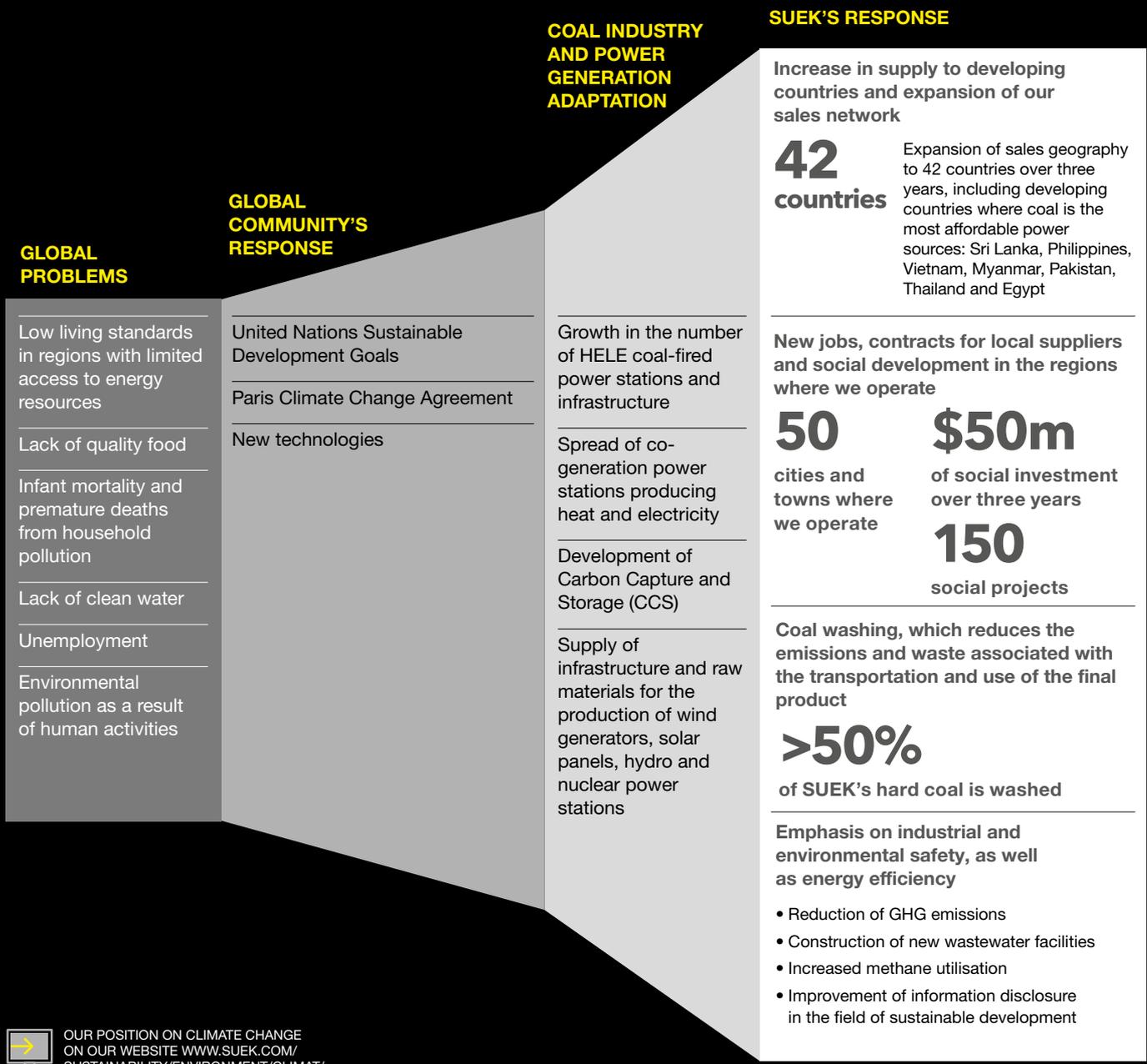


RESPONDING TO GLOBAL CHALLENGES

The coal industry is facing the dual challenge of a rising demand for cheap and reliable power, and the need to preserve nature for future generations. SUEK strives to meet these challenges by balancing the pursuit of commercial opportunities with the implementation of environmentally sustainable production processes.



OUR POSITION ON CLIMATE CHANGE ON OUR WEBSITE WWW.SUEK.COM/SUSTAINABILITY/ENVIRONMENT/CLIMAT/

FOR OUR RISKS, SEE PAGES 49-53

FOR OUR STRATEGY, SEE PAGES 38-47

Global problems, global response

In the world today, there are 1.1 billion people living without access to electricity, which deprives them of modern healthcare, education and balanced nutrition¹. Therefore, through the United Nations Sustainable Development Goals (UN SDGs) the global community has resolved to ensure universal access to affordable, reliable and modern energy sources by 2030.

