

Elkem ASA

# **Registration Document**

Joint Lead Managers:





Oslo, 14 March 2019

## Important information

The Registration Document is based on sources such as annual reports and publicly available information and forward looking information based on current expectations, estimates and projections about global economic conditions, the economic conditions of the regions and industries that are major markets for the Company's (including its subsidiaries and affiliates) lines of business.

A prospective investor should consider carefully the factors set forth in chapter 1 Risk factors, and elsewhere in the Prospectus, and should consult his or her own expert advisers as to the suitability of an investment in the bonds.

This Registration Document is subject to the general business terms of the Joint Lead Managers, available at their respective websites (<u>www.dnb.no</u>, and <u>www.nordea.no</u>).

The Joint Lead Managers and/or any of their affiliated companies and/or officers, directors and employees may be a market maker or hold a position in any instrument or related instrument discussed in this Registration Document, and may perform or seek to perform financial advisory or banking services related to such instruments. The Joint Lead Managers' corporate finance department may act as manager or co-manager for this Company in private and/or public placement and/or resale not publicly available or commonly known.

Copies of this Registration Document are not being mailed or otherwise distributed or sent in or into or made available in the United States. Persons receiving this document (including custodians, nominees and trustees) must not distribute or send such documents or any related documents in or into the United States.

Other than in compliance with applicable United States securities laws, no solicitations are being made or will be made, directly or indirectly, in the United States. Securities will not be registered under the United States Securities Act of 1933 and may not be offered or sold in the United States absent registration or an applicable exemption from registration requirements.

The distribution of the Registration Document may be limited by law also in other jurisdictions, for example in the United Kingdom. Approval of the Registration Document by Finanstilsynet (the Norwegian FSA) implies that the Registration Document may be used in any EEA country. No other measures have been taken to obtain authorisation to distribute the Registration Document in any jurisdiction where such action is required.

The Norwegian FSA has controlled and approved the Registration Document pursuant to the Norwegian Securities Trading Act, § 7-7. The Norwegian FSA has not controlled and approved the accuracy or completeness of the information given in the Registration Document. The control and approval performed by the Norwegian FSA relates solely to descriptions included by the Company according to a pre-defined list of content requirements. The Norwegian FSA has not undertaken any form of control or approval of corporate matters described in or otherwise covered by the Registration Document. The Registration Document was approved on 15 March 2019. The Registration Document is valid for 12 month from the approval date.

The Registration Document dated 14 March 2019 together with a Securities Note and any supplement to these documents constitutes the Prospectus.

The content of the Prospectus does not constitute legal, financial or tax advice and potential investors should seek legal, financial and/or tax advice.

Unless otherwise stated, the Prospectus is subject to Norwegian law. In the event of any dispute regarding the Prospectus, Norwegian law will apply.

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## 1 Risk factors

Investing in bonds issued by Elkem ASA involves inherent risks.

The risk factors for Elkem ASA and the Group are deemed to be equivalent for the purpose of this Registration Document.

The risks and uncertainties described in the Prospectus are risks of which the Group is aware and that the Group considers to be material to its business. If any of these risks were to occur, the Group's business, financial position, operating results or cash flows could be materially adversely affected, and the Group could be unable to pay interest, principal or other amounts on or in connection with the bonds. Prospective investors should carefully consider, among other things, the risk factors set out in this Registration Document and in the Securities Note, before making an investment decision. The risk factors set out in the Registration Document and the Securities Note cover the Company and the bonds issued by the Company, respectively.

An investment in the bonds is suitable only for investors who understand the risk factors associated with this type of investment and who can afford a loss of all or part of their investment.

## Risks related to the business of Elkem and the industry in which Elkem operates

The silicon-based advanced materials and chemical industries, including the production and sale of silicones, silicon-based materials, foundry products and carbon, has been in the past, and may be in the future, subject to economic downturns, market disruptions and fluctuations in market price and demand which could lead to volatility in the Group's revenues

General economic conditions affect the silicon-based advanced materials and chemical industries, including the silicones, silicon materials, foundry alloys and carbon products segments in which Elkem operates. Downturns in economic conditions, whether in the markets in which Elkem's customers are active or end markets, can result in diminished demand for, and lower selling prices of, Elkem's products, which could have a negative impact on Elkem's revenues, operating profit and growth prospects. Elkem sells its products globally to customers who are located in multiple geographic markets, including Europe, Asia and the Americas. The acquisitions of Xinghuo Silicones and Yongdeng Silicon Materials have led to a significant increase in the importance of the Chinese market to Elkem. The Chinese economy is generally characterised by higher growth rates than more mature economies, but may also experience higher levels of volatility and government intervention, which may in turn have adverse consequences for Elkem's operations there.

Elkem's customers operate in a wide range of industries, including the automotive industry, the construction industry, the renewable energy industry, the oil and gas industry, the electronics industry, and the solar power and chemicals industries. Economic downturns, market disruptions, reduction in demand or otherwise uncertain economic outlooks in one or more of these markets or industries have affected Elkem in the past and could continue to do so in the future, which could in turn have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

# The silicon-based advanced materials and chemical industries are cyclical and Elkem may be materially and adversely impacted by the general economic cycle

Elkem's business is directly related to the production levels of its customers, whose businesses are dependent on highly cyclical markets, such as the automotive, construction, renewable energy, oil and gas, electronics, solar power and chemicals industries. In response to unfavourable market conditions, customers may request delays in contract shipment dates or other contract modifications or else default, terminate or not renew their contractual arrangements with Elkem, any occurrences of which could have an adverse impact on Elkem's revenues, results of operations, financial condition and prospects. Furthermore, many of the Group's products are internationally traded products withprices that are significantly affected by worldwide supply and demand. Consequently, the financial performance of the Group will fluctuate with the general economic cycle, a decline in which could have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

# Any decrease in the availability, or increase in the cost, of raw materials or transportation could materially and adversely impact Elkem's business and results of operations

The principal components in the production of silicones are silicon and methyl chloride. In addition, platinum is important for specialty silicone products in addition to a number of other chemicals. The principal components required for silicon and foundry alloys are quartz, coal, charcoal, wood chips, steel scrap, and other metals, such as magnesium and rare earth minerals; and the production of electrode paste and other carbon products requires anthracite, coke, pitch and coal tar. The Group has long term supply contracts for most key raw materials and

also buys some of them on the spot market. The Group is dependent on certain suppliers of these products in certain of the markets in which it operates. In particular, the Group relies on a few selected sources for the specialised coal and methyl chloride that it requires, and relies on certain rare earth minerals which are only available in China and which have in the past been the subject of export restrictions.

Raw material costs represented 51% of the Group's combined revenue for the year ended 31 December 2017. To the extent there is a disruption in the supply of any of these raw materials from the Group's suppliers, or if the raw materials are not of the required quality, or are not delivered on a timely basis, the Group may not be able to obtain adequate supplies of these raw materials from alternative sources on terms as favourable as its current arrangements or at all, which may have a material adverse effect on Elkem's business, results of operations, financial condition and prospects. The inability to obtain certain raw materials may require Elkem to close certain production operations, entire production facilities or product lines.

Furthermore, if there is an increase in the costs of these raw materials as a result of disruptions in production, trade restrictions or any other reason, this will result in increased costs for Elkem. Because Elkem's customer contracts and the competitive environment of the markets in which Elkem operates do not generally permit increases in operating expenses to be passed on to customers, an increase in the cost of its raw materials would have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

# The business of the Group is particularly sensitive to increases in electricity costs which could materially and adversely increase operating costs

Electricity is one of the Group's largest operating costs and represented 11% and 12% of the Group's operating costs, on a combined basis, in 2017 and 2016, respectively. The power consumption of the Group's electric production furnaces is dependent on which products are being produced and typically fall in the following ranges: (i) foundry alloys require between approximately 5 and 8 megawatt hours to produce one MT of product and (ii) silicon requires between approximately 11 and 12 megawatt hours to produce one MT of product. Accordingly, consistent access to low cost and reliable sources of electricity is essential to the Group's business. Because electricity constitutes such a significant percentage of costs, the Group is particularly vulnerable to fluctuations in electricity costs.

The price of energy is generally determined in the applicable jurisdiction where it is consumed and is influenced both by supply and demand dynamics and by domestic regulations. Changes in local energy policy, increased costs due to scarcity of energy supply, climate conditions and other factors can affect the price of energy supply to Elkem's facilities and adversely affect its results of operations and financial conditions. Energy prices in China, for example, are generally increasing and are expected to continue to do so. While the Group seeks to mitigate the risk of such fluctuations where appropriate by entering into long term electricity contracts to secure base volume and predictable prices, there can be no assurance that these hedges will be effective, capture all risks or continue to be available to the Group. The Group may also be unable to enforce its energy supply contracts or renew such contracts on favourable terms. For example, the Group is currently engaged in arbitration proceedings regarding the renewal of its energy supply contract in Iceland, the result of which may be less favourable pricing for the Group in the future.

Accordingly, the termination or non-renewal of any of the Group's electricity contracts or an increase in the price of electricity generally could materially adversely affect the Group's future earnings and may prevent Elkem from effectively competing in certain of its markets. Further, should the spot price for electricity trade fall below the hedging costs, these hedges may also weaken Elkem's competitiveness compared to competitors without electricity cost hedging. This in turn could have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

Elkem is also exposed to changes in grid tariffs, both as a result of investments in power grids in Norway and other jurisdictions where it operates and potentially as a result of changes in the grid structure, either of which would likely cause the grid operator to raise tariffs in order to finance such investments or changes. Any such increases could in turn have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

## Elkem operates in a highly competitive industry

Elkem faces competition within all of the markets in which it operates, both from major international companies and from smaller regional competitors. Competition tends to be based on a range of factors, including product performance and quality, particularly as to specialized products, reliability of supply (or, at times, diversification of supplies), prices, availability and pricing of potential substitutes, innovation and technological development, both in respect of product offerings and potential substitutes, responsiveness to customer product development goals, customer service and relationships, the cost to customers of shifting to alternative suppliers and the cost of inputs and logistics, including customers' production footprints and supply chain economics.

Elkem's competitors may improve their manufacturing processes, develop superior or more innovative technology, expand their manufacturing capacity or develop, using different materials or processes, substitute products, causing an oversupply in the market or making it more difficult or less profitable for Elkem to compete successfully. In addition, there may be new market entrants that increase the level of competition the Group faces. This could have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

The Group's existing and future competitors may also benefit from greater resources, more robust investment in research and development, financial strength and other strategic advantages and may, as a result, be better positioned to adapt to changes in the industry or the global economy, to maintain, improve and possibly expand their facilities, compete more aggressively on price as they seek to increase market share, and sustain that competition over a longer period of time. Competitors' pricing decisions may compel Elkem to decrease its prices, which could have an adverse effect on its results of operations, financial condition and prospects. Some of the Group's competitors may also benefit from lower raw material, energy and labour costs as well as less stringent environmental regulations.

In general, any failure by Elkem to compete on the basis of price, product performance and quality or any of the other factors discussed above, or to otherwise adapt to changes in its businesses and targeted end-market applications, could have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

## The costs of complying with changing environmental, health and safety laws could negatively impact Elkem's financial results

Elkem uses large quantities of hazardous substances, generates hazardous wastes and emits wastewater and air pollutants in its production operations, most notably in its Silicones division. Consequently, its operations are subject to extensive environmental, health and safety ("EHS") laws, regulations, rules and ordinances at the supranational, national and local level in multiple jurisdictions across the European, African, Asia Pacific and North and South American regions. Such EHS laws govern, among other things, the construction and operation of plants and facilities, the generation, discharge, emission, storage, handling, transportation, use, treatment and disposal of hazardous substances and waste material; land use, contamination, reclamation and remediation; and the health and safety of employees. Elkem is also required to obtain permits from governmental authorities for certain operations. EHS regulations apply to most of the Group's activities and the Group must dedicate substantial resources to complying with them. Elkem's cost of compliance with EHS regulations is part of its operating cost and, ultimately, must be covered by the prices at which the Group is able to sell its products. Competitors of Elkem who do not face EHS regulations to the same extent as Elkem may have lower operating costs and, as a consequence, their products may be priced lower than those of Elkem. In addition, the Group's suppliers are subject to EHS regulations that may impact their ability to supply the Group with the raw materials it needs, or only at a higher cost. The inability to obtain certain raw materials may require Elkem to close or reduce certain production operations, entire production facilities or product lines. Elkem's products are also used in a variety of end markets such as chemical, automotive, construction, renewable energy, oil and gas, electronics and solar power that have specific regulatory requirements such as those relating to human safety or recycling that may impact the demand for Elkem's products in those end markets.

Elkem may not have been and may not be at all times in complete compliance with EHS laws, regulations and permits, and Elkem has been held liable for environmental damage in the past. If Elkem violates or fails to comply with these laws, regulations or permits, Elkem could be subject to penalties, fines, restrictions on operations or other sanctions. Under these laws, regulations and permits, Elkem could also be held liable for any and all consequences arising out of human exposure to hazardous substances or environmental damage Elkem may cause or that relates to its operations or properties.

# Costs of compliance with certain specific emissions-related laws, including climate change laws and regulations, could adversely affect Elkem's operations and performance

Some of the principal environmental risks associated with Elkem's operations are emissions into the air and releases into the soil, surface water, or groundwater. The main air emissions from Elkem's primary production processes include CO<sub>2</sub>, SO<sub>2</sub>, NOx, PAH, MeCI and dust. Elkem's operations are subject to extensive national and international environmental laws and regulations, including those relating to the discharge of materials into the environment, waste management, pollution prevention measures and greenhouse gas emissions. If Elkem violates or fails to comply with these laws and regulations, Elkem could be fined or otherwise sanctioned. Because environmental laws and regulations are becoming more stringent and new environmental laws and regulations are continuously being enacted or proposed, such as those relating to greenhouse gas emissions and climate change, the level of expenditures required for environmental matters could increase in the future. Future legislative action and regulatory initiatives could result in changes to operating permits, additional remedial actions, material changes in operations, increased capital expenditures and operating costs, increased costs of

the goods Elkem sells, and decreased demand for Elkem's products that cannot be assessed with certainty at this time.

