safety and the environment is also important to citizens. Initiatives and associations in which we participate also want to be regularly informed about the relevant developments.

**In line with public opinion in the interests of the environment from the planning stage**

Social awareness has changed. Hence, it is increasingly important to involve the public in projects of environmental relevance as early as possible as part of planning and approval procedures. People expect companies to grant them the right to information, transparency and participation.

DEA has been addressing this need for many years. In order to improve further in this area, we also pursue the comprehensive involvement of various stakeholder groups based on Standard 7000 of the Association of German Engineers (VDI), entitled Early Public Participation in Industrial and Infrastructure Projects. We use specially selected formats to provide local citizens with a platform for sharing knowledge with our employees.

A concrete example of how DEA ensures that the public can participate in the planning of a natural gas project is the licensing procedure for the Völkersen Z12 well in northern Germany. Filing an application for a voluntary environmental impact assessment (EIA) has established the legal conditions to address the concerns about a drilling site in a water reserve.

DEA is aware of the importance of the drinking water supply for the region and has, therefore, taken appropriate precautions to categorically rule out any adverse effects on the drinking water resources caused by the drilling process and the subsequent production of natural gas. DEA is committed to production at the planned location. In addition to the economic advantages resulting from the use of existing infrastructure, this also has a positive environmental effect, as it means that no additional human intervention in the natural environment is needed.

The voluntary EIA procedure applied for in November 2018 provided a platform for active public participation that fully addresses concerns expressed by the public and incorporates them into a formal procedure. A voluntary EIA creates transparency in the licensing procedure and allows for objections to be raised in a legally binding consultation process. These are then taken into account in the licensing decision for the drilling project. It helps to avoid legal uncertainties regarding the existence of a future licensing decision for the project. As soon as the responsible public authority, LBEG, has approved an environmental impact assessment, DEA will promptly apply for the scope of the 'scoping' investigation and submit the necessary documents.

## Constructive dialogue helps to counter hostility

The activities of the crude oil and natural gas industry are, in some cases, viewed critically in Germany. DEA is also affected by this. Time and again, complaints are made by local citizens' initiatives about alleged environmental wrongdoing, inadequate supervision, opaque approval procedures and impending health risks. In many cases, fears are expressed that cannot be explained in an objective way.

DEA works very intensively to address the various criticisms and fears, as well as the reasons that have led to this type of sharper

public perception of our activities. To do so, we seek dialogue with citizens, citizens' initiatives, local politicians and other stakeholders. DEA makes a great effort to bring some objectivity to the discussion of production technologies and their risks, and to reach socially viable solutions.

By communicating planned projects in a timely, proactive manner, we can reassure the local community that we are acting not just within the framework of all regulations and laws, but also in the interests of the common good.

### DEA engages in an active dialogue with anti-seismic campaigners in northern Germany

In the past reporting year, DEA again dealt intensively with issues in connection with a seismic campaign that was the subject of controversial public discussion.

The organised resistance against DEA projects in Lower Saxony increased significantly. As a result of a planned seismic campaign in four administrative districts in the north-German federal state of Lower Saxony, a citizens' initiative was formed that spoke out against natural gas production in densely populated regions of Lower Saxony.

The company reacted to the 2D seismic campaign in December 2018 and temporarily suspended the application procedure in order to comprehensively clarify citizens' questions about the measurements and to discuss the significance of domestic natural gas production in the context of the energy transition. In addition, the company began an intensive dialogue with local stakeholders to discuss and develop formats that would allow broader public involvement in the planning and application phases.

In January 2019, DEA once again showed its willingness to make concessions and prematurely terminated the disposal of reservoir water in the Wittorf Z1 well, which has been operating safely and sustainably for decades.

In view of a variety of remonstrances, DEA, on the one hand, seeks an objective discussion on specific topics of natural gas production and, on the other, faces an emotionally driven campaign of general rejection of all DEA activities. This is DEA's response to the need to participate more strongly in the public debate on the future energy policy and the composition of the energy mix, as well as on climate protection issues.

With regard to the business field – the exploration and production of hydrocarbons – DEA believes that it is both entrepreneurial and socially imperative to continue producing natural gas in Lower Saxony and crude oil in Schleswig-Holstein, as production is safe and environmentally friendly.

Natural gas production in Lower Saxony not only serves the company's own interests, but also corresponds with the social interest in achieving climate protection goals by using natural gas, i.e., the fossil fuel with the lowest CO<sub>2</sub> emissions.

### We want to inform the public and enable them to participate

DEA understands dialogue to be a 'conversation' with stakeholders. A dialogue is an open-ended exchange of different positions aiming at a common consensus. Getting this far requires considerable efforts and a willingness on both sides to find viable solutions.

DEA representatives take their dialogue partners seriously, respect them and want to understand their arguments. Understanding requires us to listen in order to initiate an objective exchange afterwards.

DEA has learned that legally permissible approvals are not synonymous with social acceptance today. Only those projects that can be put across are feasible, especially since municipal and state policy decision-makers often orient themselves more towards groups with strong opinions than towards the legal situation or legal requirements.

That is why DEA sees the dialogue as an instruction on how to deal with the fears and concerns of local residents. For example, DEA intends to try out new concepts of neighbourhood communication in order to ensure credibility,

always be approachable and provide transparent information. This shows that DEA consistently lives its corporate culture of fostering an honest, respectful and fair interaction with the various interest groups.

It is part of our long-standing and long-term communication policy that we actively involve all parties affected in the preliminary stages of projects. We explain our plans and listen to any suggestions made during talks and discussions. We use multimedia to make complex projects clearer and provide important information on project websites.

At the drilling sites, information boards or information containers provide details of the progress of activities. We also offer guided tours of our facilities and operational sites. We work continually to develop the dialogue further, and organise open days, information events and discussion sessions, as well as provide details at information points near the sites.

#### DEA is part of the gas and oil transparency initiative in Germany

'Producing good. We think that's a must': This is the slogan under which the German Federal Association of Petroleum, Natural Gas and Geoenergy (BVEG) and its member companies launched their environmental transparency initiative in the autumn of 2018.

By using large banners in public spaces and near production sites, the industry in Germany is drawing attention to the important contribution it makes in terms of transparency, responsibility, climate, environmental standards, water protection and use of local resources. There is also information and current news from the E&P industry available via online advertisements and social media, using the hashtag #GutesFördern, as well as on the website [www.gutes-foerdern.bveg.de](http://www.gutes-foerdern.bveg.de).

In a dialogue process, the production of natural gas and crude oil will be discussed by representatives from the worlds of politics, economics, the environment and civil society. Crucial subjects such as fracking or the handling of reservoir water will also be covered.

The aim of the initiative is to raise awareness and visibility of the contribution to society and the economy made by the production and storage of natural gas and crude oil. The sector wants to inform but also listen – transparent, active and engaged in dialogue. The main concern is to develop a common understanding of different positions, without anticipating a result. The emotionalisation of the subject has led to hardened fronts that now need to be discussed objectively in face-to-face conversations. We are inviting all people who are interested to become actively involved in this dialogue process in order to develop viable solutions that are acceptable to all those involved.

At DEA, the sustainable use of resources is seen as the key obligation. For this, DEA – which is a member BVEG – is making a significant contribution towards public acceptance of this initiative. DEA has involved employees at a number of national and international sites. We want to closely involve the local sites because the employees who currently work on extracting oil and gas from under the ground in these regions know best how the environment can be reliably protected. Environmentally relevant work processes take place at these sites. Any difficulties that may arise on these site must be dealt with transparently, and ideas must be put forward. We want all DEA employees to get behind this initiative and live this philosophy every day. The aim is to achieve an equally high level of environmental protection as has been achieved in workplace safety.

**Gutes Klima fördern.**  
Für uns ein Muss.

Weil Gutes nicht von alleine geschieht, setzen wir uns dafür ein.  
Wie wir konsequent auf Umweltschutz setzen und die effiziente  
Nutzung unserer wertvollen Rohstoffe unterstützen, erfahren  
Sie unter #GutesFördern  
Jetzt informieren: [www.gutes-foerdern.bveg.de](http://www.gutes-foerdern.bveg.de)

**BVEG** Bundesverband Erdgas,  
Erdöl und Geoenergie e.V.

The German Federal Association of Petroleum, Natural Gas and Geoenergy (BVEG) and its member companies launched their environmental transparency initiative in September 2018.

### Using research to increase confidence

Our management personnel, technical experts and subject specialists take part in a number of forums and events. DEA has also been actively promoting scientific research for a number of years – such as investigating the issue of seismicity (earth movements) around gas fields. The projects should contribute to a greater understanding of the occurrences seen in connection with the natural gas production in Lower Saxony. The aim is to present the status quo of research in the area of induced earth movements in relation to northern Germany and to suggest recommendations for further measures to make natural gas production in Germany even safer.

The research is undertaken in cooperation with other companies and public authorities. Correlations between reservoirs, production and seismicity need to be better understood. DEA is currently examining the extent to which the seismic monitoring network can remain in operation even after production has been closed in around two decades' time.

Protecting the public and their property is the priority here. DEA does everything it can to make gas production environmentally compatible and to minimise the effects on humans and the environment. We have compensated for any damages that have been incurred.

### The trilateral Wadden Sea Forum and Wadden Sea Board

Our active stakeholder management can be illustrated by way of an example here. The Wadden Sea area of the North Sea is a biotope that is particularly worthy of protection. The Wadden Sea Forum (WSF) is an independent platform for stakeholders from Denmark, Germany and the Netherlands, and aims to develop the Wadden Sea in a forward-looking and sustainable way. Representatives from the agricultural and energy sectors, fishing, production and port industries, as well as nature conservation, tourism and public administration, work together in the forum.

DEA has been active in the WSF since it was founded in 2002. Over the years, the trusting cooperation within the WSF has provided a range of impulses for achieving an even more environmentally friendly level of operation of our Mittelplate drilling and production platform, which is located in the Wadden Sea. At the suggestion of the national park authority, we have significantly reduced the light that is emitted from Mittelplate, for example, in view of the nocturnal passage of birds along the coast of Schleswig-Holstein. The supply of electricity to the support vessels while they are lying idle in the port at Mittelplate and at the land station in Cuxhaven has also been switched over to shore power, which avoids the need for ships to generate electricity themselves, which, in turn, prevents the associated emissions in this sensitive region.

We value the open exchange of opinions, approaches and information that is enabled by the WSF and support the work of the forum. By way of example, we have provided financial support for an important project initiated by the forum – the Planning Portal – an Internet application ([www.waddensea-forum.org/topics/projects/wsr-planning-portal](http://www.waddensea-forum.org/topics/projects/wsr-planning-portal)) that shows existing extractions and planned activities in the Wadden Sea on a map.

### We want to be a fair partner to policymakers and the public

DEA has a representative office in Berlin, from where we maintain working relationships with the ministries, the German parliament and international embassies. A strong focus is given to the energy and climate protection policy and cooperation with trade associations and other companies.

The Berlin office provides information on laws and ordinances, and prepares statements, explanations and alternatives. It reviews the effects that new regulatory frameworks will have on the company, which is why the governmental affairs activities in Berlin are to be considered active risk management. The mediation of interests towards the public centres around the common good, security of supply, occupational health and safety, and environmental protection.

## DEA contributes to international reports such as the EITI report

DEA was involved in preparing the EITI report. This global Extractive Industries Transparency Initiative (EITI) campaigns for greater financial transparency and accountability in the commodities sector. The initiative was founded in 2003 as part of the 2002 sustainability summit in Johannesburg, South Africa, and is now based on a close cooperation between governments, companies and civil society in more than 50 countries. Participants disclose information on tax payments, licences, production volumes and other important data surrounding the production of oil, gas and mineral resources.

At DEA, we value open and honest communication, both internally and externally.



DEA is also active on the Wadden Sea Board (WSB). Like the WSF, the WSB is a trilateral organisation involving the countries neighbouring the Wadden Sea – Denmark, Germany and the Netherlands – and contributes to developing strategies for the Wadden Sea. This organisation also works towards achieving a balance with regard to the sustainable development of the Wadden Sea region.

### Project management in Norway

In Norway, DEA also finds itself in a changing social environment. In Norway, there are signs of a noticeable change in social attitudes, especially among younger voters and activists. Accordingly, the Norwegian oil and gas industry is no longer regarded as the source of prosperity per se, but also in the context of the global climate change.

Specifically, protests and legal proceedings are being used to address the granting of licences on the Norwegian continental shelf. In particular, new exploration wells in the Barents Sea and around Lofoten are being questioned as to where the larger reserves of fossil fuels are suspected to be.

The Norwegian oil and gas industry is also facing a decline in new discoveries. In a competitive world market for exploration dollars, Norway is less attractive than shale gas production in the United States.

In view of drilling projects in ecologically sensitive marine regions, DEA Norge focuses on systematic stakeholder relationship management in order to present the project plans in a comprehensive and transparent manner as early as possible. The communication strategy is closely interwoven with the business strategy and project planning. Particularly with regard to possible incidents, extensive flow studies will be conducted and appropriate response capacities planned in order to be prepared for any contingency.

On the basis of risk management, all possible objections are recorded, analysed and evaluated, and suggestions for solutions are prepared. Alleged risks, which originate from the argumentation of project critics, are also integrated, evaluated and – as far as possible – excluded in advance. As a result of such preparatory work, past discussions with a large number of local, municipal, commercial and official stakeholders have been very satisfactory without making project planning or the time schedule a headline story or burdening the public discourse.

## Compliance

# What we are committed to

Compliance with legal and ethical standards is crucial for DEA's long-term entrepreneurial success. This is why DEA conducts all of its business activities worldwide in a legally and ethically impeccable manner. In order to prevent, detect and appropriately respond to the risk of violations of rules, DEA has established an appropriate and robust compliance management system and encourages a strong compliance culture.

FOR DEA, compliance means that company management and all employees act in accordance with all internal and external rules and voluntary commitments. Every member of the Board of Management and all staff have voluntarily undertaken to comply with the regulations of the DEA Code of Conduct ('The Code'). The Code describes the foundations and ethical principles upon which DEA conducts business, and provides each and every member of staff with guidance and direction on how to behave correctly. DEA is a signatory of the United Nations Global Compact and, in the Code, DEA also undertakes to support and enact, within its sphere of influence, the ten principles of the United Nations Global Compact. The ten principles of the UN Global Compact cover the following topics:

- human rights
- labour standards
- the environment and
- anti-corruption

DEA works to further promote the principles set out in the Code and also expects its business partners to comply with these principles, as well as with the ten principles of the UN Global Compact. DEA does not maintain any business relations with third parties who are known to violate the principles underlying the UN Global Compact. Potential new business partners of DEA are subject to appropriate compliance checks, while existing business partners are subject to ongoing compliance monitoring.

DEA also expects its internal activities to comply with regulations and laws. Not only do all members of the Board of Management undertake to comply with the Code, but so do all employees. Every member of DEA's management

## Good to know: the ten principles of the UN Global Compact

### Human rights

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

### Labour standards

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

### Environment

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

### Anti-corruption

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



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team is required to confirm observation of the Code on an annually basis, as well as ensure their employees' compliance with the Code in their area of responsibility and report any violations to the Chief Compliance Officer.

### Compliance management system

DEA's compliance management system (CMS) consists, among other things, of Group-wide directives and regulations that are available for all employees on the intranet in German, English and, in some cases, other languages. Some of these are also published on the Internet.

In order to raise all employees' awareness about compliance, DEA is familiarising new employees with the internal directives and regulations as soon as they join the company. A corresponding e-learning programme has been implemented throughout the Group, which is to be completed by all new employees within 6 months of joining the company and then repeated at regular intervals. In addition, all new employees and, due to greater compliance risks, selected organisational units and project teams, receive mandatory compliance training. In 2018, more than 300 employees were trained in compliance matters in 40 face-to-face training courses.

A particular focus of the CMS is the area of anti-corruption. This is because the international E&P sector is one of the branches of industry with greater risks of corruption, and because DEA is also active in countries with greater corruption risks. In light of this, the Code contains a clear and strong commitment, and a zero-tolerance policy against all forms of corruption. In its Code of Conduct and in an additional anti-corruption policy, DEA has undertaken to comply – in all of its activities – with the provisions of the United States Foreign Corrupt Practices Act (FCPA), the United Kingdom Bribery Act 2010 (UKBA), German anti-corruption laws and any applicable anti-corruption laws in the countries in which it does business.

In 2017, the independent accountancy firm EY (Ernst & Young) audited DEA's CMS for anti-corruption and certified it according to the PS 980 auditing standard. EY not only confirmed that the concept of the CMS is appropriate and in accordance with the applicable standards, but also reviewed numerous business transactions in detail and certified the effective implementation of the CMS in practice on this basis. The audit report on DEA's CMS has been published on the Internet.

Within the scope of the CMS, anti-discrimination was further strengthened in 2018 by appointing additional anti-discrimination officers in Germany and abroad as contacts for reporting any (potential) cases of discrimination.

An essential foundation of DEA's CMS is the company's pronounced compliance culture, which is encouraged by means of the aforementioned trainings, as well as a strong

'tone from the top'. The great importance of compliance in the corporate culture was strengthened in 2018 by, among others, a communications campaign under the motto 'Transparency counts for Compliance' for the UN International Anti-corruption Day on 9 December 2018. As part of this campaign, information booths, posters, give-aways and the internal company news on the intranet and Yammer provided information about the great importance of tip-offs on potential compliance violations and about transparent communication for the company and its compliance culture.

### Compliance organisation

DEA's international compliance team is led by the Chief Compliance Officer from the Legal & Compliance division. The team reports directly to the CEO of DEA Deutsche Erdoel AG, to the Audit Committee of DEA Deutsche Erdoel AG's Supervisory Board and to DEA's parent company. In 2018, DEA's compliance team included three Group Compliance Managers in Hamburg and one Compliance Officer each in Egypt and Norway, as well as one Compliance Advisor in Mexico. The compliance team is available for all employees with a comprehensive range of expert advice. In order to ensure the continual sharing of information between compliance staff, DEA has established virtual monthly meetings of its international compliance team in which current issues and topics are discussed. In 2018, DEA's compliance team, together with the Group Compliance Director of DEA's parent company, again organised an international compliance meeting in Hamburg where the entire team discussed current compliance issues for two days. The focus of this meeting included sanctions compliance, anti-discrimination and monetary benefits for/from business partners. To further strengthen the uniform compliance culture, a Compliance Manager from Egypt joined the compliance team at the company's headquarters in 2018 as part of her secondment lasting several months and, in 2019, a Compliance employee of the company's headquarters will work abroad for several weeks.

In the vast majority of compliance matters, our staff consults the responsible members of the compliance team directly with their questions and concerns, and the team provides them with expert advice. The contact details of the compliance team members are published on the intranet. In addition, anyone (employees, business partners or other third parties) may contact DEA's Chief Compliance Officer directly at any time using an electronic form on DEA's corporate website. Anyone, even anonymously, can also contact external ombudsmen if they wish to provide information on misconduct. The ombudsmen are independent, external lawyers whose contact details are published on DEA's intranet and corporate website and who report to the Chief Compliance Officer in a confidential and, unless otherwise requested by the whistle-blower, anonymous form. Information concerning rule violations will be investigated confidentially and in accordance with the respective matter.

## Data management

# How we measure our performance

With regard to the performance achieved in the areas of environmental protection and occupational safety, using key performance indicators (KPIs) for managing companies is becoming increasingly important. Anyone who monitors the difference between an actual value and a target value can assess their performance, take corrective action and prevent a possible loss or accident. This is why we compare our relevant values with the key performance indicators of the International Association of Oil & Gas Producers (IOGP), among others, and implement improvement measures in line with these.

A HIGH LEVEL OF PERFORMANCE in terms of safety and the environment can only be achieved through consistent, intensive and targeted work. Over recent years, we have been using national and international comparative figures as an incentive to continually improve our performance at DEA. To this end, we have analysed results, identified opportunities for improvement and intervention, and taken corresponding measures, the effectiveness of which is then checked.

The collection of data across DEA in various processes is regulated in our corporate management system. This enables the Board of Management to manage the company on the basis of risk, prevention and loss control. To achieve this, we collect data in the following regulatory areas:

- **Incident management**
- **Environment Germany**
- **Environment international**

The Corporate QHSSE division plays an active role in data management. It provides process descriptions, instructions, guidelines, work aids and software tools, and supports and advises the management level on aspects related to quality, health, safety, security and the environment.

### Incident management

All types of HSE incidents of licences operated by DEA are recorded uniformly, centrally and bindingly using an IT tool.

Along with incidents that directly concern DEA's business divisions and their employees, those involving contractors are also included here. The prerequisite for this is that the contractor is active on our sites, or that DEA sees the necessity of having to exert direct influence on the contractor's HSE performance in the case of services commissioned by us. In addition, recordable incidents – insofar as the data is available to us – from non-operated licences are also registered.

### Good to know: what does cooperation in a production area look like within the E&P industry?

In oil and gas production, several partners usually work together in a licence, i.e. in an area in which the companies have been granted permission to look for oil and gas and, if found, to extract it. One partner, who usually holds more than 50 % of the licence, assumes the operatorship. They become the operator and, thereby, also take on responsibility for matters of HSE performance.



DEA compares itself with the International Association of Oil & Gas Producers (IOGP) in the fields of environmental protection and occupational safety.

The organisational and technical requirements for a timely reporting and recording of relevant HSE data are also in place and are regulated at our employees' workplaces. All staff are obliged to inform their line managers as soon as they become aware of HSE incidents (e.g. accidents resulting in personal injury, environmental or material damage).

The following key performance indicators (KPIs) in incident management are binding for DEA's global performance management and benchmarking:

Occupational accidents resulting in personal injuries\*:

- Number of fatalities (FAT)
- Frequency of fatalities (FAR)
- Sum of fatalities and lost time injuries (LTI)
- Frequency of fatalities and lost time injuries (LTIF)
- Total number of recordable incidents (TRI)
- Frequency of recordable incidents (TRIR)

Incidents that pose a danger to the integrity of facilities\*:

- Number of process safety events (PSE, LOPC level 1 and level 2)
- Discharged volume/mass from process safety events (PSE, LOPC level 1 and level 2)
- Frequency of process safety events (PSER, LOPC level 1 and level 2 related to 1 million working hours in drilling and in production)

The terms and definitions of incidents are in line with the international standard according to the guidelines of the IOGP Safety Data Reporting Users' Guides.

We make the KPIs that have been calculated and analysed available to internal and external stakeholders, as required. In this way, the basic data is also provided for industry-specific benchmarks in Germany, to the Federal Association of Natural Gas, Crude Oil and Geothermal Energy Producers (BVEG), and internationally, to the International Association of Oil & Gas Producers (IOGP).

\*Explanations and figures find in chapter occupational health and safety and security (see page 54 ff).

### Good to know: international terms and abbreviations relating to occupational health and safety

The following standardised performance indicators are used in the area of occupational health and safety to compare the safety performance of companies at an international level: LTI (lost time injury) is the number of occupational accidents resulting in lost time or a fatality. LTIF (lost time injury frequency) is the frequency of LTIs per million hours worked. TRI (total recordable incidents) is the sum of all incidents that must be reported in accordance with our international industry association, IOGP. It also includes restricted work cases and medical treatment cases. TRIR (total recordable incident rate) is the frequency of TRIs per million hours worked.

