

## Combined management report as at December 31, 2016

This management report is a combined report on STEAG GmbH and the STEAG Group (STEAG GmbH and its subsidiaries). Business development at STEAG GmbH is reported in a separate chapter. The consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS) as applicable in the EU, while the individual financial statements have been drawn up in accordance with the provisions of the German Commercial Code (HGB), the German legislation on limited liability companies (GmbH-Gesetz) and the German Energy Act (EnWG)

## Basic information on the STEAG Group

### Business activities and corporate structure

#### **Business activities**

The STEAG Group operates internationally, providing integrated solutions for its customers in the areas of power and heat generation, and technical services. Its core competencies include the planning, construction and operation of large power plants and distributed facilities, asset-based power trading, and related technical services. The Group's power and heat generating capacities are based on special fuels, fossil fuels and renewable energy sources.

#### Conventional energy generation

As one of Germany's largest electricity producers, the STEAG Group has total installed capacity of 10,130 megawatts (MW) electric, including 8,000 MW in Germany.

In Germany, the STEAG Group operates power plants at nine sites and has more than 200 distributed facilities to generate energy from renewable resources and to serve industry and supply heat.

Outside of Germany the STEAG Group operates its own power plants in Colombia, the Philippines and Turkey, in close cooperation with local partners. The power plant in Iskenderun (Turkey) is the STEAG Group's largest foreign power plant with installed capacity of 1,320 MW.

Following the politically driven turnaround in German energy policy, the energy sector is undergoing a far-reaching process of transformation. The preferential treatment given to



driving the expansion of renewables is causing a drop in prices on electricity exchanges, which is confronting utility companies with conventional generating facilities with enormous economic challenges. A review of their current business activities is therefore necessary. In particular, the continued operation of individual power plants is under review. Applications were submitted to shut down five plants at four sites in 2016.

In 2015, the RWE Group submitted a request to the STEAG Group to shutdown the Voerde power plant, operated jointly by both groups, effective October 1, 2016. There was disagreement about the effectiveness of this request under antitrust law. The STEAG Group endeavored to uphold the site. However, a further significant deterioration in the electricity price level following the announcement meant that permanent operation of Voerde A and B power plant blocks was no longer economically viable. Therefore, RWE Generation SE and STEAG GmbH agreed that RWE Generation SE would be given independent business authority for the Voerde A and B blocks and would decide on this basis on the use, maintenance and continued period of operation. Preparations for shutdown started at both blocks on July 1, 2016 and they will be taken offline on March 31, 2017.

In addition, STEAG GmbH and RWE Generation SE have joint stakes in the Bergkamen coal-fired power plant through Gemeinschaftskraftwerk Bergkamen A beschränkt haftende OHG. During the negotiations with the RWE Group, STEAG GmbH was granted the right to take over the shares in this company held by RWE Generation SE with effect from January 1, 2019.

#### Renewable energies

The STEAG Group increased its commitment to renewables further in 2016. The wind farms in Hauteville and Cormainville in France, with rated electric power of 27 MW and 17.5 MW respectively were brought into service in September 2016.

Through systematic expansion in recent years, as at December 31, 2016 the STEAG Group had total installed capacity of around 800 MW based on renewables and distributed generating facilities.



#### A competent trading partner

Based on many years of experience in the trading of power, coal and  $CO_2$ , the STEAG Group has a broad portfolio of products and services, and extensive expertise in trading. This includes the procurement and marketing of electricity, fuel and  $CO_2$  emission allowances, along with marketing of capacity and of electricity, heat and steam energy. In addition, the STEAG Group is one of Germany's leaders in the import and marketing of hard coal. It imports hard coal from the major producing nations for supply to STEAG power plants and third parties.

#### A professional service provider

Energy services are becoming increasingly important for the STEAG Group. Over the years the STEAG Group has accrued great expertise in modernizing power plants and is now regarded as one of the leading providers of solutions for customized energy supply that is both environment-friendly and profitable.

As well as being a pioneer in efficient technologies for power generation from hard coal, which contribute to the conservation of resources, it is a specialist in the optimization of the entire value chain associated with power plants. In Europe the STEAG Group also has a strong position in the re-use and marketing of waste materials from hard coal power plants.

In the EU, the STEAG Group is a leader in the generation of electricity and heat from mine gas and in Germany it is a leading generator of heat from geothermal energy. It is also one of the largest suppliers of district heating and a contractor and operator of biomass heating plants in Germany.

Its competencies include professional engineering and operating solutions for every type of power generation. The engineers at the subsidiary STEAG Energy Services GmbH operate internationally, for example in Brazil, Botswana, Romania, Turkey, Switzerland, the USA, and India. STEAG Energy Services (India) Pvt. Ltd. has around 1,000 employees, making it the foreign subsidiary with the largest workforce.



#### A partner for Germany's new energy policy

As an active partner for Germany's new energy policy, the STEAG Group stands for a holistic view of the transformation of the energy sector.

Alongside energy storage to make power supply more flexible, efficient bundling and marketing of distributed facilities and systematic inclusion of the heating market in implementing the revised energy policy are key elements for its success. In Germany, the STEAG Group is focusing on these central issues.

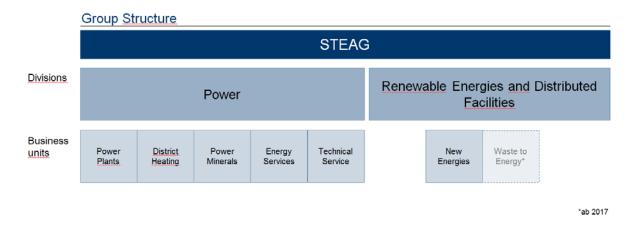


#### **Ownership structure**

As at December 31, 2016, STEAG GmbH was wholly owned by KSBG Kommunale Beteiligungsgesellschaft GmbH & Co. KG (KSBG KG), Essen (Germany).

#### Integrated business model

STEAG GmbH, which is headquartered in Essen (Germany), is the parent company of the STEAG Group. It holds the shares in the Group's subsidiaries, either directly or indirectly. STEAG GmbH is responsible for strategic and operational management of the STEAG Group's divisions, i.e. the Power division (comprising the Power Plants (generation and trading), District Heating, Power Minerals, Energy Services and Technical Service business units), and the Renewable Energies and Distributed Facilities division (New Energies business unit and, from 2017, the Waste to Energy business unit). This structure reflects the STEAG Group's integrated business model.



In the Power division, national and international projects are the basis for high-quality technical solutions for power plants. In the Power Plants business unit, the Trading & Optimization (T&O) department is responsible for marketing electricity, while the Generation department is responsible for operating the STEAG Group's power plants.

In Germany, power generation is complemented by the activities of the District Heating business unit, which successfully markets the heat produced by co-generation plants.

The Power Minerals business unit markets waste materials from the German and foreign generating activities, mainly to the cement and construction industries.

For decades, the engineers in STEAG's Energy Services business unit have been developing concepts for plants for conventional and renewable fuels. They design and build



the plants and offer services and IT solutions to optimize them, both in Germany and internationally.

The Technical Service business unit pools the service expertise gained over decades, especially in power plant maintenance and services for electricity grids.

The second division is Renewable Energies and Distributed Facilities. Activities associated with distributed energy generation (based on renewable energy sources and industrial and/or municipal supply concepts) are bundled in this division. The New Energies business unit specializes in custom-tailored distributed energy solutions based on efficient and sustainable concepts. Alongside conventional energy sources, the range covers wind power, bioenergy, mine gas and geothermal energy. District heating and the use of mine gas to generate energy are areas where the New Energies business is also scoring successes in other countries such as Poland.

Following the strategic entry into the waste-to-energy market in 2016 in the wake of an agreement on the complete acquisition of the two industrial waste incineration plants (industrial power plant Rüdersdorf and T.A. Lauta), this division will include a Waste to Energy business unit from 2017 on.

#### Organizational changes

The STEAG Group optimized its legal structures in 2016.

STEAG GmbH transferred the shares in STEAG Energy Services GmbH, STEAG Power Minerals GmbH and STEAG Fernwärme GmbH to STEAG 2. Beteiligungs-GmbH as a contribution in kind. Inclusion in the Group's existing tax entity is ensured for all companies through profit and loss transfer agreements. In addition, RAG Saarberg GmbH was merged into STEAG 2. Beteiligungs-GmbH. Further, STEAG Power Saar GmbH was merged into STEAG 2. Beteiligungs-GmbH retrospectively, with economic effect from January 1, 2017. STEAG 2. Beteiligungs-GmbH now holds the investments in STEAG Netz GmbH and Fernwärme-Verbund Saar GmbH.

The planned merger of STEAG Powitec GmbH with STEAG Energy Services GmbH with economic effect from January 1, 2017 is designed to bundle the operating activities in Germany.

These measures result in internal and external cost-savings.



In addition, the STEAG Group continuously examines its administrative workflows and processes.



#### Significant new contracts

STEAG Power Minerals GmbH and the HAWAR Group of Doha (Qatar) held constructive talks leading to an agreement on a long-term strategic alliance. So far, business relations with the HAWAR Group mainly comprised the disposal of fly ash from power plants in India and international marketing of the fly ash in the Gulf region. The HAWAR Group has proven a reliable, well-networked partner and complements the competencies of STEAG Power Minerals GmbH. The potential of this business relationship was systematically extended in 2015. To drive forward the international strategic alignment of STEAG Power Minerals GmbH and to benefit from the HAWAR Group's international network, especially in the Middle East, a long-term partnership was established in 2016, giving the HAWAR Group a 30 percent minority stake in STEAG Power Minerals GmbH. In addition, an option to purchase a further 19 percent was agreed.

In 2016, Stadtwerke Wesel GmbH acquired shares in the Ullersdorf wind farm in the federal state of Brandenburg (Germany), which came into service in 2014. STEAG New Energies GmbH remains the majority shareholder. In addition, STEAG New Energies GmbH continued to extend its position in distributed energy generation in Germany in 2016. This included construction of a heating plant for the Karlsberg brewery and new central energy plants at Ford's site in Saarlouis and Darmstadt Technical University. Further, in 2016 a majority of the shares in the district heating company Elektrocieplownia Mielec Sp. z o.o. (Poland) were acquired through a subsidiary of STEAG New Energies GmbH. Elektrocieplownia Mielec Sp. z o.o. has installed capacity of 160 MW<sub>th</sub> and 39 MW<sub>el</sub>. This acquisition significantly extends the position of STEAG New Energies GmbH in the Polish heating market.

STEAG Energy Services GmbH is successful in international competition for energy services and the management of power plants. In 2016 it acquired additional plant management contracts for major power plants in India with total capacity of 2,000 MW, and for a gas processing plant in Brazil.

Acquisition of the two waste incineration facilities industrial power plant Rüdersdorf and T.A. Lauta, with capacity of 475,000 tonnes p.a., adds facilities with base load generating capacity to STEAG's portfolio. Up to now, STEAG GmbH held 25.1 percent of the shares in the thermal waste treatment plant Thermische Abfallbehandlung Lauta GmbH & Co. oHG. Acquiring these power plants, which are classified as carbon-neutral, represents a strategic market entry in the waste-to-energy market, which is currently growing, and raises the proportion of renewable power and heat generation in the STEAG Group. All activities on the waste incineration market are now bundled in STEAG Waste to Energy GmbH.