Under current European Union legislation, all industrial sites are subject to cap-and-trade programs, by which every facility with carbon emissions is required to purchase in the market emission rights for volumes of emission that exceed a certain allocated level. Elkem expects that until 2020, the allocated level of emissions is such that the potential requirements of emissions rights purchases will have a limited impact on Elkem's business. After 2020, however, new regulations may require significant purchases of emissions rights in the market. Also, several Canadian provinces have implemented cap-and-trade programs. As such, Elkem's facility in Canada and its facilities in the European Union may be required to purchase emission credits in the future (85% of the cost which may be exempted in the European Union). The requirement to purchase emissions for Elkem's business, and an increase in the cost of the products Elkem produces, which could have a material adverse effect on Elkem's financial position, results of operations, and liquidity.

In the United States, federal and state legislative and regulatory proposals to regulate greenhouse gas emissions are at various stages of consideration and implementation and China is considering similar proposals. Some of the proposals would require industries to meet stringent new standards that would require substantial reductions in carbon emissions. Further greenhouse gas regulation may result from the December 2015 agreement reached at the United Nations climate change conference in Paris. Pursuant to that agreement, countries are required to review and "represent a progression" in their intended nationally determined contributions, which set greenhouse gas emission reduction goals, every five years beginning in 2020. Many of the countries in which Elkem operates have signed the Paris agreement. These reductions could be costly and difficult for many industries and businesses, including Elkem, to implement.

## Elkem is increasingly subject to regulations directed at the chemicals industry

Since 2015, Elkem has become more specialised in the production of chemicals, with a majority of its revenues attributable to silicones. As a consequence, its exposure to regulations directed at the chemicals industry has increased. Many of the chemical substances that Elkem relies on, as well as many applications for Elkem's products, are regulated by the EU's Registration, Evaluation, Authorisation, and Restriction of Chemicals Regulation ("REACH"). In the first two phases of the implementation of REACH in 2010 and 2013, the Group registered approximately 46 preregistered substances. The Group estimates that it will be required to register two additional substances in 2018. Going forward, restriction and authorisation requirements pursuant to REACH could impair Elkem's business by interfering materially with the manner in which it currently conducts its operations or with the manner in which its products can be used. Pursuant to REACH, the EU Commission can establish a set of criteria for substances, such as those produced by the Group, that may lead to a ban or a selective authorisation process which is anticipated to provide authorisation only for limited periods. The risk remains that the distribution of some of the compounds the Group imports, produces and sells currently will be prohibited in the future or be subject to an extensive, time and cost intensive authorisation process that ultimately may not permit the Group to continue producing certain of its products.

One of the main raw materials for the production of Elkem's carbon products is coal tar pitch. Coal tar pitch has been included on the EU Candidate List of substances of very high concern. In addition, the production of certain siliconebased products, including personal care products, entails the production by Elkem of certain intermediate products such as the cyclosiloxanes D4 and D5. Certain pubic bodies in Europe have concluded that D4 and D5 may be regarded as unsafe, and that their use should be restricted. This means these substances may be subject to strict regulations within the EU in the future. So far, the regulatory focus has been on the presence of D4 and D5 in end use products, such as personal care products. If the focus moves to the silicone production process, however, this may result in restrictions on Elkem's use of these intermediates, which in turn could materially and adversely affect the Group's silicone production.

As a corollary to the REACH Regulation, the EU has adopted the Classification, Labelling and Packaging Regulation to harmonize the EU's system of classifying, labelling and packaging chemical substances with the United Nation's Globally Harmonized System. The regulation aims to standardise communication of hazard information of chemicals and to promote regulatory efficiency. It stipulates classification criteria, hazard symbols and labelling phrases, while taking account of elements that are part of EU legislation. Proposals for a restriction may range from implementing a training and certification scheme defining minimum conditions for the safe handling of a particular substance to an authorisation process as well as prohibiting the use of these substances.

In the United States, Elkem's products and raw materials are subject to environmental and health regulations, including the U.S. Toxic Substances Control Act ("TSCA"), requiring the registration and safety analysis of the substances contained in them. The U.S. Environmental Protection Agency (the "EPA") is undergoing a reassessment of the TSCA which may result in additional or more stringent regulatory testing, labelling and notification requirements.

In light of events in China, and in particular in light of a large explosion in Tianjin, China, regulations in China governing the production, use, handling and transportation of chemicals, including those produced by the Group, have been tightened, with the Chinese central government strengthening supervision and increasing liability for project owners, and safety administrators increasing safety assessments of chemical plants.

Regulations such as REACH are likely to become more stringent over time as they are designed to ensure a high level of protection for people and the environment and demand comprehensive tests for chemical products. Test procedures required by regulations such as REACH can be costly and time-intensive, and may lead to a rise in production costs. Moreover, as mentioned above, the use of chemicals in production could be restricted, which could make it impossible for Elkem to continue manufacturing certain products. In addition, the regulation or reclassification of any of Elkem's products could require it to incur increased costs to comply with notification, labelling or handling requirements. Given the complexity of the Group's global operations and the growing importance of chemical manufacturing to its business, there is an elevated risk that the Group may not always comply with REACH and similar regulations in the United States, China and other jurisdictions where the Group operates or sells its products, which could result in fines, sanctions and other penalties. Any of the foregoing could have a material adverse effect on the Group's business, financial condition and results of operations.

# Elkem's operations are subject to the inherent hazards, disruptions to its business and other risks associated with silicones and metals manufacturing and the associated chemical production processes, as well as mining, which in turn could result in materially increased expenses and decreased production levels

Manufacturing generally, and high temperature and chemical production processes, in particular, are inherently dangerous and subject to fire, explosion and sudden major equipment failure. Silicone manufacturing, for example, involves high pressure chlorinated products which may cause injury or death and may lead to fatal accidents. Such manufacturing activities and chemical processes are also vulnerable to other potential hazards such as natural disasters, terrorist attacks, transportation interruptions, pipeline leaks and ruptures, storage tank leaks, chemical spills, discharges of toxic substances, property contamination and remediation and others. These hazards can present major risks to the health and safety of workers, neighbouring populations and the environment. Consequences of such incidents for Elkem could include an interruption, relocation or suspension of operations or disruption of sophisticated manufacturing equipment, decreases in the productivity and profitability of a particular production facility or the Group's business operations as a whole, and governmental enforcement, regulatory shutdowns, the imposition of government fines and penalties and claims brought by governmental entities or third parties.

In addition, Elkem uses contractors, over whom it may have less control than it has over its employees, who may perform duties on behalf of the Group in a manner that may cause harm to the health and safety of other workers, neighbouring populations and the environment. The costs associated with any of these events may be substantial and could exceed or otherwise not be covered by the Group's insurance coverage. In addition, a number of governments have instituted regulations attempting to increase the protection and security of chemical plants and the transportation of hazardous substances, which could result in higher operating costs for Elkem. Improper handling of hazardous substances by the Group, its customers or its business partners due to the Group's failure to provide, if at all, appropriate handling instructions, failure by its customers or business partners to follow handling instructions or otherwise may lead to the release of toxic or hazardous substances, which may in turn result in stricter regulation or restriction of the use of such substances.

Since 2010, Elkem has experienced several accidents resulting in serious injury or death of employees and contractors and production shutdowns. These incidents include seven fatal accidents and several fires resulting in partial production shutdowns. Given the nature of Elkem's operations there may be further accidents, injuries and fatalities in the future.

The occurrence of any of the events described above could be seriously detrimental to Elkem's reputation, impose significant costs and require substantial capital expenditures to rectify, and harm its ability to obtain or maintain its existing licenses or its key commercial, regulatory, and governmental relationships. Any of the above could in turn materially adversely affect Elkem's business, financial condition, results of operations and prospects.

In addition, Elkem mines quartz at open pit and surface mining operations in Norway and Spain. Quartz mining is inherently dangerous and subject to numerous hazards, including collisions, equipment failure, flooding, collapse, blasting operations and operating in extreme climactic conditions. Elkem's mining activities involve dynamite and heavy machinery, both of which can cause serious or fatal accidents. Certain factors beyond Elkem's control could disrupt its mining operations, adversely affect production and shipments and increase Elkem's operating costs, such as a major incident at a mine site that interrupts mining operations or unexpected maintenance problems; the inability to renew mining concessions upon their expiration; and adverse weather and natural disasters. Regulatory authorities have the authority under certain circumstances following significant health and safety incidents to order a mine to be temporarily or permanently closed.

There are risks to Elkem's global business relating to the countries in which Elkem operates that could materially and adversely impact its earnings or materially and adversely affect an investment in Elkem

Elkem has twenty-seven production facilities worldwide, including in Europe, North and South America, Africa and Asia. In addition, Elkem sources and sells products to customers across a wide range of countries. As a result, Elkem's operations are subject to a variety of country, regulatory and political risks, particularly in connection with its operations in emerging markets, including Brazil, Paraguay, South Africa, Malaysia, India and China. These risks include potential political and economic uncertainty, application of foreign exchange controls, price controls, corruption, nationalisation, expropriation, regulatory changes, crime and the lack of enforcement thereof, political insurrection, governmental interference, currency fluctuations, restrictions and devaluations, punitive or unpredictable taxation, anti-dumping duties and trade barriers, export duties and guotas and other restrictive government actions, hostility from local populations, restrictions on the ability to repatriate dividends from subsidiaries, natural disasters and other catastrophic events, and changes in law and government policy. Particular risks in China may include periodic government measures to slow economic growth to a more manageable level and influence industrial production, bank credit and fixed investment, as well as government control over a substantial portion of productive assets, an assertive industrial policy, and the exercise of significant control over growth through the allocation of resources and providing preferential treatment to particular industries or companies. The financial risks of operating in emerging markets also include risks related to inflation, devaluation, price volatility, currency convertibility and country default.

Furthermore, the legal systems in the emerging markets in which Elkem operates may be less predictable than those in more developed markets, as the laws of and courts in those markets may not be fully developed in the enforcement of contracts and other types of commercial disputes. The Chinese legal system in particular is subject to uncertainty, as China has in recent years introduced many new laws and regulations to provide guidance on economic and business practices in China and to regulate foreign investment. As these laws and regulations are relatively recent, their interpretation and enforcement may involve significant uncertainty. These conditions can lead to delays in enforcement proceedings and restructuring projects and generally lead to a disruption to the conduct of business in these markets. Third parties or governments could also seek to hold Elkem liable for obligations of related parties based on legal principles that differ from those which would be applied by courts in more developed markets.

Any of these factors could materially and adversely affect Elkem's results of operations and prospects by causing interruptions in its operations, by increasing the costs of operating in these countries or by limiting its ability to repatriate profits from these countries. These factors could have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

# Anti-dumping duties and laws for silicon and ferrosilicon imposed by the EU and the U.S. may expire or be further extended to the disadvantage of Elkem

The EU has had anti-dumping duties on imported Chinese silicon since 1990. The level is currently at 16.3% for certain Chinese production companies and 16.8% for all other Chinese production companies. The Chinese production companies subject to a 16.3% ADD rate are Datong Jinneng Industrial Silicon Co., Pingwang Industry Garden, Datong and Shanxi. These new rates imposed by the European anti-dumping scheme were extended by the European Commission in July 2016 for a period of five years. Similarly, the U.S. has had anti-dumping duties for silicon in place since 1998. The anti-dumping duties in the U.S. are 139.5% for Chinese silicon and in the range of 61.6% to 87.1% for Russian silicon. Canada implemented anti-dumping duties on Chinese silicon on 21 October 2013, the outcome will be concluded by 22 August 2019. The Canadian anti-dumping duties vary from 47.3% to 235.0%. In June 2015, Australia also imposed anti-dumping and countervailing duties of 18.3% to 58.3% on Chinese silicon, which will be valid for five years.

As a result of Elkem's global business model, the anti-dumping measures described above have had and likely will continue to have both positive and negative impacts on Elkem's business. Although such measures have the effect of protecting domestic silicon producers in the relevant markets, including Elkem's production companies in those markets, from lower-cost competition from China and Russia, as the case may be, such measures also impose costs on exports to those markets, if any. In addition, the expiration of any such anti-dumping duties could affect European silicon prices negatively, as the prices within the EU and the United States are especially sensitive to expiration of EU or U.S. anti-dumping duties. Any such reduction of European or U.S. sales prices of silicon could in turn have a material adverse effect on Elkem's business, results of operations, financial condition and prospects. Even if such duties are extended or increased, continuing the protection of Elkem's operations in those markets, it is likely that Elkem's exports to those markets could be disadvantaged.

The EU has imposed anti-dumping duties on ferrosilicon from China, Russia and certain other countries with effect from 2008. The duty was set to 31.2% for the majority of Chinese suppliers and 22.7% for the majority of Russian suppliers. The duties were initially set to expire in February 2013, but in April 2014, the EU implemented definitive anti-dumping measures in respect of ferrosilicon from China and Russia, extending the anti-dumping duties set in 2008 until 10 April 2019. Current anti-dumping duties are 15.6% for Erdos, 29% for Lanzhou Good

Land and 32.1% for other Chinese suppliers. For Russia, the anti-dumping duty is 17.8% for Bratsk and 22.7% for other Russian suppliers. The United States has imposed import duties of 22.8% on imports from certain specified Venezuelan suppliers of ferrosilicon since 2014.

Even though the effect of the anti-dumping duties on ferrosilicon in the EU and the United States is currently limited, as the EU and United States ferrosilicon markets currently do not have significant imports from China and Russia or Venezuela, as the case may be, the price of ferrosilicon in the EU and the United States would most likely be lower in the absence of anti-dumping duties. Any reduction of European or US ferrosilicon sales prices could in turn have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

## The Chinese market has significant excess production capacity for silicon, ferrosilicon and siloxanes

In China, there is, and has been for more than a decade, idle production capacity for silicon and ferrosilicon. Such idle capacity is a result of several factors, including stricter environmental laws and regulations and government intervention designed to take excess production off the market. In addition, some Chinese production facilities are located in regions without a stable supply of electricity, as a result of which that production capacity can only be utilised periodically or at certain times of year (for example during the wet season for regions reliant on hydropower) and remains idle during the other periods.

In addition, following a rapid increase in Chinese siloxanes/methyl chlorosilane production capacity up to 2014, new regulations were implemented in China limiting the ability of new participants to enter the siloxanes market in order to prevent overcapacity and oversupply in the siloxanes market. However, even though planned global capacity increases for siloxanes were delayed, there is a risk that the siloxanes production capacity in China will continue to grow in the coming years. The oversupply could result in lower sales prices for commodity silicones, which could have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

Any significant utilisation of such idle capacity, for example due to a change of government environmental policy or improved access to electricity in affected areas, would substantially increase the supply of silicon and ferrosilicon in the market, which could have a material adverse effect on the market price of such products and, in turn, on Elkem's business, results of operations, financial condition and prospects.