## Concessions operated by DEA

Country	Concession	Hydrocarbon	Situation	Activity	Operator
Egypt	Disouq Area-1	Gas	Onshore	Production	DEA / DISOUCO
Egypt	North West Khilala	Gas	Onshore	Production	DEA
Egypt	Ras Budran	Oil	Offshore	Production	DEA / SUCO
Egypt	Zeit Bay	Oil and Gas	Offshore	Production	DEA / SUCO
Germany	Celle-Bleckmar	Gas	Onshore	Production	DEA
Germany	Hankensbuettel I and II	Oil	Onshore	Production	DEA
Germany	Hebertshausen I	Oil	Onshore	Production	DEA
Germany	Heide-Mittelplate I	Oil	Offshore	Production	DEA
Germany	Rotenburg-Scheessel	Gas	Onshore	Production	DEA
Germany	Rotenburg-Voelkersen	Gas	Onshore	Production	DEA
Germany	Rotenburg-Weissenmoor	Gas	Onshore	Production	DEA
Germany	Wietze-Becklingen	Gas	Onshore	Production	DEA
Germany	Wietze-Osterheide I	Gas	Onshore	Production	DEA
Germany	Wietze-Wardboehmen	Gas	Onshore	Production	DEA
Germany	Wietze-Wietzendorf I	Gas	Onshore	Production	DEA
Mexico	Ogarrio	Oil and Gas	Onshore	Production	DEA (DEM)
Denmark	9/16	Oil	Offshore	Exploration	DEA
Germany	Celle-Ostenholz	Gas	Onshore	Exploration	DEA
Germany	Celle-Rehwinkel-West	Gas	Onshore	Exploration	DEA
Germany	Celle-Suelze	Gas	Onshore	Exploration	DEA
Germany	Celle-Wietzendorf	Gas	Onshore	Exploration	DEA
Germany	Celle-Wietze-Sued	Oil and Gas	Onshore	Exploration	DEA
Germany	Cuxhaven	Oil	On/Offshore	Exploration	DEA
Germany	Grafiing	Oil and Gas	Onshore	Exploration	DEA
Germany	Grafiing Sued	Oil and Gas	Onshore	Exploration	DEA
Germany	Heide-Restflaeche-Buesum	Oil	On/Offshore	Exploration	DEA
Germany	Heide-Restflaeche-Heide	Oil	Onshore	Exploration	DEA
Germany	Rotenburg-Luedingen	Gas	Onshore	Exploration	DEA
Germany	Rotenburg-Ostervesede	Gas	Onshore	Exploration	DEA
Germany	Rotenburg-Scheessel	Gas	Onshore	Exploration	DEA
Germany	Rotenburg-Soehlingen	Gas	Onshore	Exploration	DEA
Germany	Rotenburg-Wedehof	Gas	Onshore	Exploration	DEA
Germany	Unterweser	Oil and Gas	Onshore	Exploration	DEA
Germany	Verden Verkleinerung	Gas	Onshore	Exploration	DEA
Germany	Werder	Gas	Onshore	Exploration	DEA
Libya	Area 58	Oil and Gas	Onshore	Exploration	DEA
Mexico	BR3.1-A16	Oil	Offshore	Exploration	DEA (DEM)
Mexico	BR3.1-A17	Oil	Offshore	Exploration	DEA (DEM)
Mexico	BR3.1-A30	Oil	Offshore	Exploration	DEA (DEM)
Norway	PL 1010	Gas	Offshore	Exploration	DEA Norge
Norway	PL 1021	Oil	Offshore	Exploration	DEA Norge
Norway	PL 211	Gas	Offshore	Exploration	DEA Norge
Norway	PL 721	Oil and Gas	Offshore	Exploration	DEA Norge
Norway	PL 896	Oil and Gas	Offshore	Exploration	DEA Norge
Norway	PL 989	Oil and Gas	Offshore	Exploration	DEA Norge
Libya	NC 193	Oil	Onshore	Development	DEA
Libya	NC 195	Oil and Gas	Onshore	Development	DEA
Norway	PL 435 (Dvalin)	Gas	Offshore	Development	DEA Norge

Status April 2019

Alongside performance management, the data that has been collected is also used to learn from incidents. It is evaluated according to various criteria (incident causes, activities, locations/operational sites affected) for use in the so-called 'lessons learned' process within the company. The information from recordable incidents and those with a high risk of personal injury are outlined in a lessons learned case, which is also made available to internal and external stakeholders (e.g. the German industry association).

DEA does not independently generate KPIs in non-operated licences, but works to ensure that these are recorded by the respective operator and communicated to us. DEA can thereby obtain knowledge of the HSE performance in the non-operated licences as well and, if necessary, work towards improvements during regular meetings with the operator and, thereby, exert an influence here.

#### Environment Germany

For Germany, we generally only collect data relating to DEA's operated activities. In terms of key environmental data, we record waste, dangerous goods, emissions and consumption.

To this end, each manager of the operational site or project manager appoints someone to be responsible for reporting, and is responsible for reporting to Corporate QHSSE.

The respective data is collected through external, certified bodies, calibrated measurements, other measurements, calculations or estimations, and is then checked by Corporate QHSSE for plausibility on the basis of the previous year's data.

#### Environment international

In order to record key international environment data, DEA applies the regulations of the IOGP (International Association of Oil & Gas Producers). Since 2011, data has been requested annually from the concessions operated by DEA. In this way, we record and report details of energy consumption, emissions into the atmosphere, water consumption and possible incidents involving discharges of oil and gas. One member of DEA staff is officially appointed by the Head of QHSSE to compile the data and the IOGP is notified of this appointment. The IOGP compares the data with the information recorded around the world by other companies and performs an annual ranking. DEA's environmental objectives is to consistently achieve one of the best positions in the ranking.

Since 2018, we have also disclosed the climate-impacting emissions, which we had also communicated in the past, in a separate climate footprint KPI. To this end, we use the CO<sub>2</sub> equivalent per barrel crude oil equivalent produced by DEA, among other measures. This is based on the data of the production processes operated by DEA. In addition, DEA also asks the operational sites in which DEA holds a share but does not manage, to provide the consumption and emission values. According to international reporting standards, this corresponds to the direct greenhouse gas emissions indicator (scope 1). Furthermore, we record the external energy supply and calculate the resulting indirect emissions. These can then be used to determine the indirect greenhouse gas emissions indicator (scope 2) widely used in international reporting. By recording such data, we intend to identify operational sites and processes whose environmental impact needs to be improved. If opportunities for improvement become apparent externally, DEA submits suggestions for improvement to the operator at regularly held coordination meetings and works towards their implementation.



Only through systematic data management is it possible to govern a company like DEA using performance indicators.

## Management approaches and management systems

# Which standards we pursue

The continual improvement of company processes is essential for DEA's long-term success. DEA is committed to conducting all of its international business activities in an honest and ethically responsible manner, and with a high level of quality. This requires the participation of all those who work for DEA. Internal and external auditors regularly review and attest to the adequacy of the principles and procedures that we have defined in the DEA management system. DEA regularly obtains various independent, external certifications.

PRECISELY PLANNED and organised business processes that are regularly reviewed are crucial for smooth value creation. At DEA, systematic occupational health and safety, environmental protection, process safety and quality have a long tradition. DEA has established an integrated management system in all of its operating companies, facilities and divisions. In contrast to isolated systems, this integrated system enables a more streamlined and efficient control of business processes.

As a central management tool, our management system is based on international environmental, quality, energy efficiency and safety standards in relation to work, security and IT, and provides our staff with practical support in their daily tasks. We are committed to the principle of 'plan-do-check-act'. Once an opportunity for improvement has been identified somewhere, we conduct an evaluation and define actions as required. Once a deviation from the plan has been identified, we initiate corrective and preventive actions in order to avoid such a deviation in the future.

Only if our business model is also accepted by society will we remain cooperative and competitive. We can maintain this acceptance in the medium and long term by complying with environmental and social standards that, where economically appropriate, go beyond statutory provisions

and regulations, as well as by constantly monitoring the effects of our actions on the environment and society.

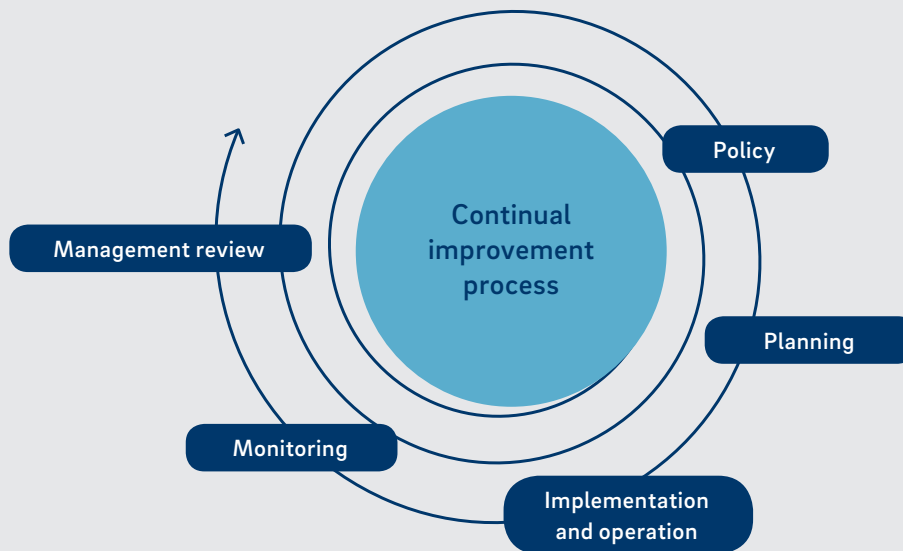
We see responsibility towards the environment, society and our employees as part of conducting business. This also includes analysing and evaluating the effects of our activities beyond purely economic aspects.

### DEA sets itself clear areas of action

In recent years, areas of action have emerged in which we continually record, evaluate and avoid or minimise risks and want to reduce negative effects. Specifically, these are the following areas of action:

- Resource conservation, environmental protection and biodiversity
- Occupational health and safety
- Security
- Employees

This also reflects DEA's values (see page 11). In line with these values, it is important for us to optimise the social and ecological effects of our activities throughout the entire production cycle. DEA works as an operator and an active partner in national and international alliances and is involved in the planning of projects right from the start. The



planning and performance of exploration measurements (e.g. seismic studies) and the operation of facilities, wells or operating sites is carried out under consideration of environmental and social aspects.

**DEA is committed to the IFC Performance Standards and Guidelines**

To determine these requirements, baseline environmental studies, environmental and social impact assessments and risk assessments are performed and monitored based on legislation and voluntary commitments. In the absence of appropriate legislation for activities in emerging or developing countries, the environmental and social standards of the World Bank, represented by the International Finance Corporation (IFC), provide a guideline.

In order to determine these requirements, basic environmental studies, environmental and social impact assessments and risk assessments are carried out and monitored on the basis of laws and voluntary commitments. In the absence of appropriate legislation for activities in emerging markets or developing countries, the World Bank, represented by the International Finance Corporation (IFC), provides guidelines on environmental and social standards.

The IFC has published eight environmental and social standards designed to help companies operate sustainably. The standards are accompanied by environmental, health and safety guidelines. They define the company's responsibility for managing environmental and social risks and impacts in connection with its activities, as well as guidelines for mitigating them.

The standards regarding social aspects take into account both our own workforce and the population surrounding

our activities. The standards relate, for example, to working conditions, land acquisition and indigenous peoples' rights. Environmental standards include resource efficiency, pollution prevention and biodiversity conservation.

DEA has committed to comply with the IFC standards as minimum requirements for investments in developing countries. In addition to the decision to operate sustainably, there are also financial reasons, such as applying for German Federal Investment Guarantees.

At the beginning of 2019, for example, DEA received federal guarantees for our Mexican activities. Compliance with the IFC standards is a prerequisite for obtaining and maintaining these guarantees. In early summer, DEA will carry out an IFC-focused Environmental and Social Impact Assessment (ESIA) for the Ogarrio site, in addition to previous environmental and social impact studies carried out to ensure compliance with the requirements of the Mexican authorities. The results of this study and compliance with the resulting Environmental and Social Action Plans (ESAP) will be monitored by the auditing company PriceWaterhouse Coopers on behalf of the German government.



### Management by defined processes

The responsibilities for the aforementioned areas of action have been defined by the Board of Management in the Delegations of Authority Directive. The business processes and thereby the activities in the above areas of action are documented, analysed, evaluated and managed by means of daily, weekly, monthly and quarterly reports, which also contain the agreed key figures. In addition, annual management reviews are conducted to report on the main topics and events in the areas of action and to define new targets resulting from the ongoing risk assessments, the current status of target achievement in the previous year, the findings of internal and external audits and the internal suggestion system.

In addition to the core business, the management approach and the precautionary principle also include risk assessments in upstream and downstream processes, from which we, in turn, derive the necessary measures. We exert influence on our suppliers, for example, through contractually defined guidelines, and demand compliance with strict occupational safety measures, as well as energy-efficient behaviour and environmentally friendly and socially responsible business practices. In the area of security, as well, we go beyond taking responsibility for our own actions and adhering to statutory regulations (including the duty to maintain safety) – for example, by preventing unauthorised persons from gaining access to operational sites and, thereby, preventing abuse, break-ins and dangerous or negligent actions.

Lean and efficient management of business processes is an important success factor. This is why we have introduced an integrated management system in all of the operating companies, facilities and divisions which, as a central management tool, is based on environmental, quality, energy efficiency and safety standards and provides our staff with practical support in their daily tasks.

To minimise identified risks and promote identified opportunities, we regularly conduct workplace risk assessments and risk studies into plant safety, and evaluate environmental aspects resulting from operational activities.

The different tasks and challenges in our areas of action are controlled by this DEA-wide Corporate Management System. This is the framework within which the policies and directives set out by the Board of Management, which must

be implemented by the respective departments or the corresponding DEA staff – for example, the DEA QHSE Policy, the DEA Code of Conduct, the CMAPP (Corporate Major Accident Prevention Policy) and the DEA Work-Life Balance Policy, as well as the mission statement on diversity at DEA – are effective. DEA staff also receive specific instructions by means of procedure and process descriptions, IT-supported applications and operational instructions, whose implementation is monitored at random by the managers in their daily work.

Internal audits, which are planned annually in a fixed, risk-based audit programme, are used to review the processes and work results and, if necessary, to document and track suggestions for improvement resulting from the discussions, or deviations from the specifications. Within the scope of the annual external audits by an independent, accredited certifier, good business practice in these areas of action is also reviewed against the relevant standards of good corporate governance (e.g. ISO 9001, ISO 14001, etc.) and confirmed with the corresponding certificates. The resulting opportunities for improvement are also discussed and followed up.

### Management systems in the context of internationalisation

In view of the increasing internationalisation of our business, a number of years ago, we implemented the Corporate Management System in a formalised manner, thereby setting uniform standards for DEA worldwide. This has enabled us to further advance the process of harmonisation between the international sites.

In 2018, the certification of the management systems in Germany, Norway and Egypt was successfully confirmed by the accredited certifier TÜV Nord Cert. With the exception of Libya and Mexico, DEA is thereby fully certified in accordance with uniform and very high international standards of quality, environmental protection, energy efficiency and occupational safety. The complete certification of the company at a global level shows that DEA is able to operate on the basis of the highest standards, while taking the respective national legislation into account.

The development of the Libyan integrated management system has been temporarily suspended since 2014 due to the security situation in the country. As a result, the team responsible for the DEA Corporate Management System and external auditors have been unable to visit the country.



## Good to know: international standards and certifications at DEA

➤ **ISO 9001 certificate:** with this certificate, we demonstrate that we maintain a high standard of quality with regard to customer focus, managerial responsibility, management, continual improvement, decision-making and supplier relations.

➤ **ISO 14001 standard:** this attests to the fact that we operate sustainably, minimise waste, use resources sparingly and are mindful of climate protection. Our certified environmental management system contributes to preventing hazardous incidents of relevance to the environment and to minimising the consequences of such an incident.

➤ **ISO 50001 – Energy management system:** this standard requires us to define energy efficiency targets, monitor their achievement and document the savings achieved and improvements made. We record and monitor the key energy sources, which enables us to contribute to the economic use of available resources, particularly by improving our energy efficiency, and, among others, to improve the company's carbon footprint.

➤ **ISO 45001 – Occupational health and safety management system:** one of the goals that we pursue with this standard is to achieve zero accidents. Our mantra is: 'Each and every employee goes home as healthy as they came to work'. We are of the firm belief that all incidents are avoidable.



Certified: DEA attaches importance to quality, environmental protection and occupational safety.

As part of the assumption of operational responsibility in Mexico by our Deutsche Erdoel Mexico subsidiary, we have also implemented an HSE management system for our activities there, which has been approved by the Mexican environmental authorities. We are now further developing this system in preparation for certification according to further ISO standards.

In 2018, we achieved the objective of having the surveillance audits successfully conducted by TÜV Nord Cert based on the additional requirements of ISO 9001:2015 (quality) and ISO 14001:2015 (environmental protection), while taking DEA's organisational changes into consideration. The new requirements of these standards, as well as the new international and national regulations regarding offshore safety, have been included in our internal regulations and implemented accordingly.

The transition, including certification, to the new ISO 45001 standard (previously OHSAS 18001), as well as the upgrade to the new revision status of ISO 50001:2018 is planned for autumn 2019.

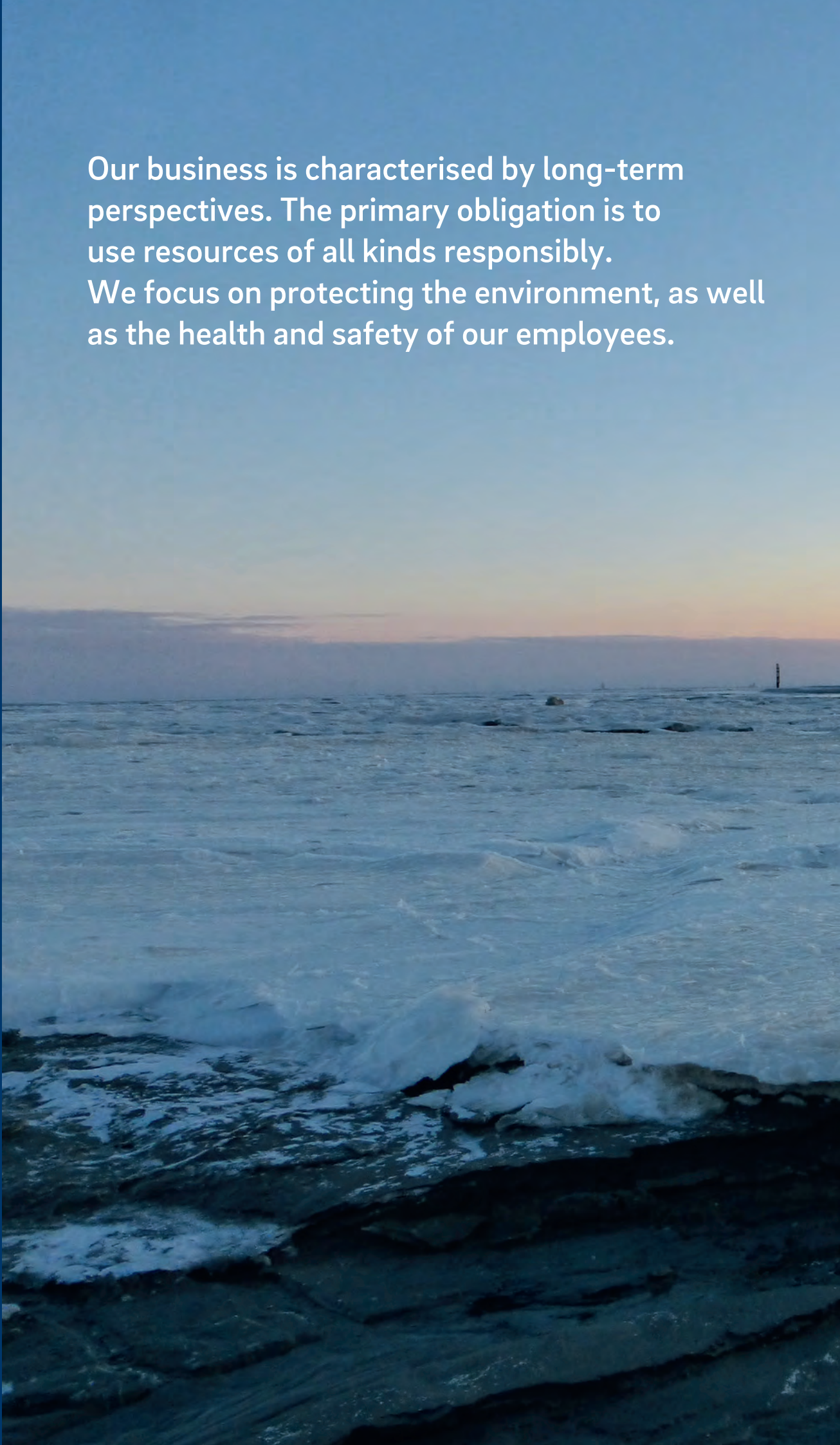
In Germany, DEA has also been awarded the 'Systematic Safety' seal of approval in the area of occupational health and safety by the German Institute for Statutory Accident Insurance and Prevention in the Raw Materials and Chemical Industry (BG RCI). This certification process also enables us to optimise our occupational health and safety organisation. Any weaknesses are identified and eliminated. In this way, we can further reduce the risk of incidents and interruptions to operations. In 2017, the seal of approval was again reviewed by the BG auditors with the corresponding BG audits at our German production facilities, and, with an excellent result, it was extended for another three years until 2020. In 2018, we added the 'health' aspect to this certificate.

AREAS OF ACTION AT DEA

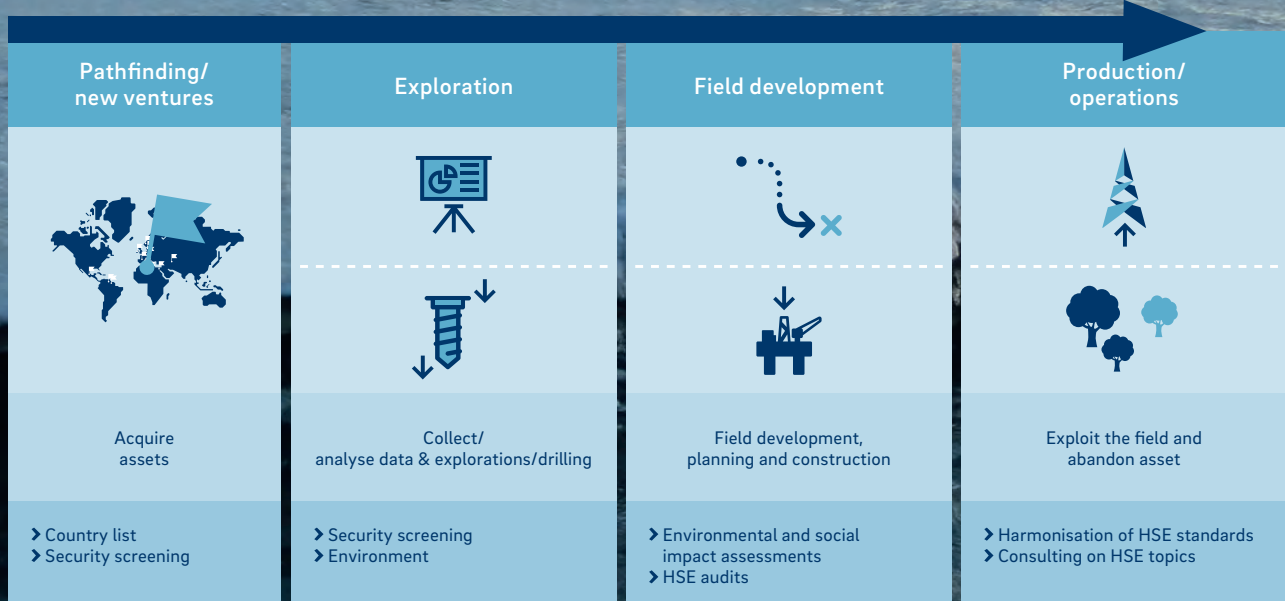
# Our purpose and how we fulfil it

Our business is characterised by long-term perspectives. The primary obligation is to use resources of all kinds responsibly.

We focus on protecting the environment, as well as the health and safety of our employees.



## Company-wide QHSSE



Strict compliance with quality, health, safety, security and environmental protection (QHSSE) requirements plays a key role in all process steps – from acquisition measures right up to the conclusion of activities, the associated abandonment of an operating site and the subsequent restoration to its original condition.

Area of activity

# ENERGY, RESOURCES, ENVIRONMENT AND BIODIVERSITY

DEA is taking part in the Seatrack research project, which uses special technology to investigate the wintering grounds and migration routes of seabirds in North Atlantic waters.



## Energy, resources, environment and biodiversity

# How we protect the environment and conserve resources

At DEA, we want to protect the environment and use resources efficiently. We, therefore, prevent or reduce the undesirable effects of our activities and continually make use of opportunities to improve our environmental balance. By engaging in numerous activities to protect the climate and environment, we achieve social acceptance. In all activities to develop sustainable business practices, DEA attaches great importance to fact-based participation and open social debate.

At DEA, we feel responsible for the environmental impact of our business activities – regardless of whether we are the operator or not.



### Our mission: responsible and proactive environmental management

With this in mind, DEA has set itself the goal of gradually improving its environmental footprint. In order to achieve this, we obtain a complete overview of the energy consumption and emission levels resulting from our activities. This analysis provides us with the knowledge required to take necessary and meaningful steps.