In 2016, STEAG Beteiligungsgesellschaft mbH and Macquarie Corporate Holdings Pty Limited (Hong Kong) established Asia Power Development Platform Joint Venture Pte. Ltd. This joint venture will undertake energy projects in the areas of gas, coal, wind, solar, hydroelectric power and thermal waste treatment in Southeast Asia. It will cover the entire project development and realization value chain from development and financing through construction and operation of power plants to their sale following successful commissioning. Investors are currently being acquired. Contact has been made and initial negotiations on the term sheets have started.



## Strategy

#### Strategic development

Germany's energy policy turnaround is a watershed for the country's energy sector. Like its peers throughout the energy sector, the STEAG Group has been confronted by a significant drop in earnings as a result of the difficult market situation since 2011. This ongoing trend is a consequence of the politically driven turnaround in energy policy. The STEAG Group is systematically pursuing its strategic alignment as a power and heat producer and service provider that is open to all technologies. The STEAG Group will remain active and successful in many areas of the energy sector that are mutually dependent or interrelated – both in Germany and abroad.

The Group responded to market changes early on through measures to raise efficiency, continuous optimization of power plant processes, and increased technical and organizational flexibility. In this way, cost-effectiveness has been strengthened and the lifecycle of power plants has been extended despite difficult operating conditions.

However, the further substantial drop in electricity wholesale prices in Germany since last year is putting increasing pressure on the profitability of conventional power plants. This has led to a review of the cost-effectiveness of the STEAG Group's power generating capacity in Germany. The STEAG Group will only continue to operate those power plants that can be run profitably under present conditions. In line with this, the management of STEAG GmbH has decided to shut down five power plants. The German regulator (Bundesnetzagentur) and the transmission network operator Amprion GmbH were notified of this in November 2016. The plan was for final decommissioning of the Herne 3 power plant on June 30, 2017 and of the West 1/2 power plant blocks on March 31, 2017. Further, the Bexbach and Weiher 3 plants were to be taken offline provisionally on June 30, 2017.

In January 2017, the transmission network operator classified the Bexbach and Weiher power plants in Saarland as systemically relevant and required the operator, STEAG GmbH, to maintain them in operational readiness until November 2019. By contrast, the West 1/2 and Herne 3 power plant blocks in the federal state of North Rhine-Westphalia are not classified as systematically relevant.



The situation on the German power plant market has deteriorated further as a result of the change in the political framework and the low electricity price, which again dropped rapidly in 2016. The Group-wide STEAG 2022 program has been introduced to counter this situation and position the STEAG Group for the future. Taking a holistic approach, all business activities, processes and cost structures have been reviewed on the basis of the market environment. Additional perspectives have been developed as a substitute for business activities where earnings are declining. STEAG 2022 is a transformation project that is designed to position the STEAG Group as a viable going concern. Raising efficiency, portfolio adjustments and realizing growth projects in the period up to 2022 will improve earnings, cut costs and provide headroom for investment in growth businesses.

These changes and the Group-wide STEAG 2022 project require a transformation of the company, which will probably entail the loss of up to 1,000 jobs.

#### Placing the business in Germany on a basis that is viable for the future

A key focus of the Group's strategic development is making the business in Germany viable for the future.

The STEAG Group is still focusing on continuous optimization of power plant processes and the flexibility of its power plants. An important role in this is played by the "head office concept", i.e. Central management of the Group by STEAG GmbH. In addition, competitive advantages could be generated by using special fuels.

The Walsum 10 power plant operated by the STEAG Group is currently one of the world's most efficient hard coal power plants and the vast majority of its output has been marketed on a secure long-term basis. The economically successful operation and marketing of thermal power plants is one the STEAG Group's key competencies. As the Group is a leader in this field the aim is to maintain this position, based on the conviction that thermal power will remain crucial for Germany's new energy policy in the future.

Another aspect which is very important for the success of the shift in energy policy is integrating the heating market. Together with its partners Fernwärmerversorgung Niederrhein GmbH and Energieversorgung Oberhausen AG, the STEAG Group – as the majority shareholder – is driving forward the Rhine-Ruhr district heating project to connect the existing district heating lines between Bottrop and Duisburg. This project has qualified for inclusion in the KlimaExpo.NRW initiative and is a central reference project in the climate protection plan adopted by the federal state of North Rhine-Westphalia. A further milestone in the realization of this ecological project, which is unique in Europe, was the submission of the zoning application to the District Commissioner in Düsseldorf in 2016.



A major aim of this project is to diversify the generating portfolio. Heat from the STEAG Group's co-generation plants, waste incinerators and industrial and biomass power plants should contribute to low-carbon heating supply in the Ruhr region of Germany.

To further strengthen the heating business of STEAG Fernwärme GmbH, in December 2016 long-term contracts were concluded with Hertener Energiehandelsgesellschaft GmbH and Uniper Wärme GmbH on the supply of heat from the RZR Herten waste-fired heating power plant. Based on these contracts, the RZR Herten plant will supply heat energy to the STEAG Group's district heating network from the 2018/19 heating period onwards.

Storage systems that smooth fluctuations in the grid are essential for the establishment of renewable energies. In view of this, in 2015 STEAG GmbH decided to invest in six large-scale battery systems. At year-end 2016 the lithium-ion battery systems with storage capacity of 15 MW each were taken into service at six German power plant sites. This investment gives the STEAG Group a pioneering role in Germany in the establishment of battery storage technology and the marketing of the power stored in this way. Efficient pooling and marketing of distributed facilities is one of the major challenges of the new energy policy. Virtual power plants are one possible solution, which the STEAG Group has been actively using for many years. Distributed generating facilities and facilities based on renewable energy resources are connected to conventional heat generating facilities and new technologies such as battery storage systems and managed jointly. Joint marketing with the STEAG's conventional power plants enables the utilization of synergies with mutual back-up.

A further change in the energy sector is the increase in distributed energy supply, the desire for self-sufficiency combined with active management of energy costs and environmentally compatible local energy supply. Based on the success to date, as recently demonstrated by the construction of the new central energy plant for Ford in Saarlouis by STEAG New Energies GmbH, the STEAG Group is pushing its expertise on the market to acquire further corporate and industrial clients and extend its business in the field of distributed energy facilities. The main focus is on gaining access to additional market potential for small facilities and new customer groups, and effective marketing with competitive cost structures.

Diversification and openness to technology are key elements in the future viability of the STEAG Group on the German energy market. The strategic entry into the growing waste-toenergy market by acquiring two waste incineration facilities from the Vattenfall Group is a step towards this.

#### Expansion of the service business



The STEAG Group is successful in the international competition to provide energy services and operate energy generating facilities. Planning, building and operating power plants for third parties on the basis of conventional and renewable energy sources is the core business of STEAG Energy Services GmbH. The STEAG Group has long-standing expertise in power plants, which it markets successfully to third parties in Germany and, above all, in foreign markets such as India, Brazil and Botswana through subsidiaries of STEAG Energy Services GmbH. The proportion of renewables in the portfolio is increasing successively. The international activities are to be stepped up considerably in the next few years.

Decommissioning of nuclear facilities offers further significant potential for the future. STEAG Energy Services GmbH has offered planning, consulting and other services for many decades, along with the development and supply of systems and components for decommissioning nuclear facilities and nuclear waste processing. In view of Germany's planned exit from nuclear energy, this promises attractive growth opportunities for the future - including entering the international market.

As a service provider for industry and the construction sector, STEAG Power Minerals focuses on by-products from power plants, the production and supply of building materials, blasting agents and industrial minerals, and supplying secondary fuels and absorbents to power plants for flue gas scrubbing.

The scope and competitiveness of the STEAG Group's services are strengthened by partnerships: the cooperation with Kraftanlagen Heidelberg GmbH agreed last year leads to combined expertise and is a promising basis for national and international projects in the decommissioning of nuclear facilities.

#### Portfolio strategy and new projects

Investor interest in grid-based infrastructure and wind and solar installations is increasing due to the sound returns. This indicates an attractive valuation for part of the STEAG Group's portfolio, so complete divestment of installations or the involvement of partners could make sense. The aim is to generate liquidity for investment in new projects, especially to diversify the business in Germany and to invest in growth markets.

One example is the heating market in Poland, which offers considerable growth potential. By acquiring a majority stake in the district heating company Elektrocieplownia Mielec Sp. z o.o., STEAG New Energies GmbH is extending its position in the Polish heat market through its Polish subsidiary. The opportunity offered by a long-standing local presence and recognition as a specialist should be utilized to step up our engagement in the short term. The STEAG



Group can use its expertise to optimize the existing supply of heating and thus leverage potential.

By developing projects in focus countries, opportunities for growth can be utilized without being tied by specific technologies. Local networks, a high degree of flexibility and proximity to the market allow timely identification of attractive projects and anticipation of market changes, thus generating competitive advantages.

Alongside geothermal energy, where a subsidiary of STEAG GmbH plans to build a geothermal power plant with a local partner in Indonesia, wind power is an important element in increasing the proportion of renewables in the STEAG Group's generating portfolio. STEAG GmbH invested in wind power installations at an early stage. For instance, its subsidiary STEAG New Energies GmbH has installed around 300 MW wind power capacity in Germany, France, Poland, Romania and Turkey.

Massive investment by banks and insurers has brought a significant change in the market situation for wind power. On the one hand, the purchase prices in tender processes have increased in many cases as a result of the interest rate environment. Consequently, the STEAG Group has had to drop some of its plans to acquire new facilities by taking stakes in them. On the other hand, new regulatory frameworks in some countries have reduced the profitability of these facilities.

At the same time, renewables – especially wind power – remain a future-oriented market. Therefore, the STEAG Group intends to continue to focus on renewables on the basis of a revised business model. The altered investment conditions are creating a seller's market, which the STEAG Group aims to exploit. In future investments, the focus will no longer be on long-term ownership of the assets. Instead, the plans provide for early involvement in development of projects, operational management, the use of energy-related know-how, and more flexible sale of wind farms during development or upon completion.



#### Strategic partnerships

The STEAG Group has made a name for itself through its competence, innovation and experience in the construction and operation of power plants. Utilities in Germany and beyond have put their trust in know-how from Essen for decades. Internationally, the STEAG Group has a reputation for reliable and efficient energy generation – for example in Colombia (since 1999), in Turkey (since 2003), and on the Philippines (since 2006). As conditions on the politically driven German energy market are putting considerable pressure on companies in this sector, the Group's international activities are an important parameter for economic success. The STEAG Group is increasingly taking the initiative and approaching potential partners.

Based on experience to date and with a view to international growth potential, the Group has set up a joint venture with Macquarie Corporate Holdings Pty Limited. The aim is to obtain funding from investors to develop, realize and operate energy projects in Southeast Asia, especially Indonesia, Malaysia, Thailand, Vietnam and the Philippines. These emerging markets have a high or growing need for energy infrastructure and reliable energy supply. The STEAG Group is providing the technical know-how based on its long-standing experience. In addition, the STEAG Group can provide services for project development, realization and operational management and there is a possibility that it could take stakes in the projects to be realized. The technological focus of the platform will be on conventional energy sources such as coal and gas, renewables (wind, solar and hydroelectric power), and on thermal treatment of waste. An initial project pipeline is being examined; an exclusive agreement has been made with the developers for the first projects.

STEAG 2022 will make the Group even stronger in the future as an innovative, agile, opentechnological operator of energy generating facilities, energy services and energy trading in Germany and abroad.



## **Research and development**

#### Research and development 2016

The STEAG Group does not engage in basic research. Its research and development activities focus on technologies that it can use directly in its business. The research and development strategy is shaped principally by the current conditions set by the turnaround in German energy policy.