# The Group may be unable to remit funds out of China due to exchange controls implemented in late 2016 with the effect of restricting capital movements out of China

The Group acquiried and integrated two Chinese companies, Xinghuo Silicones and Yongdeng Silicon Materials in March 2018 in connection with the listing, and in addition has and may in the future enter into customer, supply and other agreements with Chinese companies. The Chinese government introduced new exchange controls in late 2016 requiring a complex filing procedure to move capital out of China. Accordingly, foreign companies trying to repatriate profits, pay dividends, repay loans and remit proceeds from assets, products or services sold in China may experience difficulties on their outbound transfers, which may be disruptive to those foreign companies' operations in China. The restrictions are not always clear, especially in relation to requirements and process time, and may vary based on the companies' locations in China. Furthermore, the duration and magnitude of the restrictions are currently uncertain, and have therefore created uncertainty for both Chinese outbound direct investments and foreign business operations based in China. The Group may be affected by the aforementioned restrictions, in particular to the extent it desires to refinance certain indebtedness of Xinghuo Silicones or Yongdeng Silicon Materials, and may therefore experience difficulty and uncertainty in relation to its Chinese operations which may in turn have a material adverse effect on the Group's business, financial condition and results of operations.

## Elkem may make acquisitions in the future that prove unsuccessful or divert the Group's resources

In December 2016, Elkem acquired Fesil Rana Metall AS, a producer of standard and speciality ferrosilicon and microsilica, from Fesil AS and also acquired, through an asset purchase, the iron foundry business of the Indian Company Minex Metallurgical Co. Ltd., a leading<sup>1</sup> provider of speciality alloys. Elkem completed the acquisition of Xinghuo Silicones and Yongdeng Silicon Materials in March 2018 in connection with the IPO.

Elkem may in the future consider making additional strategic acquisitions, particularly in the silicones business, to support future growth and profitability. Successful growth through acquisitions is dependent upon the Group's ability to identify suitable acquisition targets, conduct appropriate due diligence, negotiate transactions on favourable terms, obtain required licenses and authorisations and ultimately complete such acquisitions and integrate acquired entities into the Group.

<sup>1</sup>Company estimate based on market share in relevant markets and production capacity.

There can be no assurance that acquisition opportunities will be available on acceptable terms or at all or that Elkem will be able to obtain necessary financing or regulatory approvals to complete potential acquisitions. If the Group makes acquisitions, it may be unable to generate expected margins or cash flows, or realise the anticipated benefits of such acquisitions, including growth or expected synergies. Elkem's assessment of and assumptions regarding acquisition targets may prove to be incorrect, and actual developments may differ significantly from expectations. The Group may not be able to integrate acquisitions successfully and integration may require greater investment and time than anticipated. Additionally, the acquisitions may result in unintended consequences, for example, if significant liabilities are not identified during due diligence or come to light after the expiration of any applicable warranty or indemnity periods.

The process of integrating acquisitions may also be disruptive to the Group's operations, as a result of, among other things, unforeseen legal, regulatory, contractual and other issues and difficulties in realising operating synergies, which could cause the Group's results of operations to decline. Moreover, any acquisition may divert management's attention from day to day business and may result in the incurrence of additional debt. Should any of the above occur in connection with an acquisition, there could be a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

## Elkem is exposed to exchange rate fluctuations

Elkem incurs a currency transaction risk whenever it enters into a purchase or sale transaction or incurs costs or indebtedness using a different currency from the currency in which it records revenues. Elkem earns a substantial proportion of its revenues, and incurs a substantial proportion of its costs, in EUR, USD and RMB. The remainder of its revenues and costs are in other currencies, mainly NOK and, to a lesser extent, Canadian dollars, Brazilian Real and Icelandic kroner as well as other local currencies of countries in which Elkem operates. Following the acquisition of Xinghuo Silicones and Yongdeng Silicon Materials, the Group's exposure to the RMB will increase further, as the businesses grow and the amount of Elkem's revenues and costs denominated in RMB increase.

Elkem may also incur RMB denominated financial obligations in order to finance its operations and expansion in China. However, there can be no assurance that the hedging policy will be effective or that it will protect Elkem from the long-term effects of adverse currency movements.

Elkem is exposed to translation risk in respect of exchange rate fluctuations. As Elkem reports its consolidated results in NOK, the value of the NOK relative to its foreign operating subsidiaries' functional currencies will affect its combined income statement and combined statement of financial position as the operating results of those subsidiaries are translated into NOK for reporting purposes. To the extent that the NOK strengthens against one or more of the foregoing currencies for a particular reporting period, the translation of that currency or currencies into NOK would have a negative impact on Elkem's income statement and statement of financial position.

# Elkem receives each year substantial amounts under the EU's $CO_2$ quotas compensation scheme which may be phased out

Carbon dioxide is one of the main emissions resulting from Elkem's production operations. Elkem's European operations are therefore subject to the EU's  $CO_2$  Emissions Trading Scheme (the " $CO_2$  Trading Scheme"), which was established as part of the EU's attempts to control greenhouse gas emissions and global warming. Under the scheme, industrial emitters of  $CO_2$  are obliged to surrender allowances to the authorities corresponding to their emissions on an annual basis. Depending on their industry, most companies are awarded a significant portion of their allowances for free to avoid placing them at an undue competitive disadvantage as compared to producers outside of Europe.

Elkem, which came under the ambit of the  $CO_2$  Trading Scheme in 2013, was awarded free allowances for 73%, 75% and 79% of its emissions in 2017, 2016 and 2015, respectively, and purchased allowances in the market to cover the remainder of its emissions in each year. The cost to purchase these allowances was NOK 19.5 million in 2017, NOK 13.9 million in 2016 and NOK 13.8 million in 2015. The amount of free allowances as government grants is expected to decrease gradually until the current phase of the  $CO_2$  Trading Scheme ends in 2020. It is currently unclear whether the Scheme will be extended or replaced. If not replaced, Elkem will no longer receive these allowances in the future, and the resulting cost impact on Elkem could be material.

# Elkem is exposed to significant risks in relation to compliance with anti-corruption laws and regulations and economic sanctions programs

Doing business on a worldwide basis requires Elkem to comply with the laws and regulations of various jurisdictions. In particular, Elkem's international operations are subject to anti-corruption laws and regulations, such as the U.S. Foreign Corrupt Practices Act of 1977 ("FCPA"), the United Kingdom Bribery Act of 2010 (the "Bribery Act") and economic sanctions programs, including those administered by the UN, EU and OFAC and regulations set forth under the Comprehensive Iran Accountability Divestment Act. The FCPA prohibits providing

anything of value to foreign officials for the purposes of obtaining or retaining business or securing any improper business advantage.

Elkem and its employees may deal with both governments and state-owned business enterprises, the employees of which are considered foreign officials for purposes of the FCPA. The provisions of the Bribery Act extend beyond bribery of foreign public officials and are more onerous than the FCPA in a number of other respects, including jurisdiction, non-exemption of facilitation payments and penalties. Economic sanctions programs restrict our business dealings with certain sanctioned countries.

As a result of doing business in foreign countries, Elkem is exposed to a risk of violating anti-corruption laws and sanctions regulations applicable in those countries where Elkem, its partners or its agents operate. Some of the international locations in which the Group operates lack a developed legal system and have high levels of corruption. Elkem's continued expansion and worldwide operations, including in developing countries, its development of joint venture relationships worldwide and the employment of local agents in the countries in which it operates increases the risk of violations of anti-corruption laws, OFAC or similar laws. Violations of anti-corruption laws and sanctions regulations are punishable by civil penalties, including fines, denial of export privileges, injunctions, asset seizures, debarment from government contracts (and termination of existing contracts) and revocations or restrictions of licenses, as well as criminal fines and imprisonment. In addition, any major violations could have a significant impact on Elkem's reputation and consequently on its ability to win future business.

# Elkem relies on the proper functioning of its computer and data processing systems that must be regularly upgraded or replaced, and a larger-scale malfunction could result in material and adverse disruptions to its business

Elkem relies primarily on globally and locally functioning information technology systems across its operations, including for management, supply chain and financial information and various other processes and transactions. This applies particularly to the Group's global enterprise resource planning system, which electronically captures and controls group business and financial transactions, as well as to the operating systems at Elkem's plants. Elkem's ability to effectively manage its business depends on the security, reliability and capacity of these systems. Information technology system failures, network disruptions or breaches of security could materially disrupt its operations, cause material delays or cancellations of customer orders or impede the production or shipment of products, processing of transactions or reporting of financial results. An attack on or other problems with the Group's systems could also result in the disclosure of proprietary information about its business or confidential information concerning its customers or employees, which could result in significant damage to its business and its reputation.

Elkem has put in place security measures designed to protect against the misappropriation or corruption of its systems, intentional or unintentional disclosure of confidential information, or disruption of its operations. However, these security measures may prove ineffective. Current employees have, and former employees may have, access to a significant amount of information regarding the Group's operations, which could be disclosed to its competitors or otherwise used to harm the business. Any breach of the Group's security measures could result in unauthorised access to and misappropriation of its information, corruption of data or disruption of operations or transactions, any of which could materially adversely affect the Group's business, financial condition, results of operations and prospects.

Elkem has and will continue to expend material amounts, and dedicate personnel, to upgrade and maintain its information technology systems to protect against threatened or actual security breaches. In addition, Elkem could be required to expend significant amounts to respond to unanticipated information technology issues. Elkem may not have been able and may not be able to effectively implement measures that will protect against all of the significant risks to its information technology systems, including with respect to newly acquired companies such as Xinghuo Silicones and Yongdeng Silicon Materials. Failure to implement these measures that could protect against all significant risks could materially adversely affect the Group's business, financial condition, results of operations and prospects.

# Production at Elkem's facilities may be subject to planned and unplanned production interruptions, which could have a material adverse effect on its ability to produce products for sale or maintain business operations and therefore, may materially adversely affect its business

Elkem operates multiple and complex technical processes, which may be subject to breakdowns, government shutdowns or suspensions, inefficiencies, operational human errors, sabotage and technical failures that may interrupt production operations or delay a resumption of production following a plant modification or a turnaround. Any material disruption at any of the Group's production facilities, in particular the Group's facilities with large production capacity, could impair its ability to use its facilities, have a material impact on its ability to produce products for sale or maintain business operations. Furthermore, the Group may at times enter into product swap agreements and similar arrangements with other producers to adequately supply customers. The operations of

such producers are also subject to unplanned disruptions that may impact the Group's relationship with its customers.

Production disruptions may be caused by several factors including natural disasters, weather, pandemics and epidemics, supply disruptions-particularly from sole-source suppliers-strikes, transportation interruptions, government regulations or policy, political unrest or terrorism, or internal reasons, such as fires, equipment failure, unplanned maintenance, operational human errors or other production problems. Government involvement in production processes, sometimes on short notice, is a particular risk in China, where the state plays a significant role in industrial policy and state intervention is more common than in other countries where Elkem operates. For example, Chinese authorities have in the past acted to shut down production capacity in a wide range of industries in order to reduce pollution problems, and some of that production capacity remains idle. Disruptions at one or more of Elkem's production facilities or other facilities or infrastructure upon which it relies may also interrupt production further up or down the production chain and lead to a decrease in volumes and sales, potential loss of customers and damage claims by customers. Adequate spare parts and maintenance services may not be available in a timely manner to secure the continuation of the operations. If disruptions occur, alternative facilities with sufficient capacity or capabilities may not be available (or may be located in another region), may be characterised by substantially higher costs or may take significant time to start production. Moreover, long-term production disruptions may cause the Group's customers to seek alternative sources of supply, which could exacerbate any adverse effects experienced by the Group. Material disruptions at any of Elkem's production facilities could materially adversely affect its business, financial condition, results of operations and prospects.

# Losses caused by disruptions to the supply of power could have a negative impact on Elkem's operations and profitability

Large amounts of electricity are used to produce silicon materials and foundry alloys and the Group's operations are heavily dependent upon a reliable supply of electrical power. Losses may occur due to a temporary or prolonged interruption in the supply of electrical power to the Group's facilities, which can be caused by unusually high demand, limited supply blackouts, equipment failure, natural disasters or other catastrophic events or lack of rainfall. For instance, in 2012, Elkem's ferrosilicon plant in Iceland had a production slowdown after bad weather caused a power outage for approximately 12 hours. In addition, Landsvirkjun (The National Power Company of Iceland) curtailed energy and capacity for industrial users in 2014, and notified industrial users in September 2015 that it would do the same for 2015 due to low inflow into its main reservoirs on the east and north side of Iceland. This notification was however withdrawn in October 2015. The Group's insurance coverage may not be sufficient to cover any or all losses that occur as a result of such power outage, and such policies may not cover all causes of power disruption such as those caused by terrorism, which generally is an uninsurable risk. Certain of the Group's business interruption insurance policies do not cover losses that may be incurred if suppliers are unable to provide power during periods of unusually high demand. Any interruption or reduction in the supply of electrical power could therefore have an adverse impact on production levels and result in reduced revenues and operating profit, which in turn may have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

# Major projects are subject to failure or delays in the execution which could have a material negative impact on Elkem's competitive position, and require significant capital expenditures

Elkem may undertake major investment projects from time to time, including strategic investments to increase production capacity or to develop a new product or geographic area. Such projects are subject to the risk of delays, cost increases, availability of adequate funding and other complications. For example, in March 2017, Elkem initiated a significant energy recovery project at its Silicon Materials plant, Elkem Salten. The Elkem Salten plant plans to utilize excess heat from the smelting furnace off-gas to produce approximately 274 GWh electricity, which amounts to approximately 28% of the energy consumption at the plant. If approved, the Salten Energy Recovery Project will initially be operated as a joint venture, and the joint venture agreement contemplates that Elkem will bear a significant portion of the total cost of the project. Although there are currently no delays, cost issues or other material complications in connection with the Salten project, such issues could arise before it comes on line.