We want to use the full range of technological options available while promoting and consolidating a corporate culture both among our workforce and in our partner companies. This culture will ensure that everyone who works for DEA can and should proactively contribute with all of their expertise towards improving our environmental footprint. To this end, we want to be transparent about all material and substantial aspects of our activities and have set ourselves the following goals:

- to be efficient and lead the way in reducing the environmental impact of our exploration and production activities
- to apply uniform global standards that go beyond local regulations
- to foresee the expectations of our stakeholders and the development of environmental standards
- to enable our employees and their business partners to work together in a way that actively protects the environment

### Transparent, environmental management with high aspirations

At DEA, we have recognised the need to report on our sustainability issues externally, in detail and openly. Only in doing so will we be able to meet the high expectations of our stakeholders and the industry standards with regard to best practice reporting. If we want to run our business in a transparent, responsible and reliable manner, we have to continue to minimise our impact on the environment and continually promote environment-related improvements. These are our aspirations, to report on our activities where we are the operator and on our joint venture investments, as well as on activities where we are not the operator. In the latter instance, we also need to keep an eye on the emission levels of partner companies that provide services on behalf of DEA worldwide.

## ENERGY EFFICIENCY AND EMISSION MANAGEMENT

### Climate protection is a top issue worldwide

Climate change is high on the agenda of society, government and business worldwide and is a driving force for the continuing energy revolution. The global task is to reduce greenhouse gas emissions significantly. This will require considerable effort – also on the part of industry.

Compared to times before the Industrial Revolution, the average temperature worldwide has risen by almost 1°C and might increase by a further 3–5°C by the end of this century, unless greenhouse gas emissions are reduced. According to recent studies, a 45 % reduction needs to be achieved by 2030 to bring temperatures back to pre-1970 levels. This has placed pressure on policymakers.

In line with these objectives, dynamic developments are taking place in the energy market as a result of technological improvements and policy decisions. Electrification is developing rapidly, while decentralised energy production is creating a new competitive environment with renewable energies.

### DEA's role in the conflicting priorities of climate protection and oil and gas production

DEA's business model continues to be the exploration and production of oil and gas. Renewable energies alone cannot solve the energy issues of our time. Even in Germany, where renewable energy has been produced vehemently for many years, it only covers 17 % of the total energy requirement. Renewable energy production is increasing, but for an affordable and secure energy supply, we will still need fossil energies and, above all, gas for a long time to come.

Natural gas already makes a significant contribution towards the achievement of climate protection goals and still offers huge potential for the reduction of greenhouse gas emissions as the most climate-friendly fossil energy. Reducing greenhouse gas emissions can be achieved if natural gas replaces the use of coal, which is particularly harmful to the environment. The use of oil and particularly gas as a source of energy is also necessary to compensate for the volatile and poor storability of energy produced from wind and sun since oil and gas can be used much more flexibly.

### Good to know: the long-term outlook for natural gas and crude oil resources

Global energy consumption has never been as high as it is today. The International Energy Agency forecasts that oil and gas will remain major sources of energy worldwide for a long time to come. Due to population growth and rising prosperity in emerging economies, demand for energy in industry, transport, heating and agriculture will increase.

Our sector has always managed to meet the growing demand. From a purely statistical point of view – without taking into account future developments – oil and gas reserves suffice for half a century. This, static range, which does not take into account future technological progress and new discoveries, has been continually moved back. Despite high consumption, this range has therefore remained roughly the same for decades, or

has even widened. In fact, accessible oil and gas reserves have been multiplying for half a century despite the huge level of consumption. This is due to the dynamic progress made in our industry over the years. Our industry has repeatedly made quantum leaps in innovation. Research and technological progress, cost reductions and pricing pressure have made the exploration and production of natural gas and crude oil increasingly more efficient. Our industry will continue to experience dynamic development. Processes will be influenced even more by technological progress and digitalisation. This development will also be experienced by DEA. We work with a long-term view – also in the interest of future generations. What spurs us on is the desire to use natural resources responsibly. We, therefore, promote innovations accordingly.

DEA's production will, therefore, continue to be an important part of a reliable and climate-friendly energy system in the future. DEA has a long tradition of accepting responsibility in dealing with environmental issues. On its international sites, DEA is implementing various measures to improve energy efficiency and reduce carbon dioxide to achieve a large reduction in greenhouse gases. It also plays a leading role in the international upstream industry. We want to remain a leading player in our industry with regard to environmental sustainability, focusing, in particular, on climate protection. As part of our new sustainability initiative, we will exploit the realistic potential of reducing CO<sub>2</sub> in our activities.

**DEA ranks well on energy consumption and emissions in an industry comparison**

DEA ranks well on energy consumption and emissions in an industry comparison. DEA publishes its environmental data in the annual survey by the International Association of Oil and Gas Producers (IOGP). According to the IOGP for reasons of comparability, the data relates to the production concessions operated by the member companies. It shows the quantities for emissions and oil spillages in tonnes per 1,000 and 1,000,000 tonnes respectively of crude oil equivalents produced, as well as the energy consumption in gigajoules per tonne of crude oil equivalents produced.

As the chart illustrates, DEA is already among the best in the industry worldwide for emissions with consistently good and very good results. We achieve the low emissions level particularly due to the high reliability and safety of our operations.

We minimise hazards to the environment and occupational safety in the design of our facilities and in the control of processes and equipment. To this end, we systematically record LOPC incidents that occur during our activities.

These incidents are those where substances from the operational process are released unexpectedly. This is done irrespectively of the actual impact on people or the environment. We can use this data to take improvement measures to prevent unplanned incidents.

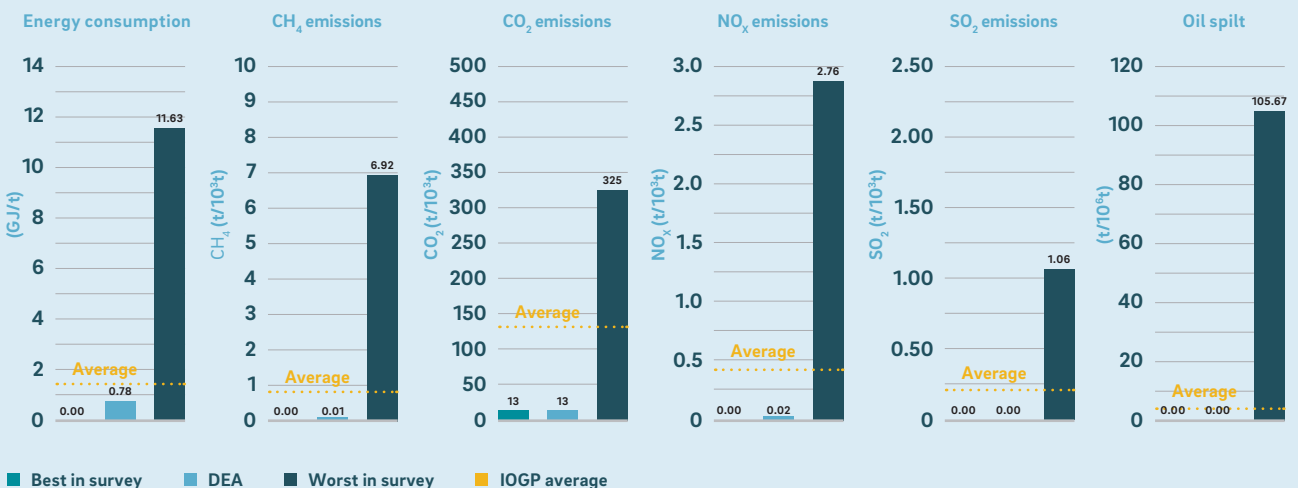
For greenhouse gas emissions (calculated as CO<sub>2</sub> equivalent from: CO<sub>2</sub> + CH<sub>4</sub> \* 25), DEA has again achieved the best value in the international industry comparison of IOGP companies – according to the most recent benchmark data from 2017. With just under 14 t CO<sub>2</sub> equivalent per 1,000 tonnes of oil equivalent produced by us within our operations (Scope 1), based on the IOGP average, DEA emitted only one tenth of the greenhouse gases issued by the other companies in our industry.

With an absolute value of 37,600 t CO<sub>2</sub> equivalent in 2018, we managed to keep our greenhouse gas emissions almost as low as the previous year.

With regard to the climate footprint which is a reference to the intensity of our production share (Scope 1), our Scope 1 value for 2018 was 16 t CO<sub>2</sub> equivalent per 1,000 tonnes, based on the oil equivalents produced for DEA (or 2.1 kg CO<sub>2</sub> equivalent per barrel of oil equivalent). We still managed to achieve this level despite our production volume declining due to the natural reduction in the volume of resources, which, in turn, increases the amount of energy required per unit produced.

If we also take into consideration the emissions that result from externally generating power to be used for our production operations (Scope 2), the value is 144,100 t CO<sub>2</sub> equivalent. This is primarily due to the fact that we still use a lot of externally produced power, particularly at newly-acquired field in Mexico. There is still significant potential to be exploited here.

**Comparison of energy consumption and emission values within the international industry (2017)**



### Energy savings at DEA

DEA records and monitors its energy consumption and improves energy efficiency by using energy-efficient machinery and equipment and optimising our processes.

The efficiency projects implemented on DEA sites in 2018 alone enabled us to save around 22 terajoules (TJ) of energy compared to the previous year. This corresponds to the average electricity consumption of about 1,525 single-family households per year. During the reporting period, we also implemented the following projects on our German sites:

- At the Brammer compressor station in Lower Saxony, we were able to achieve significant savings again in 2018 from the four turbo compressors used for natural gas compression in these production facilities by optimising and constantly adjusting the control parameters. This increase in efficiency alone generates savings of around 18.4 TJ per year.
- We also achieved a variable reduction of the discharge pressure on this site, resulting in energy savings of approx. 5 % of annual consumption.
- In the Holstein production facilities, the replacement of pumps resulted in an energy saving of 3.1 TJ.
- We also implemented further energy saving projects on all operational sites and in DEA offices, e.g. by switching to LED lighting or replacing the motors in the ventilation system.

We continue to focus our attention and efforts on saving energy. For this purpose, workshops are held regularly in relevant departments and specialist groups. Our approach goes beyond projects at our own-operated sites within Germany. For example, the measures implemented within an efficient energy management programme at our partner company SUCO in Egypt are already taking effect, resulting in significant resource savings.

### Good to know: Mittelplate production facility operated by DEA is extremely energy efficient

The key figure used to determine environmental-friendliness of hydrocarbon production is the specific amount of energy that needs to be consumed in order to produce a tonne of oil equivalent. For the oil produced by the Mittelplate oil field, this figure is 0.8 gigajoules per tonne. In the case of the Mittelplate production facility, 41 kg of carbon dioxide per tonne of oil are released to produce this energy. The industry average published by the IOGP, however, is 1.5 gigajoules or 133 kg of carbon dioxide per tonne of hydrocarbons produced. Therefore, compared to the industry average, only around half of the energy is consumed and less than one third of carbon dioxide released at the Mittelplate production facility. These figures clearly document the environmental advantage of oil production in the Mittelplate oil field in specific relation to energy consumption and the prevention of CO<sub>2</sub> emissions.



The Brammer compressor station is one of DEA's operational sites where we managed to achieve significant energy savings in 2018 by taking various technical measures.



**Optimised concept for energy management and procurement processes at DEA**

Our DEA energy management system is regularly DIN EN ISO 50001 certified for all German DEA sites. This standard will, in future, be extended to DEA's international activities. This globally accepted standard helps organisations and companies to develop an energy management system. The primary objectives of the certification are the continual optimisation of energy demand and savings in the energy resources required. Measures to implement optimised energy management should be considered in the planning phase of new projects. For example, in the case of new acquisitions, the expected energy expenditure should be presented transparently and evaluated accordingly.



DEA's Energy Efficiency Team meets twice a year in Germany in order to discuss current developments in energy management and energy savings projects on our German sites and to prepare for the upcoming certification. The Energy Efficiency Team comprises the Senior Energy Manager and the employees responsible for energy efficiency on the different sites, as well as colleagues from Procurement, Taxes and Management Systems.

During the reporting period, the cross-departmental and cross-site DEA Efficiency Management Team optimised our concept for the procurement of energy required to meet consumption. Information on the expected energy requirement has to be included in the budget plan in future so that applications for investment can be approved.

With this new process, the project and energy managers now ensure that procurement activities are examined for potential energy savings. A project is now identified as an energy-relevant project throughout the approval workflow until purchase. The persons responsible are in regular contact with external providers and the respective internal project management team and the respective department, while Procurement are aware that they should award contracts to suppliers with particularly energy-efficient solutions. In this way, we are raising the awareness of low-consumption solutions and the choice of energy-efficient providers throughout the procurement process and at the same time simplify the overview and control of potential energy-saving measures.

**More energy efficiency projects on the way**

With the future outlook of the climate and environment in mind, DEA already produces the power needed for its operations and heating itself where possible, with the help of the natural gas produced or associated gas. In so doing, we are continually breaking new ground in innovative ways. For example, we are planning to install an ORC system (ORC = Organic Rankine Cycle for waste heat recovery) in our German natural gas production facilities in Lower Saxony in 2019, with which we will be able to convert process heat from gas dehydration into electricity. This project consists of two steps: first, the conversion of heat into electricity and, secondly, the use of the electricity. For this purpose, we are in talks with a company that specialises in ORC units.



The 'Völkersen Z4' drilling site will be equipped with an ORC unit for the utilisation of waste heat.

If power cannot be produced in-house in our upstream activities due to the location, the company chooses local providers selected on the basis of short distances and cleanly-produced electricity. Our preference here is renewable power. In Norway, hydropower is available; in southern countries, solar energy and, in Germany, wind energy prevails. What is important here is a reliable energy supply. We are looking into how we can use the locally produced wind energy directly in our operations in a concept study in the Holstein production facilities in Germany. For this purpose, it is imperative to take switching options into account for times when not enough wind energy is available.

### DEA Task Force: climate protection with state-of-the-art technology

The Environmental Sustainability Team, set up as part of the DEA sustainability initiative, communicated areas where action needed to be taken on DEA sites in 2018 and launched the projects listed below. In general, state-of-the-art projects that could be completed in the short term were chosen. Over the medium term, DEA has sustainability projects planned until 2022. With many small steps, we are steadily changing our energy consumption.

### Projects for the use of renewable energy launched and implemented

DEA is now increasingly producing renewable energy locally itself. With the implementation of projects in the field of 'green electrification', DEA is aiming to achieve greater self-regulation in its operations. Many DEA sites – from Egypt to Mexico – have already been equipped with a solar energy supply.

For example, in February 2019, we installed solar panels on the roof of the main building of our office in Cairo, as well as, solar energy storage devices which is a climate-friendly solution for heating water, thus reducing dependency on external energy providers.

For our northern German gas and oil production facilities, we are looking into installing photovoltaic systems on the roofs of company buildings and in open spaces. We are also considering whether boats powered by climate-friendly natural gas can be used to supply the Mittelplate drilling and production platforms.

### Gradual replacement of the vehicle fleet with electric and hybrid vehicles

Our commitment goes beyond clean energy production to include climate-neutral energy consumption. DEA, therefore, launched an e-mobility pilot project in 2019. This project focuses on DEA's activities in Germany and primarily supports the company's efforts to get DEA employees enthusiastic about 'green electrification'. In order to reduce our CO<sub>2</sub> footprint, the current vehicle pool at the production sites will be converted to electric or hybrid vehicles.

The aim of this project is to reduce our fuel consumption and the directly linked emissions of our vehicle fleet. We can use e-mobility for business travel. Electric vehicles have been used by our head office employees in Hamburg for five years. Now electric charging stations are going to be installed on the site of the Holstein production facilities, and they will be available for use by employees and visitors, and for DEA service vehicles. The visitor charging station will also be available for use by the local community.

## Energy consumption in GJ (2018)\*

	On-site combustion	Purchased	Total
Germany/Denmark	675,821	1,248,840	1,924,661
North Africa (Egypt)	25,200	5,274	30,474
Mexico	3,600	1,423,894	1,427,494

\* DEA-operated, according to notification to IOGP

### DEA meets the zero flaring requirements of the World Bank

In our production activities, we try to minimise our emissions. DEA is, therefore, part of the 'Zero Routine Flaring by 2030' initiative launched by the World Bank. We already meet the requirements in the oil fields that we operate ourselves, which puts an end to our flaring of associated gas. Flaring for safety reasons and necessary, non-routine flaring operations are excluded. The initiative also includes an annual public report on this issue. At the request of the World Bank, we provided data on flaring operations on a voluntary basis in April 2019. DEA

carried out no routine flaring in 2018 and burned approx. 84,000 m<sup>3</sup> of gas in non-routine flaring activities. DEA not only limits its own flaring to an absolute minimum, but also wants to convince all partner companies to flare as little as possible.

### Climate protection: fighting methane emissions

A key issue in the public disclosure is the importance of methane in avoiding emissions that are harmful to the climate. The relevance of this issue for DEA is explained here, using Germany as an example.

Basically, technical measures are in place to ensure that when gas-bearing rock formations are encountered while sinking a well, safety systems seal the well so that neither methane nor other substances can escape. In the subsequent gas production and treatment process, the integrity of our facilities is so sophisticated that methane emissions are largely avoided.

Accordingly, the specific methane emissions from natural gas production in Germany are at a very low level and have been reduced by 88 % to 0.00005 kg per kilogram of natural gas produced since 2000. This low value is evidence of the high environmental standards and the technical integrity of the local facilities. The production and processing of natural gas thereby accounts for just 0.003 % of methane emissions in Germany.

In 2018, the German Federal Environment Agency published explanations on Germany's emissions of the six greenhouse gases, as mentioned in the Kyoto Protocol. According to the Kyoto Protocol, methane accounted for 5.98 % of total greenhouse gas emissions in Germany in 2016. The contribution of methane emissions from energy-related emissions is 19.3 %. This corresponds to 1.2 % of total emissions in Germany. The overall contribution of methane emissions from natural gas and crude oil exploration and production in Germany is very low and ultimately accounts for 0.0028 % of total emissions.

DEA is committed to continually reducing these already low emission levels. During production of natural gas, small amounts of methane may be emitted at the joints and valves of the (in some cases) highly pressurised pipelines

and facilities. To determine these nonpoint emissions, DEA uses a methane camera during the production of natural gas in Lower Saxony which reliably detects even the smallest of leaks so that these can be fixed.

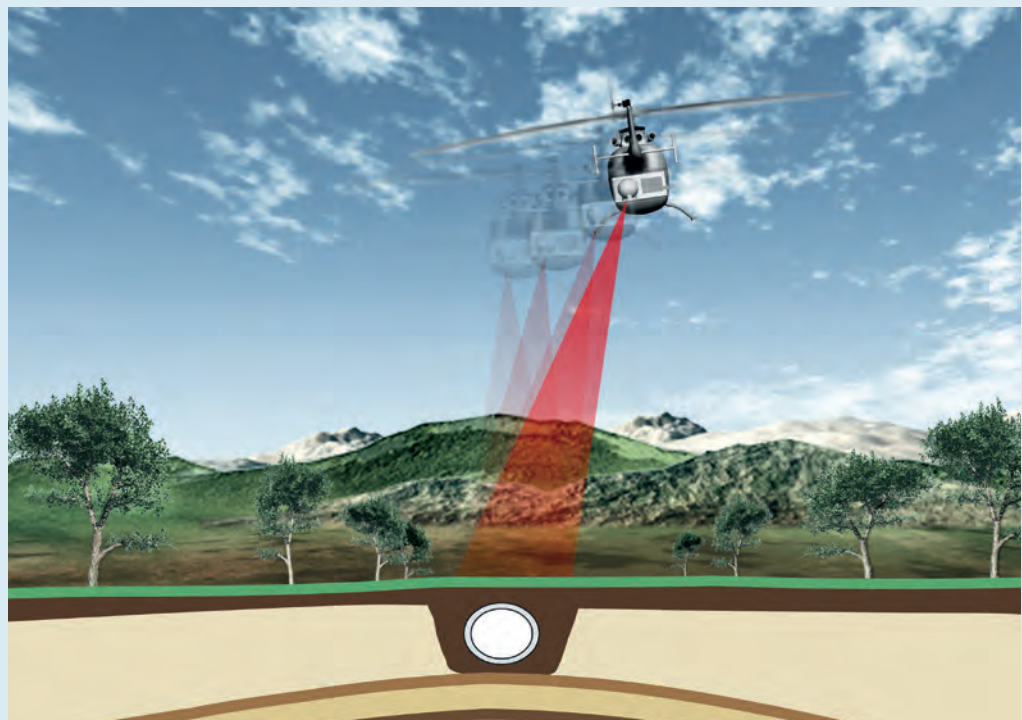
In 2018, we launched discussions with the University of Bremen regarding the development of an airborne methane monitoring system in Germany.

**Controlling nitrogen oxide emissions**

Nitrogen oxides (NO<sub>x</sub>) are waste gases that cause acid rain and greater concentrations of ground-level ozone. Their emission can have harmful effects on the ecosystem in addition to being hazardous to people's health. However, they may be reduced by improving combustion processes, switching over to fuels that reduce emissions or by installing cleaning equipment.

DEA is continuing its work in Norway to reduce nitrogen oxide emissions and has also signed up for the second phase of the Norwegian environmental agreement on nitrogen oxide reduction for the next seven years. The agreement is in line with DEA's strategy of protecting the environment and minimising our environmental footprint. As a signatory to the agreement, DEA pays NOK 6 (around 0.60 euros) per kilogram of NO<sub>x</sub> emissions from exploration campaigns and NOK 12 (around 1.20 euros) per kilogram from drilling campaigns to the Norwegian NO<sub>x</sub> Fund for its activities in Norway. In return, signatories may apply to the Fund for financial support for implementing measures to reduce nitrogen oxide. The Fund supports projects and initiatives where money is needed most urgently.

DEA is in contact with the University of Bremen regarding the implementation of technical measures to identify potential methane sources at natural gas production sites. We also welcome the use of state-of-the-art methods such as helicopter monitoring.



**Continuous avoidance of potential pollutant emissions during gas production**

DEA continually pursues the goal of avoiding the emission of pollutants that occur naturally in gas and that are extracted with it as a by-product. The reservoir water that DEA pumps to the surface along with the natural gas is collected at the various production sites and then disposed of in an environmentally-friendly manner. To do this, the reservoir water is either injected into suitable geological formations or properly processed and disposed of by a certified specialist.

**Reduction of noise emissions**

We regularly measure our gas dehydration units in the Lower Saxony production facilities for noise levels, enabling us to implement any necessary measures to reduce the noise emissions to below the legal limits. In the case of drilling work and extensive workover operations, we voluntarily install a temporary noise barrier to protect residents. In 2019, we plan to start using special sensors and an adequate communication infrastructure in order to ensure continuous noise level monitoring at critical points.

**Good to know: nitrogen oxide reduction initiative in Norway**

By signing Gothenburg Protocol, Norway committed itself to reducing its total annual nitrogen oxide emissions up to a maximum of 156,000 tonnes. The NO<sub>x</sub> Fund, led by the Confederation of Norwegian Enterprise (NHO), makes a significant contribution to this. The NO<sub>x</sub> Fund has already supported more than 1,000 applications for nitrogen oxide reduction measures and has provided approx. 400 million euros to support the implementation of these initiatives. The new NO<sub>x</sub> agreement for the period 2018 to 2025 will further reduce Norway's nitrogen oxide emissions.

**Atmospheric emissions (2018)\***

	CH <sub>4</sub> (t)	NM VOC** (t)	SO <sub>2</sub> (t)	NO <sub>x</sub> (t)	CO <sub>2</sub> (t) Scope 1***	CO <sub>2</sub> (t) Scope 2***
Germany/Denmark	12	3	–	35	35,827	74,714
North Africa (Egypt)	–	–	0.1	56	1,610	1,610
Mexico	–	–	–	–	161	67,800

\*DEA-operated, as reported to the IOGP

\*\*NMVOCs (non-methane volatile organic compounds)

\*\*\*See explanations on page 29



Robust systems are used to transmit sensor data and control information across network infrastructures. MIOTY, a miniature IoT system developed by Fraunhofer IIS, sets new standards in the field of wireless data transmission.



NOFO exercise in Repparfjord, Norway, January 2018. Local fishing boats take part in the exercise using the Current Busters barrier system to prevent oil slicks from reaching the shore.