Power storage technology is an important basis for the success of Germany's new energy policy. The large-scale battery storage systems taken into service in 2016 transferred an important research and development project to industrial scale. This success, which was initiated by research and development, shows how important it is to continue to closely monitor battery technology.

Alongside this, the focus is on special hardware solutions and services for power networks and solutions for analyzing weaknesses in energy generating installations (big data).

In addition, we work on various individual topics to enable us gain a foothold in current developments on the energy market at any time. These research and development activities are undertaken with limited funding.

One issue that is gaining in significance is sector coupling, focusing on coupling the power and heating markets and the transport sector. This includes ways of enhancing the use of power to produce hydrogen or synthetic gas, and converting CO<sub>2</sub> into synthetic fuel as a contribution to decarbonization. In particular, the STEAG Group has been working on methanol technology.

An important step in research and development is the STEAG Group's involvement in the "Designetz" project, which is part of the SINTEG initiative of the Federal Ministry of Economic Affairs. "Designetz" is the most extensive project to date to demonstrate the technical integration of renewables and increasingly distributed energy sources into the supply system. The STEAG Group is working on a sub-project involving investigating and demonstrating which measures, components and strategies could, in future, allow stable, reliable and cost-effective operation of large, interconnected networks with multiple players. Particular attention is being paid to how flexibility can be utilized independently of local generating facilities. The final decision on realization of this project and the associated funding commitments were received at the end of 2016, so the work can start officially in 2017.



Another area of work in the reporting period was "salt storage power plants". The aim was to understand the technical and economic implications of converting a power plant into a salt storage facility heated by electric power.

Further, as part of the research and development strategy work was undertaken on how wind power installations can continue to be operated beyond their expected useful life of 20 years. The findings from this research will be used both in the potential acquisition of older wind farms and to optimize existing wind installations and wind farms.

Other projects include fly ash and high-value applications, for example in the production of high-quality concrete, augmented reality techniques for short-term troubleshooting at remote power plants, and flexibility options for conventional power plants. The FLEXI-TES project is looking into integrating storage technology into conventional power plants.



## **Economic report**

## **Economic background**

#### General economic development<sup>1</sup>

The global economy bottomed out in 2016 and developed better than in previous years. Global gross domestic product (GDP) increased by 3.1 percent (2015: 3.0 percent). Growth in output gathered pace in the advanced economies, but overall economic momentum remained moderate. Economic output increased in the USA, Japan and all countries in the euro zone despite the economic problems in some countries (Portugal, Greece) and the plans for Great Britain and Northern Ireland to leave the EU (Brexit). In the emerging markets, the economy picked up towards the end of 2016. However, with raw material prices still relatively low and unresolved structural problems, major momentum is unlikely to come from this.

The economic development of China remains a major factor influencing the global economy. Thanks to an expansionary monetary and fiscal policy, the Chinese economy grew by 6.6 percent in 2016, compared with 6.9 percent in 2015. The trend to slower economic growth therefore continued. The declining growth rates are due to the political objective of more economically and ecologically sustainable growth, with a focus on expansion of the domestic economy and stronger consumer spending. Going forward, growth rates are expected to be flatter.

Overall, the present pace of growth in the emerging markets could continue to gain momentum (2016: 4.6 percent vs. 2015: 4.5 percent) but the risks remain. Growth in the industrialized countries will gradually strengthen in the coming years, driven by the continued

<sup>&</sup>lt;sup>1</sup> The comments in this section are based principally on the economic reports published by the Kiel Institute for the World Economy (IFW), no. 25 (2016/Q4) and no. 21 (2016/Q3) on the global economy and no. 26 (2016/Q4) on the German economy, and the weekly report by the German Institute for Economic Research (DIW) Berlin, no. 50/2016.



expansionary monetary and fiscal policy and the renewed rise in demand in the emerging markets (2016: 1.7 percent vs. 2015: 2.0 percent).

The economic upturn in Germany continued. For the past three years, the German economy has been going through an extended upswing. This is dominated by strong domestic momentum, especially investment in residential construction. Exports are picking up despite the unsettled international situation. Consumer spending will also increase further as a result of the favorable labor market situation and continued high state transfer payments. With inflation rising as the dampening effect of oil prices declines, consumer spending will grow more slowly in the future. Compared with the prior year, a continuation of the positive economic trend can be assumed (2016: 1.9 percent vs. 2015: 1.7 percent).



#### Energy consumption and energy generation<sup>2</sup>

In 2016 energy consumption in Germany was 1.6 percent higher than in 2015. This increase was mainly due to colder weather than in the previous year and the fact that it was a leap year, as well as economic growth and population growth. Consumption was dampened by further improvements in energy efficiency. Consumption of renewable energies rose by 2.9 percent, bringing the proportion of renewables in the primary energy mix to 12.6 percent (prior year: 12.4 percent). Renewables accounted for 32.3 percent of power consumption in 2016, a year-on-year rise of 0.8 percentage points. Primary consumption of natural gas (10.0 percent) increased strongly, while consumption of mineral oil increased by 1.8 percent. Consumption of hard coal and lignite dropped considerably in 2016 (by 4.0 percent and 2.6 percent respectively) and the proportion of nuclear energy declined even more significantly (by 7.4 percent). However, due to the increase in total energy consumption, there was an overall rise of 0.9 percent in  $CO_2$  emissions compared with the prior year.

#### Power consumption

In 2016, overall consumption of electricity was 0.4 percent lower than in 2015. Gross power generated increased by 0.2 percent (2016: 648.2 TWh vs. 2015: 646.9 TWh). The export surplus was 55.5 TWh (2015: 51.8 TWh).

#### Development of energy prices

From the start of 2016 there were signs that the international commodity markets were stabilizing and that the downward trend that had persisted for some years could be coming to an end.

The price of crude oil continued to drop at the beginning of 2016. On January 20, 2016 the price of North Sea grade Brent crude hit a low of US\$ 27.88 per barrel (bbl). Such a low level had not been seen since 2003. The average price of Brent crude was US\$ 45.11 per bbl in 2016, around US\$ 8.60 per bbl lower than in 2015. As in previous years, this trend was due to a structural oversupply. On the supply side, fracking producers in North America greatly improved their competitiveness versus conventional suppliers thanks to massive cost optimization. In addition, the OPEC countries endeavored to safeguard market share by maintaining production of crude oil unchanged at a high level. The oil price has recovered from the historic low in January 2016 and was US\$ 56.82 per bbl on December 31, 2016.

<sup>&</sup>lt;sup>2</sup> All data on energy generation and consumption are provisional data from AG Energiebilanzen e.V. and the German water and energy industry association (BDEW).



The price rise in the final weeks of 2016 was mainly due to the agreement between the OPEC states and other oil producers to cut output moderately in the coming year.

The downward trend in the price of hard coal observed in the previous year was halted in 2016. At the start of the year, the API#2, a price index for hard coal that is relevant for Europe, fell slightly due to weak global demand, dropping to a monthly average of US\$ 43.88 per tonne in February. This was the lowest point in the year: prices subsequently rose steadily. The main reason for this was a reduction in production in China. The price rise gained pace in early fall because cold weather led to an unexpectedly sharp rise in demand for coal in China. In addition, demand for coal in Europe rose more strongly than originally anticipated due to unscheduled shutdowns at several nuclear power stations in France. The annual average for the API#2 was US\$ 60.10 per tonne (2015: US\$ 56.64 per tonne). The high was a monthly average of US\$ 90.08 per tonne in December 2016.

The debate about the upcoming reform of European emissions trading for the fourth trading period (2021-2030) gathered momentum in the second half of 2016. The aim of the reform is to strengthen European emissions trading as a key tool in European climate policy. Consequently, the proposals to date concentrate principally on a faster reduction in the present oversupply of allowances, so permitted annual EU-wide emissions are likely to be reduced far more sharply than in the past. In addition, at the start of the fourth trading period the oversupply is to be transferred to a large extent to the market stability reserve, which will come into effect in 2019. The ongoing debate has not yet had an impact on emissions trading. The average price of emission allowances was  $\in$  5.37 per tonne in 2016, around 30 percent lower than in the prior year ( $\notin$ 7.68 per tonne).

The previous years' downward trend in power prices continued in 2016. The average spot price on the EEX electricity exchange was  $\in$  29.01 per MWh, around 8 percent lower than in 2015 ( $\in$  31.65 per MWh). The peak contract also dropped considerably, by nearly 9 percent (average  $\in$  32.05 per MWh in 2016 vs.  $\in$  35.10 per MWh in 2015). However, electricity prices picked up towards the end of the year. In the fourth quarter of 2016, the average base price was around  $\in$  37.64 per MWh, while the peak price was  $\in$  44.02 per MWh. The main reasons for this were the considerable rise in coal prices in the same period and the unscheduled shutdowns of French nuclear power plants.



## **Earnings position**

#### Performance in 2016

The STEAG Group achieved its operating earnings targets in fiscal 2016.

#### STEAG Group: EBITDA and EBIT

in €million	2016	2015	Change in %
Sales EBITDA EBIT	3,865.8 281.0 122.7	399.2	-29.6
EBITDA margin in % EBIT margin in %	7.3% 3.2%		

EBITDA and EBIT are used for internal management purposes and as indicators of the sustained earning power of the Group. EBITDA (earnings before interest, taxes, depreciation and amortization) and EBIT (earnings before interest and taxes) are both earnings parameters after adjustment for exceptional items (non-operating earnings).

EBIT was slightly above budget in 2016 at  $\in$  122.7 million, but as forecast it was significantly below the prior-year figure of  $\in$  237.3 million. As a consequence, the EBIT margin (EBIT/sales) decreased from 6.7 percent in 2015 to 3.2 percent in 2016.

EBITDA was  $\in$  281.0 million, which was  $\in$  12.9 million less than budgeted and well below the prior-year figure of  $\in$  399.2 million. The EBITDA margin (EBITDA/sales) was with 7.3 percent in 2016 considerably lower than in the prior (11.2 percent).

The operating earnings trend in fiscal 2016 was mainly dominated by the persistent erosion of margins in the Power division.

The Group has responded to this market-driven effect. The non-operating earnings (earnings outside EBIT/EBITDA) reflect various one-off activities for the shutdown of unprofitable power plant sites and the necessary reduction in the cost of corporate and other departments.

This situation reduced income before the financial result and income taxes from  $\notin$  200.6 million in fiscal 2015 to minus  $\notin$  22.7 million in fiscal 2016.



The following reconciliation from earnings before the financial result and income taxes to EBIT/EBITDA reflects the exceptional items outlined above:

in €million	2016	2015
Income before the financial result and income taxes	-22.7	200.6
STEAG 2022 transformation program	153.4	-
Other effects	-8.0	36.7
ЕВІТ	122.7	237.3
Depreciation/amortization and impairment losses	201.2	201.9
Reversal of impairment losses	-68.5	-29.7
Non-operating impairment losses/reversal of impairment losses	25.6	-10.3
EBITDA	281.0	399.2

## Reconciliation of EBIT and EBITDA for the STEAG Group

The non-operating measures bundled in the STEAG 2022 transformation program comprise provisions for restructuring, adjustments to dismantling obligations and measures to safeguard sites where power plants are scheduled for shutdown, impairment losses on noncurrent and current assets at power plants in Germany, and costs for implementation of the transformation program. These measures are regarded as an investment in the future refocusing of the STEAG Group to bring a sustained strengthening of its operating result.

They are expected to increase EBIT by around  $\leq 22.0$  million in fiscal 2017. The aim of the STEAG 2022 transformation program is to achieve a sustained improvement in EBIT of around  $\leq 120$  million p.a. from 2021 onwards.