Failure or delays in the execution of major projects such as the Salten project could result in material additional costs and lost operating revenues while also weakening Elkem's competitive position. This in turn could have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

## Elkem may not be able to successfully implement its strategy

The successful implementation of Elkem's strategy depends on its ability to drive profitable growth by focussing on higher margin specialty products; realizing operational efficiencies and synergies through enhanced integration and continued cost reduction; leveraging its capacity in China through the integration of Xinghuo Silicones and Yongdeng Silicon Materials to build an integrated silicones value chain ; and strengthening its market position

through organic growth and bolt-on acquisitions. Elkem's ability to implement these initiatives consistently across the Group and within anticipated timeframes or at all could be inhibited as a result of the complexity of Elkem's operations, macroeconomic conditions, market developments, actions by competitors or other factors, many of which are out of Elkem's control.

# Elkem may have difficulty accessing credit in sufficient time, on acceptable terms, or at all, and is vulnerable to interest rate increases

The industries in which Elkem operates are cyclical and highly capital intensive and Elkem is exposed to risks related to the availability and cost of funding for future growth within its business segments. The Group is dependent on timely access to sufficient funding on acceptable terms, which may be difficult to achieve if the Group faces an economic downturn in its main markets. Any difficulty the Group may encounter in securing adequate sources of short and long-term funding could hamper the Group's future merger and acquisition opportunities and/or its ability to invest in its manufacturing capacity or in new markets, thus restraining the Group's growth opportunities. Difficulty in accessing funding may also result in financial distress and creditors imposing restrictions on the business.

Any future difficulty accessing funding at an acceptable cost, or a significant increase in its existing debt service obligations, may have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

# Elkem relies upon intellectual property, trade secret laws and contractual restrictions to protect important proprietary rights and, if these rights are not sufficiently protected, its ability to compete and generate revenue could suffer

Elkem's ability to compete effectively in certain markets depends in part on its ability to obtain, maintain, and protect its trade secrets, proprietary information and other intellectual property rights. Elkem relies particularly on proprietary technologies and technical capabilities in order to compete effectively and produce high quality silicon, silicones, foundry alloys and carbon products. Elkem is subject to the risk that proprietary technologies may be challenged and Elkem may not be able to protect its rights to these technologies.

Further, the global silicones market is largely patent driven and a significant portion of the Silicones division's sales are based on patented products. Elkem, and in particular the Silicones division, is dependent on its patent portfolio in order to sustain a competitive advantage for its products and processes. The other divisions of Elkem generally rely on a combination of patent, trademark, copyright, domain name registration and trade secret laws, as well as contractual restrictions and physical measures to protect Elkem's trade secrets, proprietary information and other intellectual property rights. Elkem currently holds important patents, pending patent applications, and other intellectual property rights, in Norway, France and in other jurisdictions, that it believes may give it a competitive advantage in certain markets.

Where Elkem believes that patent protection is not appropriate or obtainable, it relies on trade secret laws and practices to protect its proprietary technology and processes, including controlling access to plants and offices, physical security, limited dissemination and access with respect to sensitive documents, and confidentiality agreements with its employees, consultants, business partners, potential licensees and others to protect its trade secrets and other proprietary information. There can, however, be no assurances that such protective measures will effectively prevent disclosure or unauthorised use of proprietary information or provide an adequate remedy in the event of misappropriation, infringement or other violations of Elkem's proprietary information and other intellectual property rights. Furthermore, Elkem's trade secrets and proprietary technology and related processes may otherwise become known or be independently developed by its competitors or it may otherwise not be able to maintain the confidentiality of information relating to its products. In particular, technology leakage to competitors which are able to produce similar products as Elkem at a substantially lower cost, may have a material adverse effect on Elkem's business, revenues, results of operations, financial condition and prospects.

## Third parties may claim that Elkem's products or processes infringe their intellectual property rights

It is Elkem's intention to avoid infringing, misappropriating, or otherwise violating the intellectual property rights of others. However, Elkem cannot be certain that the conduct of its business or its products or processes do not infringe or otherwise violate such rights. Third parties may also make such claims even when inaccurate or unsupported. From time to time, Elkem may become subject to legal proceedings, including allegations and claims of alleged infringement or misappropriation of the patents and other intellectual property rights of third parties (including by means of counterclaims against it).

Legal proceedings involving intellectual property rights, regardless of merit, are highly uncertain and can involve complex legal and scientific questions, can be time consuming, expensive to litigate or settle, and can significantly divert resources. Elkem's failure to prevail in such matters could result in judgments awarding substantial damages and injunctive or other equitable relief against it. If Elkem were to be held liable or discover or be

notified that its products potentially infringe or otherwise violate the intellectual property rights of others, it may not be able to exploit some or all of such intellectual property rights or technology, and may need to obtain licenses from third parties or substantially re-engineer its products in order to avoid infringement. It may not be possible to obtain the necessary licenses on acceptable terms, or at all, or be able to re-engineer Elkem's products successfully or such efforts may cause it delay or require it to stop selling and marketing certain products or services.

Any of the foregoing could cause Elkem to incur significant costs or prevent it from selling its products or services, which in turn could have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

## Elkem could be materially adversely affected by legal proceedings or investigations

Elkem could be included in criminal or civil proceedings related to, among others, product liability, environment, health and safety, anti-competitive, anti-corruption, trade sanctions or other similar laws or regulations or other forms of commercial disputes which could have a material adverse effect on Elkem. Violation of applicable laws and regulations could result in substantial fines or penalties, costs of corrective work and, in rare instances, the suspension or shutdown of Elkem's operations. Silicones are used in industries which are exposed to litigation, including the automotive industry (as they are used in the manufacture of airbags) and health care. Proceedings, liabilities or actions could have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

# Changes in rules related to accounting for income taxes, changes in tax laws in any of the jurisdictions in which Elkem operates or adverse outcomes from audits by taxation authorities could result in an unfavourable change in its effective tax rate

Elkem operates its business in numerous tax jurisdictions. As a result, its effective tax rate is derived from a combination of the applicable tax rates in the various locations in which it operates. Elkem's effective tax rate may be lower or higher than its effective tax rates has been in the past due to numerous factors, including the sources of its income and the tax filing positions it takes. Elkem estimates its effective tax rate at any given point in time based on a calculated mix of the tax rates applicable to the Group and on estimates of the amount of business likely to be done in any given jurisdiction. Changes in rules related to accounting for income taxes or changes in tax laws in any of the jurisdictions in which Elkem operates, such as the recently passed U.S. Tax Cuts and Jobs Act in the United States, could result in an unfavourable change in its effective tax rate.

Elkem is currently involved in tax-related proceedings, which could result in increased tax liabilities for its business. See Note 24 to the Combined Financial Statements and the Consolidated Financial Statements for the year ended 31 December 2017 for further information. Additionally, from time to time Elkem's positions in respect of taxes may be subject to review or investigation by tax authorities of the jurisdictions in which Elkem operates. If any tax authority were to successfully challenge Elkem's operational structure, intercompany pricing policies, the taxable presence of its subsidiaries in certain countries or Elkem's interpretation of applicable tax laws, or if Elkem were to lose a material tax dispute in any country, or any tax challenge of the Elkem's tax payments were to be successful, its effective tax rate on its earnings could increase substantially.

## The terms of the Company's financing arrangements may limit its commercial and financial flexibility

Elkem will be subject to affirmative and negative covenants contained in its Loan Facilities Agreement. In particular, the Loan Facilities Agreement requires Elkem to maintain an interest coverage ratio of not less than 4.0:1.0 and a ratio of total equity to total assets of more than 30% at all times. Elkem's ability to meet these ratios could be affected by events beyond its control, and there can be no assurances that Elkem will be able to meet such ratios. A breach of the financial covenants, or certain other provisions or restrictions, may cause an event of default under the Loan Facilities Agreement. Upon the occurrence of an event of default under the Loan Facilities Agreement, subject to applicable cure periods and other limitations on acceleration or enforcement, the relevant creditors could cancel any commitments thereunder and elect to declare all amounts owed to them, including accrued interest, immediately due and payable.

Additionally, the Loan Facilities Agreement contains a mandatory prepayment clause upon a change of control. A change of control is defined as China National Bluestar Co. Ltd. ceasing, directly or indirectly, to have the power (whether by way of ownership of shares, proxy, contract, agency or otherwise) to cast, or control the casting of, more than 50% of the maximum number of votes that might be cast at a general meeting of the Company, or hold beneficially more than 50% of the issued share capital and/or the economic interest of the Company, or the shares in the Company cease to be listed on the Oslo Stock Exchange or on the principle stock exchange in any of Copenhagen, Frankfurt, London, Paris or Stockholm.

If the Group's creditors were to accelerate payments of outstanding amounts due under the Syndicated Loan Facilities Agreement, the Group can provide no assurances that its assets would be sufficient to repay in full those amounts due and payable.

In addition to the refinancing in connection with the Listing, for which Elkem plans to use facilities under the Loan Facilities Agreement, Elkem may seek to enter into future financing arrangements to refinance existing debt or finance new initiatives. There is no assurance that Elkem will be able to secure such financing on terms that are as favourable as those under the Loan Facilities Agreement, or that it will be able to secure such financing at all.

# Elkem's joint arrangements partners may have interests that differ from Elkem's and may take actions that adversely affect Elkem

Elkem currently participates in joint arrangements in South Africa, Norway and Iceland, and may enter into other joint arrangements or co-investment projects with third parties in the future. Such current and prospective joint ventures and co-investments involve potential risks, including:

- Joint ventures may require an investment of considerable management, financial and operational resources
- to establish sufficient infrastructure such as risk management, compliance or other processes;
- Joint ventures may be structurally complicated by the necessity of the parties anticipating and addressing issues of governance, control, dispute resolution and ownership of intellectual property and other assets, among many other matters;
- Elkem may not have the level of strategic control over the joint venture that it requires in order to fulfil its long-term goals, or may find it is restricted by the other partner in the products it can produce or the customers to whom it can sell products or services such as manufacturing capacity;
- Elkem may find it lacks sufficient control over the operations of the joint venture, resulting in problems with quality control, inefficiency or other operational problems;
- Joint ventures may have complex governance issues arising from shared control and split ownership models;
- Joint ventures may experience delays or other timing problems prior to launch, exacerbated by disagreements between the parties;
- A joint venture partner may sell its stake in the joint venture to a buyer who is unattractive to Elkem;
- Joint ventures may expire, potentially leading to disagreements between the parties over the ownership or future of the joint venture's business or assets;
- Joint ventures may have flaws in their design that cause them to experience losses and lead to their termination;
- The objectives of the joint venture may not be achieved in a timely manner or at all;
- Partners at any time may have or develop economic or business interests or goals that are inconsistent with Elkem's;
- Partners may (i) take actions contrary to Elkem's instructions or requests, or contrary to Elkem's policies
  or objectives with respect to the investment or (ii) exercise veto rights so as to block actions that Elkem
  believes to be in Elkem's or the joint venture's or strategic alliance's best interests;
- Partners may become unwilling or unable to fulfil the objectives of the joint venture due to general market conditions, financial difficulties or other circumstances beyond Elkem's control; and
- In the event that a joint venture fails for any of the above reasons or otherwise, Elkem may have to buy
  out its partner or otherwise purchase the partner's interest in the underlying asset, potentially at an
  unacceptably high price, which in turn could impose a material cost burden on Elkem, or alternatively
  Elkem may have to sell its interest in the asset to the partner or another third party at an unacceptably
  low price.

Actions by Elkem's joint venture partners may also subject property owned by the parties to liabilities greater than

those contemplated by any governing joint venture or shareholders agreement, or to other adverse consequences. In addition to the above, join ventures and co-investments are exposed to additional risks such as unfavourable global economic conditions, currency fluctuations, political risks, or other factors.

If any of these risks were to materialise, it could have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

# Insurance costs may increase and Elkem may experience additional exclusions and limitations on coverage in the future

Elkem currently maintains insurance coverage of a nature and in an amount that it believes to be customary in the industry, including property damage and business interruption, marine cargo/transportation, environmental liability, third-party public and product liability, workers' compensation, loss resulting from criminal acts by employees, employment practices liability, contaminated products insurance-recall, commercial general liability, umbrella liability and excess liability insurance, all of which are subject to certain limitations, deductibles and caps.

Elkem's insurance may be inadequate or unavailable to protect it in the event of a claim or other loss, or its insurance coverage may be cancelled or otherwise terminated. Elkem faces the following additional risks in respect of its insurance coverage:

It may not be able to continue to obtain insurance or renew existing insurance on commercially reasonable terms or at all.

- It may be faced with types of liabilities or losses that will not be covered by its insurance, such as liabilities for breach of contract.
- The amount of any liabilities may exceed its policy limits.
- It may incur losses from interruption of its business or other events that exceed its insurance coverage.

Even a partially uninsured claim, if successful and of significant size, could have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

# As a large portion of Elkem's employees are parties to collective bargaining agreements and members of trade unions, Elkem faces a risk of work stoppages and strikes

A large portion of Elkem's employees are party to collective bargaining agreements and members of trade unions. Elkem's relationship with its works councils and trade unions are therefore important to the operation of its business. The presence of works councils and trade unions may limit Elkem's flexibility in dealing with its workforce and ultimately lead to increased operating costs. The Group has experienced strikes by its unionised employees in the past, in particular in France, and may experience similar strikes in the future. A lengthy strike or other work stoppage by Elkem's employees, or by employees of a third-party which provides critical services to Elkem, could also have a material adverse effect on Elkem's ability to conduct its operations, which in turn could have a material adverse effect on Elkem's distinct of operations, financial condition and prospects.

## Increases in labour costs could materially impact Elkem's business and results of operations

Elkem is subject to the risk of increases in labour costs. With a significant share of its labour based in Europe, Elkem operates in a high and rising cost environment for labour. In addition, labour costs have been rising rapidly in China for several years now, especially in manufacturing. Elkem's acquisitions of Xinghuo Silicones and Yongdeng Silicon Materials could also result in increased labour costs by virtue of generally higher salaries in the private sector. Any sustained increases in labour costs in Europe, China or in other geographies in which Elkem has labour intensive operations may have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

# The United Kingdom's withdrawal from the European Union may have a negative effect on global economic conditions, financial markets and Elkem's business

On 23 June 2016, a majority of voters in the United Kingdom elected to withdraw from the European Union in a national referendum. The terms of withdrawal are subject to a negotiation period that is expected to last at least two years from when the government of the United Kingdom formally initiated the withdrawal process, which occurred in March 2017. The referendum has led to disruption in debt, equity and foreign exchange markets and has created significant uncertainty about the future relationship between the United Kingdom and European Union, and between the United Kingdom and the rest of the world, including with respect to the laws and regulations that will apply as the United Kingdom determines which European Union laws to replace or replicate. Among other things, the United Kingdom may enter into trade agreements with other countries or entities that

offer more favourable terms than to the European Union. These developments or the perception that any of them could occur have had and may continue to have a material adverse effect on European and global economic conditions and the stability of global financial markets, and may significantly reduce global market liquidity and restrict and the ability of key market participants to operate in certain financial markets.