## WATER

### Extra water protection measure by DEA

We are planning a new well in the immediate vicinity of a production field near Völkersen, Lower Saxony, which has been in operation for 20 years. It is located in a water protection zone. The geological structure of the subsurface ensures that the water will not become contaminated. The drinking water is located at a depth of up to 225 metres. The natural gas reservoir is located at a depth of around 5,000 metres. Between these depths, different layers of sediment have formed over the course of the earth's history. Salt lies about 500 metres above the reservoir and acts as a natural barrier.

In order to address the concerns to the population regarding the protection of drinking water, DEA is voluntarily implementing extensive protection measures. To prevent any contamination of drinking water, an additional safety casing is envisaged along with the telescopic pipework. An additional steel pipe is cemented into the pipework down to a depth of 400 metres. Independent experts will regularly check the well.

The protection of drinking water also plays a decisive role for DEA when it comes to the drilling mud. For example, in the relevant drilling sections, we exclusively use a mud that is non-hazardous to water in accordance with the regulations of the German Association for Gas and Water (DVWG) for drilling in groundwater.

In the further course of drilling, DEA only uses mud additives that do not exceed water hazard class 1. Milk, for example, is

also found in this water hazard class. The mud is cleaned of the cuttings in a closed loop at the surface, before being pumped back into the borehole. Drilling mud that can no longer be used and the rock that has been drilled out is collected in a watertight concrete basin. From there, certified companies take it away for professional processing.

We also implement water protection measures on our international sites. For example, state-of-the-art technology is used to improve the recycling of water during oil production at our partner company SUCO in the Egyptian Gulf of Suez and at our oil production facility in Mexico.

### DEA has decommissioned a disposal well

DEA has finally relinquished the rights of use and decommissioned the 'Wittorf Z1' disposal well for reservoir water, which had been used by our gas production facilities in northern Germany prior to the well's closure at the end of 2018. The decision to decommission the well, which used to return the reservoir water that had been pumped to the surface along with the natural gas back deep into the ground, was based on the residents' concerns regarding the risk to drinking water. By forgoing the rights of use, DEA is underlining its willingness to maintain good neighbourly relations and wants to placate residents and municipal representatives with this business decision. It should be noted that there was absolutely no impairment of drinking water quality during the several years that the 'Völkersen H1' and 'Wittorf Z1' disposal wells were in operation. All of the reservoir water collected is now disposed of via consortium wells or certified third-party disposal companies.

### Professional emergency preparedness in Norway

In its role as an operator in Norway, DEA is a member of the Norwegian Clean Seas Association for Operating Companies (NOFO) and, together with NOFO, has developed an oil spill preparedness plan in the event of an oil disaster. NOFO is an organisation for companies operating on the Norwegian continental shelf and serves as a coordinator if an oil spill occurs. NOFO is responsible for the purchase, storage and maintenance, as well as for the tactical and operational management, of the resources used such as oil booms and skimmers. It also provides oil-spill response training and certifies the crew of vessels under contract with NOFO member organisations.

We must be well prepared for the unlikely event of an accident and, therefore, appreciate the professional work of NOFO and collaboration within the industry in preparing for oil spills. NOFO not only provides a 24/7 emergency service, but also facilitates research and development initiatives, knowledge-sharing as well as exercises and training courses.

For all of DEA's upcoming drilling operations in Norway, we are closely cooperating with NOFO to develop an optimal emergency plan for oil spills, based on risk analyses for the well.

### Dynamic environmental risk assessment (ERA)

Quantitative environmental risk assessments (ERAs) for acute oil spills have been used for several years on the Norwegian continental shelf in order to assist decision-makers in the application of measures and emergency plans to clean up oil spills. We are convinced that ERAs are decisive for ensuring a high level of environmental protection in the daily operations of oil and gas production. In 2019, DEA will support the joint industry project 'ERA Acute – dynamic risk assessment taking into account the marginal ice zone'. The main aim of the project is to further develop the existing ERA Acute methodology and software so that dynamic risk assessments can be conducted.

### Good to know: NOFO – professional partner for emergency planning in Norway

Norway ranks among the best countries in the world when it comes to preparedness to clean up oil spills. The Norwegian Clean Seas Association for Operating Companies (NOFO), founded in 1978, plays a significant role in this. NOFO is part of the national preparedness model, which combines public as well as other private resources to clean up oil spills. It has five bases along the Norwegian coast, two depots and 34 employees. NOFO organises training, develops readiness and technology and provides courses. NOFO organises 50 to 60 training courses every year, which cover all levels of preparedness. Each year, 800 to 1,000 people undergo training by NOFO. NOFO conducts around 120 exercises each year. Two to three times a year, they carry out exercises that involve several hundred people and 30 to 50 vessels. Practical exercises and training are NOFO's factors for success.

### Water and waste water in m<sup>3</sup> (2018)\*

	Groundwater from company-owned water wells	Municipal water supplies	Water reinjected
Germany/Denmark	1,021	22,243	3,651,347
North Africa (Egypt)	–	6,164	–
Mexico	–	900	–

\*DEA-operated, as reported to the IOGP

**Good to know:  
ERAs are used to assess, minimise and ensure an acceptable environmental risk for offshore oil and gas activities**

- ERA Acute is an improved risk assessment method.
- The ERA Acute method will be implemented from 2019 as the new standard method for ERAs on the Norwegian continental shelf. It will replace the method currently used.
- Dynamic ERAs are a significant improvement compared to the methods currently used, which use static (e.g. seasonal) distributions of species.
- The further development of the ERA Acute method enables dynamic risk assessments using high-resolution models that reflect the natural dynamic and changing environment, i.e. high variability in the distribution of species in dynamic regions such as the marginal ice zone and the polar front.
- Reliable risk assessments are essential for safe operating activities in environmentally sensitive and environmentally challenging areas of the marginal ice zone, such as the Barents Sea.

**BIODIVERSITY**

**Assessment of the impact of oil spills on fish in Norway**

The sustainable management of fish stocks requires a combined assessment of risks and the potential impact of oil spills, together with natural mortality and fishing. More than half of Norway’s unexplored oil deposits are located on the Barents Sea shelf. In order to be allowed to explore and exploit these resources, the industry has to show that the impact of potential oil spills on the ecosystem is well understood and controllable.

For this purpose, DEA supported the SYMBIOSES research project in 2018, with the primary aim of developing an integrated modelling framework that would assist management decisions that took into account the marine ecosystem. In 2019, DEA will continue to show its commitment to this highly relevant field of environmental research by supporting the follow-up project OSECA that promotes the further development of simulation technologies for an ecosystem-based impact assessment of oil spills in environmentally sensitive and environmentally challenging areas.

**Good to know:  
professional environmental incident impact model with SYMBIOSES**

By supporting the SYMBIOSES research, DEA is helping to generate highly relevant knowledge for strategic impact assessment and for regulatory planning processes. SYMBIOSES simulation technology was developed by the Norwegian Institute of Marine Research, the Arctic University of Norway and 13 international partners. SYMBIOSES enables ecosystem-based modelling and prediction of the potential impact of oil spills on fish stocks.

The aim of the current research is to further improve the closeness to the environmental reality of impact assessment simulation technologies (IAS) and, in doing so, gain important knowledge about the impact of oil spills on various fish species. The OSECA research project intends to further develop IAS technologies by linking generic models of the early life stages of fish based on individuals together with the toxic impact of oil on a comprehensive model of several fish species.

### SEATRACK – GPS tracking of seabirds to map flight patterns

Since its official launch in 2014, DEA has been supporting the SEATRACK research project in Norway, which is coordinated by the Norwegian Polar Institute NPI and which uses GPS tracking to map the flight patterns of seabirds in North Atlantic waters. The research area comprises 38 sites ranging from the Barents Sea to Great Britain and Iceland.

Many seabird species are spread over vast areas of ocean during the year and only gather on land during the breeding season. Consequently, little is known about their lives away from the breeding ground. Thanks to SEATRACK, the main wintering grounds and migration routes of seabirds can be precisely recorded using a special light-logging technology. The study also helps to identify population-impacting environmental factors and the risk to animals from acute events such as oil spills, mass starvation or drowning in fishing nets.

The results of the study also enable DEA to take the steps necessary to minimise the impact on the existing ecosystem in the areas in which we want to operate, and to establish a more precise emergency response and oil recovery plan.



Field trip to Bjørnøya in Norway. Representatives from the Norwegian Polar Institute collecting data.

### Good to know: the SEATRACK project

SEATRACK is led by a project group comprising representatives of the Norwegian Polar Institute, the Norwegian Institute for Nature Research and the Norwegian Environment Agency. The SEATRACK study helps to identify the following:

- › The most important moulting areas, migration routes and wintering grounds for different seabird populations.
- › The size and composition of the seabird populations outside the breeding season.
- › The environmental threats that the different populations face.
- › The origin of birds affected by acute environmental incidents.
- › The different environmental conditions that are typical of the different habitats occupied by Norwegian seabirds, how these change over time and how they are reflected in the population dynamics and demographics in the colonies.
- › Responses to climate change and how this affects the different populations.

## WASTE

### Responsible handling of natural mercury

In the treatment of natural gas, components accumulate that cover the inside of the pipes with oxidic layers, including mercury in metallic form. We have, therefore, launched a project to clean steel structures contaminated with mercury in the Lower Saxony production facilities.

We have set up a pilot plant to clean plant components that have been contaminated with mercury. Our aim is to develop a process that uses a cleaning fluid to remove oxidic layers containing mercury from the contaminated steel. This will enable us to achieve a higher flow velocity for the gas that we produce and also reduce turbulent flow conditions.



In 2018, DEA carried out the first preliminary tests for the chemical cleaning of plant components contaminated with mercury. On the basis of these preliminary tests, we want to work together with a partner to develop an industrially patentable process for cleaning plant components that have been contaminated with mercury. When a plant is decommissioned, we want to clean plant components that have been contaminated with mercury and feed the cleaned steel back into the recycling process by way of melting in accordance with the German Closed Substance Cycle Waste Management Act (Kreislaufwirtschaftsgesetz).

On our Brammer compressor station in northern Germany, we have installed an additional absorber in order to reduce the mercury levels in the gas outflow to below TA-Luft (German Technical Guidelines on Air Quality Control) requirements. DEA herewith accepts greater responsibility for our end product quality, which goes beyond the legal requirements.

**Old sites in Germany under supervision**

During the production of oil and gas, residues containing salt and oil accumulate, which in the past have been stored in mud pits in keeping with the current state of technology, in accordance with statutory requirements and under the strict supervision of the German mining authority, LBEG. Many of these pits have been cleared in recent decades by specialist certified companies who have been commissioned by public authorities, or decontaminated at great cost and secured.

Today, these residues are no longer stored in surface pits, and this has been the case for decades. Accumulated drilling mud is recycled professionally or disposed of by certified companies. Of course, a regular and sustainable disposal concept also includes the safe transport to special waste disposal sites available around the country.

It is assumed that up until 1982, only clay and water were used for drilling mud. However, DEA has recently carried out assessments of the pits in order to rule out negative influences. Most of the former mud pits are completely overgrown today and no longer recognisable as pits. According to data available to us, they are not causing any damage to the health of residents or any pollution in the environment. In some cases, further tests will be carried out in order to determine the measures that may need to be taken.

We accept this responsibility and will continue to support the testing of historic sites.

**Waste quantities in t (2017)\***

	Total waste	Waste as classified to by chapter 1** to the AVV
Germany/Denmark	48,282	45,299

\*DEA operated, as reported to the IOGP  
 \*\*Definition: according to AVV = European Waste Catalogue Ordinance, Waste as classified by chapter 1 resulting from the exploration, exploitation and extraction of mineral resources'

**Good to know:  
 Mittelplate drilling and production platform – best practice for environmentally friendly and safe oil production in the Wadden Sea National Park**

Together with our consortium partner Wintershall, DEA has been safely and ecologically producing crude oil from Germany's largest reservoir, Mittelplate, located under the Wadden Sea National Park in the German North Sea, for thirty years. There have been no oil spills during these three decades, thanks to the highest safety and environmental standards. The drilling and production platform is, therefore, a positive example of responsible oil production.

Since production started in 1987, we have produced 34 million tonnes of oil. Around another 20 million tonnes are considered technically and economically recoverable according to current criteria. Since 2000, the oil has not just been produced offshore from the Mittelplate platform, but, for environmental reasons, also from our land station near Friedrichskoog by means of extended-reach wells. Around 1,000 jobs are centred around the production and processing of Mittelplate oil.

## ENVIRONMENTAL COMPLIANCE

### Official soil analyses show no results

In the analyses conducted by the German authority LBEG (State Office for Mining, Energy and Geology), soil and sediment samples were taken in the vicinity of natural gas production sites in Lower Saxony. These were analysed for heavy metals, hydrocarbons, dioxins/furans and radioactivity. These soil analyses at around 200 of the 455 natural gas production sites were completed in 2017. There was no immediate need for action at DEA's operating sites. There was no danger to humans, the soil, plants or water, nor was there any risk to animal nutrition. LBEG will carry out further sampling in 2019 focusing on oil fields.

### German Radiation Protection Act and Radiation Protection Ordinance – correct handling of naturally occurring radioactive material

The effective protection of employees and the population against any hazards that may arise at our production sites is a key priority for DEA.

Naturally occurring radioactive material (NORM) can be found in more or less significant concentrations all around the world. Their radiation can be detected as background radiation using corresponding measuring instruments. As a result of dissolution processes, the radioactive substances can also be released into the reservoir water in the rock strata from which natural gas is produced. The reservoir water is carried to the earth's surface as a by-product, together with the natural gas, where it is separated from the gas and disposed of in a safe manner.

Naturally occurring radioactive material may also occur in our Lower Saxony production facilities in Germany, where it may accumulate in the gas production facilities in the form of what are known as scales and sludges.

In Germany, radiation protection was previously governed by various national regulations. In order to implement an EU directive, all areas of protection against ionising radiation have now been systematically combined for the first time in a Radiation Protection Ordinance. Even if the handling of NORM already fell within the scope of application of the Radiation Protection Ordinance, this activity is now explicitly mentioned in the law for the first time and is, thereby, fully subject to the regulations of the German Radiation Protection Ordinance.

In supplement to the Radiation Protection Act, the Radiation Protection Ordinance was passed at the end of November 2018, bringing to life the framework laid down by the law and establishing detailed guidelines for radiation protection.

In order to ensure even better protection against radiation under the new law, the value at which employees are subject to a mandatory measurement of the radiation dose has been significantly reduced under the new legislation from 6 mSv (millisieverts – measure of the dose of radiation) per year to just 1 mSv per year now. Measurements carried out in recent years among our own employees and service providers who have handled NORM show that even this much stricter value is significantly undercut in our work in Lower Saxony.

The new law now provides for the appointment of radiation protection officers as of 2019. DEA has already appointed radiation protection officers in the past, and as a result, it has already been handling NORM safely for a long time.

DEA is setting international standards in terms of environmental compatibility and sustainability in a sensitive ecosystem with the Mittelplate drilling platform in the middle of the Wadden Sea, Germany.



## FURTHER INTERNATIONAL ENVIRONMENTAL TOPICS

Wherever ecosystems or species may be put at risk by our activities, DEA carefully examines the impact that our actions might have and how any negative consequences can be avoided. This concerns, in particular, those sites where DEA performs new or changed activities or where we operate in an environmentally sensitive area.

### QHSE management system and work on an environmental study in Mexico

Soon after it was founded, DEA's Mexican subsidiary, Deutsche Erdoel Mexico (DEM), established the Mexican management system to meet the requirements of the National Agency for Industrial Safety and Environmental Protection of the Hydrocarbons Sector (ASEA). Today this is being further developed in accordance with the international certification standards ISO 9001, 14001 and 45001, so that the QHSE system can be awarded ISO certification as early as September 2019.

DEM has also started a training programme that is based on our employees' skill requirements. With this, Deutsche Erdoel Mexico is identifying and integrating best practices and standards at both a national and international level in the areas of health and safety and environmental protection.

We have also set up a QHSE team in Mexico with new staff who were trained in Hamburg, and are forming a structure so that we meet our corporate social responsibility requirements. These two departments are working on fundamental environmental and social studies with programmes that will help us to lay the foundations for our socially responsible work in Mexico. For example, DEA is currently working on comprehensive environmental studies for the area surrounding our Ogarrio production site and the planned exploration activities in Mexico, focusing on biodiversity.

At the new DEA sites in Mexico, soil samples are taken in order to identify possible pollution.



Buoys are used to collect metocean data for environmental purposes in Norway.

### Industrial projects focussing on HSE in Norway

The Norwegian Petroleum Safety Authority (PSA) has pronounced 'the far North' as a main priority, emphasising operator collaboration as a key to success. Both the PSA and the Norwegian Environment Agency expect the industry to cooperate and to share expertise, experience and standardisation.

DEA is involved in Norway in joint projects focusing on HSE, such as the Barents Sea Exploration Collaboration (BaSEC) project. DEA has been an active project member since 2015.

The aim is to learn more about the Barents Sea and to develop joint solutions and approaches for the planning and implementation of drilling campaigns in the region. In particular, efficient HSE standards for future oil and gas production in the region are to be created. Given the prospects for the Barents Sea and the forthcoming drilling campaign, DEA sees a great benefit in building knowledge and expertise in this area.

Over the three years that the project has been running, BaSEC has developed cost-effective solutions and coordinated studies and standardisation schemes. QHSE aspects and compliance with regulatory requirements have largely been incorporated and emphasised. Potential savings have also been identified by optimising logistical solutions and sharing resources between operators.

DEA is represented in all of BaSEC's working groups and is a member of the steering committee and the project sponsor group. The results of the groups' work are extremely important, particularly for the planning and preparation of the Gråspett campaign planned by DEA.

## Good to know: Barents Sea Exploration Collaboration (BaSEC)

BaSEC is an alliance of 18 oil and gas companies that operate on the Norwegian continental shelf. BaSEC is organised into the following five working groups:

- Metocean and Ice
- Environment & Oil Spill Preparedness
- Emergency Response & Logistics
- Health & Working Environment
- Mobile Drilling Units

Each group carries out studies and prepares reports that will be made available to all project members. So far, the groups have produced in excess of 100 practical and fact-based recommendations for planning operations.

In addition, a new BaSEC method helps operators to identify, evaluate and implement relevant recommendations during the planning of wells.

BaSEC ensures an open and consistent sharing of knowledge and experience. The BaSEC method is well received and supported by the public authorities responsible, and the project is recognised as a professional entity that is frequently approached by authorities and academia for statements. BaSEC ensures a continual improvement of the HSE level and helps to build trust among authorities and other stakeholders.

## DEA also takes environmental protection seriously in joint venture activities in Egypt

In our DEA office in Cairo, we are very careful with the resources that we use. One way we do this is to recycle paper; we can also point to successes that have been recognised externally. For example, the DEA office in Cairo was awarded a certificate in 2018 confirming its admission to the Green Box Community for its contribution to paper recycling, with well over 400 kg of recycled paper. This equates to seven trees' worth of wood. Similarly, the production process has seen huge savings in CO<sub>2</sub>, energy and water.

DEA has a stake in joint ventures in Egypt where our partners have operational responsibility. Within these joint ventures, DEA focuses on the monitoring of environmentally relevant and safety-related aspects. To this end, in addition to our own monitoring operations, we regularly commission external companies to review the plant and operational safety of the sites according to internationally recognised standards. With the help of common risk management tools, operating risks and potential for improvement have been identified and implemented. DEA also lends support in respect of environmental protection and safety in operating activities when necessary.

In April 2019, one of DEA's joint ventures in the Gulf of Suez, Egypt, experienced a hose failure on a single buoy mooring system while loading oil onto a tanker. As a result of the failure, a small volume of oil, estimated to be between 10 and 15 m<sup>3</sup>, was discharged into the water. Some oil became stranded on a nearby beach of an uninhabited island, while other populated beaches were protected by oil booms. The oil spill response was two-pronged: on-water control of the oil and beach cleaning. The stranded oil was quickly cleaned up to the pre-oiling condition. With the oil that did not strand being dispersed, mainly through mechanical agitation, and natural weathering, to be naturally degraded.

Despite the amount of oil spilled being relatively small, to support the joint venture, DEA mobilised an oil spill expert from Hamburg, in addition to local experts, to provide technical advice to the joint venture in its response. Additionally, DEA has financed on short notice all additional costs required for the response. During this process, gaps were identified in equipment and training that lead to a less efficient on water oil spill response. By the end of the first technical support day, the joint venture management team accepted DEA's advice and agreed in principle to high level improvement concepts to implement. Moreover, DEA has launched, at its own cost, a full investigation of root causes of the spill, including detailed analysis of the failed hose to be carried out in internationally reputed labs. Even before the investigation is complete, DEA and the joint venture, have committed to a substantial oil spill equipment upgrade and training programme for the equipment and a general emergency management response.

Due to the age of some of the plants operated by one of DEA's joint ventures in Egypt and used in the treatment of production water, national limits for the discharge of treated production water in the Gulf of Suez have been exceeded. In particular, the values for BOD (biological oxygen demand), COD (chemical oxygen demand) and TDS (total dissolved solids) are too high. In cooperation with the joint venture company, DEA has developed several short-to long-term measures in order to bring the values permanently back below limits. These measures are currently being fine-tuned with the Egyptian authorities and will be implemented as quickly as possible.

**Further QHSSE activities in Libya**

DEA accepts its responsibility for environmentally-friendly practices in Libya. Due to the political situation there, however, operational activities are no longer conducted in Libya and, accordingly, no environmental incidents have been reported. However, one environmental issue related to contamination with oil-based mud is still pending due to the security situation in the country. This concerns the treatment of oil-based mud from a well site.

DEA reported transparently on this matter to the Libyan National Oil Corporation, which manages oil and gas activities in the country, and stated its commitment to treating the oil-based residues once the country's improves and allows DEA to conduct operations in a safe manner. DEA has already selected a contractor to carry out the thermal treatment and recycle the hydrocarbons.

Another environmental and safety issue in Libya is the removal of unexploded ordnance. With regard to the planned invitation to tender for an UXO investigation (UXO = unexploded ordnance) in Benghazi, DEA is looking for a contractual partner that, in the possible event that

unexploded ordnance is located, will dispose of this in a safe and environmentally-friendly manner in accordance with local regulations and the International Mine Action Standards (IMAS).

**DEA also gives constructive QHSSE advice and support to a joint venture in Algeria**

In concessions in which we are not the operator but a partner with a significant investment share, we advise on and review the activities from exploration, to production and the final renaturation.

One example of how we influence the operator as a partner is the establishment of a programme for the planning and implementation of social projects in Algeria, from which the local population near the Reggane production site will benefit. The Reggane production site is operated by a joint venture company in which DEA holds a 19.5 % stake. As a result of an audit conducted by DEA in cooperation with an external consultancy, an Environmental and Social Action Plan (ESAP) was drawn up, which included a plan for social commitment. In order to meet this demand and find areas in which the population urgently needs support, DEA convinced its partner to carry out a study and to monitor the resulting projects, giving advice and support through a committee.

A further topic arising from the ESAP is the need to provide proof that the production facilities do not consume too much groundwater for operations. The Reggane production site is in the Sahara, in an area in which there are also oases, and where water control plays a very important role. It was proven that the production rates and the five wells do not exceed the legal rates and that one of the wells is used almost exclusively for the feeding of water into the local irrigation system.



As the result of an audit, in Reggane, DEA developed an environmental and social action plan (ESAP) in cooperation with an external consulting agency.



Occupational safety and the wearing of personal protective equipment has the highest priority at DEA.

Area of action

# OCCUPATIONAL HEALTH AND SAFETY AND SECURITY

**Occupational health and safety and security**

# What we count on

DEA takes diverse measures concerning occupational health and safety. The positive development of our occupational safety statistics demonstrates their effectiveness. In line with our HSE culture, managers, employees and occupational safety committees discuss the deficits that are identified and continually work on opportunities for improvement.

## OCCUPATIONAL SAFETY

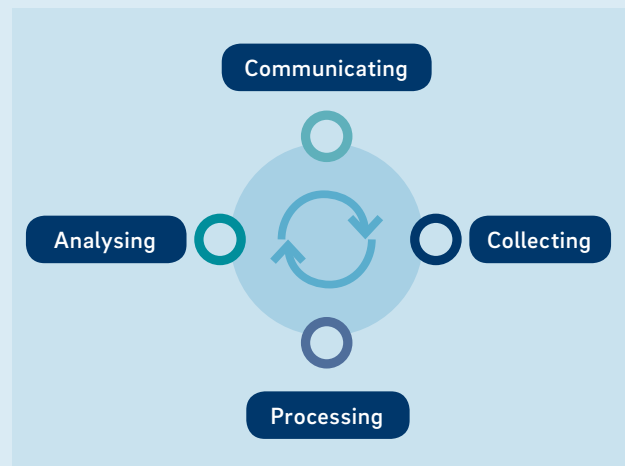
WE CONTINUALLY REASSESS hazards, review protective measures and carefully instruct our employees. We also engage in cooperative and open dialogue with our contractors. We pay very close attention to external hazards and, in terms of security, take action foresightedly.