#### Income statement for the STEAG Group

in €million	2016	2015
Sales	3,865.8	3,568.2
Change in inventories of finished goods	-4.1	3.2
Other own work capitalized	4.0	1.7
Other operating income	1,343.1	378.6
Cost of materials	-3,118.2	-2,672.6
Personnel expenses	-501.3	-404.3
Depreciation/amortization and impairment losses	-201.2	-201.9
Other operating expenses	-1,410.8	-472.3
Income before the financial result and income taxes	-22.7	200.6
Interest income	28.7	13.0
	-121.4	-94.7
Interest expenses Result from investments recognized at equity	-121.4	-94.7
Other financial income	5.3	0.4
Financial result	-80.8	-59.0
Income before income taxes	-103.5	141.6
Income taxes	-117.3	-104.7
Income after taxes	-220.8	36.9
thereof attributable to		
Non-controlling interests	55.4	54.3
Shareholders of STEAG GmbH (net income)	-276.2	-17.4

#### External sales by division

in €million	2016	2015	Change in %
Power	3,604.2	3,325.2	8.4
Renewable Energies and Distributed Facilities	261.6	243.0	7.7
STEAG Group	3,865.8	3,568.2	8.3

Sales rose by 8.3 percent to  $\in$  3,865.8 million (prior year:  $\in$  3,568.2 million), mainly due to the increase in electricity trading volumes in the Power division.

Total volume sales of energy from the Group's own facilities and those operated on behalf of its customers rose by 57.3 percent year-on-year to  $114,163 \text{ GWh}_{e}^{3}$  (prior year: 72,588 GWh<sub>e</sub>). Volume sales of heat by the Renewable Energies and Distributed Facilities

 $<sup>^{3}</sup>$  Energy sales in GWh<sub>e</sub> comprise both electric and thermal energy; thermal energy has been converted into the equivalent amount of electric power.

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division increased by 13.9 percent to 2,282  $GWh_{th}$  (prior year: 2,004  $GWh_{th}$ ), while the volume of power rose by 8.7 percent to 2,369  $GWh_{el}$  (prior year: 2,179  $GWh_{el}$ ).

The change in inventories of finished goods declined to minus  $\in$  4.1 million (prior year:  $\in$  3.2 million) and other own work capitalized increased slightly to  $\in$  4.0 million (prior year:  $\in$  1.7 million).

The other operating income increased by  $\in$  964.5 million from  $\in$  378.6 million in 2015 to  $\in$  1,343.1 million in the reporting period.

The year-on-year increase was principally due to higher income from the valuation of derivatives (excluding interest rate derivatives), which totaled  $\leq 1,139.8$  million (prior year:  $\leq 265.1$  million). This was due to the sharp rise in trading volume, coupled with fluctuations in market prices, and is also reflected in higher expenses for the valuation of derivatives. Further, there was a write-up on property, plant and equipment of  $\leq 64.0$  million (prior year:  $\leq 25.7$  million) in connection with the Walsum 10 power plant.

The  $\in$  445.6 million rise in the cost of materials was mainly due to an increased trading volume in the Power division compared with the previous year.

Personnel expense rose by  $\notin$  97.0 million to  $\notin$  501.3 million (prior year:  $\notin$  404.3 million). This was mainly due to additions to provisions for restructuring in Germany totaling  $\notin$  106.2 million (prior year:  $\notin$  2.5 million).

Depreciation, amortization and impairment losses totaled  $\in$  201.2 million (prior year:  $\in$  201.9 million) and included depreciation and amortization of property, plant and equipment, intangible assets and investment property amounting to  $\in$  152.7 million (prior year:  $\in$  160.9 million). In 2016, the non-current assets of foreign wind farms were written down by  $\in$  37.9 million. In 2015 power plants in Germany were reorganized into those that are clearly expected to be shut down and those with a strategy of continued operation. In 2016, an impairment loss of  $\in$  3.6 million (prior year:  $\in$  36.0 million) was recognized for power plants in Germany that are clearly scheduled for shutdown.

The other operating expenses increased by  $\in$  938.5 million from  $\in$  472.3 million in the prior year to  $\in$  1,410.8 million.

The year-on-year increase was principally due to higher expenses for the valuation of derivatives (excluding interest rate derivatives), which totaled  $\in$  1,144.5 million (prior year:  $\in$  257.0 million). This was caused by a sharp rise in trading volume, together with fluctuations



in market prices, and is also reflected in higher income from the valuation of derivatives. Higher expenses for additions to provisions totaling  $\in$  67.0 million (prior year:  $\in$  4.9 million) also had an impact. This mainly comprised an allocation of  $\in$  59.4 million to provisions obligations to safeguard the Lünen and West power plant sites.

Income before the financial result and income taxes decreased by  $\in$  223.3 million year-onyear to minus  $\in$  22.7 million (prior year:  $\in$  200.6 million).

The interest income contained in the financial result income increased by  $\in$  15.7 million in 2016. Concurrently, the interest expense contained in the financial result increased by  $\in$  26.7 million in fiscal 2016. Interest expenses include interest on non-period taxes of  $\in$  15.4 million (prior year: none) resulting from fiscal proceedings at the subsidiary Iskenderun Enerji Üretim ve Ticaret A.S. (Turkey).

The  $\in$  15.7 million reduction in the result from investments recognized at equity further reduced the financial result. The main reason for this reduction was divestment of REG Raffinerie-Energie GmbH & Co. oHG, Cologne (Germany), meant that no pro rata income was recognized for this company (prior year:  $\in$  16.3 million).

Income before income taxes decreased from €141.6 million to minus €103.5 million.

Income tax expenses increased by  $\in$  12.6 million from  $\in$  104.7 million in 2015 to  $\in$  117.3 million in 2016. The development of income tax payments was dominated by non-period taxes of  $\in$  31.2 million (prior year: none) resulting from fiscal proceedings at Iskenderun Enerji Üretim ve Ticaret A.S. (Turkey).

## **Financial position**

#### Financial risk management

The central objectives of STEAG's financial management are to safeguard the financial independence of the STEAG Group and limit refinancing risks.



STEAG GmbH manages borrowing, guarantees and sureties for Group companies centrally. It has flexible means of meeting capital requirements for day-to-day business, investment and the repayment of financial debt.

Another important objective is ensuring that the covenants relating to STEAG GmbH's bonded loans and EFET contracts are met. The main covenants set out in the agreements comprise financial indicators to be calculated on the basis of the consolidated financial statements of STEAG GmbH. These comprise the net debt ratio, which is the ratio of net debt to adjusted EBITDA<sup>4</sup>, and covenants in the EFET contracts on tangible net worth and/or the equity ratio.

#### Financing policy

STEAG GmbH provides funding for the companies in the STEAG Group and manages surplus liquidity on their behalf on market terms. To a limited extent, non-project companies also borrow funds directly from banks and invest surplus liquidity with banks. In these cases, borrowing is secured by STEAG GmbH. The projects companies' liability is secured through their cash flows and assets and financing is generally non-recourse. In these cases, no recourse to the parent company STEAG GmbH is possible. For example, non-recourse project financing has been agreed for the two foreign power plants in Mindanao and Termopaipa.

In Germany, cash pooling is managed by STEAG GmbH. To minimize external borrowing, surplus liquidity in Germany is placed in a cash pool at Group level which is used to optimize overall financing requirements in the Group.

#### **Financing structure**

As at December 31, 2016, STEAG had financial liabilities of €2,398.1 million (prior year: €1,884.0 million) and cash and cash equivalents of €536.9 million (prior year: €573.3 million).

A considerable proportion of non-current financial liabilities amounting to  $\leq 1,328.1$  million comprises liabilities to banks, especially for bonded loans, the Walsum 10 power plant, the advance payments on power supply agreements received in the fiscal year, and foreign power plant companies.

<sup>&</sup>lt;sup>4</sup> As defined in the bonded loan agreements and EFET contracts.



€ 55.0 million of the € 1,070.0 million (prior year: € 80.2 million of the € 502.4 million) in current financial liabilities relate to the liability to KSBG KG under the profit and loss transfer agreement, including the corresponding share of taxes.

The main components of financial assets are receivables from finance leases totaling  $\in$  376.9 million (prior year:  $\in$  496.7 million), including current receivables of  $\in$  69.8 million (prior year:  $\in$  136.7 million).

The STEAG Group has no further, off-balance-sheet financing instruments that could have a material impact on its present or future earnings, assets and financial position.

Liabilities are dominated by the bonded loans amounting to  $\in$  400.0 million taken out by STEAG GmbH in 2014. The terms reflect the company's good credit standing. STEAG GmbH has also arranged other credit facilities with banks to increase the available liquidity. These currently exceed needs. Here too, positive creditworthiness ratings by the banks enabled the Group to obtain corresponding terms.

The STEAG Group's liquidity is secure.



#### Capital expenditure

The STEAG Group uses selective investment projects to maintain its good competitive position and expand into business activities and markets where it sees potential for sustained profitable growth and opportunities to generate appropriate returns. Every project undergoes detailed strategic and economic analyses, including sensitivity analyses and scenario analyses to reflect major risks. Projects have to meet business-specific and risk-adjusted minimum return requirements.

in €million	2016	2015	Change in %
Power	111.5	68.8	62.1
Renewable Energies and Distributed Facilities	91.5	149.5	-38.8
Other	20.1	1.0	1,910.0
STEAG Group	223.1	219.3	1.7

#### Capital expenditure and financial investments

Capital expenditure totaled  $\in$  223.1 million (prior year:  $\in$  219.3 million), well above depreciation, which amounted to  $\in$  152.7 million (prior year:  $\in$  160.9 million). In 2016 capital expenditure for property, plant and equipment declined by 6.9 percent to  $\in$  161.2 million (prior year:  $\in$  173.2 million).

The largest share of capital expenditure for property, plant and equipment (62.5 percent) was allocated to the Power division ( $\in$  100.8 million; prior year:  $\in$  58.5 million). These investments mainly relate to battery storage systems in Germany, which were also the biggest single project in 2016. A further 36.9 percent of capital expenditure for property, plant and equipment was allocated to the Renewable Energies and Distributed Facilities division ( $\in$  59.5 million; prior year:  $\in$  113.8 million). This was mainly invested in two wind farms in France.

Regionally, investment in property, plant and equipment in the STEAG Group was focused mainly on Germany, which accounted for 59.9 percent ( $\in$  96.5 million; prior year:  $\in$  62.7 million), France, which accounted for 21.1 percent ( $\in$  34.0 million; prior year:  $\in$  20.3 million), and Poland which accounted for 6.5 percent ( $\in$  10.5 million; prior year:  $\in$  12.4 million).

The Group has commitments of  $\in$  19.3 million (prior year:  $\in$  93.0 million) to purchase property, plant and equipment, thereof relate.  $\in$  10.8 million to battery storage systems.



The financial investments of  $\leq 61.9$  million in 2016 (prior year:  $\leq 46.1$  million) contain the shares in Elektrocieplownia Mielec Sp. z o.o. (Poland), which was consolidated for the first time in the reporting period. Further, the remaining 5.1 percent of RAG Saarberg GmbH was acquired.

In the prior year, the financial investments mainly comprised the acquisition of shares in PT Sejahtera Alam Energy (Indonesia), Ferme Eolienne de La Madeleine SAS (France), and Ferme Eolienne des Onze Muids SAS (France).