Even today about 2.5 billion people, half of whom live in India and China, do not have access to clean cooking facilities. This leads to 4.3 million premature deaths globally each year from household air pollution¹. To meet its rising electricity demand, over the next 20 years China needs to add the equivalent of today's US power system to its own national power supply². It is expected that by 2040 the electrification rate in Asia will reach 99%, helping to halve the number of premature deaths from household pollution in China and reduce the overall number by 0.5 million.

Apart from being the basis for better industrial and social development, infrastructure improvement and job creation, electrification can help various countries meet the commitments they made under the Paris Climate Change Agreement to reduce greenhouse gas emissions. The International Energy Agency (IEA) forecasts that if current electric transport development plans are implemented, by 2040 the number of electric vehicles on the road will have grown 140 times, thus helping to remove harmful substances from the air in cities.

According to the UN SDGs, these growing needs should be met by secure power that is available at an affordable price and that causes minimum damage to the planet. To achieve this, support should be provided for research into how to achieve better energy efficiency and advanced fossil-fuel technologies, as well as for the development of renewable energy sources. This should ensure that CO₂ emissions from the power sector rise by just 5% by 2040, while electricity use rises by 60% and heat use increases by 10% compared to present levels².

1. UN Secretary-General Report 'Progress towards the Sustainable Development Goals', July 2017.
 2. International Energy Agency, World Energy Outlook 2017.

In aiming to meet these targets, many countries have announced massive investments in renewable generation infrastructure, 2.5 times more than in new fossil-fuel powered capacities. However, IEA forecasts that the share of total electricity produced from wind, solar and biofuel can rise from its current level of 8% to just 15% by 2025, and to 23% by 2040².

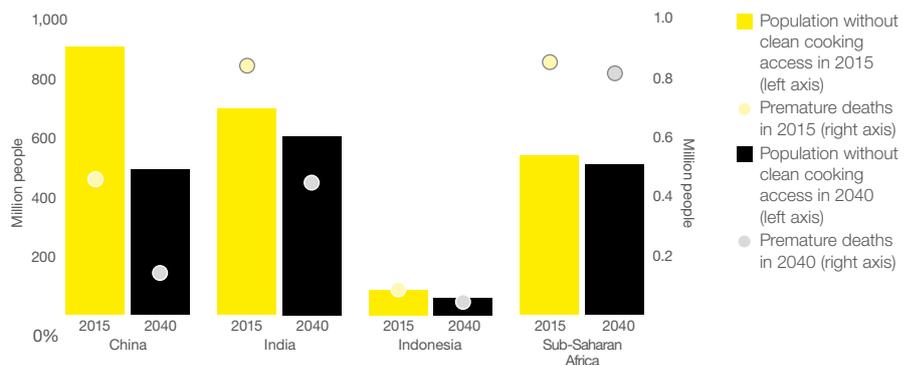
While the cost of renewable generation is decreasing, the low concentration of natural energy remains its main hindrance. For example, it takes roughly 1 m² of land to produce 1 W of wind power. For solar power it takes the same area to produce 5 W in countries with limited sunshine (such as Germany), rising to 20 W in sunny deserts. While the potential exists to increase productivity, primarily in the case of solar generation, this will never exceed the level of average natural solar radiation per 1 m² — about 170 W. For comparison, the density achieved in electricity production at coal-fired power stations

today can go up to 1,000 W per 1 m² (and that includes the land used to mine the coal).

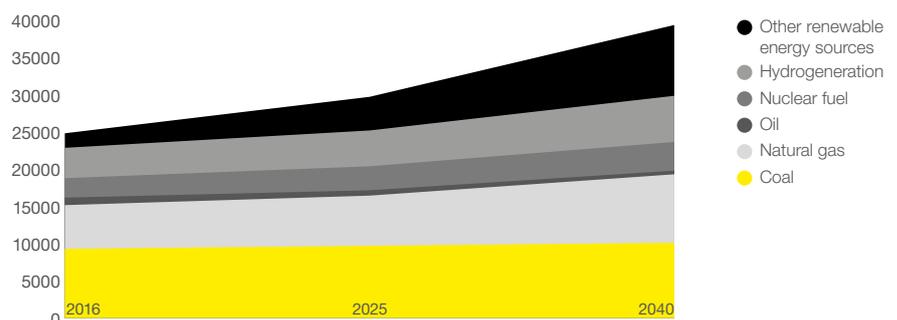
Furthermore, while wind and solar power emit no CO₂ during end use, a lot of materials made by carbon-intensive technologies are necessary to produce a small quantity of renewable energy. For example, it takes 550 tonnes of iron and steel to produce 1 MW of wind power, as opposed to 35 tonnes for coal-fired and 5 tonnes for gas-fired power stations.