**DEA achieves a high level of occupational safety**

Occupational safety has the highest priority at DEA. Incidents at DEA are classified in a three-tier system. Level 1 represents incidents of the greatest severity (e.g. fatal occupational accidents). As in the previous years, no incident of this severity occurred in 2018. Furthermore, no incident that resulted in an employee being absent (LWDC, lost work day case) was recorded at DEA. Such incidents would be recorded in DEA's LTI (lost time incident = sum of all fatalities and lost time injuries) statistics. Hence, DEA was able to continue the positive LTI trend of previous years, in which we had already reached the lowest level on record, and to meet the goal of zero LTIs.

DEA also compares itself internationally in terms of the key performance indicators for process safety and plant integrity. Here, too, DEA scores well in an international comparison. In 2018, two incidents occurred at DEA that required reporting in line with the IOGP. One of these incidents occurred in Mexico where one of our pipelines

was sabotaged, resulting in a crude oil spill. Due to the relatively small quantity of oil, the incident could be classified as a Level 2 incident. The other incident – a leakage – occurred at a drilling rig in Egypt while loading diesel from a closed system. Due to the small quantity, it could be classified as a Level 1 incident.



Our incident management system enables optimised cooperation in the event of HSE incidents, thanks to a systematic procedural organisation.

In terms of occupational safety, DEA is ranked as 'very good' by the national and international industry associations BVEG and IOGP. The trend in the number and frequency of incidents shows that DEA – along with the industry as a whole – has an excellent level of safety. The graphs illustrate LTI and TRI statistics.

### Good to know: DEA uses an incident management system

All incidents that required reporting, including incidents that did not result in any personal injury or damage to property or the environment, but had the potential to do so, are systematically processed across DEA using incident management software and initiate a 'lessons-learned' process.

Our incident management system includes detailed documentation ranging from the initial report and a detailed case description, to the results of the cause analysis and the measures taken.

Sending emails directly from the system and having easy access to the essential information – while taking data protection into account – enables efficient communication right from the initial notification of an incident to the further processing of the case. Predefined and customised reports are available for knowledge transfer. Recorded events are statistically evaluated and analysed at DEA in order to identify possible incident-prone areas. These experiences and this information make a valuable contribution to deriving preventive measures.

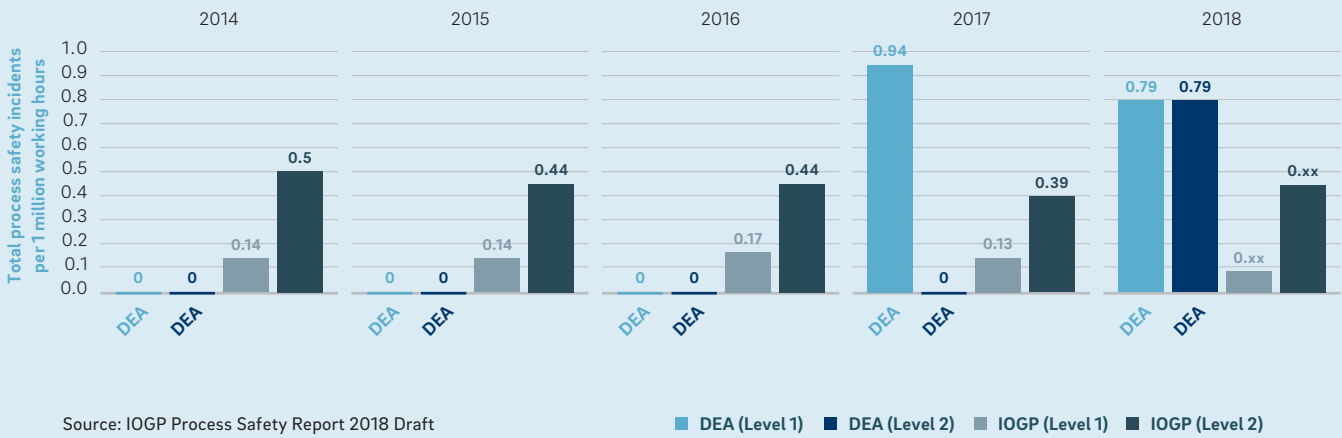
### Good to know: terms of the IOGP international industry association relating to process safety

The IOGP, our international industry association, has defined a level-based system for process events that classifies incidents according to their severity. It is based on loss of primary containment (LOPC) incidents. These are incidents where a substance unintentionally escapes its primary containment, such as a container or pipeline. Depending on the consequences and the quantity thresholds for the substances released being exceeded, the IOGP has divided process safety events into different levels. Level 1 represents events with serious consequences, and Level 2 represents events with less serious consequences. The process safety event rate (officially abbreviated as PSER) is calculated as the number of LOPCs (Level 1 or Level 2) per million work hours in production or drilling activities.

Going beyond the recommendations of the International Labour Organisation (ILO), our industry statistics already record incidents with lost time of one day. However, DEA is not satisfied with what it has achieved and our goal remains the same: zero accidents – among our own staff and among contractors. Hence, we also take incidents that did not result in any personal injury or damage to property or the environment and that required reporting seriously because we want to learn from them. At DEA, for example, an independent investigation team has reviewed and processed a high-potential case, i.e. an incident that could have resulted in a fatality under unfavourable conditions.



Process safety incidents at DEA operational sites/projects vs. benchmark



Source: IOGP Process Safety Report 2018 Draft  
 Status: 30 December 2018  
 \*DEA UK LOPC, Level 2

In this incident, a grab knife came off and fell down from the top of the derrick on one of our drilling rigs and grazed the shoulder of an employee. The employee’s quick reaction prevented serious consequences. This near miss resulted in concrete improvement measures at the rig. Furthermore, we took this as an occasion to intensively discuss the matter of dropped objects once again with regard to the protective measures already taken (barriers, safety distances, communication, etc.) and to raise employees’ awareness of risks. The outcomes of the investigation are documented in our electronic incident reporting tool and are made available for the sharing of experience.

In Mexico, DEA is reinforcing the capacity of its subsidiary, Deutsche Erdoel AG Mexico, to cope with emergency situations. As part of the HSEQ training programme and as a follow-up to the emergency response plan, we held a fire-fighting training course for the staff on Ogarrío oil field. This ensures that we are better equipped to cope with an emergency during our daily operations. The course included one day of theory and one day of practical training, during which employees took part in a simulation of a fire on the Ogarrío 2 field and familiarised themselves with the fire-fighting system and equipment.



Images from the fire drill on the Ogarrío 2 oil rig in Mexico.

**Analysis of unsafe acts and conditions**

In addition to its incident statistics, DEA also records first aid cases, as well as unsafe acts and conditions concerning working processes. The pyramid chart can be used to illustrate a correlation between the number of observations and recordable incidents. Systematically recording and analysing observations enables us to prevent incidents proactively.

A look at the base of the pyramid shows that a number of near misses which could have resulted in personal injury, occurred at DEA in 2018. These included, for example, an increased risk due to incorrect handling of work equipment such as a hand saw and a forklift truck or due to the incorrect securing of loads. Overall, the number of near misses in 2018 (45 incidents) increased considerably compared with the previous year (7 incidents). This is due to the fact that the 36 near misses that occurred on our contractors' sites during the production of offshore installations in Norway were included in the statistics for 2018. The number of near misses at DEA's own installations (9 incidents) remained at the low level of the previous year.

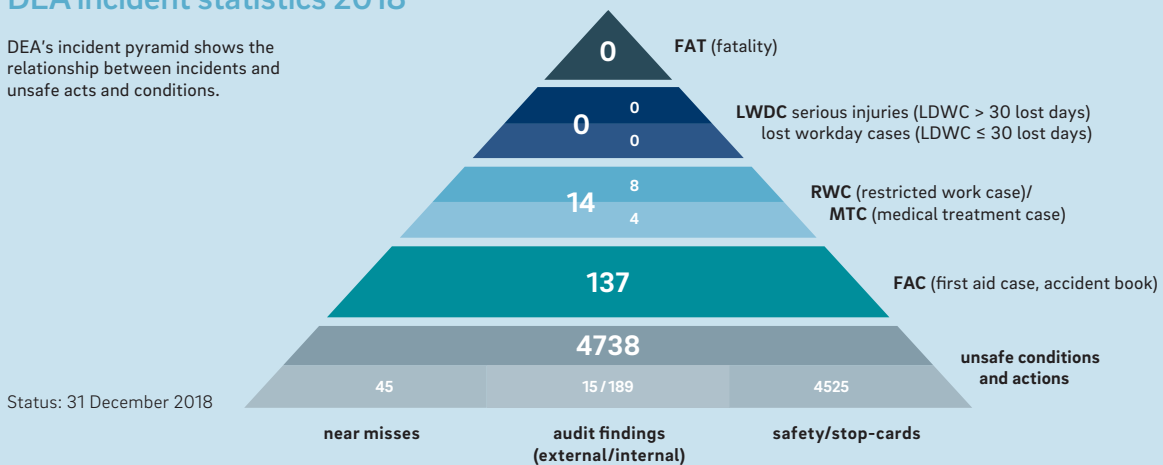
The pyramid shows the 14 recordable incidents (sum of the FAT/LWDC/RWDC/MTC categories), including those that occurred at sites operated by DEA and those involving contractors. The main causes we have identified are inattention, lack of awareness and the inadequate condition of work equipment and protective systems. The considerable increase of seven recordable incidents compared to the previous year encouraged us to launch a new HSE campaign in order to raise our employees' awareness of occupational health and safety.

**Good to know: international terms and abbreviations relating to occupational health and safety**

The following standardised performance indicators are used in the area of occupational health and safety to compare the safety performance of companies at an international level: LTI (lost time injury) is the number of occupational accidents resulting in lost time or a fatality. LTIF (lost time injury frequency) is the frequency of LTIs per million hours worked. TRI (total recordable incidents) is the sum of all incidents that must be reported to supervisory authorities, Employees' Social Accident and Insurance Associations, trade associations, etc. It also includes restricted work cases and medical treatment cases. TRIR (total recordable incident rate) is the frequency of TRIs per million hours worked.

**DEA incident statistics 2018**

DEA's incident pyramid shows the relationship between incidents and unsafe acts and conditions.



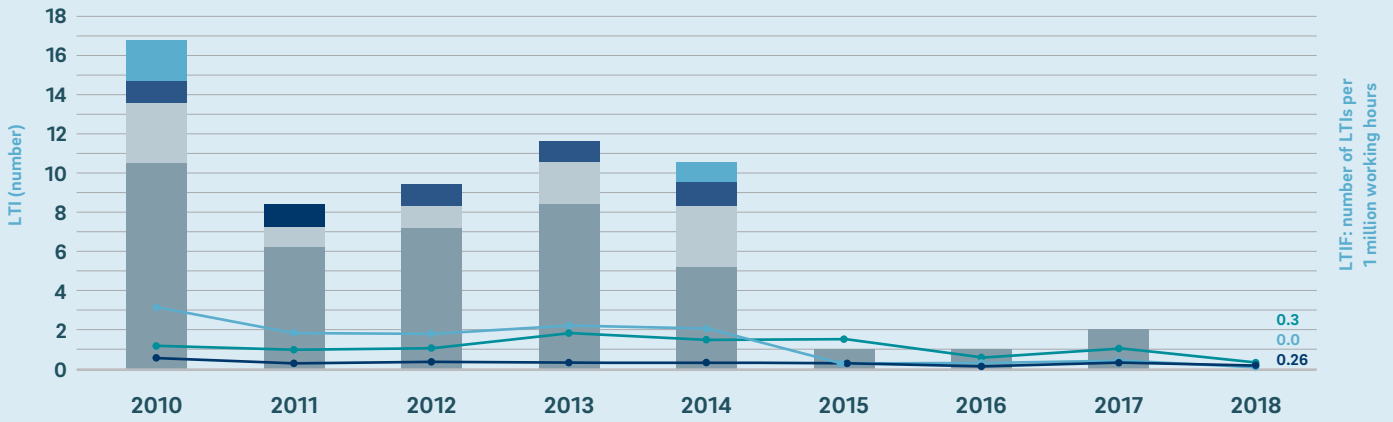
Status: 31 December 2018

Near misses: an unplanned or uncontrolled incident or a chain of events that does not result in any personal injury or damage to property or the environment, but had the potential to do so had circumstances been different.

Audit findings: observation or non-compliance (uncritical, critical) with standards, CIMS or CorpManSys (external and internal)

Safety/stop-cards: officially reported observation of an unsafe incident that has the potential to cause personal injury or harm to the environment or property.

Frequency of lost time incidents and lost time injuries (LTI) at DEA: projects vs. benchmark



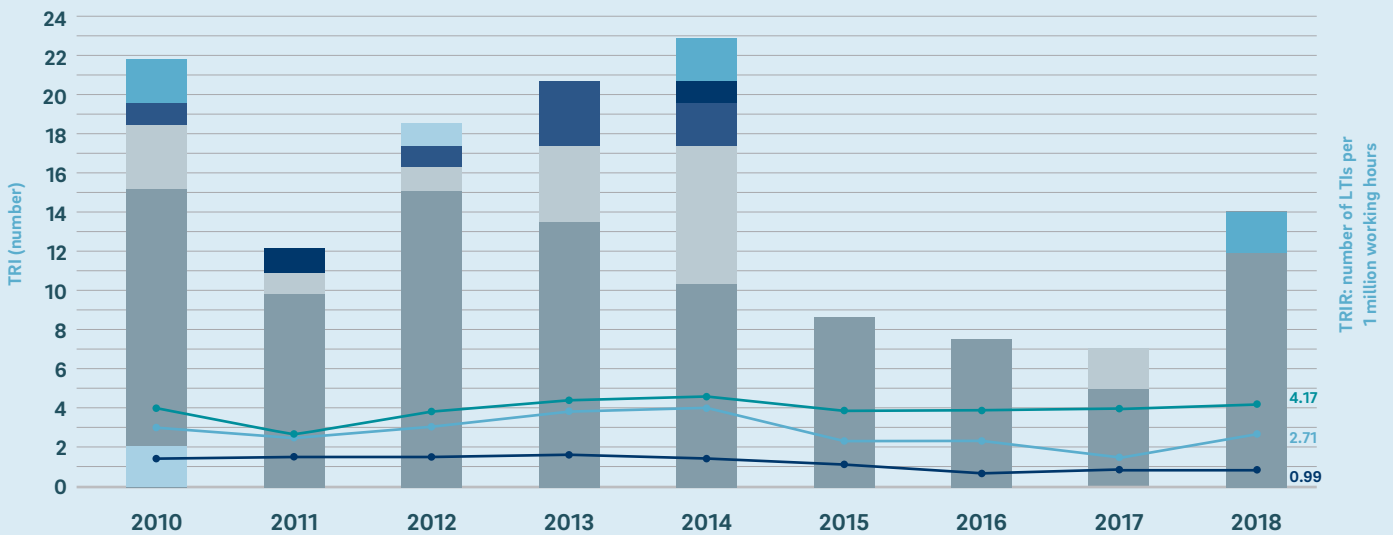
DEA's incident statistics are significantly better than the incident statistics of the German Employees' Social Accident and Insurance Association, and is at a very good level when compared within the industry

<sup>1</sup>OPCO Germany/Denmark incl. all German companies

Status: 31 December 2018

- LTI:**
- DEA Turkmenistan
- DEA Norway
- DEA Libya
- DEA Great Britain (2010-2015)
- DEA Egypt
- DEA Germany<sup>1</sup>
- LTIF:**
- LTIF DGUV
- LITF DEA corp.
- LTIF BVEG
- LTIF IOGP

Total recordable incidents and total recordable injury rate



DEA's total recordable incident rate (TRIR) is at an average level compared to national and international companies within the industry.

<sup>1</sup>OPCO Germany/Denmark incl. all German companies

Status: 31 December 2018

- TRI:**
- DEA Turkmenistan
- DEA Norway
- DEA Libya
- DEA Great Britain (2010-2015)
- DEA Egypt
- DEA Germany<sup>1</sup>
- TRIR:**
- TRIR BVEG
- TRIR DEA corp.
- TRIR IOGP



Team spirit pays off – especially as far as health and safety at work is concerned.



#### Health & Safety campaign 'Heroes care. Everywhere.'

Bases on our LTI statistics, DEA can demonstrate a high HSE performance level. In order to be able to maintain this level, we need to continually promote and further improve our HSE culture. The increase in recordable incidents at DEA in 2018 revealed a need for action in this regard. We met this need with several initiatives, including the launch of a new Health & Safety campaign in 2018.

The international campaign was initiated by the top Group level with the slogan 'Heroes care. Everywhere.' Its aim is to sharpen the perception of a safe and healthy working environment at all locations. Everyone working at DEA should not just care for him-/herself but also keep an eye on the health and safety of his/her colleagues.

For the official launch of the campaign, our CEO Maria Moræus Hanssen gave a speech that was transmitted to all DEA sites. A film emotionally illustrated the exemplary way in which DEA employees are implementing health and safety activities in their everyday working life as true heroes. At the launch of the campaign, a vast majority of DEA staff then symbolically demonstrated their commitment to the campaign's objectives by adding their handprint to a canvas.

In the first months, the campaign, which will span several months, covered various topics ranging from first aid and travel security to back health. In the course of the campaign, we also intend to include the contents of the 'Vision Zero' initiative of the International Social Security Association (ISSA). As a member of ISSA Section Mining and the associated German Social Accident Insurance Institution

for Raw Materials and the Chemical Industry (BG RCI), DEA contributes to putting the 'Vision Zero' initiative into practice. The concept of our annual planning in this regard was presented by DEA's Head of Corporate QHSSE, Florian Peters, at the Vision Zero Conference on Occupational Safety and Health from Problems to Solutions in Mumbai in February 2019, attracting great interest of the representatives of the international ISSA member companies. He showed how we give major impetus with our 'Heroes care. Everywhere.' campaign to promote the HSE culture at DEA at an emotional level and increase the motivation of everybody working at DEA by means of a 'Zero Accidents – Healthy Working' prevention strategy.

#### 'Vision Zero' is planned with a long-term horizon

Accordingly, DEA and BG in Germany have concluded a cooperation agreement to jointly achieve its ambitious quantitative and qualitative prevention targets within the next ten years. Since occupational health and safety has long played a central role for DEA, the new cooperation agreement's most important building blocks are therefore already mapped in the DEA management system. Examples of how we have spent years living the fundamental idea of the 'Vision Zero' campaign in Germany include the detailed process of defining HSE objectives with continual improvement, DEA employees' participation in BG RCI courses, the regular exchange of experience between DEA safety experts and the Institute, and – last but not least – DEA's successful certification by the BG RCI as part of the 'Systematic Safety' seal of approval, which has been running for several years. By participating in the initiative, we are making a further contribution to communicating and enforcing high industry standards.



DEA pursues a zero accidents policy and intends to implement the BG RCI's 'Vision Zero' initiative at an international level.

**Good to know:**

**'Vision Zero' – DEA supports the International Social Security Association (ISSA)**

'Vision Zero – Safety. Health. Wellbeing – that is the motto of the International Social Security Association's (ISSA) preventive campaign. Preventive measures are needed to prevent occupational and commuting accidents, as well as occupational illnesses. Therefore, as part of the initiative, seven Golden Rules will be communicated in order to further raise the participating companies' awareness of safety and health:

1. Take leadership – demonstrate commitment
2. Identify hazards – control risks
3. Define targets – develop programmes
4. Ensure a safe and healthy system – be well-organized
5. Ensure safety and health with regard to the use of machines, equipment and in workplaces
6. Improve qualifications – develop competence
7. Invest in people – motivate by participation

**The DEA Safety Card: reinforcing occupational safety**

The practical implementation of increased safety awareness at DEA constitutes the use of Safety Cards. DEA uses observation map systems to record unsafe acts and conditions. It allows us to identify weaknesses and avoid accidents by taking appropriate preventive measures. We build on the participation of all staff in the joint task of creating safe working conditions. The Safety Card is a complementary tool used to directly address the important conditions or acts that still need to be improved or praised. The reporting system can also be used to make a written record of safety-relevant findings on a centralised basis. This supports the continual improvement process to which we

are committed with our certified management system. Our objective is to prevent incidents in a practical way.

With the voluntary Safety Card system:

- > facts are not so easily forgotten,
- > we can deal with specific issues systematically, and
- > we can show that we take unsaved situations as seriously as incidents.

In Germany, we have put in place a corresponding employer/works council agreement and procedural instructions. For our international locations, we intend to do the same in 2019, building on our existing systems.



At the "Practical Hazard School", the first of its kind in Egypt, employees on the construction site are constantly made aware of the topic of occupational safety.



A new 4,500-tonne gas treatment and compression module will be installed on the Heidrun platform. Statoil shall take over all work on Heidrun and DEA shall perform all subsea and subsurface work as a Dvalin operator.

### DEA hosts 'Contractor Meeting North' in Germany

Contractors are normally used for complex projects in the oil and gas production industry. The respective clients of our industry are responsible for ensuring effective cooperation. This, of course, applies particularly to occupational safety aspects, which is why our efforts concerning occupational safety must not be limited to our own employees. To optimise cooperation between our industry and our contractors, the German industry association, BVEG, organises regional contractor meetings. In 2018, DEA hosted another 'Contractor Meeting North'.

Among other things, this sharing of experience focused on:

- the motto 'Safety for Success' by using a traffic accident as an example to show defensive and anticipatory driving behaviour;
- reports of participants on various near misses and incidents in their divisions;
- improved communication of lessons learned from the BVEG, to learn from past incidents and accidents;
- raising employee' awareness of the risk involved in routine work;
- the proposal to minimise the number phone calls made using hands-free car kits;
- the quality of protective goggles and the requirement that they should fit tightly.

The meeting was attended by 11 contractor representatives, as well as by representatives from two major exploration and production companies operating in Germany.

From the workshops and requests of the previous year, the BVEG presented the following results:

- The report card system of the E&P industry is an important element of the aforementioned 'Vision Zero' initiative. With regard to their content, the cards used are largely comparable across the German E&P industry. However, it is unfortunately impossible to harmonise the report card systems.
- The work to harmonise the gas protection instructions and personal protective equipment has been completed. The trained gas protection managers on the operation sites of the BVEG member companies now follows gas protection instructions that have been standardised across and recognised by all member companies of the BVEG. With regard to the objective to establish a uniform standard of personal protective equipment (PPE) for all E&P companies in Germany, a list of standards has been compiled, compliance with which enables each contractor to work at any BVEG member company.

In summary, contractors and industry representatives such as DEA again found the exchange of experience very positive and have established the meeting as a permanent fixture.

### Dvalin project – HSE ‘one team’ philosophy further promoted

Thousands of people work together on the Dvalin project operated by DEA in Norway. Until the end of 2018, well over 3.7 million working hours were recorded since the project has started. In this major project, we have taken innovative steps together with our contractors to promote the HSE culture.

To ensure that those involved in the project understand each other’s HSE requirements, we have implemented a ‘one team’ philosophy. It enables us to achieve the common goal of working safely and without damage to (or incidents involving) people, the environment or material assets.

Based on our experience in similar projects, we have set up a programme to promote an HSE working culture. In this way, we raised awareness of personal responsibility for occupational health and safety among all employees, from project management to subcontractors, which extends well beyond legal responsibility.

For the 50 committed HSE ambassadors of the Dvalin project organisation, an HSE training programme was set up in 2016. Depending on the role, the programme included webinars and face-to-face training. In addition, an HSE toolbox with checklists, observation maps and templates for the HSE training has been created to support the HSE ambassadors.

At the same time, we have established the traditional dialogue between project management and partners at the main contractors. Through close exchange with HSE contacts at the contractors, it was also possible to ensure HSE awareness among subcontractors.

This holistic approach to HSE is important for a project of Dvalin’s magnitude because the mobilisation of staff is the key to HSE performance. Accordingly, the concept is based on transparency and trust. Only when we share an understanding of risks with our contractors can we transfer responsibility to them and to their subcontractors, and achieve our ‘zero accidents’ target.

So far, we have come quite close to achieving this target in the Dvalin project. The safety performance in Dvalin has been excellent in view of the fact that 3.7 million working hours were recorded in this project, which is inherently risky due to difficult construction work and offshore installation activities.