Elkem is a multinational company which generates sales revenues from customers around the world, and its global operations include 27 production facilities, 12 of which are located in Europe. Elkem also operates two quartz mines in Norway and four quartz mines in Spain. To the extent that the United Kingdom's withdrawal from the European Union adversely affects the global, and in particular the European economy, or has a negative impact on global trade and the relationships which underpin it, this could have a material adverse impact on Elkem's business, financial condition and results of operations. Further, any adverse impact on global liquidity or financial markets created by such withdrawal could make it more difficult for Elkem to secure access to liquidity or financing on acceptable terms or at all.

## Elkem is dependent upon retaining and attracting current and prospective highly skilled personnel

Elkem's ability to operate its business and implement its strategies depends, in part, on the skills, experience and efforts of its personnel involved in management, research, operations, production, sales and distribution. As a result, Elkem believes that its success depends to a significant extent upon its ability to retain such personnel, and attract prospective key employees, competition for whom may be intense, particularly where certain of Elkem's plants are located in remote geographical locations. For example, many of Elkem's products are sold and supported through dedicated staff and specifically trained personnel. If Elkem were to lose the service of one or more of its executive officers or other highly skilled personnel, it may not be able to execute its business strategy effectively. There can be no assurance, however, that Elkem will be able to retain such personnel on acceptable terms or at all. Elkem does not maintain any key-man insurance on any of its employees. The loss of such personnel could affect Elkem's ability to sell and support its products effectively, which could have a material adverse effect on Elkem's business, results of operations, financial condition and prospects.

# 2 Definitions

Annual Report 2018	Elkem ASA annual report for 2018		
Annual Report 2017	Elkem AS annual report for 2017		
Articles of Association	The articles of association of the Company, as amended and currently in effect		
Board of Directors	The board of directors of the Company		
CEO	Chief Executive Officer		
CFO	Chief Financial Officer		
Company/Issuer/Elkem	Elkem ASA, a Norwegian public limited liability company existing under the laws of Norway, with company registration number 911 382 008.		
CO <sub>2</sub>	Carbon dioxide		
CRU	The CRU Group		
D4	Octamethylcyclotetrasiloxane		
D5	Decamethycyclopentasiloxane		
EBS	Elkem's streamlined business model		
EHS	Environmental, health and safety		
EPA	U.S. Environmental Protection Agency		
ESi	Elkem silicones		
EU	European Union		
EUR	Euros		
FCPA	U.S. Foreign Corrupt Practices Act of 1977		
FeSi	Ferrosilicon		
GDP	Gross domestic product		
Group	The Company and its subsidiaries from time to time		
GWh	Gigawatt hours		
HCR	Heat cured rubber		
IFRS	International Financial Reporting Standards		
IPO	Initial public offering March 2018		
Joint Lead Managers	DNB Bank ASA, DNB Markets and Nordea Bank Abp, Norwegian branch		
NOK	Norwegian kroner		
NO <sub>x</sub>	Nitrogenoxides		
OFAC	Office of Foreign Assets Control		
РАН	Polycyclic aromatic hydrocarbons		
PV	Photovoltaic		

## Elkem ASA, prospectus of 14 March 2019

Registration Document	
Prospectus	The Registration Document and a Securities Note.
REACH	Registration, Evaluation, Authorisation, and Restriction of Chemicals Regulation
Registration Document	This document dated 14 March 2019
RMB	Ren Min Bi the official currency of the People's Republic of China.
RTV	Room temperature vulcanizing
Securities Note	Document to be prepared for each new issue of bonds under the Prospectus
Si	Silicon
Si99	Silicon 99
SiO <sub>2</sub>	Silicon dioxide, silica
SO <sub>2</sub>	Sulfur dioxide
SVP	Senior Vice President
TSCA	U.S Toxic Substances Control Act
U.S./US	United States of America
USD	U.S. dollars

## **3 Persons responsible**

## 3.1 Persons responsible for the information

Persons responsible for the information given in the Registration Document are as follows:

Elkem ASA, Drammensveien 169, 0277 Oslo, Norway

## 3.2 Declaration by persons responsible

Elkem ASA accepts responsibility for the information contained in the Registration Document. The Issuer confirms that, after having taken all reasonable care to ensure that such is the case, the information contained in the Registration Document is, to the best of its knowledge, in accordance with the facts and contains no omissions likely to affect its import.

Oslo, 14 March 2019

Elkem ASA

# **4 Statutory Auditors**

## 4.1 Names and addresses

The Company's auditor for 2016 and 2017 has been KPMG AS, P.O. Box 7000 Majorstua, 0306 Oslo, Norway.

KPMG AS is member of The Norwegian Institute of Public Accountants.

## 5 Information about the Issuer

## 5.1 History and development of the Issuer

## 5.1.1 Legal and commercial name

The legal name of the Issuer is Elkem ASA, the commercial name is Elkem.

## 5.1.2 Place of registration and registration number

The Company is registered in the Norwegian Companies Registry with registration number 911 382 008.

## 5.1.3 Date of incorporation

Elkem ASA was incorporated on 2 January 1904.

## 5.1.4 Domicile and legal form

The Company is a public limited liability company incorporated in Norway and organized under the laws of Norway, including the Public Limited Companies Act. See also section 7.1 Description of Group that Issuer is part of.

The Company's registered address is Drammensveien 169, 0277 Oslo, Norway. Postal address: P. O. Box 334 Skøyen, 0213 Oslo, Norway. The Company's telephone number is +47 22 45 01 00.

## 5.1.5 Recent events material to the evaluation of the Issuer's solvency

No recent events particular to the issuer and which are to a material extent relevant to the evaluation of the issuer's solvency.

## 6 Industry overview

## 6.1 Overview

Elkem is primarily engaged in the production and sale of (i) silicon materials such as silicon and microsilica used for a large number of applications, including the production of aluminium alloys, silicones and polysilicon, (ii) specialty silicones, which comprise several, high-performance products utilised in numerous industrial and consumer endmarkets, (iii) foundry alloys for iron foundries and ferrosilicon for the steel industry, and (iv) carbon products such as electrode paste used in electric arc furnaces. Given the global pedigree of its sub-markets, Elkem operates an asset base comprising several production facilities located worldwide.

## 6.2 Silicones

Silicones are polymers and can be manufactured into many forms including solids, liquids, semi-viscous pastes, greases, oils and rubber. They are flexible and can resist moisture, chemicals, heat, cold and ultraviolet radiation and can be encountered every day without noticing them e.g. silicone rubber in cars to protect electronics, silicones in the gel on a wound dressing, and sealing and insulating materials in electrical equipment. Silicones represent an entire class of materials and have a near-infinite range of forms and applications (e.g. aging resistant, hot, cool, softness, flexible, anti-foaming and water-repellent).

In terms of applications, silicone products are used in a diverse range of industries including electrical and electronics (e.g. electronic products, electrical power generation), construction (e.g. sealants, adhesives, and coatings), transportation (e.g. motor vehicles, aerospace equipment), health and personal care (e.g., personal care products, medical products), chemicals (e.g. plastic processing, oil and gas production) and others (e.g. machinery, textiles and paper). Electrical and electronic products accounted for approximately 19% of silicone demand in 2016 and construction, transportation and health and personal care 22 accounted for approximately 20%, 17% and 12%, respectively, of silicone demand.

Due to its wide range of application areas, silicones are used in a large number of products and industries, including manufactured goods, construction materials, and consumer items. As a result, trends in silicone demand generally tend to be driven by macro trends such as GDP growth, urbanization and increased mobility.

Silicone elastomers represent over 50% of the global silicones consumption and are mainly driven by the construction and transportation markets. Silicone fluid and gels represents approximately 36% of the total global silicones consumption and are used in the health and personal care market (e.g. cosmetics, toiletry, and wound care). Silicone resins are primarily dependent on the construction industry.

## 6.3 Silicon Materials

Silicon materials comprise a wide range of versatile products including high purity silicon and microsilica. The common denominator for the product category is the element silicon (Si), which serves as the backbone for the various individual products. Silicon production builds on quartz and quartzite, which consist of Si and oxygen ( $O_2$ ), "Si $O_2$ ". Quartz is one of the most abundant minerals on the earth, and has the chemical purity needed for metallurgical applications. The silicon production process consist of heating quartz and coal in a high temperature electric arc furnace together with woodchips and coal-based reductants (typically low-ash metallurgical coal and charcoal) leading to a carbothermal reduction of quartz.

Silicon has a number of favourable chemical and physical properties, including semi-conductivity, making it highly versatile for numerous industrial and electronic applications. As such, it has a wide array of applications predominantly as an alloy with aluminium and in the production of silicones and polysilicon, as set forth below.

- Aluminium alloys: Silicon is used as an alloying agent in the aluminium industry due to its ability to increase the castability, corrosion resistance, hardness, tensile strength, wear-resistance and weldability of aluminium. The automotive industry commonly uses aluminium alloys to produce engine blocks, transmission housings and aluminium alloy wheels.
- **Silicones:** Silicones are silicon-based polymers found in both speciality applications and numerous everyday industrial and consumer products such as lubricants, greases, resins and skin and hair care products. In recent years, silicones have become increasingly more relevant in various sectors such as healthcare due to their strong chemical and physical properties relative to other materials.
- **Polysilicon**: Polysilicon is a high purity, polycrystalline form of silicon, used in the electronics industry, in semi-conductors and photovoltaic (PV) cells for the solar industry, and in optical fibre.

In 2016, the aluminium industry accounted for approximately 45% of the global silicon demand in terms of volumes, while chemicals (predominantly silicones) and polysilicon accounted for approximately 33% and 22%, respectively<sup>2</sup>. In terms of geographical volume demand, China represented the largest market accounting for approximately 35% of demand in 2016, followed by Europe and the Americas at 23% and 15%, respectively.

Microsilica is an ultrafine powder of silicon dioxide (silica,  $SiO_2$ ), collected as a by-product of silicon and ferrosilicon production by threating off-gases, and has a different set of properties compared to high purity silicon. It is widely used as an additive in order to improve the properties of materials used in areas such as construction and infrastructure, oil production and refractories. Specifically, microsilica is a key ingredient in improving e.g. the compressive strength, bond strength and abrasion resistance in construction materials.

## 6.4 Foundry Products

The market for foundry products can be divided into two segments: (i) Ferrosilicon ("FeSi") used in the steel industry, notably in electrical and engineering steels and stainless steel and (ii) the Foundry Alloys segment (nodularizers and inoculants) used in the iron foundry industry.

FeSi is an alloy of iron and silicon, with silicon content ranging from 45% to 90%. It is produced in an electric arc furnace similar to silicon, where quartz or quartzite is reduced by carbon, normally in the form of coal and other reductants. In contrast to the production of silicon, scrap iron, millscale or other sources of iron are added into the furnace. FeSi is mainly used in the steel industry where it is generally used to remove oxygen from the steel and as an alloying element to enhance certain qualities of steel. FeSi increases steel's strength, wear resistance, elasticity and scale resistance, and lowers the electrical conductivity and magnetostriction of steel. Specialty FeSi, such as low aluminium, low carbon, and high purity FeSi, are generally used in the production of specialty steels, which are used in a number of high end applications including transformers/motors, ball bearings and shock absorbers, tyre cord steel and stainless steel.

Foundry alloys (nodularisers and inoculants) are specialty alloys based on FeSi with a specific addition of other active elements. These elements are most often added in the ladle after the smelting process to achieve the desired properties. Foundry alloys are mainly used in the production of iron castings to improve their properties such as tensile strength, ductility and impact properties, and to refine the homogeneity of the iron foundry structure.

## 6.5 Carbon

Carbon products, such as electrodes, are used in electric arc furnaces in the production of silicon metal/ferrosilicon and various ferroalloys. Carbon products are also used by the aluminium and iron foundries industries.

Carbon based products include Søderberg electrode paste, pre-baked carbon electrodes, carbon and graphite materials (recarburisers), cathode ramming paste, coal tar products (spheroidal pitch, anthracene oils) and furnace lining paste.

- Søderberg electrode paste is the most common electrode system used in submerged arc furnaces to ensure that the raw material reaches the required process temperatures. It is used by producers of silicon, ferrosilicon, ferrochromium, ferronickel, ferromanganese, silicomanganese, calcium carbide and copper and platinum matte.
- Recarburisers are carbon additives that are added to the furnace during smelting to allow for increased use of scrap in the raw materials mix or to achieve certain required properties in final casting parts.
- Cathode ramming paste and high-density cathode blocks are used in the aluminium industry and contribute to extended pot life and stable operation. Their main function is to ensure the tightness of the cathodic container to prevent any infiltration of bath and metal.
- Coal tar pitch is mainly used as a binder in the production of anodes for the primary aluminium industry, but also in other products such as søderberg electrode paste. Spheroidal pitch is used in the manufacturing of refractory materials. Anthracene oils are mainly used in the production of carbon black, traditionally used as a reinforcing agent in tires.
- Furnace lining paste is used in the lining of the submerged arc furnace, which is essential for the long life of furnace lining.

<sup>&</sup>lt;sup>2</sup> Silicon Metal Market Outlook (CRU, October 2017)

## 7 Business of the Group

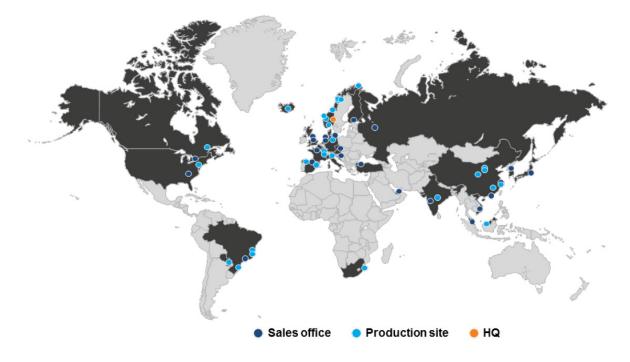
## 7.1 Introducion

Elkem is a global producer of production of silicon-based advanced materials with a global portfolio and history of more than 110 years of technology driven growth. Elkem is a fully integrated producer with operations throughout the silicon value chain from quartz to silicon and downstream silicone specialties as well as specialty ferrosilicon alloys and carbon materials.