Coal and gas will therefore remain the two most widely used power sources for several decades to come at least, accounting for 26% and 23% respectively. The affordability, versatility and cost effectiveness of coal, allied with its relative ease of extraction and transportation, will ensure its consumption volumes remain stable through to 2040, providing power and heat for many regions where economic or natural reasons make other sources unaffordable.

Premature deaths from household air pollution will be 0.5 million lower in 2040 vs 2017, as access to clean cooking fuels increases



Electricity generation (TWh)



Sources: International Energy Agency, World Energy Outlook 2017.

Coal industry and power generation adaptation

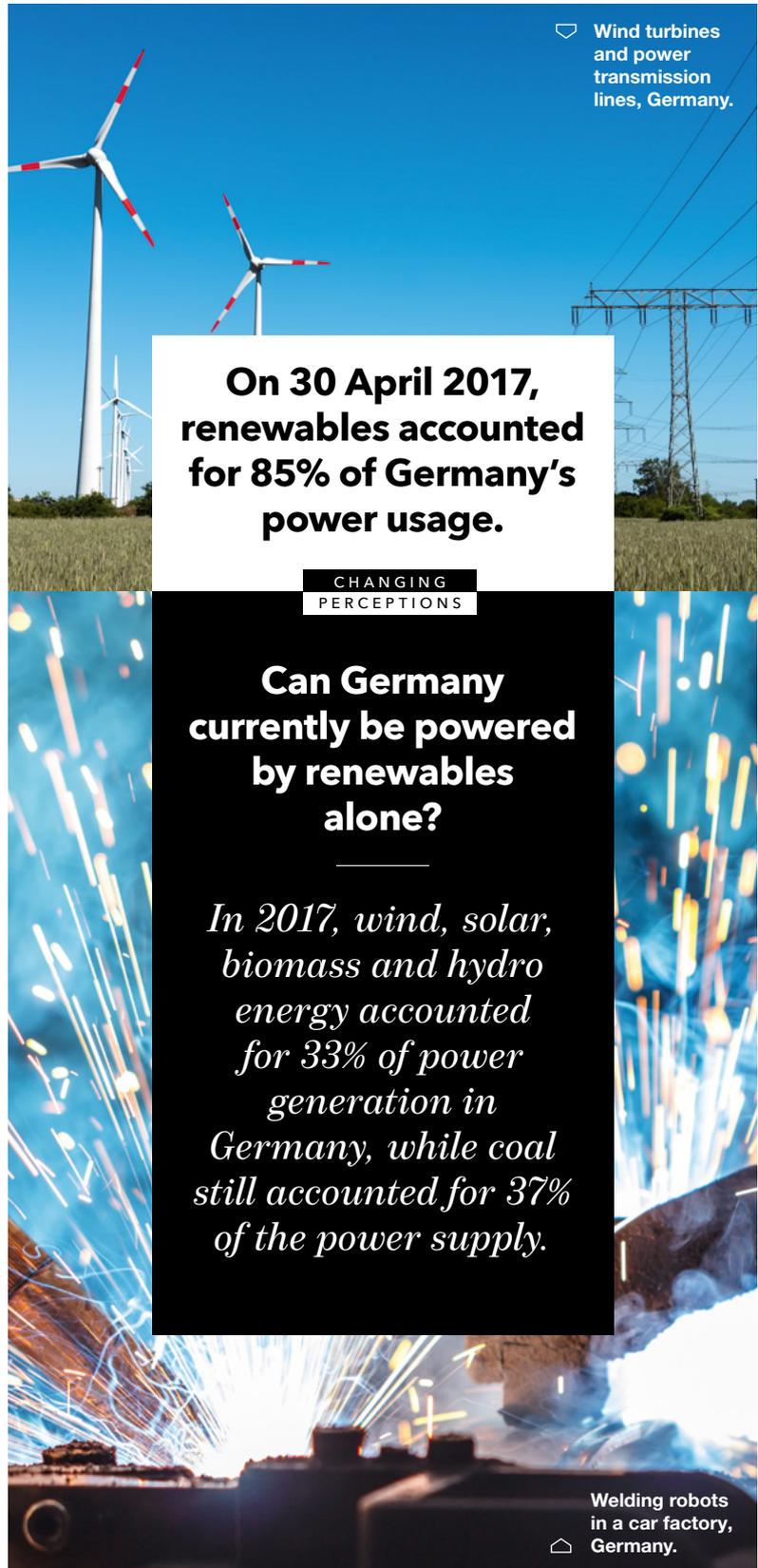
The coal industry is developing in accordance with the latest technological and environmental trends. It is planned that over 75% of coal-fired power plants coming into service in the next 25 years will use high efficiency low emissions (HELE) technologies.