### Good to know: DEA’s Dvalin gas project

DEA’s development of the Dvalin gas project in Norway is based on four underwater wells connected to Statoil’s existing Heidrun platform. A template with four connections and conveying lines is installed on the seabed and connected to Heidrun via a supply line. The gas will be fed into the Polarled system via a new gas export pipeline that will be installed as part of the project in 2018.

In the Dvalin project, everything is classified as a recordable incident starting with medical treatment injuries. Until now, there have only been two such cases. Both were hand injuries. These were suffered while building a module in the summer of 2018. Until the end of April 2019, there have been three cases.

Since the start of the project in October 2016, 27 people have suffered minor injuries while working on the Dvalin project. In addition to the two cases mentioned above, there were two first-aid cases in 2018. It is not easy to achieve such low figures. Therefore, the project team will also continue its efforts and the risk-based follow-up activities in the critical phase in 2019 to maintain the highest level of HSE performance.

### DEA in Egypt continues to tackle the issue of road safety

In Egypt, as well, DEA not only concerns itself with safety directly in the workplace, but also with the prevention of accidents on the way to and from work, particularly in view of the high Egyptian traffic accident rate. Accordingly, we pay particular attention to this safety aspect. To this end, DEA in Egypt has developed and communicated its own policy in accordance with Egyptian traffic law, and IOGP guidelines. Furthermore, a defensive driving training session takes place every two years for the team of car drivers at DEA Egypt. This training session includes theoretical knowledge and a practical assessment to evaluate the defensive driving behaviour and the level of competence of drivers on Egyptian roads.



When we entered Mexico, DEA conducted a routine analysis and evaluation of the potential risks to our colleagues and operations.

## SECURITY

THE SAFETY OF OUR STAFF is also a top priority for us in terms of security. DEA is exposed to a wide range of risks surrounding its activities. These range from political upheaval to criminal threats. This is why we take preventive measures to ensure the best possible protection at our international sites and when our employees are travelling.

### Security enables safe operations at new sites

As part of our growth strategy, we aim to enter new countries. This creates new opportunities for business, but also entails new security challenges. Therefore, we identify and assess all potential risks for our staff and for on-site operations at the new sites and get a picture of the situation on the ground as soon as possible. For our analyses, we use information from various sources, including recommendations from the German Federal Foreign Office and evaluations of the respective criminal statistics, and also look at the experience of other companies.

We then define and implement measures to reduce the identified risks. In this way, expats, for example, receive a full day of safety training, including role plays rehearsing how they should act in critical situations such as a robbery. This is supported by written plans, including a movement plan describing safe and no-go areas. For example, our employees should avoid areas with high levels of criminality. An evacuation plan also illustrates different escape routes and means of transport. We also assess geographical risks such as the risk of earthquakes and volcanic eruptions, which can cause considerable damage to infrastructure and may trigger an evacuation.

By taking the steps described, we have created a robust safety concept in order to protect staff on the ground and support operations. The package of measures also serves as a template for entry into additional countries.



### DEA access security

In order to further increase the safety of staff, data and equipment, the Corporate QHSSE's Security division supports the implementation of new systems to control the access authorisations for DEA premises, which will be standardised throughout DEA. Corporate Security acts as a partner for the design and optimisation of the mechanical and electronic access systems in all of DEA's business units. To this end, concepts will be prepared on site, hardware and software packages for small-scale systems up to complex solutions will be combined with the DEA identification card and then linked to develop a holistic security concept. This allows us to implement protection from unauthorised access in a sustainable manner.

### DEA's security measures in Libya

How seriously DEA takes security aspects into account can be very clearly illustrated by the measures that we are taking for the security of our staff in Libya. DEA has evacuated all expatriates from Libya. Only a local, skeleton staff remains in Libya. DEA closely monitors the security situation in the country and will respond promptly to any developments. We continually evaluate the security risk in the country with the help of professional consulting firms.

In the past, diverse measures were taken in order to minimise the risks for staff in Tripoli and Benghazi. All local employees are registered in a communication database and are advised accordingly in case of any deterioration in the security situation. A tracking system is used for certain business journeys, which sends a security alert and can locate the user. DEA's company vehicles are also fitted with GPS in order to track the movements of its staff. The company also deploys armoured vehicles for the safety of its employees.

DEA's main storage facility in Libya is located in Benghazi. This is where the company stores drilling tools and equipment, as well as samples taken during our exploration phase. The site was reopened in 2018 when there was an improvement in the security situation in the city.

The most important risk-mitigation measure was to conduct an unexploded ordnance (UXO) survey to determine whether the site is contaminated by war remains, such as unexploded munition. Together with the Libyan Mine Action Centre DEA safely conducted this survey without any incidents. The project also included the training of five people of the Libyan national army. These trained people supported DEA in the project and received officially recognised training, enabling them to assist in future mine clearance activities in the country.

### Medical and security support

International business activities, by their very nature, involve international travel. Destinations range from capital cities to remote locations across the whole world. We use a wide range of internal resources to provide support for this kind of travel. This includes monitoring the security situation through a variety of sources and security briefings. In addition, there is a company-wide agreement in place with travel assistance service provider International SOS.

International SOS provides 24/7 medical and security support. DEA staff can thereby call on a network of more than 77,000 certified medical and security service providers around the world. The services comprise the choice of transport, the organisation of medical treatment, advice in the case of a security incident and the organisation of an evacuation.



## HEALTH PROTECTION



Within the framework of the 2019 international campaign 'Heroes care. Every where', DEA addressed the subject of a healthy back and introduced employees to simple back exercises.

**IN ADDITION TO ENSURING** the physical health of our employees by taking appropriate safety measures, we are committed to ensuring the general health of everyone affected by our activities. The focus of our health management system is therefore on maintaining, promoting and helping to restore the health and ability of our employees to work. We at DEA are, therefore, extremely active in the area of healthcare, but we also provide advice concerning existing health problems.

### **DEA's health management system covers a broad area**

At DEA, we regularly conduct risk assessments and take preventive measures with regard to activities involving potential health risks. This covers a wide range of issues including, but not limited to, VDU workplaces, noise exposure at work and business trips to countries with an increased risk of infection. Regular examinations are also conducted in the case of special requirements, such as suitability for offshore work.

Due to the large number of employees with VDU workplaces and the resulting strains on the musculoskeletal system, we pay particular attention to ergonomic workstations. Staff receive an individual consultation on this subject. Depending on the location, we can also recommend to, or offer, our employees sports activities, such as back exercises and yoga courses, or reduced gym membership.

The company medical service is available to staff to answer any member of staff's health-related questions. Besides vaccination consultation and performing vaccinations, it also provides advice on acute health problems. After prolonged illnesses, we support our staff in their occupational reintegration. Depending on the location and requirements, our occupational health management activities, which we offer on an ongoing basis, also include psychosocial counselling and care.

### **Data-based international health management (OHM) at DEA**

DEA has comprehensive data on health management, which it uses to derive occupational health management (OHM) measures. We closely monitor the development of the health situation and respond in a timely manner by taking appropriate health-promoting measures and providing related information. With an average of 97 %, the health rate at the various DEA sites is very good. Nevertheless, evaluations of the Work Ability Index (WAI) used at DEA also showed critical values, particularly for units affected by restructuring (countries, locations, departments or people).

For our occupational health management system, this means that, despite comparatively good statistics at the moment, we need to pay greater attention to the health of our staff, particularly in view of the Wintershall/DEA merger that involves structural changes such as staff reductions. This is why, we intend to make appropriate health-promoting offers in a targeted manner.

In an international comparison, the health of DEA employees in Norway in 2018 was better than the health of employees in Germany, Libya and Egypt, which matches the results of our Work Ability Index survey. For Germany, we have detailed medical data from the BKK health insurance provider. This data represents 37 % of German staff and 29 % of DEA's total staff. DEA has a good BKK benchmark rating.

Among other things, the BKK RWE' report shows the frequency and duration of illness-related absences and provides information about the underlying illness. This enables us to identify activity-related areas of focus regarding illnesses and to take countermeasures.

The international DEA business units cannot collect any health data due to data protection regulations and, from a statistical point of view, such data would not be representative enough – due to the small number of cases – to derive reasonable occupational health measures from them alone. Therefore, we also draw on the comparative health statistics of the University of Washington's Institute of Health Metrics and Evaluation (IHME) for our international health management system. Long-term health risks and causes of death can also be derived from this extensive database. This enables us to carry out evaluations of our target groups for the countries in which DEA is active.

Our recommendations for future occupational health measures are based on the health indicator DALY (disability-adjusted life year), which has been developed for international comparisons and quantifies the burden of disease based on morbidity and mortality data. We weigh the DALY data for the age group that is of particular importance to us and the general health situation against internal data such as number of employees, Work Ability Index and health rates.

DEA's own statistics and findings of the company's medical service correspond to IHME evaluations. Accordingly, our latest health measures in terms of stress and back health addressed the right issues at the international level as well. These issues will remain important to us. In future, we will also consider other issues such as cardiovascular diseases and cancer to be the focus of our health measures.

## Good to know: certified Occupational Health Management

In 2018, DEA was awarded the 'Systematic Safety' seal of approval from the German Social Accident Insurance Institution for Raw Materials and the Chemical Industry (BG RCI), which has been extended to include occupational health management (OHM). The external auditors found that DEA's occupational health management system is organised systematically and effectively, and that managers and employees consistently follow the principles of occupational health.

The BG RCI leads the way among the German accident insurers when it comes to assessing and certifying OHM systems and their implementation. DEA took advantage of this opportunity and has now become one of the first 30 of 32,000 member companies of the BG RCI to have successfully cleared the hurdle of assessment.

DEA was then invited to present its integrated occupational health management system at the 2019 annual conference of the German Social Accident Insurance Association (DGUV) as a best-practice example. The presentation was met with particular interest by some 100 participants from the Employees' Social Accident and Insurance Associations and companies due to its empathy and authenticity. The Employees' Social Accident and Insurance Associations and companies have approached DEA to obtain advice with regard to motivation in health management systems.

### 'Heroes care. Everywhere.' includes back health

We want to exploit synergies and promote equal treatment within the company using a Group-wide approach to health issues. As part of the 'Heroes care. Everywhere.' campaign conducted in 2018/19, for example, almost all our employees were given the opportunity to attend first aid courses. Throughout March, we then rolled out the 'back health' campaign at DEA at an international level. To this end, we provided information about the prevalence, causes, prevention and treatment of back problems at all DEA sites from Norway to Mexico. We used various channels such as posters and presentations, as well as interviews, video clips, brochures and screen exercises on the intranet to provide comprehensive information on the matter.

It was particularly important for us to approach this topic with positive energy. Therefore, we provided all our employees with an exercise band – as a pocket-size fitness centre – and a pop-up cube as a reminder of simple dos and don'ts regarding back health. In addition, we have introduced as many employees as possible to the topic of back health in a fun way by taking low-threshold measures such as brief workshops at their workplaces, and motivated them to overcome their inhibitions with regard to exercises. In this way, we could show them in a very practical way how easy it is to promote back health in everyday life and, if need be, conveyed the message that back pain is not always fate and can be prevented, cured or at least alleviated by doing simple exercises.

### Dedicated health measures also in international business units

In addition to DEA's Group-wide health campaigns, our international business units also conduct their own campaigns as part of their occupational health management system. Some examples are:

- In Germany, we used the 'Schon gecheck't campaign from our BKK RWE company health insurance provider to inform our employees about metabolic syndrome prevention in 2018. With regard to the risky interaction of the factors of abdominal fat, high blood pressure, lipometabolic disorder and diabetes, the campaign offered check-ups and consultation. An individual health check-up with measurement of blood pressure and abdominal girth, determination of the body mass index (BMI), a blood sample to determine blood lipid and long-term blood sugar levels, including individual consultation, were offered.

With strong participation from around half of DEA staff in Germany, the offer attracted a great response. In addition to individual early detection and the health-promoting measures individually recommended in individual talks, we take the results of the check-up as an opportunity to further intensify our preventive work in the areas of exercise and nutrition at a company level.

For 2019, we have already planned a 'better sleeping' campaign in cooperation with BKK RWE.

### Good to know: metabolic syndrome

Cardiovascular diseases such as heart attacks, strokes and circulatory disorders are among the most frequent causes of disease and death in Germany. Besides smoking, metabolic syndrome, also referred to as the 'deadly quartet', is regarded as a decisive factor for diseases of the arterial vessels – in particular the coronary arteries. Metabolic syndrome is characterised by four factors. These include the combination of excessive weight with increased abdominal fat storage (obesity), high blood pressure (arterial hypertension), high blood sugar levels (diabetes mellitus) and impaired fat metabolism. The signs of the disease often remain undetected for a long time since it is not subjectively noticed if it is not yet a pronounced disease. Its consequences can be quite substantial, however, and may lead to permanent restrictions. For this reason, it is important to recognise these metabolic disorders in good time in order to prevent them.

- In Egypt, we addressed the topic 'medicine & safety' at a 'lunch & learn' event. The event generated a lot of interest and was very well attended by about 50 employees of both DEA and our joint-venture company, Suco. During the ensuing discussion on the subject, a long list of important aspects of health-promoting use of medicine was compiled (see information box).

Another important QHSE objective in Egypt was to raise employee awareness of slips, trips and falls, as well as ergonomics and safety. To this end, we used an online training tool in Egypt to illustrate the existing potential risks. These training courses are brief, useful and presented in a very user-friendly and interesting format. They can be completed online on a PC in the office or at home. Significantly more than half of our Egyptian colleagues have successfully completed the online training courses.

- Our operational site in Libya performed medical examinations for all employees again in 2018 in order to determine each employee's general state of health. The examination gave employees the opportunity to talk to the physician about health concerns and symptoms they might have. The comprehensive medical examinations ranged from cardiograms and laboratory analyses to X-ray examinations.

#### Health effects of natural gas production under discussion

The health of all those who may be affected by our activities is important to DEA. We therefore take the possible health effects of our actions very seriously, even outside our own workforce. With regard to natural gas production in north-western Germany, we have been confronted with the assumption that this is supposedly associated with a higher cancer rate among some sections of the population for some time. Until today, no empirical evidence has been provided for such a correlation. Among other things, the fact that DEA employees do not suffer disproportionately from cancer speaks against this assumption. DEA still advocates open and unbiased investigations that do not exclude other possible causes, such as agriculture, the food industry, forestry and wood processing. We support official causal research and make all relevant data available.

### Good to know:

#### results of the discussion on the use of medication in Egypt

- Know your medication and ask questions about them.
- Carefully read the package insert of the medication.
- Prefer medication that only treats the symptoms you have.
- Follow the instructions of your doctor and the pharmacist.
- Keep a list of all the medication you take.
- All your doctors must be aware of the medication you take.
- Always go to a pharmacy to get your medication.
- Fill prescriptions in good time.
- Never change the dose or schedule of your medication without consulting your doctor.
- Do not stop taking your medication before your symptoms disappear.
- Never take the medication prescribed for other people.
- Only crush or split the pills if instructed by your doctor to do so.
- Drink a lot of water to ensure that your medication has reached your stomach.
- Avoid the misuse of antibiotics.
- Avoid the misuse of painkillers.
- Keep medication away from heat and moisture.
- Keep medication out of the reach of children and pets.
- Dispose of medication safely, according to guidelines.
- Check the expiry date before using medication.



During the reporting period, we particularly focused on promoting diversity, equal opportunities and modern learning. In this way, we will continue to make our company attractive to a wide range of highly qualified and committed employees in the future.

Area of action

# EMPLOYEES

## Employees

# How we promote diversity and equality and strengthen skills and expertise

At DEA, appreciation of our employees is very important to us. This is why we not only offer our employees safe and healthy working conditions, but also transparent information and participation in company decisions. The development of our employees' skills and expertise is just as important. To this end, we rely on continuous further training and new methods for a modern working environment.

## DIVERSITY AND EQUALITY

DEA IS AN INTERNATIONALLY operating company. Our success is largely based on the diversity of our employees. In our 'Mission Statement on Equal Treatment' communicated in 2018, we stated that we want to provide all colleagues with fair and equal opportunities regardless of skin colour, nationality, ethnicity, social class, religion, disability, age, gender, gender identity, gender expression and sexual orientation.

### DEA supports diversity and equality

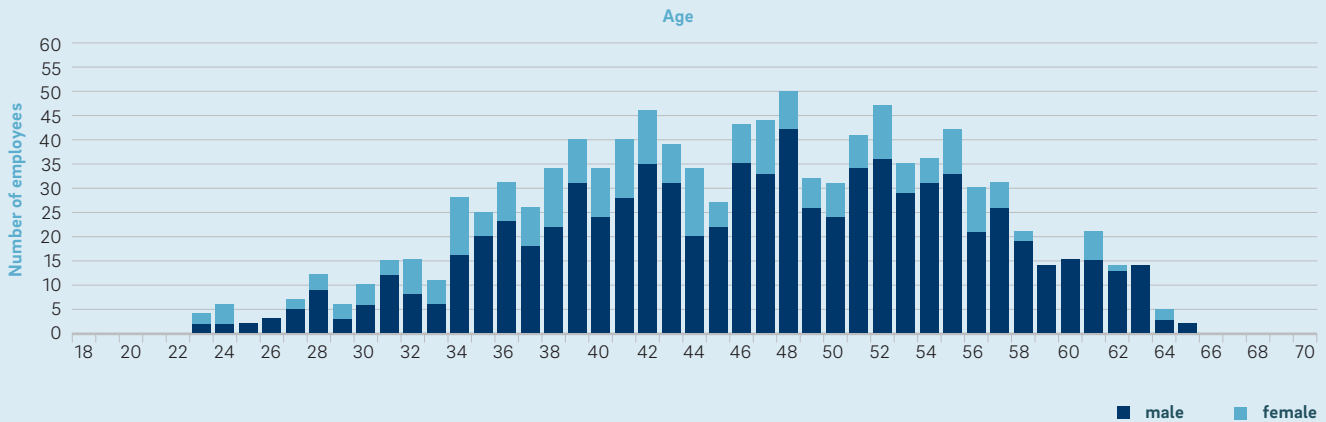
DEA has committed itself to this in its Code of Conduct, in its commitment to the 10 principles of the United Nations Global Compact, the Charter for Equality and the Charter for Diversity. In addition, DEA is

bound by various laws, such as the German General Act on Equal Treatment, to protect its employees against discrimination.



DEA employs staff from more than 34 nations. This is dominated by employees from the countries in which DEA is active, primarily all employees from Germany. At the same time, we value and foster the different cultural backgrounds of our employees and take these into account in our business activities. DEA benefits from the different backgrounds of its employees, providing us with valuable knowledge about the different regions and countries in which DEA has business operations.

## Age groups of DEA employees 2018



Status: 31 December 2018

The 'age bell' at DEA is relatively symmetrical. The proportion of women is increasing among the younger age groups.



### Diversity activities on their way

Successful companies improve their performance and innovative capacity by appreciating and benefiting from the diversity of their staff's experience, origin and way of thinking. At present, DEA's diversity potential is far from exhausted. We are actively addressing

this issue because we are convinced that diversity creates added value. For this reason, we have started to establish a diversity initiative in the reporting year and intend to set up a professional diversity management system. It is important to raise employee awareness of the importance and advantages of a company that provides diversity. At DEA, we want to establish a culture of inclusion by actively promoting different perspectives and providing all employees with equal opportunities based on their ability to contribute to the success of the company. Through our strong commitment to diversity in staffing, we aim to exploit the full range of talent, both on a personal and professional level.

We are aware that differences can lead to tensions. However, we are also convinced that overcoming differences and exchanging different views and ways of thinking leads to more creative solutions. In this way, we remain flexible to meet future challenges and, at the same time, increase employee satisfaction.

### Good to know: diversity – a top priority at DEA

In November 2018, the Chairman of the DEA Supervisory Board, Lord John Browne of Madingley, invited colleagues to a lecture on his book, 'The Glass Closet' at the company's headquarters in Hamburg. He gave personal insights into his own experiences with homosexuality in the business world, which is the central theme of his book.

More than 80 DEA colleagues took the opportunity to meet Lord Browne in person and share his experience of coming out in the business world. He explicitly speaks out in favour of the acceptance of diversity and LGBT (lesbian, gay, bisexual and transgender) in the workplace.

As a champion of LGBT inclusion and equal rights, his message came from the bottom of his heart: for every person to feel that they are themselves, all people must set signs of inclusion – so that everyone feels safe and valued. Inclusion is, therefore, the key to ensuring that everyone can see themselves as part of a team. And this also applies to DEA.





The Glass Closet: Lord John Browne of Madingley, reflects on his experiences.

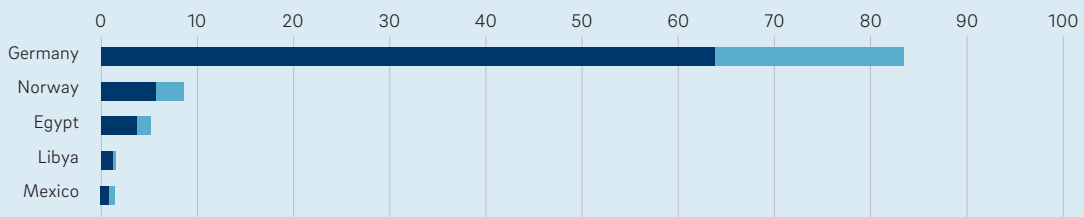
**DEA pursues an equal opportunities policy**

With the appointment of a female CEO for the first time in the company's history, DEA has taken a major step towards diversity and is setting an example in the industry. One of DEA's top priorities during the reporting period was to promote the appointment of women to management positions.

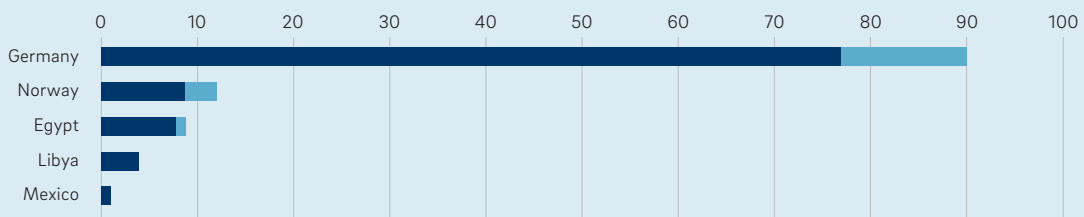
On the occasion of International Women's Day 2018, our CEO announced the introduction of an Equal Gender Recruiting Policy. The policy ensures that candidates of both genders are on the selection list and are considered when filling all positions. In this way, we intend to further strengthen our reputation in terms of gender policy, both in the E&P industry and across industries.

Unfortunately, there is only one woman on both the Supervisory Board and on the Board of Management of DEA. The Supervisory Board aims to be composed of one-third women by June 2022. For the first management level below the Board of Management, the proportion of women was 7 % at the end of 2018 and, for the second

**DEA employees by gender and country**



**DEA managers by gender and country**



■ male ■ female



DEA employees and their nationalities worldwide : German (828), Norwegian (69), Egyptian (53), Austrian (21), Mexican (19), Libyan (13), British (11), French (4), Italian (4), American (3), Indonesian (3), Polish (3), Russian (3), Turkish (3), Hungarian (3), Columbian (2), Croatian (2), Dutch (2), Spanish (2), Algerian (1), Bangladeshi (1), Chinese (1), Danish (1), Estonian (1), Gabonian (1), Latvian (1), New Zealand (1), Shwedish (1), Senegalese (1), Serbian (1), Taiwanese (1), Czech (1), from Trinidad & Tobago (1) and Central African (1)

management level, it was 21 %. Compared to the previous year, we managed to increase the proportion of women by 2 and 3 percentage points respectively. With regard to the proportion of women in management positions at DEA, Germany is in the lead, followed by Norway and Egypt. By 2022, we want to achieve at least 20 % for both of these management levels. Overall, women account for about a quarter of DEA's workforce and, in the longer run, we want this proportion to increase to a level closer to 35–40 %.

In this way, we intend to use and further expand the pool of competent female employees. With the objective of increasing the proportion of women at all levels of the company, DEA launched a bundle of activities in the reporting period that will continue to have an impact into 2019:

- Women@DEA Summit
- SUCO women's day
- Training on unconscious decision-making processes for management personnel
- Equal opportunities mentoring programme survey
- DEA City Nord mobile working policy

Some of these measures are explained in more detail below.