#### Cash flow

Cash flow statement for the STEAG Group (condensed version)

in €million	2016	2015
Cash flow from operating activities	262.0	325.4
Cash flow from investing activities	-83.8	-194.3
Cash flow from financing activities	-218.7	-269.6
Changes in exchange rates and other changes in the value of cash and cash equivalents	4.1	24.9
Cash and cash equivalents as of December 31	536.9	573.3

The cash flow from operating activities was  $\in$  262.0 million, which was below the prior-year figure of  $\in$  325.4 million and mainly comprised the reduction in income before the financial result and income taxes, continuing operations, and changes in other assets and liabilities on the reporting date.

The cash outflow for investing activities was  $\in$  83.8 million, which was lower than prior-year outflow of  $\in$  194.3 million. The lower cash outflow in the reporting period was mainly due to lower cash outflows for property plant and equipment, higher inflows from the divestment of shareholdings, and a higher cash inflow from short-term investment in a fixed-term bank deposit.

There was a cash outflow for financing activities of  $\leq 218.7$  million, which was below the outflow of  $\leq 269.6$  million in the prior year. This was principally due to higher repayment of financial debt in the prior year and a cash inflow from the divestment of a stake in a subsidiary without loss of control.

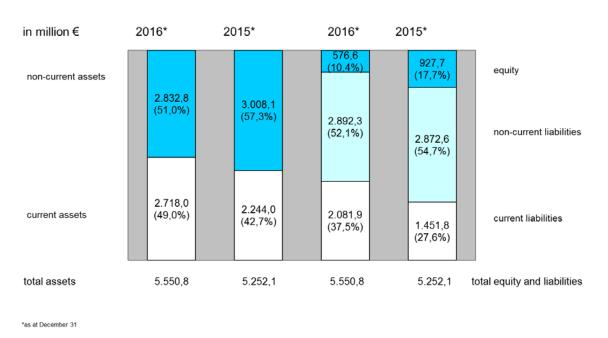


The carrying amount of cash and cash equivalents pledged as collateral amounted to  $\in$  45.6 million (prior year:  $\in$  243.2 million).



## **Asset structure**

#### Structure of the balance sheet



#### STEAG-Group: Structure of the balance sheet

Total assets increased by €298.7 million from €5,252.1 million as at December 31, 2015 to €5,550.8 million as at December 31, 2016. Non-current assets decreased by €175.3 million to €2,832.8 million (prior year: €3,008.1 million). The decline is mainly due to the arbitration award on Walsum 10 in 2016, which reduced the cost of acquisition of property, plant and equipment by €184.1 million.

Capital expenditure for property, plant and equipment was  $\in 161.2$  million (prior year:  $\in 173.2$  million), while depreciation and amortization of intangible assets, property, plant and equipment and investment property totaled  $\in 152.7$  million (prior year:  $\in 160.9$  million) and impairment losses were  $\in 42.1$  million (prior year:  $\in 35.6$  million). Further, there was a reversal of an impairment losses on non-current assets of  $\in 67.2$  million (prior year:  $\in 25.8$  million), mainly in connection with the Walsum 10 power plant. Non-current assets accounted for 51.0 percent of total assets (prior year: 57.3 percent). Coverage of non-current assets by non-current capital is 122.5 percent (prior year: 126.3 percent).



Current assets totaled  $\leq 2,718.0$  million (prior year:  $\leq 2,244.0$  million), an increase of  $\leq 474.0$  million compared with year-end 2015. This was principally because current receivables from derivatives increased by  $\leq 566.2$  million to  $\leq 833.8$  million (prior year:  $\leq 267.6$  million). This was due to the sharp rise in trading volume, together with fluctuations in market prices. Further, trade accounts receivable increased by  $\leq 131.4$  million to  $\leq 534.8$  million (prior year:  $\leq 403.4$  million). Current assets exceeded current liabilities by 30.6 percent (prior year: 54.6 percent).

Equity declined by  $\in$  351.1 million to  $\in$  576.6 million (prior year:  $\in$  927.7 million). The drop in the equity ratio from 17.7 percent to 10.4 percent was mainly due to the reduction in equity caused by negative income after taxes, and the impact on the other operating result.

Non-current liabilities increased by  $\in 19.7$  million or 0.7 percent respectively to  $\in 2,892.3$  million (prior year:  $\in 2,872.6$  million). This was because other non-current provisions increased by  $\in 59.8$  million to  $\in 346.0$  million (prior year:  $\in 286.2$  million). Provisions for pensions rose by  $\in 57.5$  million to  $\in 1,093.8$  million (prior year:  $\in 1,036.3$  million), mainly as a result of adjustments to the parameters used to value pension obligations. The principal factor here was the reduction in the interest rate from 2.2 percent in 2015 to 1.8 percent in the reporting period. This was countered by the reduction in future salary rises from 2.5 percent in the prior year to 2.1 percent in the reporting period, and the reduction in expected pension increases from 1.8 percent to 1.5 percent. Non-current liabilities to banks declined by  $\in 82.0$  million to  $\in 1,038.4$  million (prior year:  $\in 1,120.4$ ).

Current liabilities increased by  $\in 630.1$  million to  $\in 2,081.9$  million (prior year:  $\in 1,451.8$  million). Further, current liabilities from derivatives rose by  $\in 597.5$  million to  $\in 829.7$  million (prior year:  $\in 232.2$  million). This resulted from the sharp rise in trading volume, together with fluctuations in market prices. Further, trade accounts payable rose by  $\in 148.4$  million to  $\in 482.0$  million (prior year:  $\in 333.6$  million). By contrast, other provisions declined by  $\in 91.1$  million to  $\in 324.5$  million (prior year:  $\in 415.6$  million). This was mainly because the reason for the provisions of  $\in 134.8$  million recognized in the prior year in the connection with the Walsum 10 arbitration proceedings no longer applied.



## Performance of STEAG GmbH

STEAG GmbH, which is headquartered in Essen (Germany), is the parent company of the STEAG Group. It holds the shares in the Group's subsidiaries, either directly or indirectly. STEAG GmbH is responsible for strategic and operational management of the Group's business activities. In addition, it is the largest single company in the Group with sales of  $\notin$  2,993.5 million and total assets of  $\notin$  3,509.3 million. The main subsidiaries in Germany are linked to it through control and profit and loss transfer agreements.

The annual financial statements of STEAG GmbH have been prepared in accordance with the accounting principles set out in the German Commercial Code (HGB) and German legislation on limited liability companies, in the versions applicable for these financial statements. The provisions of the German Energy Act are also taken into account. In connection with implementation of the Accounting Directive Implementation Act (BilRUG), the prior-year figures have been restated in connection with the presentation of the extraordinary result. In addition, STEAG GmbH utilized the option of net disclosure and transferred the special items with a reserve allowance to the purchased assets in non-current assets. This resulted in restatement of the prior-year figures in accordance with Section 265 Paragraph 2 Sentence 3 of the German Commercial Code (HGB).

As a consequence of the transfer of the "Power" and "Human Resources and Administration" units of STEAG Power Saar GmbH through a spin-off followed by absorption with economic effect from July 1, 2015, certain items on the balance sheet and income statement as at December 31, 2016 are not fully comparable with those of the prior year.



#### Income statement for STEAG GmbH

in €million	2016	2015
Sales	2,993.5	2,647.2
Change inventories, own work capitalized	-0.4	1.6
Other operating income	166.0	117.7
Cost of materials	-2,869.9	-2,442.9
Personnel expenses	-234.8	-145.7
Depreciation/amortization and impairment losses	-47.6	-31.1
Other operating expenses	-173.5	-127.1
Financial income/expense	226.3	64.0
Income taxes	-3.6	-10.7
Income after taxes	56.0	73.0
Other taxes	-1.4	-0.1
Profit and loss transfer	-54.6	-72.9
Net income	0.0	0.0

In 2016, STEAG GmbH's sales increased by  $\in$  346.3 million year-on-year to  $\in$  2,993.5 million (prior year:  $\in$  2,647.2 million). This was mainly due to a rise in the supply of energy and other media, while sales from coal trading and the gas business declined.

In the reporting period sales mainly comprised  $\in 2,515.2$  million (prior year:  $\in 2,097.4$  million) from the supply of energy and other media,  $\in 235.1$  million (prior year:  $\in 298.7$  million) from the supply of coal, revenues of  $\in 93.6$  million (prior year:  $\in 144.2$  million) from the gas business, and  $\in 108.1$  million (prior year:  $\in 89.3$  million) from operating and management fees. Revenues were generated with customers in Germany, other European countries, North America and Latin America.

The other operating income totaling  $\leq$  166.0 million (prior year:  $\leq$  117.7 million) contains income of  $\leq$  49.1 million from the reversal of provisions (prior year:  $\leq$  50.1 million), mainly as a consequence of changes in valuation parameters for pension obligations and dismantling obligations at the sites in Saarland.

Year-on-year, the cost of materials rose slightly faster than sales.

Personnel expenses were considerably higher than in the prior year at  $\in$  234.8 million (prior year:  $\in$  145.7 million). The increase in wages and salaries was due to the transfer of undertaking at STEAG Power GmbH through a spin-off in accordance with German law on corporate reorganization in 2015 and a rise in restructuring expenses to  $\in$  69.4 million (prior year:  $\in$  2.2 million).

The other operating expenses of  $\in$  173.5 million (prior year:  $\in$  127.1 million) principally comprise provisioning to safeguard the Lünen and West power plant sites, legal and



consultancy fees, and other administrative and selling expenses. The other main items are rents and leases, trading-related transportation costs and insurance premiums.

The company's financial result was positive at  $\leq 226.3$  million in the reporting period (prior year:  $\leq 64.0$  million). This resulted principally from income from investments of  $\leq 249.4$  million (prior year:  $\leq 90.8$  million) and income from profit transfers of  $\leq 103.6$  million (prior year:  $\leq 72.8$  million). A counter-effect came from net interest expense of  $\leq 45.2$  million (prior year: net interest expense of  $\leq 95.9$  million) – mainly due to interest on pension obligations and other non-current provisions, and to interest expense for non-current loans – and from write-downs of  $\leq 96.7$  million (prior year:  $\leq 19.1$ . million) on financial assets. The main write-downs were on shares and loans to the Romanian wind farm amounting to  $\leq 89.4$  million.

Tax expenses mainly comprised income taxes of  $\in$  3.6 million (prior year:  $\in$  10.7 million).

Income after taxes of €54.6 million for the reporting period will be transferred to KSBG KG under the profit and loss transfer agreement.



#### Balance sheet for STEAG GmbH

#### Assets

in €million	Dec. 31, 2016	Dec. 31, 2015
Intangible assets	7.5	8.6
Property, plant and equipment	222.6	189.0
Financial assets	1,730.2	1,631.2
Non-current assets	1,960.3	1,828.8
Inventories	186.4	189.4
Receivables and other assets	925.6	744.6
Securities	19.7	19.7
Cash and cash equivalents	413.2	419.7
Current assets	1,544.9	1,373.4
Deferred items	4.1	33.2
Total assets	3,509.3	3,235.4

Equity and liabilities		
in €million	Dec. 31, 2016	Dec. 31, 2015
Issued capital	128.0	128.0
Capital reserve	77.5	77.5
Profit reserves	272.8	272.8
Equity	478.3	478.3
Special items for investment subsidies for property, plant and equipment	0.3	0.4
Provisions	1,067.5	1,009.8
Liabilities	1,955.7	1,738.2
Deferred items	7.5	8.7
Total equity and liabilities	3,509.3	3,235.4

Total assets of STEAG GmbH increased by €273.9 million to €3,509.3 million. Non-current assets increased by €131.5 million to €1,960.3 million (prior year: €1,828.8 million). Capital expenditure for intangible assets, property, plant and equipment reported as non-current assets was €71.7 million in the reporting period (prior year: €63.5 million). Capital expenditure exceeded depreciation and amortization by €19.8 million. In addition, write-



downs of  $\leq$  19.0 million was recorded on property, plant and equipment in 2016 (prior year:  $\leq$  8.4 million). Additions to property, plant and equipment of  $\leq$  59.6 million in 2016 mainly comprised the construction of large-scale battery systems at six power plant sites. The ratio of depreciation and amortization on property, plant and equipment and intangible assets reported in non-current assets (cumulative depreciation and amortization relative to the historical cost of acquisition or production) was 89.1 percent (prior year: 91.9 percent).