Elkem operates its business in four divisions: Silicones, Silicon Materials, Foundry Products and Carbon. In addition to its operating divisions, Elkem has a technology division conducting research and development projects for all parts of the Group's value chain. Elkem's research strategy builds on close cooperation between the operational divisions and the research teams. Elkem's business is operated under the EBS, which is a concept of lean manufacturing and targets efficient operational processes throughout the manufacturing process.

Elkem has a strong global footprint with thirteen production facilities in Europe, seven production facilities in Asia, six production facilities in the Americas (one of which is under construction in Paraguay) and one production facility in Africa. Elkem also operates two quartz mines in Norway and four quartz mines in Spain. Elkem's global footprint ensures competitive strengths such as economies of scale, production cost optimisation and production flexibility across the world. In addition, Elkem has an extensive network of more than twenty sales offices and agents covering Elkem's most important markets. Having production facilities on each of the main industrial continents enables Elkem to respond quickly and effectively to customer needs on a global basis.

The map below sets out Elkem's presence worldwide:



Since 2011, Elkem has been under common control with Bluestar and Bluestar Silicones International S.à r.l. ("BSI"), one of the foremost fully integrated global silicone manufacturers in the world. Following a three year gradual integration process, Bluestar formally decided in June 2015 to combine Elkem and BSI into one group. As early as in 2013, a silicon smelting furnace at Elkem's plant in Salten was dedicated to production for intra-group sales to BSI which, combined with several strategic integration initiatives, have resulted in significant cost savings creating a financially robust entity positioned to grow across Elkem's divisions. In June 2017, the former Bluestar silicones division of Elkem changed its name to Elkem Silicones, or "ESi". The main purpose of the integration was to take advantage of operational and market synergies and to create a financially robust company with the ability to grow profitably across all of Elkem's business segments, while maintaining the expertise and market driven organisations that have been the basis for its historic success.

Since 2015, Elkem's operations have developed significantly and today Elkem is more specialised and has transitioned into a predominantly chemical company with the majority of its total operating income from silicones. As of 31 December 2017, Elkem's Silicones and Silicon Materials divisions accounted for 77% of Elkem's

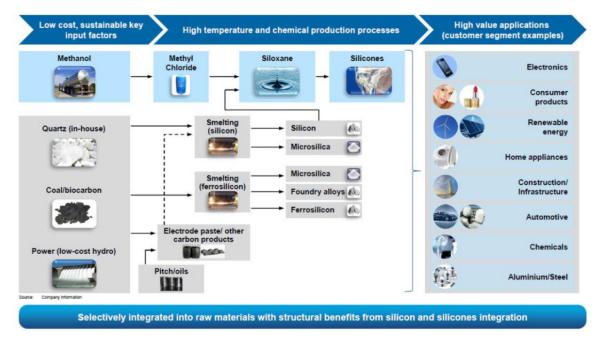
combined total operating income, including intragroup sales. In addition to the combination of Elkem and ESI, this development was further supported by the integration of Xinghuo Silicones and Yongdeng Silicon Materials, two plants previously directly owned by Elkem's ultimate parent, China National Bluestar. Elkem has worked closely with these plants since 2011 and the integration of Xinghuo Silicones and Yongdeng Silicon Materials was a result of a long term process which aimed to enhance Elkem's integrated position in the silicon value chain, from upstream quartz mining to silicon, silicones and downstream silicones specialities, and to strengthen Elkem's position in the attractive and fast-growing Chinese market. Elkem has a clear ambition of fortressing and building its position within silicones through the integration of Xinghuo Silicones, the largest silicones plant in China in terms of capacity, targeting to become one of the largest producers worldwide. Furthermore, Elkem will maintain the highly regarded expertise and marketing competencies that have been the key pillars for its historic success. Elkem successfully completed listing at Oslo Stock Exchange on 22 March 2018. The acquisition of Xinghuo Silicones and Yongdeng Silicon Atterials was completed in connection with the listing. Both entities are fully consolidated in the quarterly result as of Q1 2018 and comparable figures.

In recent years, Elkem has also undertaken other strategic measures to solidify its global position. In December 2016, Elkem announced the acquisition of the iron foundry division of Minex Metallurgical Co. Ltd ("Minex"), a leading<sup>3</sup> provider of speciality alloys. With this acquisition Elkem has strengthened its leading position<sup>4</sup> within the cast iron industry and production of high quality ferrosilicon to the steel industry. Further, in December 2016 Elkem acquired Fesil Rana Metall AS ("Fesil Rana"), which operates a low cost production plant of speciality and standard grades of ferrosilicon in Norway. The acquisition of Fesil Rana has contributed to the process of optimization of the Group's production structure, and further enhanced Elkem's strategy to actively focus on development, production and sale of speciality products. Through the acquisition of Fesil Rana, Elkem also obtained full ownership of Nor-Kvarts A/S. Finally, in September 2017 Elkem bought out its co-investors, Grupo Andreani and Grupo Araujo, in the Paraguayan ferrosilicon plant, which was initially established as a joint venture, to obtain a strategic foothold in South America.

In addition to these acquisitions, Elkem has also completed several construction projects including phase one of a new carbon plant in Sarawak, Malaysia, which increases the Carbon division's production capacity in a strategically important market. In March 2018, Elkem started production at its new plant in Paraguay, which increased the Group's production of ferrosilicon. The plant in Paraguay is an important local source of foundry alloys in the South American market and plays an important role in Elkem's development in this market. Elkem's intention is that the plant in the first year will supply standard ferrosilicon, but from 2019 it is also intended that it will supply magnesium ferrosilicon and inoculants. The plant will have one reduction furnace in the first phase, but can later be expanded by installing one or two additional furnaces. The plant relies on renewable hydropower, local guartz and iron, and 100% biocarbon (charcoal and woodchips).

## 7.2 Overview of the Group's operations

The figure below illustrates the Group's production processes across its four operating divisions:



<sup>3</sup>Company estimate based on market share in relevant markets and production capacity.

<sup>4</sup> Company estimate based on the total market size, knowledge of own production, and estimates of the production of other players in the market place.

Elkem's four operating divisions are also the Group's operating segments. The divisions are all separately managed business areas with both commodity products and products tailor-made to the customer's needs.

Each individual division sells a range of similar products which stem from similar production processes, similar raw materials and covers similar customer needs. As a result of these production processes, a variety of products are produced at a divisional level, which are of greater or lesser purity, or with varying degrees of additives included in the mix. However, the production process of these different products within each division are based on similar, procedures and production techniques, and the production includes a high level of interdependency. It is not possible to isolate production of many of the products, as the production process of certain products within an operating segment yield by-products.

## 7.2.1 Silicons

## Introduction

The Silicones division produces and sells a range of silicone based products across various sub-sectors including release coatings, engineered elastomers, healthcare products, specialty fluids, emulsions and resins, all of which Elkem defines as a group of similar products.

The Silicones division is Elkem's largest division and a global producer of siloxanes, mostly for captive use, and silicones. Silicon, which is a key ingredient in the production of siloxanes, is partially (more than 80% in 2017) supplied from the Silicon Materials division to the Silicones division's two upstream manufacturing sites, the Xinghuo Silicones facility in China and the Roussillon facility in France.

Xinghuo Silicones produces organic silicone with both upstream and downstream capacity and will be the Silicones division's major facility for the manufacturing or organic silicone monomer and organic silicone-related downstream products for its core markets. Elkem's second largest facility is located in Roussillon and more than 90% of its production is taken to the plant in Saint-Fons France for further processing into silicones either as a fluid or an elastomer, a family of specialty, high performance materials, while the remaining siloxanes are delivered directly to other ESi plants. The plant in Saint-Fons sells silicones directly to customers and transfers products to the Silicones division's other plants for further processing before they are sold to customers.

The Silicones division has a total annual upstream production capacity of more than 300,000 tonnes of siloxane in addition to its downstream silicones processing capacities. The Silicones division comprises in total nine plants for production of both commodity and speciality silicones globally<sup>5</sup>.

The Silicones division's external operating income by geography for the year ended 31 December 2017 is as follows: Europe (30%), Asia (57%), America (13%), Africa (0%) and the rest of the world (0%).

The Silicones division's input factors as percentage of production costs (energy and raw materials) are as follows<sup>6</sup>: other, mainly secondary raw materials, packaging and sub-contracting when the cost is proportional to production) (approximately 40 to 45%), silicon (approximately 25%), platinum (10 to 15%), methanol (approximately 10%) and utilities such as gas, electricity and water (approximately 10%).

<sup>&</sup>lt;sup>5</sup> The finished silicones products can have a wide range of silicones content in them. The silicones production capacity will accordingly depend on the product mix, which can vary extensively from year to year.

<sup>&</sup>lt;sup>6</sup> The finished silicones products can have a wide range of silicones content in them. The silicones production capacity will accordingly depend on the product mix, which can vary extensively from year to year.

The figure below illustrates the Silicones division's value chain:

Low cost, sustainable key input factors	High temperature and chemi	cal production proc	cesses		ue applications segment examples)
Methanol	Smelting (silicon)	Microsilica			Aluminium/Steel
		Silicon			Chemicals
Quartz (in-house)	Methyl Chloride		Silicones		Renewable Energy
	Smelting (ferrosilicon)	Microsilica	Image: A start of the start	Co	nstruction/ Infrastructure
Coal/biocarbon		Foundry alloys		ي ال	Automotive
Power (low-cost hydro)	Electrode paste/ other	Ferrosilicon		9	Home Appliances
The second se	carbon products			<b>(</b>	Electronics
	tch/oils			1. ا	Consumer Products
e: Company information					
Backwards integra	ated silicones producer with f	ocus on specia	alization and high v	alue end-mari	kets

## Products

Silicones are defined either as specialty products or commodities based on their contribution margin and their differentiation factors, and hence there are both specialties and commodities for different markets. All Silicones are derived from the same production process, where Siloxane is the common basis for the silicones following which they are processed in several ways and formulated with various input factors to constitute a highly diversified portfolio of downstream products.

Due to their molecular structure, silicones can be manufactured in many forms including solids, liquids, semiviscous pastes, greases, oils and rubber. Silicones have an exceptional breadth of chemical and physical properties. Silicones are flexible and resist moisture, chemicals, heat, cold and ultraviolet radiation. Products made with silicones take on these and other important properties so they are more stable, more aesthetically pleasing, easier to use or apply and last longer.

The main categories of silicones products sold by the Silicones division are:

#### Core products and core intermediates

Fluids can be categorised as either core products or as core intermediates which are silicone fluids, where core products are standard silicone-based commodity products, meaning that they have not been subject to any modification or formulations. Core products are used when there is less demand for specific properties, such as lubrication or water-repellence. Silicone fluids are modified and/or formulated silicones which make up the specialty products. These specialty products consist of fluids and coatings ("Surface") or elastomers and adhesives ("eXtensio"). These Surface fluids are highly differentiated and designed for specific and highly demanding applications or processes, such as intensified processes, high temperatures or high pressure processes. Silicone fluids are mainly used as coatings to enhance the performance of a substrate, whether it is paper, film, textile, skin, hair and stone and as process aids to improve manufacturing processes such as defoamers, lubricants or water repellents.

#### Silicone elastomers

Silicone elastomers are viscous silicones that, following customers' treatment, take on solid form and are produced by introducing crosslinking between silicone fluids. Silicone elastomers exhibit a wide range of properties and heat cured rubber (HCR) is the most basic silicone elastomer. When the HCR elastomer is heated by the customer, the result is a hard rubber material with excellent mechanical strength, which is typically used for moulded rubber goods such as gaskets, seals, hoses, tubing, and connectors.

Room temperature vulcanizing (RTV) elastomers are another common type of silicones. RTV elastomers can come in two-component (RTV-2) or one-component (RTV-1) cure formulations. The two-component products are mixed by the customers and applications for RTV-2 include pressure sensitive adhesives, medical products, electronic products and silicone moulds. RTV-1 systems form an elastomer when exposed to moisture in the air. This makes RTV-1 elastomers ideal for use as sealants, adhesives and coatings in a wide variety of industries, including the automotive, the aeronautics and the construction industries.

## Applications and customers

Silicones have thousands of applications which improve the performance and reliability of millions of modern products. Silicone is found in a large variety of products used in daily life and the silicones produced by the Silicones division are found in products that are directly linked to the relevant trends in the end-market, such as construction, automotive, electronics, transportation, health and personal care, chemicals and consumer goods.

Core products are mainly used as lubricants, solvents, defoamers and water repellents. Silicone fluids are used as a thin substrate which can protect all kinds of adhesive materials. Silicone fluids are, for example, used for airbag coating where the silicone is coated on the inner part of the bag to give long lasting thermal protection to the bag. The Silicones division is one of the leading providers of airbag coatings. The Silicones division is also a leading supplier to specialty markets where silicones fluids are used as process aids such as defoamers or lubricants in many demanding industries (agrochemicals, oil fields, pulp and paper and tyre de-moulding industries). The Silicones division also produces a limited range of silicone fluids for the home and personal care industries. Elastomers are mainly used as gaskets, sealants and technical parts, such as in tubes, catheters and cables.

The customer base of the Silicones division generally consists of a large number of low volume customers. The Silicones division often enters into long-term contracts with its customers, but also enters into contracts with a shorter duration, as well as single purchase orders. The price is usually negotiated with each customer and fixed for the term of the contract, but the price may also be linked to applicable index prices. The Silicones division also frequently enters into partnership agreements with customers in order to develop a customised product, mainly with customers in the high-margin segments of the Silicones division such as the aeronautics and oilfield industries.

The top ten customers by sales revenue of the Silicones division accounted for 5% of Elkem's total operating income and 11% of the total operating income of the Silicones division for the year ended 31 December 2017.

## **Production facilities**

Plant	Country	Owned/leased	M <sup>2</sup>	Production capacity <sup>1</sup>
Xinghuo Silicones	China	Owned	7,000,000	220,000 tonnes
Roussillon	France	Owned	75,000	100,000 tonnes
Saint-Fons	France	Owned	250,000	200,000 tonnes
Caronno	Italy	Owned	9,000	5,000 tonnes
Lubeck	Germany	Owned	8,000	1,500 tonnes
Santa Perpetua	Spain	Owned	25,500	15,000 tonnes
Joinville	Brazil	Leased	7,000	12,000 tonnes
Shanghai	China	Leased	29,000	15,000 tonnes
York	USA	Owned	80,000	20,000 tonnes

<sup>1</sup>The table presented above is only for illustrative purposes. For capacity utilisation, it is difficult to provide an accurate number due to the product mix produced at Elkem's plants. The capacity at most of Elkem's plants depends on the product mix which varies extensively from year to year.