#### Mentoring programme for women at DEA

An important step towards promoting women with potential is the introduction of the mentoring programme initiated at the Women@DEA Summit in November 2018. In the spring of 2019, DEA launched the International Female Mentoring Programme 2019/20 in partnership with a specialised personnel development company. This mentoring programme is an important part of the Diversity Initiative at DEA. The main purpose is to support women in strengthening their own positioning and visibility in the company and in business in general on an individual basis – with the help and experience of mentors who assist the female mentees as advisors, motivators, partners, critics and moderators.



The team of mentors who are responsible for the concept, programme and roll-out of the Diversity Initiative welcome the active support of CEO Maria Moræus Hanssen and the advice provided by the initiative's three ambassadors, Sameh Sabry, Thomas Göller and Jone Hess.

#### Good to know: 1<sup>st</sup> Women@DEA Summit



The first Women@DEA Summit, which took place in Hamburg at the beginning of November 2018, focused on diversity and, in particular, gender issues in the company. For this purpose, 150 female employees from Germany, Libya, Egypt, Norway and Mexico met and discussed how to make a profession and career more attractive for women. Women make up slightly more than 25 per cent of DEA's total workforce – a figure that is representative of the industry as a whole. DEA CEO Maria Moræus Hanssen made a clear statement at the event: 'With a real commitment to diversity, DEA will be able to harness and tap into the full talent pool of personnel and expertise. It is my opinion that this applies to gender diversity in particular.'

The offer to participate in the pilot phase of the mentoring programme was met with great interest by the participants at all DEA sites worldwide. Numerous DEA employees have applied for a place on the mentoring programme. During the pilot phase, the new programme introduced at DEA will start with eleven tandems, each consisting of a female mentee and a male or female mentor.

Mentoring is a non-hierarchical partnership between a professionally experienced person, or mentor, and a less experienced person (mentee). For a fixed period of time, the mentor and the mentee meet in private for regular discussions. The discussions cover questions from everyday working life – upcoming projects and decisions, management issues, questions related to professional orientation and positioning, work-life balance, specialist topics or personal questions. This results in the following possibilities for the mentee:



Implementing diversity: Women@DEA Summit in Hamburg

- to reflect on oneself and to accept feedback
- to get support with important decisions
- to prepare for management tasks
- to develop one's own leadership style
- to clarify one's own role and goals
- to build one's own network

**Diversity means openness, inclusion means integration**

Diversity cannot work without inclusion. Inclusion means creating a working environment in which everyone is encouraged to use their full potential. At DEA, people with and without disabilities should work together as a matter of course and without prejudice. Our experience shows that disability and performance are not mutually exclusive. We value the potential of people with disabilities and are committed to our social responsibility. As a basic prerequisite, at DEA, we therefore gradually remove obstacles for severely disabled people, taking particular account of individual needs.

At the end of 2018, the employment rate of severely disabled employees at DEA was 1.4 per cent. We are thus still well below the 5 per cent disability rate legally required for companies of our size in Germany, for example, whose motive is to contribute to the participation of severely disabled people in working life as defined in Art. 27 of the United Nations Convention on the Rights of Persons with Disabilities. Thus, DEA still has clear potential that can be leveraged to ensure a comprehensive and matter-of-course interaction of people with and without disabilities.

**Good to know: principles of DEA's Mission Statement on Diversity**

1. We shall provide an environment of equal opportunities for all employees based on an individual's merits, competencies and ability to add value.
2. We encourage open dialogue and respect for different points of view.
3. We strive to identify and eliminate the gaps and differences that hinder implementation of our diversity principles.
4. We encourage and promote the use of management tools to create transparent processes for DEA employees.
5. We encourage and promote the necessary activities among DEA employees to increase interaction and cooperation.
6. We shall encourage a culture of involvement and participation of DEA employees in activities promoting diversity.
7. We shall review, benchmark and optimise the implementation of diversity strategies with the aim of continuous improvement.

## MODERN WORKING AND LEARNING



### DEA relies on new, flexible and agile working methods with 'New Ways of Working'

'New Work' is a modern approach and mindset, the potential of which DEA seeks to exploit. At DEA, we want to exploit the potential that lies in new working methods. Under the motto 'Get started

with things rather than wait for perfection', we are promoting alternative working models that provide for development, focusing on people's own personality and creativity. This modern world of work is geared to the needs of employees. It is our aim for employees to be able to work as self-determined, agile and free as possible in their work and to identify the meaningfulness of their efforts. Hierarchical levels can be broken down, with management and employees working together in networks.

In addition, the E&P industry is subject to ever-stricter requirements based on political, economic, technical and environmental regulations. At DEA, we focus on continual improvements that can be implemented quickly, and intend to make quick decisions to meet existing challenges. In particular, we rely on working in cross-functional teams and supporting, as well as attending, various flexible workshop formats. What is termed as 'design sprints' is just one of the agile, interactive and interdisciplinary workshop format, in this context.

In various campaigns and projects, we at DEA have already gained very good experience with these design sprints. Participants found it exciting to extend their own horizons. Thanks to an innovative mindset within the scope of interdisciplinary cooperation, we can drive projects and processes a great deal quicker by relying on pragmatic solutions, communicating openly and transparently, and joining forces to make strategic decisions.

Good examples reflecting that positive results have already been experienced in the course of the new agile world of work at DEA include the newly introduced learning platform 'L<sup>3</sup> LEARN – SHARE – GROW' as well as the package created as part of the Health and Safety campaign 'Heroes care. Everywhere.', which is intended to lead to increased mutual consideration and care in the workforce in terms of QHSSE.

Whenever a quick decision needs to be made, a joint 'walk meeting' in the fresh air certainly is a creative and healthy alternative for our employees. If teams need a change of scenery from time to time, a joint 'off-site day' can help to sort things out, define further objectives and, of course, get to know each other better.

### Learning initiative at DEA

Some of the most valuable resources for our long-term success are the curiosity, knowledge and experience of our employees. Therefore, we promote the possibility of continuous learning and further development. Constant change and a growing wealth of information require a mentality from our employees that addresses these challenges and makes use of them for their own development and that of the company.

For this reason, DEA initiated a modern learning culture during the reporting period.

The prerequisite for a modern learning culture is to create a space to allow employees to flourish. We make this possible by providing new space and learning time concepts and also establish new learning formats and methods.

By providing suitable premises and new space concepts, we create an atmosphere suitable for learning and exchange. However, explicit time is also needed for learning. Therefore, DEA has decided that all employees should plan in and use 30 minutes every day for learning during working hours. The DEA management is responsible for creating this time and space, and for giving our employees the opportunity to quench their thirst for knowledge and further their development.

In order to develop the new learning culture, we are now using online services such as 'dea me' and 'good habitz' in



At DEA employees enjoy an open and modern atmosphere in a print workshop to tackle topic such as "New Ways of Working".

In addition to conventional learning formats such as internal and external seminars. Furthermore, we are establishing new methods and learning formats such as our new learning platform L<sup>3</sup>, which is described in more detail below.



**Social learning as part of working life with the L<sup>3</sup> learning platform**

Continuous learning and knowledge exchange are key factors for success for both individuals and organisations. And this is what the learning initiative L<sup>3</sup>, which DEA designed at the end of 2018 and launched at the beginning of 2019, and its guiding principle learn, share and

grow are all about: invest your time and let us learn together by sharing knowledge and experience. With it, we want to promote the development of a new learning culture in which learning is an integrated and natural part of daily work. We heavily rely on our employees' initiative.

With L<sup>3</sup>, we are also creating a digital learning platform that primarily bundles the social learning opportunities offered by colleagues for colleagues. In addition to existing learning opportunities, the new platform will offer formats for peer-to-peer learning. The idea is that all employees can decide individually what, where and when they want to learn and how they want to share their knowledge. The resulting better understanding of each other and of our business leads to faster, better, more efficient and more creative working.

With L<sup>3</sup>, inspiring, open and flexible spaces are created to ensure social learning and exchange between one another as well as impulses at all sites and OpCos. Live streaming and recording of the various learning events will make the offer easy to use globally. In January 2019, the learning platform was launched on all sites and in all divisions, and learning formats such as 'Meet the Expert', 'Lunch & TED Talk' and 'Speed Networking' are now available. With these social learning opportunities, our employees can participate in more than 200 planned events – from internal and external knowledge sharers – in 2019.

All employees at DEA are invited to use all the available learning methods and channel to extend their knowledge.

**Employer/works council agreement 'Mobile Working' in Hamburg**

DEA is also open to the potential of modern, flexible working models. Based on the results and the positive experiences gained during a pilot project in the IT division at our Hamburg headquarters, we have been offering all DEA

employees with a permanent contract at our Hamburg site more flexible working options in 2019. To this end, an employer/works council agreement concerning mobile working was concluded. It will make it even easier to achieve a better balance between work and private life in the future .

**PROMOTING YOUNG TALENTS**

**'Young Talents' at DEA**

At DEA, young employees with great potential are recommended by their respective line managers for the network of up-and-coming staff. Its members go through the programme over a period of 18 months. The aim is for these 'Young Talents' to develop their personality and to learn how to position themselves in accordance with their strengths. On their journey towards this goal, they receive encouragement in the form of workshops and one-to-one conversations. The 'Young Talents' are encouraged to take advantage of the opportunity to discuss things with one another, make themselves known in the company, network and establish contacts across different levels of the company hierarchy. This is a great opportunity for each individual and a win-win for the whole company.



Regardless of hierarchy, the DEA leadership team and the group of up-and-coming 'Young Talents' work excellently together during the 'Innovation in a Day' workshop.

### DEA inspires children for the natural gas and crude oil industry

The 'Future Day' at DEA in 2018 and 2019 once again generated a lot of enthusiasm among schoolchildren between the ages of 11 and 14. For many years, DEA has taken the opportunity of this officially sponsored campaign day to encourage young people to discover the attractiveness of jobs in the oil and gas industry as a whole. In March 2019, DEA employees avoided jargon and delivered illustrative, understandable explanations of the complicated oil and gas industry with its technologies, processes and production methods, as well as of the work carried out by us on the basis of catchy comparisons. More than 40 schoolchildren on various German sites were given the

opportunity to obtain an insight into the world of the geosciences and the associated production chemistry involved. Depending on the location, the day also included an inspection of a production site, the use of a scanning electron microscope and the children's own 'exploration' of wells using the Mittelplate reservoir as an example in our special 3D projection room. This year, the DEA course at our headquarters in Hamburg was particularly exciting: revolving around six interactive workstations, everyone could apply their new knowledge and try out all sorts of things. Fossils were identified, reservoirs were found using seismic data, oil and rock samples were examined, wells were drilled and Mittelplate was visited in a virtual 360° tour.



Regardless of hierarchy, the DEA leadership team and the group of up-and-coming 'Young Talents' work excellently together during the 'Innovation in a Day' workshop.

## SOCIAL AND FAIR

### DEA certified as a family-friendly company

The reconciliation of work and family life is very important to us at DEA. Therefore, we try to respond as well as possible to the work and family situations of our employees by focusing on diversity in all our offers. Regulations governing aspects such as flexible working-time models, part-time work and extended parental leave, childcare support and family-oriented qualification opportunities are part of DEA's ongoing drive to remain a family-friendly employer.

DEA has been awarded the 'berufundfamilie' certificate for Germany from the initiative of the non-profit Hertie Foundation, in recognition of DEA's family-friendly human

resources policy and jobs that are designed with people's different phases of life in mind. Our various measures to reconcile work and family life will be further expanded. For the headquarters in Hamburg's City Nord, for example, the very modern employer/works council agreement on flexible working as described above was concluded.

### Support in all aspects of life

The activities of our company's Social Counselling Service are focused on those who need support in difficult situations. In-house services include, but are not limited to, solving personal crises and dealing with difficult situations or conflicts in the workplace. To help DEA's staff in all situations of life, we provide them with access to a wide

range of advisory and support services in cooperation with our external network partner, pme Familienservice. These services include the provision of individual childcare solutions, as well as solutions for family members requiring long-term care, crisis consulting in cases of burnout, traumas or partnership issues, and the provision of emergency childcare facilities at short notice, parental counselling and holiday care programmes.

We expanded this offer on our German sites in 2018, with a view to reconciling family, care and career.

Ageing workforces and demographic trends mean that 70 % of employees in German companies expect that they will have to care for a relative in future. As there is also a shortage of skilled workers, this is accompanied by the need to promote the compatibility of care and career. Companies like DEA are, therefore, looking for solutions to support staff with their care responsibilities in order to be able to keep them in the company.

In 2018, DEA joined the Hamburg Alliance for Families, with the training of five employees to become Company Compatibility Pilots for Care and Career.

The Company Compatibility Pilots for Care and Career:

- are the points of contact in the company for compatibility issues in the area of care and career, both for employees and managers;
- have knowledge of internal and legal possibilities (e.g. German Nursing Care Leave Act, etc.);
- provide initial specialist information and refer to specific offers of advice and assistance.

**Fair cooperation in the course of the upcoming merger**

With the merger of Wintershall and DEA, we are entering a new era. The new company will become Europe’s largest independent gas and oil company. The merger will also have a considerable impact at a national level. In Norway, for example, two medium-sized companies will become one of the key players in the upstream industry on the Norwegian continental shelf.

The merger opens up new business opportunities and entails significant changes regarding tasks, corporate structure, projects and portfolios. Of course, every merger process presents a challenge in terms of personnel adjustments. In total, the workforce after the joint venture will be reduced by a quarter, from about 4,000 to around 3,000 employees. Locations in Germany and Norway will be particularly affected.

The main objective was – and is – to ensure a transparent and fair process for shaping the new company. To this end, a separate project organisation consisting of employees from both companies was set up to plan and prepare for the coming changes. Employee representatives and staff were involved in this process and provided with the necessary information.

At the same time as the contracts for the merger of DEA and Wintershall were signed, the IG BCE trade union and the Joint Works Councils of the companies signed a declaration of social responsibility for the employees of DEA and Wintershall in Germany with the respective company managements. In this declaration, the companies undertook to continue existing agreements in Germany such as collective bargaining agreements, employer/works council agreements and social plans. The new company will also continue to be bound by collective bargaining agreements.

In connection with possible personnel adjustments and new employment prospects, it is planned that the social partners will agree on instruments that give priority to socially acceptable solutions. In order to be able to develop these solutions to the necessary extent, redundancies and site closures for operational reasons will be ruled out until 30 June 2020. For the further integration process, the parties agree that, if all agreed instruments are used, compulsory redundancies should be practically ruled out.

In Norway, DEA has also worked to ensure a good and legally compliant merger process. Over the course of 2018, regular consultation meetings were held with employee representatives on the plans for the newly merged company. All proposals for organisational changes and their implementation were thoroughly discussed and fixed with the representatives. The Norwegian Work Environment Committee office and the Safety Representative were also heavily involved.



Wintershall and DEA prepared the merger together.

The development of a digital twin is the flagship project within the framework of DEA's digitalisation efforts. The digital twin allows us to access the field's data from anywhere in the world in real time, so that we can evaluate the data and make the best operational decision in as short a time as possible.



Area of action

# DIGITALISATION



## Digitalisation

# How we shape digital change

Digitalisation is globally changing the way we live together as well as the working methods, processes and entire business models in many industries. The oil and gas industry has great potential for optimising production by collecting and analysing data. This allows us to completely redesign our work processes. DEA intends to seize the opportunity and tackle this even more forcefully in the future with a 'digital transformation' process. We want to make our company fit for the future in this important field by using a 'Think big, start small' approach.

**SUSTAINABLE THINKING** encompasses much more than good environmental protection and occupational safety at the current state of knowledge and technology, and must also include dynamic developments. Managing sustainably means thinking into the future. This means opening up to and exploiting the opportunities offered by the most modern and efficient technology.



### Our digital vision

In line with our long tradition of operational excellence, we are constantly expanding our know-how. The volatile oil price of recent years has given us the impetus to make our processes even more efficient and to push technical innovations. So it was obvious to also advance digitalisation at DEA. Which enables us to generate added value at various levels. We can implement new technical solutions, reduce investment and operating costs, and, at the same time, improve the reliability and safety of our workflows and processes, and increase their environmental compatibility.

More automation and intelligent data processing can lead to more efficiency and safety in all steps of the oil and gas value chain, as well as in all phases of a project. A better use of data allows us to optimise operating and production times, reduce maintenance and down times, and significantly improve work processes. Intelligent data analysis provides a better understanding of risks and helps to avoid potential impact on the environment by taking the necessary precautions. Similarly, occupational safety can be increased by improving the provision of data, for example, by eliminating unnecessary operations for field workers.

### Project team orchestrates digitalisation at DEA

At DEA, a specially set up project team coordinates all matters relating to digitalisation. Its task is to coordinate and support the digital efforts made at DEA – both in the technical and non-technical areas. The 'Digital Team' orchestrates all activities related to digitalisation projects, promotes internal exchange and supports the projects.

The work at DEA should be as efficient, as safe and as pleasant as possible. Digitalisation can help us to make progress in all these areas. We want to realise the full value of digitalisation for our company and our employees.

Access to the right data and the right digital tools should reduce administrative tasks and unproductive work by optimising the working methods and gaining time for creativity. To get there, there is no right or wrong at first. This is about learning together, trying out different things, quickly identifying the right approaches and following them up. With our initiative, we intend to address the matter easily and openly, and to learn from one other.

In the reporting period, eleven digital initiatives were launched. These range from 'Data Liberation' and the 'Digital Twin of Mittelplate' projects to 'Cyber Security'. And this is only the beginning. We strongly encourage our employees to contribute their ideas for further digitalisation initiatives.



DEA's digitalisation process is driven by a highly motivated, interdisciplinary team.

The DEA-operated gas compressor station in Lower Saxony is equipped with a large number of data sensors, which generate great volumes of data. With the help of artificial intelligence, this database can be used to identify trends and patterns. For example, it enables us to set up an algorithm-based system for predictive maintenance.



### Experience plus digital technology strengthens employees and improves working methods

Developing new skills, sharing our knowledge, and being aware of and mutually recognising what we do at DEA are key to future innovation and growth. Good cooperation is essential for success. This applies to individuals, departments, larger project teams and business units. DEA's ability to work with external partners is just as important.

Cooperation requires fast and smooth communication. Therefore, the digital transformation initiative aims to facilitate the exchange of ideas and knowledge. For example, a newly created internal digital exchange platform at DEA serves to present all our digital initiatives. In this way, we make the digital transformation transparent.

We want to show who is working on which challenges with which digital technologies. This enables us to share ideas and knowledge between colleagues across all locations, and to interlink joint projects across departments. So far, many projects have been successful in day-to-day business. However, we did not know about each other previously, which kept us from easily learning from each other. If one of these digital initiatives is now successful, we want to spread the word about how it was implemented so that others can also implement it. If, on the other hand, a digital initiative fails, everyone should be able to learn from this experience, and use the findings to do something better.

### Social learning – digital and agile

Value creation begins with people. Digitalisation is intended to enable our employees to ensure productivity and safety, as well as to take advantage of advanced training and work even more effectively on what each of them does best. This is our philosophy of lifelong learning.

Therefore, the focus of digital transformation at DEA is not on implementing new IT tools but on people and the processes they perform. That is why transformation is especially about learning skills. If we make all data available and learn how to use it, we can achieve high added value.

We want to promote the development of digital skills by offering innovative learning programmes. Thus, as part of the new learning initiative 'L<sup>3</sup> LEARN – SHARE – GROW', DEA introduced a digital learning platform at the beginning of 2019, which promotes the exchange of knowledge between colleagues in the form of live, streamed, organised learning events. For this platform, a large variety of event formats will be launched with which digital skills can be acquired.

**Everything networked for big data management**

One of the biggest challenges in our industry is to make the large amount of data available so that employees can use it in a smart way to work more efficiently. DEA also collects vast amounts of data about production, processes and people. Therefore, the task of digital transformation is to process the large database in such a way that we, for example, can draw the right conclusions from it with the help of artificial intelligence.

A prerequisite and new approach for digital change is a new corporate culture of transparency that enables the provision of and free access to data. This 'data liberation' is a valuable source worldwide for the operational units, operational sites, for Field Development, Reservoir Management and Exploration. Ultimately, all divisions can benefit from the freely accessible data. The read-only access to operational data is also used by divisions such as Human Resources, Controlling and Finance for data intelligence.

**Good to know:  
agile working methods  
help DEA to quickly set up  
the digitisation projects**

As part of digital projects, cross-functional teams are experimenting in fast cycles to share insights and correct existing mis-judgements immediately when needed. This allows us to make necessary decisions faster and meet challenges better. With the help of the agile 'sprint method', an interdisciplinary team at DEA designed and tested the platform for visualising digital projects at the end of 2018 and implemented it in February 2019. This platform shows who is working on which challenges and with which digital technology, so that colleagues can quickly exchange ideas.

DEA is exploring new horizons, such as significantly increasing the performance of drilling projects with the help of real-time data. New technologies – such as artificial intelligence and automated metadata extraction, indexing and classification – have the potential to take the efficiency of existing data management methods and processes to a whole new level.



### Milestone: Mittelplate digital twin

Making the right data available to the right people at the right time can revolutionise our operations and increase our competitiveness. In this respect, the 'Mittelplate Digital Twin' project is our first digital flagship project. Together with a specialised partner company, DEA is working on a digital 1-to-1 image of the Mittelplate Drilling and Production Island in the form of a digital twin. This complex project is a milestone with which we are demonstrating that we can bundle our entire data intelligence for the benefit of our customers.

Mittelplate, DEA also has a wealth of data just waiting to be put to work. With this project, we now want to increase the potential of this data. Insightful dashboards powered by live data, for example, can make our technicians' routines more efficient and more accurate, simplify interdisciplinary communication and collaboration with colleagues, such as buyers or controllers. 3D digital twins can help engineers and offshore workers understand their assets quickly and comprehensively, and discuss them at any time and in any country with other experts who can assess the data from anywhere in the world in real time. We want data to amplify the expertise of DEA's people and increase the value of their insights. The digital twin also enables safety training in and introductions to the system to be con-

ducted on land rather than on site. This reduces the risk to employees offshore and the impact on the environment by reducing transfers.

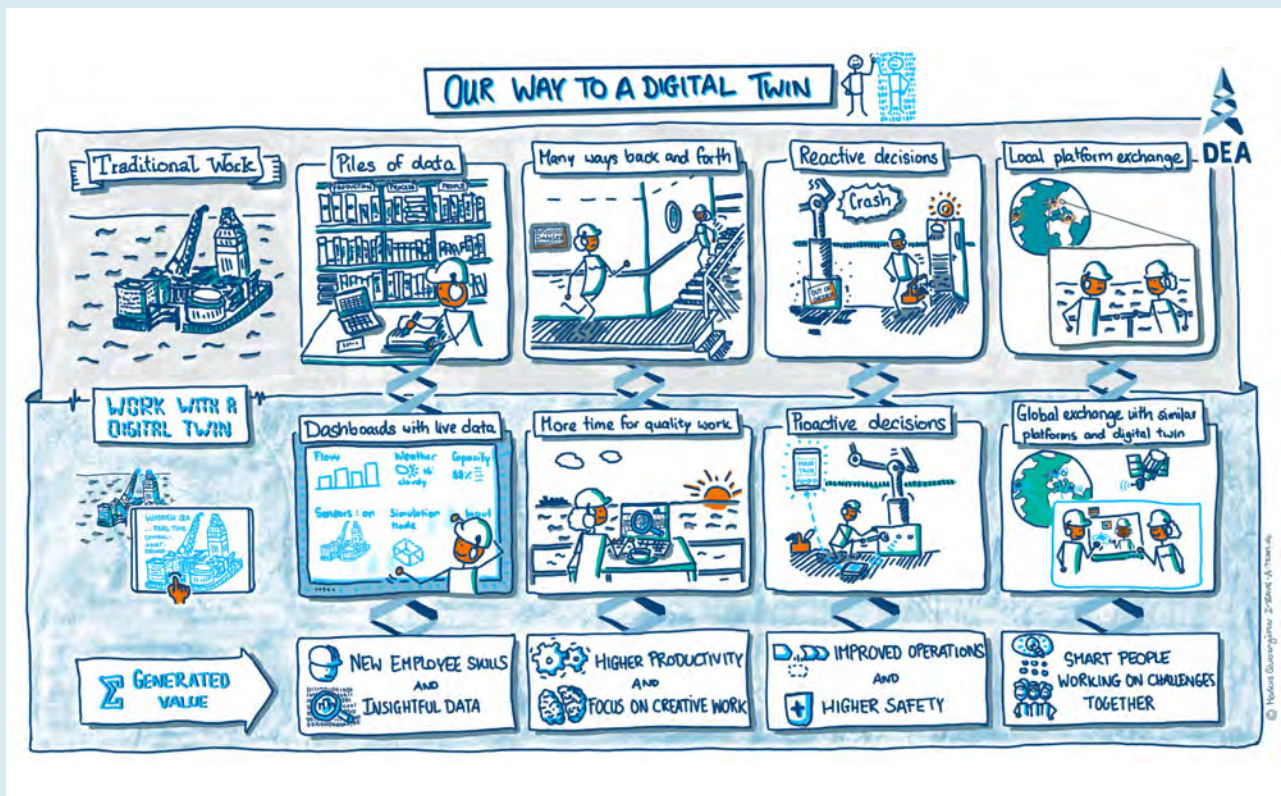
The implementation of three 'agile crews' is planned for 2019. The crew members have various work assignments: the selection of a suitable smart mobile device, smart maintenance, remote-controlled equipment inspection, equipment rotation principle, machine learning and monitoring.