The €99.0 million rise in financial assets to €1,730.2 million (prior year: €1,631.2 million) came from an increase of €55.3 million in shares in affiliated companies and a rise of €48.6 million in loans to affiliated companies. The increase in shares in affiliated companies comprised €19.2 million from the acquisition of the remaining 5.1 percent of the shares in RAG Saarberg GmbH, and write-ups of €75.1 million on the carrying amount of STEAG Walsum 10 Kraftwerksbeteiligungsgesellschaft mbH because the reason for the write-down no longer applied. This was countered by derecognition of the carrying amount of STEAG Power Minerals GmbH of €12.4 million following divestment of some of the shares in the company (30 percent) and the write-down of €31.8 million on the investment in a Romanian wind farm. The principal changes in loans to affiliated companies were credit lines drawn by Crucea Wind Farm S.A., STEAG PE GmbH, and interest on the upstream loan to the shareholder KSBG KG. By contrast, there was a partial write-down of €57.6 million on financial receivables from Crucea Wind Farm S.A.

Current assets increased by  $\in$  171.5 million to  $\in$  1,544.9 million (prior year:  $\in$  1,373.4 million). Inventories were around the prior-year level at  $\in$  186.4 million (prior year:  $\in$  189.4 million). The price- and volume-driven drop in emission allowances of  $\in$  16.9 million and the reduction in inventories of supplies and warehouse materials due to write-downs of  $\in$  8.6 million were countered by a rise of  $\in$  25.0 million in inventories of coal.

Receivables were  $\in$  181.0 million higher than in the previous year. Alongside the  $\in$  112.1 million increase in trade accounts receivable as at the reporting date, this mainly comprised a receivable of  $\in$  135.0 million from STEAG 2. Beteiligungs-GmbH resulting from a resolution relating to a withdrawal from capital reserves and the subsequent distribution. By contrast, the collateral included in other assets decreased by  $\in$  97.5 million.

On the asset side of the balance sheet, deferred items decreased by  $\in$  29.1 million year-onyear to  $\in$  4.1 million, mainly due to the reversal of hedging instruments accrued in the prior year as the corresponding hedged items were realized.

There was no change in equity compared with the prior year. As a consequence of the change in total equity and liabilities, the equity ratio is now 13.6 percent (prior year: 14.7 percent). Equity coverage of non-current assets is 24.4 percent (prior year: 26.2 percent).



Provisions rose by  $\in$  57.7 million to  $\in$  1,067.5 million (prior year:  $\in$  1,009.8 million). The reduction in provisions for pensions and other post-employment benefits was due to revised actuarial assumptions. Overall, this resulted in a decline of  $\in$  14.8 million to  $\in$  529.9 million (prior year:  $\in$  544.7). Pension provisions accounted for 49.6 percent and thus the largest share of provisions (prior year: 53.9 percent).

The other provisions increased by  $\in$ 71.9 million compared with the prior year to  $\in$ 529.4 million. The main reason for this was the establishment of provisions of  $\in$ 52.6 million for obligations at the Lünen and West power plant sites, and a net increase of  $\in$ 73.8 million in provisions for restructuring. This was countered by the decline of  $\in$ 18.2 million in provisions for dismantling at the Saarland sites, the reduction in provisions for obligations to surrender carbon emission allowances ( $\in$ 12.7 million), and the reduction of  $\in$ 23.0 million in provisions for outstanding invoices.

Liabilities increased by a total of  $\in$  217.5 million to  $\in$  1,955.7 million (prior year:  $\in$  1,738.2). This rise was mainly due to the increase in trade accounts payable as at the reporting date ( $\in$  319.3 million; prior year:  $\in$  181.4 million), the increase in advance payments received and financial liabilities from prepayment of power agreements ( $\in$  151.7 million; prior year:  $\in$  94.0 million), and loan liabilities of  $\in$  19.2 million in connection with the acquisition of the shares in RAG Saarberg GmbH.

Liabilities to affiliated companies decreased by  $\in$  48.1 million to  $\in$  956.9 million (prior year:  $\in$  1,005.0 million). The changes were mainly due to lower liabilities from financial arrangements in connection with cash pooling activities and the lower profit transfer obligation to KSBG KG. This resulted in a liability of  $\in$  55.0 million including tax allocations (prior year:  $\in$  80.2 million).



## Non-financial performance indicators

#### **Employees**

#### Headcount

At the end of 2016, the STEAG Group had 6,104 employees, Worldwide, the proportion of female employees was 12 percent and the average age of the workforce was 43. Almost 43 percent were employed outside Germany.

The number of employees in the Group increased by around 184 year-on-year. This was due to the following changes: the headcount in the Power division increased by 58. The main change here was an increase of 175 in the number of employees in the Energy Services business unit due to the higher headcount for plant management projects at STEAG Energy Services (India) Pvt. Ltd (+267) and STEAG Energy Services do Brasil Ltda. (+71). This was countered by a reduction of 45 in the number employees at the Energy Services' subsidiary in Botswana. In addition, the deconsolidation of STEAG Energy Services LLC (USA) reduced the Group headcount by 99 people.

The headcount in the Generation unit declined by 78. As a consequence of the decision by RWE Generation SE to shut down the Voerde A and B power plant blocks effective March 31, 2017, hiring was frozen. Vacancies were filled by temporary staff. In addition, measures to improve efficiency resulted in a decline in the number of employees. There was also a reduction in headcount in the business unit Power Plants (-20). This was mainly attributable to the reduction in staff at foreign power plants.

In the Renewable Energies and Distributed Facilities division, consolidation of the Polish subsidiary Elektrocieplownia Mielec Sp. z o.o. increased the headcount by 133.



Employees by division	Dec. 31, 2016	Dec. 31, 2015
Power Renewable Energies and Distributed Facilities Administration	4,657 941 506	4,599 808 513
STEAG Group	6,104	5,920

As a consequence of planned decommissioning of power plants and the STEAG 2022 program, the STEAG Group plans to cut several hundred jobs in the coming years. The management of STEAG GmbH, the Group Works Council, and the IG BCE industrial union have agreed on a redundancy plan and framework for the reconciliation of interests to ensure that the headcount reductions are achieved in a socially acceptable manner.

#### **Apprenticeships**

In December 2016, 251 apprentices were being trained in various occupations, giving a training ratio of 4.3 percent for the STEAG Group and 10.1 percent for STEAG GmbH. The STEAG Group provides attractive, high-quality vocational training.

#### Personnel development

Personnel development programs for upcoming managers in the STEAG Group was a focal area in 2016. The programs for high potentials were continued.

The Executive Development Group (EDG) prepares high potentials from various parts of the STEAG Group to meet the requirements of a possible future corporate management role. Key aspects in 2016 were leadership and strategy. High potentials are employees with a number of years work experience who have already gained some disciplinary or functional management experience.

The General Management Program (GMP) enables potentials, who normally have three to five years' experience following completion of their training or course of study, concentrated on competencies in the areas of "communication and cooperation" and "markets and customers", and on building networks in the STEAG Group. They also received mentoring from experienced managers within the Group.



As well as building and strengthening competencies, networking is a focus for participants on the "Energy Development Program" (EDP) as well. 16 employees from various departments in the STEAG Group completed the EDP in 2016. A further 15 embarked on this in-house development program for young staff and new STEAG employees in September 2016.

At STEAG Energy Services GmbH, the second international group successfully completed the "EMotion" in-house development program in fall 2016. EMotion stands for "Energy in Motion" and has been a central element of employee development at STEAG Energy Services GmbH since 2006. Central aspects of this program include a focus on internationalization of project structures and networking across all companies at STEAG Energy Services GmbH.

To support and drive forward the personal development of our employees, individual development advice and support through specific in-house events was stepped up. The basis is the STEAG competency model, which uses specific topics and competency areas to highlight the personal abilities, attributes and conduct required to work successfully in the STEAG Group. The present offering covers employee's central needs and enables learning based on common experience.

#### Occupational health and safety and environmental protection

The number of accidents in the workplace fell by 16 percent from 44 to 37, while the number of commuting accidents increased by 50 percent from 12 to 18. Special mention should be made of the Mindanao power plant in the Philippines, where there has not been an accident for ten years. There are also other sites/companies having no accidents for more than three years. Examples are STEAG Fernwärme GmbH, RKB Leuna and STEAG Netz GmbH. There was a significant increase in the number of sites that have worked without accidents for more than one year, including Heizkraftwerk Herne, Compania Electrica de Sochagota S.A.E.S.P. (Colombia), and STEAG Energy Services GmbH.

The introduction of Vision ZERO "Colleagues protect colleagues" with its six success factors brought a further improvement in the continuous development of occupational health and safety for everyone involved. In 2016, more than 1,000 managers and other employees took part in training, instruction, talks, self-assessments and seminars on behavior-related occupational safety. On a positive note, accidents in generating facilities dropped by 50 percent. These activities are being continued and stepped up in 2017.



The establishment of validated occupational health and safety management systems in conformance with the requirements of the Occupational Health and Safety Assessment Series (OHSAS) 18001: 2007 in Germany since 2008 has had a positive effect. Successful recertification of all sites and companies by the employer's liability insurance association in the past few years serve as evidence of the continuous improvement and very high standard of occupational health and safety. In addition to its existing certificates from the employers' liability insurance association, in 2016 STEAG Technischer Service GmbH was awarded the SCC/SCP safety certificates for contractors/staffing providers.

Our foreign sites also achieved the same high, certified standard of occupational health and safety in 2016 and are audited regularly.

Our environmental protection management system and observance of the associated regulations were audited by the authorities in eleven site inspections in accordance with the Industrial Emissions Directive (IED). No shortcomings were identified at the power plants and heating power plants inspected.

#### Workplace health management

A variety of activities were derived from the corporate program "Healthy STEAG" and the related intensive management workshops on this issue. These include "Ste-aktiv", a preventive health program launched on the basis of a cooperation agreement between the company and various social security institutions.

Family-friendly management of the company is an expression of STEAG's social responsibility and an integral part of our human resources strategy. A works agreement on career and family contains various offerings to support employees, some of them in collaboration with a range of organizations such as AWO.



### Company suggestion program

In 2016, the STEAG Group was again honored by the German Association for Business Administration. First place in the energy and energy supply sector went to the company suggestion program at STEAG GmbH. The STEAG Group has been among the leaders in this area for decades.

The suggestions implemented in 2016 brought a measurable net benefit of  $\in$  4.2 million for the STEAG Group. Employees received bonuses totaling  $\in$  0.6 million for their suggestions. The high level of participation in the company suggestion program is also evidence of the high motivation and identification of company employees in an increasingly difficult market situation.



#### Declaration on corporate governance with regard to gender quotas

The German law on equal participation of men and women in management positions in the public and private sectors came into effect on May 1, 2015. In accordance with this law, the Supervisory Board and Board of Management have adopted the following targets:

The target for the percentage of women on the Supervisory Board of STEAG GmbH has been set at a minimum of 5 percent by June 30, 2017.