As well as being more efficient, these new plants support the delivery of environmental commitments. Every 1% rise in efficiency of coal-fired power plants delivers a 2%-3% reduction in CO₂ emissions. These plants are also equipped with NO_x, SO₃ and mercury filters.

Furthermore, carbon capture and storage (CCS), despite being implemented to date at only two large-scale coal power plants, could cover over 200 GW of coal generation worldwide by 2040, IEA predicts. However, this is dependent on countries stepping up their efforts to make CCS technology more economically viable. As advanced coal-fired power plants require higher calorific value coal, over 50% of international coal trading is already focused on higher-grade coal.

Another research trend is coal gasification, which combines power generation with coal chemistry products. Coal gasification allows the production of chemical products such as methanol, polyethylene, diesel, ammonia and more. While coal gasification is more expensive today than the traditional use of oil and natural gas, significant progress has been made in decreasing coal gasification CAPEX (\$3,500-\$2,000/t) and OPEX. China is the global leader in coal gasification technologies. In 2017 the first plant producing ethanol from coal was launched, supported by the Chinese Academy of Science. The gasoline with 10% ethanol could effectively reduce about 1/3 pollutant emission¹. IEA forecasts that Chinese coal-to-liquid fuel capacity might grow from 2.5 million tonnes in 2015 to over 20 million tonnes by 2020.

1. Source: Release by the Chinese Academy of Science, 17 March 2017. http://english.cas.cn/newsroom/research_news/201703/t20170321_175118.shtml



Wind turbines and power transmission lines, Germany.

On 30 April 2017, renewables accounted for 85% of Germany's power usage.

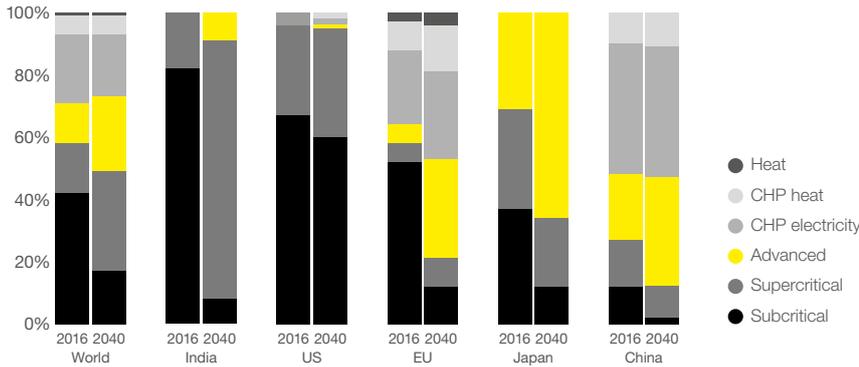
CHANGING PERCEPTIONS

Can Germany currently be powered by renewables alone?

In 2017, wind, solar, biomass and hydro energy accounted for 33% of power generation in Germany, while coal still accounted for 37% of the power supply.

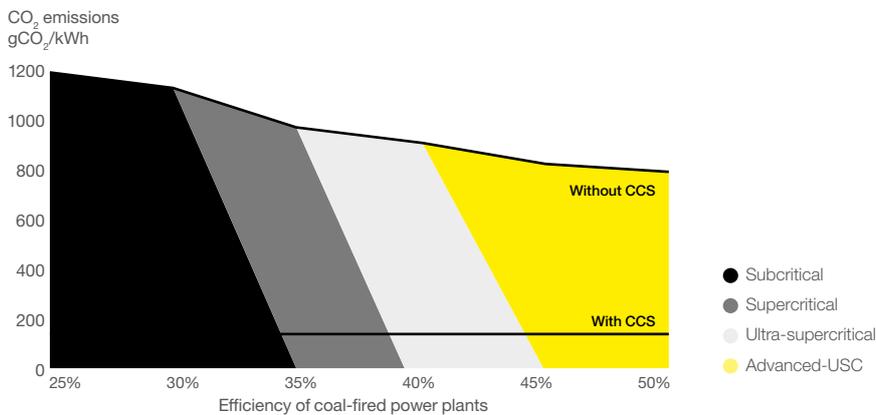
Welding robots in a car factory, Germany.