### IT security for the best possible data protection

The further digitalisation of our working world not only opens up great opportunities, but also involves risks. Cyber and IT security incidents have sharply increased worldwide. DEA is proactively addressing this challenge. DEA's security work covers the protection of people, property and assets, as well as the protection of company information and data. We have armed ourselves with comprehensive preventive measures to minimise any possible damage caused by the deliberate intervention of third parties.

We protect our computer systems both with the help of measures taken by our competent and regularly trained employees and our state-of-the-art IT security systems. To this end, we regularly inform our employees about the risks posed by social engineering and emerging fraud. If

The production field Mittelplate is digitally reproduced one-to-one. This has great advantages as data intelligence helps to improve processes.





### Good to know: DEA (AIM) well networked in terms of data management

The DEA digitisation initiative goes beyond the boundaries of the company. In 2018, DEA hosted the AIM annual conference in Hamburg again. The main theme of the meeting was 'Digitisation and the Cloud'. This included issues such as an agenda on digitisation, ongoing and planned digitisation projects, the handling of company-sensitive data in a cloud and attitudes towards server locations abroad.

Again, this exchange of information was seen by companies as a win-win situation. Especially the exchange of experience between users of special industry software and the software providers helps participants to learn from experience and avoid mistakes. The contacts within this data management community ensure that, even outside the AIM event, external experts can be asked quickly and with a minimum of bureaucracy for feedback on specific ideas or projects.

suspicious emails are received, short direct communication channels to IT Security and Corporate Security ensure a fast and appropriate response in order to protect valuable information.

The protection of personal data is of particular importance. The new EU General Data Protection Regulation has been in force in Germany since 2018. According to this regulation, companies have to be able to prove that they handle personal data carefully and transparently. Violations of the regulation will incur heavy fines. Last year, DEA prepared for the stricter requirements of the new EU General Data Protection Regulation. The data protection organisation is in normal operation; necessary changes and additions are made to the processes in the course of continual improvement. In this matter, DEA is supported by an externally appointed data protection officer.

## Social commitment

# How and where we help

DEA and its employees live up to their social responsibility by promoting social commitment. As part of society in the countries in which DEA is active, the company wants to fulfil its social and economic responsibility towards people in need and social institutions. DEA is therefore involved in addressing social and structural challenges with donations and sponsorships.

DEA SUPPORTS SELECTED PROJECTS worldwide in the areas of environment, education, science and social and cultural affairs with donations and sponsorships, as well as by supporting voluntary aid projects. DEA takes particular account of country-specific requirements when selecting projects.

The great challenges that our in economy, politics and society face today can only be mastered together. For DEA, entrepreneurial success and responsibility for the social environment are, therefore, two sides of the same coin. Whether it's with the annual 'Aid instead of candles' donation campaign or the education or training grants for young people with limited opportunities in Germany, scholarships for highly talented young musicians in Norway or hepatitis screening in Egypt. DEA sees it as an entrepreneurial duty to commit itself to the community, especially in its core regions. The activities supported by the company are varied and originate directly from the company or are based on the commitment of Works Council members and employees. A few are listed below:

### DONATIONS

➤ In Mexico, our subsidiary Deutsche Erdoel AG is establishing itself as an operator that is aware of its social responsibility. In the Tabasco region, we are particularly committed to supporting children in the environment of our

oil-producing Ogarrio field. In our latest project, we distributed school satchels and supplies to two primary schools in the community of Huimanguillo. Last year, together with Devlyn Optics, we provided comprehensive eye examinations for 90 students and remedied any visual defects identified.

- In April 2019, DEA and SUCO celebrated 'orphan's day' at the Ras Budran field. The event took place with the motto 'Draw a Smile' where each participant was responsible for a group of orphans on that day. Both the children and our employees had a lot of fun eating and playing together, and we took the opportunity to give toys and books to about 90 orphans.
- The DEA staff and management in Egypt decided to donate the value of the annual corporate Ramadan-Iftar party in the form of food boxes to people in need. Together with the Misr El Kheir Foundation, 700 boxes were distributed by DEA staff to families in need in two villages near the DEA concession areas in East Ras Budran.
- In Germany, as part of the '2018 aid instead of candles' donation campaign initiated by DEA about 20 years ago, the main donation of 7,000 euros was made to the German 'Hände für Kinder' (hands for children) project to support children with disabilities and their families.



The girls and boys are happy with their new school backpacks from DEA.

**Good to know:  
background information  
about the DEA  
'Aid instead of candles'  
campaign**

In the past, the company used to produce candles in one of its plants and give all employees a candle package for Christmas. When in-house candle production was discontinued in the course of a comprehensive corporate reorganisation around the turn of the millennium, the idea of making the value of the 'employee candles' available to social organisations every year was instigated by the Works Council at that time. Since then, DEA employees have forgone their Christmas candle packages and, instead, donate their equivalent value to social organisations in their respective regions.



Nermin Usama, Senior Communication and CSR Officer at DEA Egypt, helps to unload and distribute "Ramadan boxes".



The "Ramadan boxes" are distributed to Egyptian families.

## SPONSORING

- DEA mentors and works with young people in Hammarfest, Norway, who have entered the prestigious First Lego League 'Subsea Challenge'. The participants have to design a robot with Lego Mindstorms technology and then build, programme and measure themselves on a table field. DEA has contributed to this and sponsors a small team of young talents who will set up the DEA team and represent it on the field.
- Also in Norway, DEA has sponsored a Tech Boost event where two hundred 4th and 5th grade students from Stavanger gathered at the annual GirlTech Festival in Sølvsberget, Stavanger. Here they learned more about possibilities to work with technology. GirlTech intends to increase the number of girls who want to study and pursue a career in science and technology.
- As a member of the Norwegian oil and gas industry, DEA has been one of the sponsors of the Norwegian Petroleum Museum (Norsk Oljemuseum) in Stavanger for many years. The museum provides historical and contemporary insights into technological innovations, and sheds light on the economic importance of the industry to Norway's development.
- In Germany, DEA supported the Technische Universität Bergakademie Freiberg (Freiberg Mining Academy, University of Technology). The Mining Academy received a high-end whiteboard from DEA. The new digital interactive whiteboard, worth 6,000 euros, sponsored by DEA, and inaugurated during a first lecture by DEA Head of Research and Development, Dr Christian Bücker, who introduced a new era of presentation technology in Freiberg.



DEA sponsors the Norsk Oljemuseum petroleum museum in Stavanger.

## VOLUNTEER WORK SPONSORED BY DEA

Volunteer work is carried out in many countries and many international DEA colleagues are involved in social or non-profit projects. As the commitment to social responsibility is an essential part of the DEA Code of Conduct, DEA is pleased to support the voluntary commitment of its employees within the framework of the DEA volunteering programme.

As part of the DEA volunteering programme, DEA supports non-profit organisations and projects with up to €1,000 per year in which employees volunteer their time. We see a benefit for all those involved in the volunteer work done. As helpers broaden their horizons and develop their social skills, not only are the people in the sponsored projects winners, but also our employees and, ultimately our company.

The prerequisite for support is that the requirements of the DEA Code of Conduct and our guidelines regarding donations and sponsorships are met. Projects must not have party political or missionary purposes and must be adapted to the national, regional and local circumstances. The success of the service provided within a defined period of time must be documented. During the reporting period, DEA supported 17 volunteering projects, some of which are listed below:

- The DEA volunteering programme celebrated its international premiere in Mexico during the reporting period. The desire to improve the precarious situation of the sanitary facilities in a local primary school led to the first international DEA volunteering project in Mexico. Six colleagues worked together to repair the sanitary facilities of a primary school in the vicinity of the Ogarrio oil field.
- As part of a volunteering project, DEA supported the Ronald McDonald House Charities and hosted a campaign day at two locations in Hamburg. The Ronald McDonald Houses are a 'temporary home' for families of seriously ill children near hospitals so that important attendants can quickly reach the young patients.
- Also in Hamburg, DEA supported a campaign as part of the 2018 World Read Aloud Day through the volunteering programme. Children with a migrant background from a day-care centre were accompanied into a library where books were looked at and read aloud in small groups. The aim was to awaken the joys of speaking because the development of linguistic skills during the pre-school years is a decisive factor for later education and careers and contributes to equal opportunities.
- In addition, the children's library of the day-care centre was expanded as part of the 'World Read Aloud Day' campaign and a sofa and diversity dolls were purchased. These dolls, which reflect the variety of the children, and a



DEA employees in Norway get down to work in the "Clean-up Day".



new doll's house offer the children good possibilities to identify with different personalities playfully and verbally exchange thoughts, etc.

➤ DEA supports the German Federal Agency for Technical Relief (Technisches Hilfswerk, THW) in northern Germany in the fight against weather extremes such as flood damage. The THW can now purchase new high-performance pumps, which are necessary for the increasingly frequent heavy rain, thanks to a donation from DEA. The THW is deployed worldwide to provide assistance in disaster situations.

➤ The 'Deutsche Hilfsgemeinschaft e.V.' (DHG) organises several holiday camps for children and young people every year. The target group comprises children from vulnerable families in order to allow these young people and their families to relax. For almost 10 years, an employee of DEA has been accompanying one of these camps supported by funds from the DEA volunteering programme.

➤ In Germany, DEA employees have been involved in various Christmas campaigns for years. Every year, the 'Deutsche Hilfsgemeinschaft e.V.' put together Christmas packages for families and senior citizens in need in Hamburg. DEA colleagues have been involved in the campaign for more than four years. The project is also financially supported by the DEA volunteering programme. Last year, about 50 DEA employees volunteered to days of their time and energy again to pack up about 1,800 food packages with Christmas treats such as clementines, gingerbread, and savoury food.

#### FURTHER COMMITMENT OF DEA EMPLOYEES

Through the DEA-supported measures described above, DEA employees get together in many places and get involved on a voluntary basis.

➤ DEA in Norway took part in the 2018 Movember campaign launched by the worldwide Movember Foundation. Throughout November, male employees at the Stavanger office grew their moustaches - to raise money for investments in testicular and prostate cancer research. Over 15 years, the Movember Foundation has funded more than 1,200 men's health projects worldwide. The aim of the foundation is to reduce the number of premature deaths among men by 25% by 2030.

➤ DEA colleagues in Stavanger took part in the nationwide clean-up campaign and collected about 500 kilograms of rubbish on the Tungenes coast near the city of Stavanger. DEA's contribution was well received both locally and was featured on by the national channel NRK.

➤ In 2018, DEA employees also organised a raffle during the pre-Christmas period for the benefit of Radio Hamburg's 'Hörer helfen Kinder in Not' (listeners help children in need) campaign. The DEA colleagues collected prizes in advance and sold tickets to the staff. The campaign was a complete success in 2018 again. All tickets were sold and the proceeds of more than 3,300 euros were donated live on the radio by the initiators. Since the start of the campaign in 2009, the private initiative has donated almost 19,500 euros to help children in need.

## About this report

# How we report on sustainability

DEA has been carrying out systematic, public reporting on environmental and sustainability issues for more than 20 years. Until DEA was separated from the German RWE Group in 2015, this was carried out within the scope of RWE Group environmental and sustainability reporting, as well as in DEA's annual and financial reports and other DEA publications. Since 2015, the DEA Group has been reporting on sustainability independently.

THE CURRENT DEA SUSTAINABILITY REPORT 2018/19 provides information on the company's strategic direction with regard to sustainability issues and on current developments in existing and planned sustainability performance, which is tied to a broad historical basis in terms of an environmental and safety culture at DEA.

The report's target group constitutes an overlap of the relevant stakeholders of the company and includes international business partners, the financial community, the general public and the neighbours of our operational sites, as well as DEA employees. Further information can be found in the Stakeholder Dialogue chapter.

The aim of our current report is to better meet the standards and expectations of an international audience and decision-makers. In preparing this report, we have, therefore, followed the principles of the Global Reporting Initiative (GRI), which comprises the following: inclusion of our stakeholders, concrete reference to our company's sustainability context, accuracy, balance, clarity – both within and across industries, comparability, reliability, punctuality in terms of the annual reporting cycle, completeness and materiality.

When preparing this report, we identified and evaluated material sustainability issues for our business activities

with the support of external consultants. Here, too, we have been guided in part by the GRI's Sustainable Reporting Standards. Over the years, DEA has already built up and established systematic sustainability management as part of its strategy and risk management system, and is continuously expanding this in the areas of action described in this report. In line with the international standards of the oil and gas industry, we use terminologies and reporting structures that only partially correspond to those of the GRI. This report has been prepared in accordance with the GRI Standards: Core Option. The GRI Content Index with the corresponding page reference can be found in the appendix of this report. The GRI reporting standard should continue to serve as a guide and to define our key topics in the future.

With the external communication of the Sustainable Reporting Standards, in accordance with the GRI reporting frame, we are also following the principle of comparability. The same applies to our activities within the framework of IOGP statistical surveys: DEA is one of the companies that provides annual data on ecological and social performance within the IOGP reporting system, including for internal industry benchmarking. The IOGP evaluates and publishes this information and data over the course of the year and, in parts, after this Sustainability Report goes to press.



This publication's reporting period covers the 2018 calendar year and has followed an annual publication cycle since 2015. The report contains additional information from the 2019 financial year, partially supplementing the content of the report up until its publication date in the second quarter of 2019.

In addition to the Sustainability Report, DEA published its Annual Report 2018 in the first quarter of 2019. Alongside the financial and IFRS data, the report also contains non-financial information about the company, which is recommended as a supplement to this Sustainability Report. This report has not been subject to an external audit. It is published in German and English and will be issued online as a PDF file in addition to the printed edition. If content refers to groups of people and only the masculine form has been mentioned, this is not meant to be gender-specific; it serves exclusively for better legibility.

#### **WE LOOK FORWARD TO RECEIVING YOUR QUESTIONS, SUGGESTIONS OR COMMENTS ON THE DEA SUSTAINABILITY REPORT 2018/2019.**

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#### **Statements about the future**

This Sustainability Report contains statements about the future. These statements are based on assumptions and expectations based on the information available at the time that the report was published. They are, therefore, associated with risks and should not be understood as guarantees of the forecast developments and results. Many of these risks and uncertainties are determined by factors that are beyond the control of DEA Deutsche Erdoel AG and cannot be reliably estimated at this time. These risk factors include future market conditions and underlying economic data, the achievement of expected synergy effects, as well as legal and political decisions. DEA Deutsche Erdoel AG assumes no obligation to update the statements about the future contained in this report.

## GRI Content Index

DEA's Sustainability Report for the 2018 reporting cycle is based on the Sustainability Reporting Standards of the Global Reporting Initiative (GRI). This report has been prepared in accordance with the GRI Standards' "Core" option. All references to GRI Standards in the content index below relate to the GRI Standards published in 2016. For the GRI Content Index Service, GRI Services reviewed that the GRI content index is clearly presented and the references for all disclosures included align with the appropriate sections in the body of the report. The service was performed on the German version of the report.



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<b>General Disclosures</b>			
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## UN Global Compact Progress Report 2019

DEA Deutsche Erdoel AG has been a member of the United Nations Global Compact since 2018. The company is thus committed to integrating the ten universal sustainability principles for human rights, labour, the environment and anti-corruption into its business processes and strategy. DEA herewith documents the corresponding measures and the status on the way to achieving the company-specific goals in a progress report on a regular basis. For the first time, the following list documents the status of the implementation and integration of the ten principles along the value chain in which DEA directly or indirectly participates. However, some of the principles of the Global Compact are difficult to relate to DEA's core business. In accordance with the 'comply-or-explain principle' we will, therefore, make it clear in various areas to what extent we are currently unable to relate them to our daily business activities.





Principles	Comment	Pages in the latest Sustainability Report 2018/19
<b>Human rights and labour</b>		
<p><b>Principle 1</b> Support of human rights</p> <p><b>Principle 2</b> Elimination of human rights abuses</p> <p><b>Principle 3</b> Upholding the freedom of association</p> <p><b>Principle 4</b> Elimination of all forms of forced and compulsory labour</p> <p><b>Principle 5</b> Abolition of child labour</p> <p><b>Principle 6</b> Elimination of discrimination</p>	<p>Especially through networking with international partners and the resulting questions about social standards in upstream and downstream processes, compliance with human rights is becoming increasingly urgent for DEA. This also includes such issues as human rights due diligence along the value chain in which we are involved, and ensuring strict labour standards in all areas of our business model.</p> <p>Forced and child labour do not represent potential risks in our core business. Nevertheless, we also take a clear stance over this, which we communicate directly when working with external partners.</p> <p>Equal opportunities, however, are strategic priorities of our company. Here we can exert influence in various areas of our business model. Promoting a fair balance between women and men at all levels of the company, for example, is a high priority at DEA. The same applies to the avoidance of discrimination through strict regulations that neither nationality, ethnicity, religion and belief, disability, age nor sexual orientation and identity should ever be grounds for discrimination of any kind at DEA. Working conditions throughout the company are characterised by a common set of values, including clear ideas of mutual respect, protection against discrimination and freedom of expression.</p>	24 (principles 1, 4, 5); 79 (principle 3); 13, 14, 68, 71, 72, 73, 74, 75 (principle 6)
<b>The environment and climate</b>		
<p><b>Principle 7</b> Precautionary environmental protection</p> <p><b>Principle 8</b> Initiatives to promote greater environmental responsibility</p> <p><b>Principle 9</b> Development and diffusion of environmentally friendly technologies</p>	<p>Due to our business model, precautionary environmental protection at DEA is regarded as a task for the Board of Management and all employees of the company. The managers are particularly responsible for achieving the environmental protection goals. At various points in our value chain, environmental protection officers also ensure that (precautionary) measures are taken, processes are environmentally compatible, (environmental) management systems are implemented and that the corresponding certifications are obtained. We also expect our business partners to comply with environmental standards and thus influence the sustainable orientation along the value chain. Sustainability criteria such as energy efficiency and environmentally friendly production methods are increasingly becoming binding decision factors for the selection of our cooperation partners.</p> <p>Our opportunities to promote more environmental protection activities are manifold – starting with the development and use of environmentally friendly technologies at our own operated sites to the use of effective saving potentials of resources along the entire value chain.</p>	32, 81 (principle 7); 2, 14, 47, 48, 49, 50, 51, 52, 53 (principle 8); 13, 36, 46, 47, 48 (principle 9)
<b>Anti-corruption</b>		
<p><b>Principle 10</b> Measures against corruption</p>	<p>The international E&amp;P industry belongs to those industries with increased risks of corruption. DEA is also active in countries with comparatively high corruption risks. Therefore, DEA actively combats corruption and unfair competition, and sees this approach as part of its corporate and social responsibility. As part of its compliance management system, DEA places particular emphasis on measures against corruption. In its Code of Conduct and in an additional anti-corruption policy, DEA undertakes to comply – in all of its activities – with the provisions of the United States Foreign Corrupt Practices Act (FCPA), the United Kingdom Bribery Act 2010 (UKBA), German anti-corruption laws and any applicable anti-corruption laws in the countries in which it does business.</p>	24, 25

## Glossary

**ASEA** = Agencia de seguridad, energía y ambiente. National Mexican agency for industrial security

**Barrel** = international trading unit of crude oil. One barrel is the equivalent of around 159 litres.

**Cuttings** = rock crushed in the drilling process, which is brought to the surface with the drilling mud.

**DEA Group** = consists of L1E Finance GmbH & Co. KG and its subsidiaries.

**DVGW** = Deutscher Verein des Gas- und Wasserfaches (German Association for Gas and Water)

**EBITDAX** = key ratio used for internal management control. It is determined as earnings before interest, taxes, depletion/depreciation/amortisation and exploration expenditure for the last 12 months; in addition, adjustments are made for realised and unrealised gains/losses arising from derivatives and exchange rate fluctuations, as well as non-recurring effects.

**Exploration** = the search for, and investigation of, new crude oil and natural gas deposits.

**E&P** = exploration and production

**FAR** = fatal accident rate (frequency of fatalities)

**FAT** = number of fatalities

**FCPA** = Foreign Corrupt Practices Act,

**FTE** = full-time-equivalent; the equivalent of one full-time employee. This unit takes into account full-time, part-time and temporarily employed staff, adjusted for part-time employment. It does not include executive board members, managing directors, trainees, dormant working relationships, student employees, interns or employees in the exemption phase of semi-retirement.

**Furan** = an organic liquid that is only slightly soluble in water.

**GJ** = gigajoule; 1 GJ = 1,000 MJ; 3.6 MJ = 1 kWh

**IFC** = International Finance Corporation

**IOPG** = International Association of Oil & Gas Producers

**kboe** = kilobarrel of oil equivalent

**LBEG** = Landesamt für Bergbau, Energie und Geologie (German State Office for Mining, Energy and Geology)

**LOPC** = loss of primary containment

**LTI** = lost time injury (sum of fatalities and injuries resulting in lost time)

**LTIF** = lost time injury frequency (frequency of fatalities and lost time injuries)

**Millisivert** = unit of measurement of radiation doses

**NOFO** = Norwegian Clean Seas Association for Operating Companies

**NORM** = naturally occurring radioactive material

**NPI** = Norwegian Polar Institute

**OE** = oil equivalent. Unit of energy defined as the amount of energy released by burning one tonne of crude oil.

**Offshore** = located off the coast of the mainland or off the shore of major inland bodies of water.

**Ombudsman** = impartial arbitrator

**Onshore** = located on land.

**OSECA** = Ocean State Emergency Communication Alliance, responsible for tracking the development of simulation technologies in Norway to enable a better understanding of the combined effects of oil and fishing activities.

**ORC** = Organic Rankine Cycle. An ORC system uses organic liquids with a low evaporation point to drive steam turbines.

**PSA** = Petroleum Safety Authority

**PSE** = Process Safety Event

**PSER** = Process Safety Event Rate

**Reserves** = clearly identifiable deposits that can be exploited commercially using technologies that either exist now or will exist in the near future.

**Scope 1** = direct greenhouse gas emissions by own operations inclusive emissions by own electric power generation.

**Scope 2** = Scope 1 plus greenhouse gas emissions from electricity consumed by company but generated elsewhere.

**Scf** = standard cubic foot is a unit commonly used in the natural gas industry to represent the amount of natural gas.

**Sinking** = synonym for drilling Work Ability Index (WAI) = instrument for measuring the ability of employed persons to work. It represents a range of 27 to 49 points.

**Skimmer** = a device in artificial lakes and other liquid containers that extracts the dirt from the water surface.

**Tracer** = substance that can be used to track chemical, physical, biological or technical processes.

**TRI** = total recordable incidents (number of incidents that require reporting)

**TRIR** = total recordable incident rate (frequency of recordable incidents)

**UKBA** = United Kingdom Bribery Act 2010

**Upstream** = describes the range of activities involved in extracting hydrocarbons from a deposit and bringing them to the earth's surface. Specifically, the activities are: exploration, field development, well drilling, and production.

**United Nation Global Compact** = a United Nations initiative, now the world's largest and most important initiative for responsible corporate governance

**UXO** = unexploded ordnance

**VDI 7000** = Guidelines from the Verein deutsche Ingenieure (the Association of German Engineers) for the successful involvement of the public at an early stage in industrial and infrastructure projects.

**WSF** = Wadden Sea Forum, a trilateral association (Denmark, Germany and the Netherlands) that develops sustainable development scenarios and strategies for their implementation.

**1P Reserves** = proved reserves; at least 90 % probability that the quantities actually recovered will equal or exceed the estimate.

**2P Reserves** = proved plus probable reserves; at least 50 % probability that the actual quantities recovered will equal or exceed the estimate. Includes 1P Reserves.

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