The target number of women members on the Board of Management of STEAG GmbH has been set at 0 percent as at June 30, 2017.

For the first management level of STEAG GmbH, the target is 12-16 percent women by June 30, 2017 at the latest, while the target set for the second management level is 18-20 percent women.



## **Corporate governance**

Corporate governance comprises the values and principles used to run and supervise a company and the rules and measures for practical and responsible implementation. The principles are summarized in the German Corporate Governance Code.

The Board of Management and Supervisory Board of STEAG GmbH are guided by the German Corporate Governance Code.

For the STEAG Group, good corporate governance does not simply mean acting lawfully in all respects in compliance with national and international standards and regulations; it also means acting in a responsible and value-oriented manner. This dual task is an objective and the basis for success that guides both the management and all employees in their daily work.

They are supported in this by STEAG's Code of Conduct, a system of guidelines that are defined centrally in STEAG's organizational handbook, and by the Group's compliance management system. All rules and their interaction are continuously driven forward and developed.

The previous years' successful compliance measures and activities were continued in 2016. At the same time, the effectiveness of these activities in the five years since the introduction of a separate compliance management system was reviewed.

The measures concentrate on identifying potential sources of risk and the corresponding preventive measures. Another focus of day-to-day compliance work is advising the Group's operating companies and specialist units on legal compliance and lawful conduct when negotiating contracts and agreements.

The risk analyses on corruption and antitrust law continued in 2016. In addition, in collaboration with the relevant corporate departments, the Compliance department identified money laundering, insider trading and export law as areas where more detailed preventive concepts are to be introduced.

To supplement the routine face-to-face training sessions geared to specific target groups, STEAG decided to develop an e-learning module on preventing corruption to target more employees worldwide more effectively. In addition to face-to-face training sessions in Germany, training with the same objectives was conducted in other countries such as Colombia and Poland in 2016.



The STEAG Group is still an active member of the UN Global Compact and supports compliance with its ten principles in the areas of human rights, labor standards, environmental protection and fighting corruption.

These ten principles are integrated into agreements with business partners, both individually and through the General Business Conditions of the STEAG Group. Acceptance and observance of these principles is high worldwide. In view of this, the STEAG Group aligns its corporate responsibility activities to them. The activities outside Germany focus principally on strengthening local infrastructure and on social commitment to local communities.

Another priority is implementing and overseeing sustainable supply chains. The selfassessment questionnaire on governance, compliance and sustainability developed with the Procurement function is an effective initial check and raises the awareness of suppliers and service-providers. At the same time, the demands made by our customers, owners and financial partners in this area are rising steadily.



# Events after the reporting period

The following events affecting the situation of the STEAG Group and STEAG GmbH occurred in fiscal 2017:

In a letter dated January 19, 2017, the transmission network operator Amprion GmbH classified the Bexbach and Weiher power plants in Saarland as systemically relevant and required STEAG GmbH, as the operator, to maintain them in operational readiness until November 2019. According to Amprion, shutdown of the Bexbach and Weiher power plants would constitute a not inconsiderable risk to or disruption of the security or reliability of the electricity supply system. By contrast, the network operator does not regard the West 1/2 and Herne 3 power plants in the federal state of North Rhine-Westphalia, which are also registered for shutdown, as systemically relevant. Final shutdown of these plants will therefore take place on March 31, 2017 and June 30, 2017 respectively.

Further information can be found in the notes to the financial statements of STEAG GmbH and the notes to the consolidated financial statements of the STEAG Group.



## **Opportunity and risk report and forecast**

## **Risk report**

#### **Risk strategy**

Opportunities and risks constantly arise for the STEAG Group through its diverse business activities. Risk management is therefore a central element in the management of the company and is geared specifically to securing present and future potential for success, especially by avoiding and reducing risks and their consequences. Early identification and utilization of opportunities can heighten the success of the Group.

Due to its fields of activity, the STEAG Group is exposed to constantly changing political, social, demographic, legal and economic operating conditions. The resultant risks are addressed by monitoring and analyzing the entire operating environment and anticipating the associated market developments. The findings are used to systematically develop STEAG's portfolio in accordance with the strategy for the Group.

#### Structure and organization of risk management

The basis of operational risk management in the STEAG Group is an internal, Group-wide management system that focuses equally on risks arising from potentially negative deviations from objectives and on positive deviations by highlighting opportunities.

The risk management system is organized on a decentralized basis in line with the organizational structure of the STEAG Group. The organizational units bear prime responsibility for the early identification of risks, estimating their implications, introducing suitable preventive and control measures and for the related internal communication of opportunities and risks. Risk officers in the organizational units are responsible for coordinating the relevant risk management activities. The Corporate Controlling department coordinates and oversees the processes and systems in the STEAG Group. It is the contact for all risk officers and is responsible for information, documentation and coordination at Group level. Further responsibilities include ongoing development of the methodology used by the risk management system. Alongside organizational measures and an internal control



systems, risk management is supported by the Audit department as a process-unrelated controlling and consulting body.

Risk management is a central element in controlling processes at all levels of the STEAG Group and covers strategic and operational planning, preparations for investment decisions, monthly reporting and projections, and, from a certain level, immediate reporting of risks. The organizational units conduct an extensive annual inventory of opportunities and risks in connection with the mid-term planning process. All relevant factors are systematically identified and documented and the probability of the risks occurring and the potential damage are evaluated. All organizational units are required to provide details of action to be taken with regard to the opportunities and risks identified in the risk inventory and their implementation is monitored. The inventory, which looks at opportunities and risks over a short-term period of one year and a mid-term period of at least five years, is supplemented by monthly reports on changes in the opportunities and risk factors previously identified and newly identified opportunities and risks relating to the current year.

#### Overall risk assessment

Based on all identified risks (divided into strategic, operational, financial and other risks), as of the present date no risks to the position of the STEAG Group as a going concern could be identified – either on a stand-alone basis or taking into account interdependencies between risks and measures that are planned or have already been initiated.

#### Strategic risks

Changes in the present regulatory framework could have a significant impact on planned investments and the earnings position of the STEAG Group. The Group's business activities are exposed to strong and dynamic competition which increases volume and price risks.

The altered market conditions in Germany will result in a decline in conventional power generating capacity on economic grounds. This is driven first and foremost by the promotion of renewable energies, which is unrelated to demand, and the priority given to feeding such power into the grid. The present subsidy regime is hampering market and systems integration of renewable energies and driving out highly efficient co-generation plants as well as lignite and hard coal power plants. In addition, there is a political debate about a fixed, government-imposed date for ending power generation from fossil fuels in Germany as a



contribution to countering global climate change. The final outcome of this debate cannot be predicted at present.

Political risks in the countries where STEAG operates its foreign power plants (Iskenderun, Mindanao Termopaipa, and the Crucea wind farm) are secured through investment guarantees from the Federal Republic of Germany. This means that loss of the STEAG Group's capital investment is essentially excluded.

#### **Operational risks**

Preventive risk management is particularly important in the power plant business on commercial, societal, political, technological and environmental grounds. In view of the high capital intensity and long-term nature of the business, careful analysis of market conditions and the general framework, astute management of the relevant risks through a balanced and systematic risk policy, the use of high-quality technology and acceptance of the facilities by the local community are central elements in proactive and sustained efforts to ensure that the company remains a going concern. Trustful, i.e. open and transparent, communication with customers, suppliers and neighbors, and operation of the plants in conformance with the highest environmental and safety standards are self-evident for the STEAG Group and form the basis for long-term success.

Policies that are agreed internally provide a framework for managing financial risks relating to trading prices (commodity prices, exchange rates) and the related counterparty default and liquidity risks. Corresponding indicators such as position limits, loss limits and value-at-risk are used to remain within the limits set. While price risks relating to the use of derivatives can be managed with the aid of appropriate financial models, with regard to counterparty default risk the focus is on careful examination of the creditworthiness of contractual partners, the appropriateness of the underlying master agreements, and continuous monitoring of the associated credit lines. In the trading business, compliance with all relevant indicators is monitored by the trading back office. An extensive update of the risk framework for trading activities was undertaken in the third quarter of 2016.

In connection with forward marketing, STEAG GmbH concludes trading agreements, some of which contain financial covenants that have to be fulfilled; if the indicators are below the level set, the contractual party has a right to additional collateral. Not all agreed covenants were met as of December 31, 2016. The total risk to STEAG GmbH of non-fulfillment of these covenants is classified as low.



Risk factors for the STEAG Group arise from the regulatory framework for the operation of power plants. The environmental protection requirements for the operation of power plants are met in full. Further risks arise from the energy policy framework, which could affect the Group's business performance.

In view of their long-term nature and the large amount of capital involved, investment decisions involve complex and wide-ranging risks. The planned investment in realization of a geothermal power plant in Indonesia entails the risk that there is no commercially viable geothermal system. The STEAG Group has therefore defined structured responsibilities and approval procedures for the preparation and implementation of such decisions.

Regulatory changes also influence the STEAG Group's business activities outside Germany. For example, intervention by the Romanian government in the market for renewable energy certificates has resulted in oversupply of such certificates. This negatively affects the ability to market the certificates for the Crucea wind farm.

In August 2016, Turkey introduced a levy on imported coal. Operators of hard coal power plants are impacted by this if they import coal from certain countries. The levy is equal to the amount by which a certain reference price is undercut. This will only affect the STEAG Group when the present power supply agreement for the Iskenderun power plant expires in 2019.

#### Financial risks

The STEAG Group's earnings may be affected by fluctuations in interest rates and exchange rates.

Market interest rates affect refinancing costs and the assessment of the credit standing of the STEAG Group. This is also determined in part by the market situation for conventional power plants. The result could be a deterioration in the assessment of creditworthiness, resulting in higher borrowing costs.

The assessment of provisions is also affected by market interest rates. Declining interest rates increase the level of provisions and vice versa.

Foreign currency risks mainly relate to the procurement and pricing of fuel requirements. They are hedged using suitable financial instruments.

For details of risk reporting on the use of financial instruments, please refer to the relevant section in the notes to the consolidated financial statements.

Planned dividend payments by the Group's foreign companies outside the eurozone are hedged in a structured manner against fluctuations in exchange rates. In addition, at



Compania Electrica de Sochagota S.A.E.S.P. (Colombia), costs in Colombian pesos are hedged against fluctuations in the exchange rate of the US dollar.

By contrast, the "translation risks" arising from translation of the annual financial statements of foreign subsidiaries into euros at actual exchange rates compared with budgeted exchange rates cannot be hedged against changes in exchange rates.



#### Other risks

The STEAG Group is exposed to normal legal risks arising in the course of business from contractual relationships with customers and business partners, and technical risks relating to the operation of plants, especially large-scale plants. Adequate provisions are recognized for these risks in consultation with the relevant specialist departments.

In this context, the legal dispute in connection with the Walsum 10 power plant is of especial significance. As a result of the need to replace boiler components, construction took longer than originally planned. This led to risks in the form of additional expenditures, delayed earnings resulting from late start-up and the need for bridge financing. Since the annual financial statements for 2011, these have been taken into account through a thorough valuation. Commercial operation started in December 2013. The legal dispute with the consortium of general contractors (Hitachi), comprising Hitachi Ltd. and Hitachi Power Europe GmbH, takes the form of arbitration proceedings, including a counterclaim by Hitachi. The proceedings resulted in a partial arbitration award based on the rules of the International Chamber of Commerce (ICC), Paris, in November 2016 which decided in favor of the joint project company STEAG-EVN Walsum 10 Kraftwerksgesellschaft mbH on the most important economic claims. In view of the failure to meet contractually agreed performance indicators in the operation of the power plant, at the end of 2015 STEAG-EVN Walsum 10 Kraftwerksgesellschaft mbH initiated further arbitration proceedings against the consortium of general contractors.