#### Markets and competition

The Silicones division is considered to be the third largest silicones producer globally and the largest silicones producer in China based on capacity, with a market share belived by the issuer to be approximately 11% globally and 14% in China. The division's largest competitors are Wacker Chemie AG and Dow Corning.

## 7.2.2 Silicon Materials

## Introduction

The Silicon Materials division manufactures and sells various grades of metallurgical silicon, microsilica and related products for use in a wide range of end applications, all of which Elkem defines as a group of similar products. The Silicon Materials division has a total production capacity of approximately 215,000 tonnes of silicon and 80,000 tonnes ferrosilicon per year<sup>7</sup>. The Silicon Materials division manufacturers microsilica and related products and had an annual production volume in 2017 of approximately 300,000 tonnes (including third party external sourcing and production volumes from Yongdeng Silicon Materials). From 2015 to 2017, revenues from sales of microsilica were stable at approximately NOK 1,300 million and Elkem expects this to be stable during 2018.

The Silicon Materials division operates four silicon and one ferrosilicon plant in Norway and China, two centres for research and development, three units for quartz production, several units for further processing of the plants' products and an extensive global sales network. Approximately 35% to 40% of the division's silicon production is currently sold within the Group to the Silicones division and Elkem expects this to remain stable during 2018.

The Silicon Materials division's external operating income by geography for the year ended 31 December 2017 is as follows: Europe (63%), Asia (28%), America (8%), Africa (1%) and the rest of the world (0%).

The Silicon Materials division's input factors as percentage of production costs (energy and raw materials) are as Follows<sup>8</sup>: Coal/biocarbon (approximately 40 to 45%), energy (approximately 35 to 40%), quartz (approximately 10 to 15%) and electrodes (approximately 5 to 10%).

## Products

The key products of the Silicon Materials division are silicon and microsilica related products:

## Silicon

Silicon can be produced in different grades which have different areas off application. The main difference in the various grades of silicon is the silicon content, level of impurities and sizing. The products can to a certain degree be substituted, e.g. customers within the aluminium business can use both Si99 and Silloy® and Silgrain®. All significant products in the Silicon Materials segment come from the same production process, either as a primary product or a by-product. The Silicon Materials division produces the following grades of silicon:

- Silicon 99 ("Si99") is silicon of minimum 99% purity. Si99 has a wide range of uses, and over the years several qualities have been tailored to fit the needs of very different processes. Si99 is mainly used as an alloying material in aluminium metal and as a raw material in both silicone production and production of polysilicon (solar and electronic) as well as other industrial applications.
- ("Silloy®") is silicon of minimum 96-97% purity. Silloy® is highly versatile and is used as an alloying element with aluminium metal for high-pressure die-casting alloys and for production of fumed silica.
- "Silgrain®" is a silicon powder containing minimum 99% silicon and is produced by a chemical purification process of the silicon. Silgrain® is mainly used in the production of polysilicon used in the electronic and solar industries and as an alloying element in aluminium. In addition, Silgrain® has been developed into a range of different speciality products for customers that require unique chemistry and/or sizing.

## Microsilica and related products

When silicon is produced, a by-product of silicon is also made in the off-gas process. Elkem has developed a method to collect and process the off-gas and develop it into a valuable product called Elkem Microsilica® "Elkem Microsilica®". Through focused research and development, Elkem has developed speciality microsilica products and associated materials and now offers more than 300 different variations of Elkem Microsilica®. In addition to its own production, Elkem also buys and processes microsilica for resale. Examples of other related products include microspherical particles of manganese oxides and microfine ilmenite for oilfield applications.

## Applications and customers

The Silicon Materials division delivers value to its customers in the solar (polysilicon), aluminium, chemical, construction including fibre cement and concrete, oil field services and refractories including polymer industries worldwide by providing specialty products which are tailor made for each application.

<sup>7</sup> The capacity will ultimately depend on the current product mix which easily can be adjusted based on market demand.

<sup>8</sup> Based on cost of goods sold in 2017 for Elkem's plants in 2017.

Silicon has a large number of varied applications and the end-users of silicon are generally divided into three main customer segments according to customer specifications procedures: (i) polysilicon, (ii) aluminium and (iii) chemicals. Elkem's silicon is utilised by polysilicon manufacturers as a raw material for the production of polysilicon which is further processed into solar panels and other electronic components such as mobile phones, computers and tablets. Other grades of silicon from Elkem are mixed with aluminium to produce alloys of cast aluminium parts, or are processed by the chemicals sector into a number of products, including silicones. In addition, the Silgrain® speciality products are sold to many smaller market segments with various applications.

Elkem Microsilica® is used for a variety of purposes. In the construction industry it is used to increase strength and durability in bridges, marine structures, high rise buildings, tunnels and other high performance applications. In oil field services, Elkem Microsilica® and related products are used in cementing, drilling fluids and stimulation applications, in the refactory industry it is primarily used to reduce the amount of water necessary to install refractory concrete improving strength and durability and in the fibre cement industry it is used in construction boards and roofing tiles, which inter alia replaces asbestos.

The Silicon Materials division's silicon customer base generally consists of high volume, global customers with longterm contracts with Elkem as well as a wide variety of smaller customers around the world. The Silicon Materials division enters into large, long- and short-term contracts with the customers in the chemical and polysilicon segment. The prices for those contracts are based on the CRU silicon market price index, but often also with premiums for high grade products, e.g. low ferrosilicon for the aluminium segment, premiums for value-added and value based pricing for silicon specialties, e.g. Silgrain® products. Sales to the aluminium segment are usually entered into for a shorter term, typically with quarterly or half-yearly contracts or purchase orders, with the prices being linked to the CRU market price index. For Elkem Microsilica® and related products, Elkem's customer portfolio is considerably more fragmented with more than 900 customers worldwide and the customers generally enter into annual frame contracts and place purchase orders on smaller amounts. Pricing is mostly based on value added, but in the construction segment (being a high volume, lower margin segment), pricing is also highly influenced by the competitive situation and the supply/demand balance in the respective sales regions.

The top ten customers by sales revenue of the Silicon Materials division accounted for 8% of Elkem's total combined operating income and 35% of the total combined operating income of the Silicon Materials division for the year ended 31 December 2017.

## **Production facilities**

The Silicon Materials division's production facilities are located on the coast of Norway and, upon the acquisition of Yongdeng Silicon Materials, in China in close proximity to efficient port facilities. According to CRU136, these facilities holds a world leading cost position due to their access to low cost energy, advanced energy recovering programs, their ability to secure high quality raw materials, processing expertise and are well integrated. The table below sets out certain key information about the Silicon Materials division's production facilities:

Plant	Country	Owned/leased	M <sup>2</sup>	Production capacity <sup>1</sup>
Elkem Salten	Norway	Owned	415,000	75,000 tonnes
Yongdeng Silicon Materials	China	Owned	256,200	55,000 tonnes
Elkem Rana	Norway	Leased	114,000	80,000 tonnes
Elkem Bremanger	Norway	Owned	200,000	40,000 tonnes
Elkem Tamshavn	Norway	Owned	158,000	45,000 tonnes

<sup>1</sup>The table presented above is only for illustrative purposes. For capacity utilisation, it is difficult to provide an accurate number due to the product mix produced at Elkem's plants. The capacity at most of Elkem's plants depends on the product mix which varies extensively from year to year.

#### Other processing facilities

In addition to its 5 production facilities, the Silicon Materials division has units processing its Elkem Microsilica® products in the Netherlands and China as well as one unit in Germany which micronises and processes silicon.

The Silicon Materials division is also involved in one joint venture, Elkania DA (50/50 joint venture held by Elkem AS and Titania AS), which supplies powder materials to the Oilfield business. Elkania DA has established a micronisation plant on the west coast of Norway. In addition, Elkem has a 51% ownership in Elkem Oilfield Chemicals FZCO Oilfield, which also supplies powder materials to the Oilfield business. Chemicals FZCO is located in the United Arab Emirates.

The Silicon Materials division also operates quartz mines in Norway and Spain. See Section 9.10 "Sourcing of raw materials" for more information.

## Markets and competition

The Silicon Materials division's main markets are Europe, Asia and the Americas. The silicon industry is characterised as a capital intensive business with high entry barriers. It requires stable, long term supply of electricity, access to a skilled workforce and availability of high quality carbon materials and quartz.

With a total annual production capacity outside China of 150,000 tonnes of silicon, the Silicon Materials division is considered by CRU<sup>9</sup> to be the second largest merchant producer of silicon outside China based on volumes. With annual sales volumes of approximately 300,000 tonnes of Elkem Microsilica® and related products, Elkem believes that it is a world leading supplier of silicon and microsilica.

While the Silicon Materials division competes locally against many smaller regional competitors, FerroGlobe and Dow Corning are strong global competitors to the Silicon Materials division.

## 7.2.3 Foundry Products

## Introduction

The Foundry Products division supplies metal treatments solutions and is a supplier of high quality special ferrosilicones products through the production of speciality foundry alloys and ferrosilicon for the iron foundry and steel industries. The division has a total production capacity of approximately 303,000 tonnes per year, based on itscurrent product mix (inoculants, nodularisers and speciality and standard ferrosilicon)<sup>10</sup>.

Elkem's Foundry Products division operates two plants in Norway and one plant in each of Canada, Iceland, China, India and Paraguay (which is currently under construction). The Foundry Products division specialises in making tailormade products adapted to each customer's needs. The technical sales team will visit the customers' plants and recommend complete solutions to the customers, such as process changes or the use of different products in different part of the processes, helping the customer to resolve production problems or to reduce operating costs.

The Foundry Products division's external operating income by geography for the year ended 31 December 2017 is as follows: Europe (49%), Asia (25%), America (25%), Africa (0.4%) and the rest of the world (0.6%).

The Foundry Products division's input factors as percentage of recipe costs (energy and raw materials) are as Follows<sup>11</sup>: Coal/biocarbon (approximately 35%), energy (approximately 35%), alloying elements (15 - 20%), quartz (approximately 10%) and electrodes (approximately 5%).

## Products

All significant products in the Foundry Products segment come from the same production process, meaning that the basis for both ferrosilicon and foundry alloys comes from the reduction of quartz in an electric arc furnace. The differentiating factors are the post-treatment process of the various products consisting of refining or alloying, or a combination of both.

The key products of the Foundry Products division are foundry alloys for the foundry iron industry and speciality ferrosilicon for the steel industry.

## Foundry alloys

Foundry alloys are speciality alloys based on ferrosilicon with a specific addition of other active elements. The main foundry alloys that the Foundry Products division produces are nodularisers (ferrosilicon magnesium) and inoculants.

Nodularisers are a family of magnesium-containing ferrosilicon alloys, which are used in the production of ductile iron and compacted graphite iron. Nodularisers are added to foundry iron during the manufacturing process and change the characteristics of the iron to ensure it has the desired properties, particularly ductility and strength. Low magnesium content alloys and alloys designed to counter shrinkage have become major areas of development and application in recent years, because they result in cost savings, increased productivity and decrease the environmental impacts of production for Elkem's customers.

Inoculants are ferrosilicon based alloys which contain carefully balanced amounts of active elements designed to control the properties of foundry iron. Inoculants ensure that the iron solidifies in the optimal manner to obtain the desired structure and properties. Elkem's high quality inoculants are especially designed to serve most requirements in grey, compacted and ductile iron production, as well as control the structure and eliminate harmful and brittle iron carbides. Inoculants can have specific functions, such as shrinkage and gas reduction.

<sup>&</sup>lt;sup>9</sup> Elkem IPO Support (CRU, January 2017).

<sup>&</sup>lt;sup>10</sup> The capacity will depend on the current product mix as certain products produced by the Foundry Products division may need twice the capacity of others. The mix can vary quite extensively from year to year.

<sup>&</sup>lt;sup>11</sup> Based on cost of goods sold in 2017 for Elkem's plants in Bjølvefossen, Bremanger and Iceland.

#### Ferrosilicon

Ferrosilicon is an alloy of iron and silicon, and an important raw material for the steel industry. Ferrosilicon is produced in a furnace similar to a silicon furnace, but with iron containing raw materials as part of the charge mix added in the smelting furnace. The Foundry Products division's portfolio contains all grades of ferrosilicon; high purity, low aluminium, low carbon and standard grade ferrosilicon. Ferrosilicon is used to remove oxygen from the steel and as alloying element to improve the final quality of the steel. It also increases the strength and wear resistance, elasticity (spring steels), scale resistance (heat resistant steels), and lowers electrical conductivity and magnetostriction (electrical steels).

## **Applications and customers**

The Foundry Products division has strong customer relationships and specialises in tailor-made product packages to suit individual customer requirements. A globally based technical service team and a commitment to research and development complement Elkem's high quality products offering and ensures that Elkem can supply innovative solutions to customers. The automotive, engineering and pipe industries are important end customer categories within the Foundry Products division.

Elkem's flexible manufacturing techniques enable Elkem to have magnesium ferrosilicon based nodularisers to suit specific foundry conditions, while its extensive inoculant range meets customers' needs in terms of chill and shrinkage control, microstructure and mechanical properties. Combined with a range of preconditioners, ferrosilicon and recarburisers that can be added to the furnace during smelting to ensure specific properties, Elkem can supply a package of products fitted specifically for the customers' purpose.

The Foundry Products division mainly sells its ferrosilicon to customers within the steel industry. Some contracts are entered into on a long-term basis with the price being linked to the monthly CRU price, and other contracts are entered into on a quarterly basis with fixed prices. For the foundry alloys products, Elkem usually enters into six to twelve months contracts with its customers and the prices are fixed. As with silicon, when ferrosilicon is produced the by-product microsilica is made. The Microsilica from the Foundry Products division is sold by the Elkem Microsilica® product team in the Silicon Materials division.

The top ten customers by sales revenues of the Foundry Products division accounted for 5% of Elkem's total combined operating income and 28% of the total combined operating income of the Foundry Products division for the year ended 31 December 2017.