Over 75% of new coal-fired power plants will use HELE technologies



Sources: International Energy Agency, World Energy Outlook 2017.

Every 1% rise in efficiency of coal-fired plants delivers a 2-3% reduction in CO₂ emissions



Sources: International Energy Agency, World Coal Association.

The major market trend of recent years is the shift in consumption and import growth to the Pacific market, in particular to South-East Asia, India, South Korea and Japan, and to some high-growth emerging coal markets (Vietnam, Pakistan, Bangladesh, Malaysia, and Taiwan). These markets require more high-calorific coal for their new power generation. For example, more than half of China's coal-fired power-generation plants are under ten years old, and the average efficiency

already stands at over 42%. India overtook the US in 2015 as the second largest coal consumer and is believed to more than double its demand by 2040. It is to become the primary driver of coal imports, as local coals have low calorific value, and the country's new stations require high grades. Elsewhere, some countries have started building stations with 50% efficiency.

The Atlantic market overall has exhausted its growth potential. Due to toughening environmental regulations and growing competition from gas and renewables, coal consumption in Northern Europe is in decline. However, this is partly compensated by the development of coal-fired power generation in North Africa, the Middle East and the Mediterranean.

Coal remains an essential component in the production of steel and cement – the basic construction materials for infrastructure facilities, including renewable energy facilities. Coal usage in industry¹ for steel and cement production, petrochemical feedstock, and coal-to-gas and coal-to-liquids transformation, is expected to rise by 20% over the next 20 years to 36% of total coal use.

Overall, the International Energy Agency forecasts that global coal demand and international trade will remain stable through to 2040.

On the supply side, the reduction in coal-mining capacities has exceeded previous forecasts. By the end of 2017, the total excess capacity of thermal coal had declined to about 55 million tonnes, which accounts for 6% of the total seaborne market. The global seaborne thermal coal market is forecast to be balanced by 2020, and by 2025, 55 million tonnes of new capacity will be required to meet increasing demand.

Apart from a balance in supply and demand, the dynamics of coal pricing are largely influenced by Chinese arbitrage and trade, as the government has implemented a series of policies to maintain an acceptable price level for domestic coal producers and power companies. The influence of this factor is expected to continue in the medium term.

1. Coal usage in industry reflects volumes consumed in own use and transformation in blast furnaces and coke ovens, petrochemical feedstocks, coal-to-liquids and coal-to-gas plants.

RISKS AND OPPORTUNITIES FOR SUEK

Economies of scale, cost efficiency and effective logistics enable SUEK to remain profitable and sustainable as a business, despite the cyclical nature of global energy prices. In addition, SUEK is actively increasing the efficiency of its mining and washing processes.

Strengths

Quality coal, efficient mining and large washing capacities

Flexibility of sales geography and own distribution

Effective and transparent CSR programmes

Thanks to investments in coal washing and the development of promising deposits such as those at Urgal, Tugnuisky and Kemerovo, we are able to meet the growing demand for high-quality coal from Japan, South Korea, Malaysia, the Philippines, Thailand and Hong Kong. SUEK's coals have low nitrogen and sulphur content and therefore have additional competitive advantages in Japan and other Asian countries.

An effective, integrated business model and our robust margins enable SUEK to achieve the necessary level of financing on the international capital market. In response to more stringent demands for the disclosure of non-financial information, in 2016 the company moved to integrated annual reporting in line with the International Integrated Reporting Council framework (IIRC) and Global Reporting Initiative (GRI). We also publish biennial corporate social responsibility reports with further details on our sustainability initiatives.

Weaknesses

Sensitivity of earnings to global prices

Mono-product business

No control over final product use

Looking ahead, possible changes in the legal norms related to environmental protection and climate may have a negative impact on coal sales in individual countries. Over the past three years, Germany, the United Kingdom and a number of Scandinavian countries, have announced plans to reduce or eliminate coal-fired power generation. On the other hand, the construction of new coal power plants in developing countries will provide coal exporters with new markets and compensate for lower demand in developed countries. We expect that coal demand in average-income regions will remain stable. Coal consumption in Russia will also not change significantly, and coal will remain one of the country's main energy resources.

SUEK, therefore, with its strategic focus on efficient growth, the development of washing capacities, its own logistics, sales and sustainability, is favourably positioned to maintain its leading position in the Russian and global coal industry.

Opportunities

Rising demand for high-CV coals

Developing new areas for coal use

Improved financing opportunities on the international capital markets

Threats

Volatile global prices

More stringent CO₂ regulations for power generation

More stringent CSR requirements from banks