Another standard business-related legal risk arising from contractual agreements is the ability to terminate the master agreement granting rights to lay pipes to supply district heating in Essen (Germany). The master agreement was concluded between the municipality of Essen and STEAG Fernwärme GmbH in 1981 and can be terminated by the municipality of Essen with effect from June 30, 2020 provided that it gives notice of this by June 30, 2017. On the basis of this master agreement, license agreements were concluded for the co-use of municipal sites in a large number of cases. STEAG and the municipality of Essen are currently negotiating the expansion of district heating in Essen. If the outcome of these talks is positive, the present licenses will not be terminated.



## Risks relating to STEAG GmbH

As the parent company and head of the STEAG Group, STEAG GmbH, which is based in Essen (Germany), has control and profit and loss transfer agreements with most subsidiaries in Germany. It therefore manages most of the Group's risks in Germany. At the same time, it is the largest single company in the Group. The risk situation for the STEAG Group outlined above therefore essentially applies to STEAG GmbH as well.



## **Opportunity report**

In Germany, the STEAG Group has a significant position in conventional power generation and has also positioned itself in renewables, distributed energy generation and related services. The aim now is to extend these activities.

Securing the future viability of the business operations in Germany is linked to a large extent to continuous optimization of the existing power plants to increase their technical and organizational flexibility. This will raise the cost-efficiency of the sites and maximize the lifecycle of the power plants – taking into account the altered and constantly changing framework in the context of the shift in German energy policy.

Further selected growth in Germany, especially in distributed energy generation, entering the area of waste incineration through the newly established subsidiary STEAG Waste to Energy GmbH, and expansion of renewables are opening up new sources of revenue for the Group. Other opportunities are seen in the ongoing development of heat and power cogeneration plants and district heating (especially the Rhine-Ruhr district heating line that is currently under development) and, to some extent, in conventional energy generation in Germany (assuming a positive overall assessment, although that seems doubtful at the present given energy policy framework).

The ongoing development and expansion of trading activities should stabilize the domestic business and drive forward international growth.

Based on its long-standing expertise of projects in, e.g. Colombia, Turkey and Indonesia, the STEAG Group sees realization of high-earning foreign projects as a further opportunity to stabilize and improve its earnings position. This includes driving forward the development of both conventional power plants and renewables. One example is the realization of a geothermal power plant in Indonesia to further diversify the generating portfolio.

The Group's portfolio of material future opportunities also includes potential to increase services (in Germany and abroad, especially through STEAG Energy Services GmbH, STEAG Power Minerals GmbH, and STEAG Technischer Service GmbH).

The above (market-related) initiatives will be accompanied by optimization programs focusing on internal structures, processes and systems. The STEAG 2022 program was launched in 2016. This transformation project will make a substantial contribution to a lasting improvement in earnings. Extensive efficiency drivers, and portfolio and growth initiatives have been defined for this and are now being implemented.



### Opportunities for STEAG GmbH

Analogously to the risk-related situation, as the parent company of the STEAG Group, STEAG GmbH also manages all of the Group's material opportunities. The above presentation of the opportunities in the STEAG Group therefore also covers the main opportunities for STEAG GmbH.



# Outlook

#### General economic development

Germany's central bank, the Bundesbank, is forecasting a moderate economic upswing in Germany and expects the country's gross domestic product (GDP) to rise by 1.8 percent in 2017.

The main driving forces are still buoyant domestic demand, which is benefiting from the favorable labor market situation and rising household income. In the coming years, by contrast, the present extremely favorable consumer spending climate is likely to be dampened to some extent. Lower employment momentum and higher wages are expected as a result of low immigration, unfavorable demographic perspectives and a growing shortage of labor.

Further, it forecasts that the decline in oil prices seen in the recent past will come to an end and there will be an overall increase in energy prices. Electricity prices will be driven mainly by the considerable need for expansion of specific networks, leading to higher grid fees.

Foreign business will strengthen in the coming years, but will still suffer from the subdued growth in global trade and will probably not fully offset the reduced domestic economic momentum.

In this scenario, German economic growth could slow slightly to 1.6 percent in 2018 and 1.5 percent in 2019.

The risks to the anticipated economic growth therefore seem to be balanced because the possible increase in inflation, especially as a result of higher commodity prices, could be offset by a lower rise in labor costs.

#### Development of the energy sector

The business performance of the STEAG Group is still dominated by the specific (energy policy) situation affecting both the German business and international business operations.

Germany's energy policy shift aims to drive forward energy generation from renewables: a decision has been made to exit nuclear power and the economic viability of conventional power plants is being squeezed by the ongoing increase in installed capacity for renewables. The European Commission has now approved the German Co-Generation Act (KWKG),



which was necessary under the rules on state aid. The revision of the Renewable Energies Act (EEG) in 2017 will strengthen the objectives of the original law passed in 2014. The aim is to raise proportion of renewables in gross power consumption from around 30 percent (as at year-end 2015) to 40-45 percent by year-end 2025 and 55-60 percent by 2035. By 2050, renewables should make up at least 80 percent of gross power consumption. The revision of the German Renewable Energies Act completes the shift in the financing system for renewable energies to a tender-based model for the principal technologies. Fees will be determined competitively on the basis of output in the future. However, the integration of renewables into the energy sector is limited. The legislation on the electricity market focuses on an energy-only market. However, this will be supported by reserve mechanisms (grid reserve, capacity reserves and reserve lignite capacity) to guarantee reliability of supply. The alternative concept of a capacity market will not be applied. The question of the sustained reliability of supply has not been clarified.

European emissions trading for the period after 2020 will be reformed in 2017/18. In addition to introducing a market stability reserve for the period beyond 2019, the reduction factor for auctioned allowances is likely to be stepped up and more allowances could be withdrawn from the system. In addition, a range of exceptions for industry and Eastern Europe will effectively limit the allowances available. Intervention at national level will probably be permitted in principle.

Electricity prices on the electricity exchanges are currently at a historically low level and this situation is not expected to change significantly in the short term. Analysts and traders assume that the prices on the electricity exchanges will remain low in the mid term. The low price levels result from a combination of several factors: low commodity prices for hard coal, natural gas and CO<sub>2</sub> allowances, rising energy generation from renewable resources, and overcapacity of conventional plants. The low price level is putting increasing pressure on operators of conventional power plants because both capacity utilization and overall revenues are declining.

In view of the German government's goal of reducing primary energy consumption, the Federal Ministry for Economic Affairs and Energy (BMWi) assumes that, despite the good economic outlook, gross electricity consumption in Germany will decline slightly in the next few years. Global demand for energy is still rising fast, and is met by both renewables and fossil fuels. The expansion of renewables will continue, with a need to balance environmental compatibility, reliability of supply and cost-efficiency. Fossil fuels will remain key elements in the global energy system for a long time to come.



#### Strategic and operational challenges

The overview of the probable general economic development and the development of the energy sector in the coming years show that the STEAG Group will continue to face specific challenges in the future. Above all, the shift in German energy policy has significantly altered the framework for power plant operators and is putting pressure on the earnings of operators of fossil fuel power plants in particular.

In this context, the STEAG Group is still of the opinion that hard coal power plants play an important role in the reliability and, above all, flexibility of supply and therefore contribute to cost-effective, environmentally compatible and reliable energy generation. Europe will need hard coal power plants to secure supply in the future.

That said, the drastic long-term deterioration in market conditions is hampering continued cost-effective operation of power plants. As a matter of principle, the STEAG Group decides on the shutdown of power plants at the latest possible point in time.

Asset-based power trading is constantly being driven forward to optimize marketing of power generated in the company's own power plants in Germany and abroad.

This is becoming especially important as the power supply agreements for two foreign power plants, Iskenderun Enerji Üretim ve Ticaret A.S. (Turkey) and Compania Electrica de Sochagota S.A.E.S.P. (Colombia), expire in 2019. Both were realized as build, own, operate (BOO) projects and are therefore still owned by the STEAG Group.

In parallel with this, expansion of renewable energy installations is being driven forward in Germany and abroad to diversify generating capacity. The service business is to be extended and placed on a more international basis.

The STEAG Group is an established partner for the operation of power plants for third parties in Germany and abroad. It also provides external partners with operatives with a wide range of qualifications, either for the operation of power stations or for assignments in related sectors.

Further, the STEAG Group launched the STEAG 2022 transformation program at the start of 2016. The focus is on:

- raising efficiency,
- focusing the portfolio,
- driving forward growth.

This transformation program should leverage considerable profit potentials in the years ahead.



The aim is to raise efficiency, especially in administrative and specialist functions, and by realigning project development, the operation of power plants and the procurement of goods and services.

The portfolio adjustments comprise exiting certain activities or divesting a majority of the shares in the related companies in order to refocus and reduce complexity. The divestment of further minority stakes is also planned.

Growth areas include, in particular, further expansion of the renewables business, distributed facilities, co-generation plants, and energy-related services.

## Operating performance

Sales were  $\in$  3.9 billion in the reporting period, about 8 percent higher than in the prior year, mainly due to expansion of trading activities.

By contrast, the related earnings before interest and taxes (EBIT) were below the prior-year level. This was principally attributable to declining margins from the German power business.

In fiscal 2017, the Group expects sales to contract to  $\in$  3.3 billion, mainly as a result of the planned decommissioning of power plants in Germany and a contractual and accounting-related drop in revenues from foreign power plants.

By contrast, EBIT and EBITDA are expected to be slightly higher than in 2016. It is assumed that a further drop in earnings from operating activities in Germany and abroad will be more than offset by earnings from portfolio, growth and procurement measures in connection with the STEAG 2022 program.

The future development of the Group will also be influenced to a significant extent by planned investments.

Investment of nearly  $\in$  316 million is scheduled for 2017.

This will focus on building up new business activities amounting to around €195 million. Two major factors will play an important role here: the acquisition of all shares in Thermische Abfallbehandlung Lauta GmbH & Co. oHG in Saxony (Germany) from the utility company Vattenfall, which was initiated in November 2016 and completed in January 2017, and the purchase of all shares in Industriekraftwerk Rüdersdorf near Berlin (Germany) by the newly established STEAG Waste to Energy GmbH, which should be completed in mid-2017.

Within the established business, selective investments will be channeled in order to further raise the operating efficiency of power plants that already ensure high availability.



#### General information on expected developments

The STEAG Group assumes that the opportunities arising from its strategic focus and, in particular, the planned investment in growth areas will help it maintain a good position in the energy market. In parallel with this, the risks associated with the Group's business environment and activities are systematically identified, managed and monitored through its risk strategy.

#### Expected development of STEAG GmbH

Earnings at the companies that transfer profits to STEAG GmbH are likely to be lower in 2017 compared to 2016, mainly because margins on power plants in Germany are set to decline further.

Essen, March 9, 2017 STEAG GmbH Board of Management

Rumstadt

Baumgärtner

Dr. Cieslik

Geißler

This report contains forward-looking statements based on the present expectations, assumptions and forecasts made by the Board of Management and the information available to it. These forward-looking statements do not constitute a guarantee of future developments and earnings expectations. Future performance and developments depend on a wide variety of factors which contain a number of risks and unforeseeable factors and are based on assumptions that may prove incorrect.