## **Production facilities**

The table below sets out certain key information about the Foundry Products division's production facilities:

Plant	Country	Owned/leased	M <sup>2</sup>	Production capacity <sup>1</sup>
Elkem Bremanger	Norway	Owned	200,000	30,000 tonnes
Elkem Nagpur	India	Owned	13,350	12,000 tonnes
Elkem Bjølvefossen	Norway	Owned	180,000	65,000 tonnes
Elkem Iceland	Iceland	Leased	120,000	110,000 tonnes
Elkem Shizuishan	China	Leased	128,000	30,000 tonnes
Elkem Chicoutimi	Canada	Owned	173,000	45,000 tonnes
Elkem Paraguay	Paraguay	Owned	80,000	11,000 tonnes

<sup>1</sup> The table presented above is only for illustrative purposes. For capacity utilisation, it is difficult to provide an accurate number due to the product mix produced at Elkem's plants. The capacity at most of Elkem's plants depends on the product mix which varies extensively from year to year.

### Markets and competition

Elkem Foundry Products division is percieved by the issuer to be the world's leading producers of foundry alloys to the foundry iron industry. Other key market participants are Ferroglobe, Osaka Steel Co. Ltd., Toyo Metallurgicals Limited and Snam. The Foundry Products Division also competes against smaller regional market participants.

## 7.2.4 Carbon

## Introduction

The Carbon division is a supplier of Søderberg electrode paste, lining materials and speciality carbon products such as pre-baked electrodes and other carbon based products for metallurgical processes, primary aluminium and base metals, all of which Elkem defines as a group of similar products. The Carbon division is a global leading supplier of Søderberg electrode paste. It has an annual production capacity of approximately 260,000 tonnes of Søderberg electrode paste and approximately 105,000 tonnes of other carbon products<sup>12</sup>.

The carbon products produced by the Carbon division are used in various metallurgical smelting processes, including in Elkem's own production of silicon and ferrosilicon based alloys. As of 31 December 2017, 13.6% of the sales of Elkem Carbon were within the Group. The Carbon division has in total six production plants and serves the market from its production facilities in Norway, South Africa, Brazil, Malaysia and China, complemented by a global sales network.

The Carbon division's external operating income by geography for the year ended 31 December 2017 is as follows: Americas (43%), Europe (19%), Asia (27%), Africa (9%) and the rest of the world (3%).

The Carbon division's input factors as percentage of recipe costs (energy and raw materials) are as follows: Anthracite/coke (50 - 55%), coal tar (30 - 35%) and energy (10 - 20%)<sup>13</sup>

## Products

The Carbon division produces a number of carbon products, with the key product being Søderberg electrode paste as well as a variety of other carbon based products for use in smelting processes world-wide. All main products stem from an electrical Calcining process and are used in Elkem's customers furnaces or smelters.

The Carbon division also produces high quality carbon additives such as ELGRAPH® recarburisers which are used by the foundry iron industry. Additionally, the Carbon division produces ELSEAL® ramming paste and a range of coal tar pitches and oils in addition to other specialities as ELTAP<sup>™</sup> and carbon electrodes.

## Applications and customers

The products produced by the Carbon division are mainly used in metallurgical processes for the production of ferroalloys, base metals and primary aluminium. 94% of the division's revenues are from sales to steel, stainless steel, silicon, and aluminium producers.

Søderberg electrode paste is used in submerged arc furnaces to ensure that the raw material reaches the required process temperatures and is used by producers of silicon, ferrosilicon, ferrochromium, ferronickel, ferromanganese, silicomanganese, calcium carbide, copper and platinum matte. The ELTAP<sup>™</sup> products contribute to controlled tapping of metal and closure of tapholes, increased lifetime of various materials due to high oxidation resistance and generally improved taphole operations. The ELTAP<sup>™</sup> products have proven performance as linings for furnaces producing silicon, ferrosilicon and silicomanganese, and as repair pastes to furnaces producing ferrochrome and ferromanganese. Coal tar pitch is used as a binder in various carbon based products, including ramming paste and Søderberg electrode paste. The cathode ramming paste product range (ELSEAL®) are used in the aluminium industry and contribute to extended pot life and stable operation. Recarburisers (ELGRAPH®) are a carbon raiser used in production of steel and foundry products. Elgraph ® is added to the furnace during smelting, with the purpose of raising the carbon content in the metal to a certain level, required in casted iron.

Elkem Carbon has more than 315 customers worldwide and has long-term relationships with its main customers. Contracts are typically for short terms, but are usually renewed every six to twelve months. Prices are generally negotiated, without reference to index.

The top ten customers by sales revenues of the Carbon division accounted for 2% of Elkem's total combined operating income and 34% of the total combined operating income of the Carbon division for the year ended 31 December 2017.

<sup>&</sup>lt;sup>12</sup> The capacity will ultimately depend on the current product mix which can be adjusted based on market demand.

<sup>&</sup>lt;sup>13</sup> Based on cost of goods sold for all of the Carbon division's plants

## **Production facilities**

The table below sets out certain key information about the Carbon division's production facilities:

Plant	Country	Owned/leased	M <sup>2</sup>	Production capacity <sup>1</sup>
Elkem Fiskaa	Norway	Owned	23,000	110,000 tonnes
Elkem Shizuishan Carbon	China	Leased	180,000	65,000 tonnes
Elkem Ferroveld	Sourth Africa	Leased	20,000	60,000 tonnes
Elkem Carboindustrial	Brazil	Owned	114,000	70,000 tonnes
Elkem Carboderivados	Brazil	Owned	194,000	60,000 tonnes
Elkem Sarawak	Malaysia	Leased	80,000	28,500 tonnes

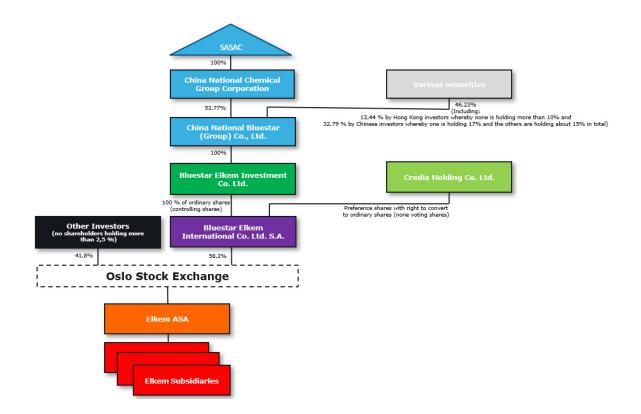
<sup>1</sup> The table presented above is only for illustrative purposes. For capacity utilisation, it is difficult to provide an accurate number due to the product mix produced at Elkem's plants. The capacity at most of Elkem's plants depends on the product mix which varies extensively from year to year.

## Markets and competition

Elkem Carbon believes that it is a global leading supplier of electrode paste with over 43% of the market share in the global market in 2017 (excluding China)<sup>14</sup>. The fact that the Group uses its own products in the smelting processes conducted by the Silicon Materials and the Foundry Products divisions ensures a high level of competence within the Carbon division, benefitting its external customers.

<sup>14</sup> Company estimate based on global figures, excluding China. The Estimate is based on the total size of the market, knowledge of own production, and estimates of the production of other market participants.

# 8 Organisational structure



### 8.1 Description of group

Elkem is the ultimate parent company in the Group. The Group comprises legal entities in Europe, Asia, the Americas and Africa, in addition to affiliated entities. The following table sets out information about the Company's significant subsidiaries:

Bluestar Silione Material Co., Ltd. (CN)	100%
Elkem Carbon AS (NO)	100 %
Elkem Carbon (China) Comp Ltd (CN)	100%
Elkem Participacões Indústria e Comércio Limitada(EPICL) (BR)	100%
NorenoComercial Importada e Exportadora Limitada (BR)	100%
Elkem Ferroveld JV (ZA)	50%
Elkem Carbon Malaysia Sdn. Bhd. (MY)	100%
Euro Nordic Logistics BV (NL)	100%
North Sea Container Line AS (NO)	50%
Elkem Distribution Center B.V (NL)	100%
Elkem Dronfield (UK)	100%
Elkem Foundry (China) Co. Ltd (CN)	100%
Elkem Foundry Invest AS (NO)	100%
Elkem Uruguay S.A. (UY)	100%
Tifwer Trade S.A. (UY)	100%
Elkem Paraguay S.A. (PY)	100%
Elkem GmbH (DE)	100%
Elkem Iberia S.L.U. (ES)	100%
Elkem Iceland Ltd. (IS)	100%
Elkem International AS (NO)	100%
Elkem International Trade (Shanghai) Co. Ltd. (CN)	100%
Elkem Japan K.K (JP)	100%
Elkem LTD. (UK)	100%
Elkem Metal Canada Inc (CA)	100%
Elkem Milling Services GmbH (DE)	100%
Elkem Oilfield Chemicals FZCO (UAE)	51%
Elkem Rana AS (NO)	100%
Elkem Silicones Shanghai Co., Ltd. (CN)	100%
Elkem Silicones Hong Kong Co., Ltd. (HK)	100%
Elkem Silicones France SAS (FR)	100% 100%
Elkem Silicones Germany GmbH (DE)	100%
Elkem Siliconas España S.A. (ES) Elkem Siliconi Italia S.r.l. (IT)	100%
Elkem Silicones USA Corp. (US)	100%
Elkem Silicones (UK) Ltd (UK)	100%
Elkem Silicones Brasil Ltda. (BR)	100%
Elkem S.r.l. (IT)	100%
Elkem South Asia Private Limited (IN)	100%
Elkem Materials, Inc (US)	100%
Explotacion de Rocas Industriales y Minerales S.A. (ERIMSA) (ES)	100%
Jiangxi Bluestar Xinghuo Organic Silicone Co., Ltd (CN)	100%
Salten Energigjenvinning AS (NO)	50 %

### 8.2 Dependence upon other entities

With regards to clause 8.1, Elkem is dependent on operations in the material subsidiaries mentioned. Elkem is party to a selected number of material contracts. With respect to the joint venture and partnership agreements described below, Elkem is dependent on these material contracts in the sense that some of its material plants are held through the joint venture and partnership agreements described. Elkem also considers these agreements to be strategically important for its business going forward. For the avoidance of doubt, the below mentioned subsidiaries are not deemed material in terms of operating revenue or total assets of the Group

#### Framework agreement regarding Elkem Oilfield Chemicals FZCO

Pursuant to the framework agreement between Elkem and Ayman Khirou Abaji, Elkem Oilfield Chemicals FZCo ("Elkem Oilfield") was founded as a limited liability company on 30 May 2007, with Elkem and Ayman Khirou Abaji holding 51% and 49%, respectively, of the shares in Elkem Oilfield. Under the terms of the agreement, Elkem Oilfield focuses on selling chemicals for use in the oil drilling industry throughout the Middle East and to do so, Elkem Oilfield licenses certain Elkem trademarks and operates as the sole distributor of Elkem's oilfield services chemicals under those trademarks. Each party has a right of first refusal to purchase any or all of the shares held by the other party. Each party may terminate the agreement: (i) with written notice and immediate effect if (a) Elkem Oilfield makes losses for three consecutive years or (b) if Elkem Oilfield's cumulative losses exceed 2/3 of its registered capital and the parties are unable to agree on a program for restructuring within six months and (ii) with 30 day written notice if non-competition provisions of the agreement have been violated.

#### Joint venture agreement regarding Elkem Ferroveld JV

Elkem Ferroveld JV ("Elkem Ferroveld") is a South African unincorporated joint venture focusing on the manufacture of products such as Soderberg electrode paste between Samancor Chrome Limited ("SamCr") and Elkem Carbon ASwith each party holding an undivided 50% share in Elkem Ferroveld and with each party having the right to half the profits and being responsible for half the losses that Elkem Ferroveld incurs. The joint venture is governed by a joint venture agreement dated 6 October 2006.

Elkem has, as the managing owner, the right (and obligation) subject to the terms of the joint venture agreement, to manage and control the day-to-day processes and commercial operations of the joint venture, purchases and sales, finance (subject to board instructions), personnel and industrial relations, manage relations with regulators and government agencies, technology management and insurance. Subject to certain restrictions in the joint venture agreement, Elkem has the sole right to represent and act on behalf of the joint venture in its dealings with third parties.

The joint venture agreement is of indefinite duration but provides that a non-defaulting party, may terminate the agreement by written notice if (i) the defaulting party fails to pay in full any amount due and payable by it under the agreement, (ii) the defaulting party fails to perform or comply with any of its material obligations under the agreement and fails to remedy such breach within a reasonable period, (iii) the defaulting party is deemed unable to pay its debts, admits its inability to pay its debts as they come due, commences negotiations with its creditors for readjustment of its indebtedness or makes a general assignment for the benefit of, or a composition with, its creditors; (iv) the defaulting party takes any corporate action or other steps for its winding up or dissolution or for it to enter into any arrangement or composition for the benefit of creditors or for the appointment of a receiver, administrator, or similar person or an encumbrancer tales possession of any of its revenues or assets, (v) the defaulting party ceases to be under the control of the persons who control it on the date of the agreement, except with the approval of the aggrieved party, which is not to be unreasonably withheld.

# 9 Trend information

### 9.1 Outlook

#### **Outlook as per Anually Report 2018**

The board of directors' assessment is that the fundamentals and long-term prospects are positive for Elkem. The demand for Elkem's products are driven by global megatrends such as sustainability, energy demand growth, urbanisation, digitalisation and aging and growing population. The markets for silicones and silicon, which constitutes about 75% of the group's business, are expected to grow at a rate of 5% per year.

The short-term outlook may however, be more uncertain based on risk for slower macro-economic growth, possible trade conflicts and volatile financial markets. The market conditions for Elkem's segments are softer in terms of demand and pricing than they were one year ago and 2019 is on this basis expected to be weaker than 2018. Market prices have however stabilised and are likely to increase during 2019. The board also expects that gradually higher sales volumes, lower raw material costs and effects of accelerated improvement programmes will have positive impact during the year.

Elkem will pursue its main strategic initiatives and ensure continuous improvement to counter a weaker short-term market outlook. The specialisation strategy will continue with several initiatives and a strengthening of R&D resources.

Elkem's strategy is to grow through specialisation, organic growth and acquisitions. The target is to have reinvestments of 80-90% of amortisations and depreciations. Elkem has strong up-stream capabilities and limited investment needs related to further upstream capacity expansions. The main focus is to grow downstream through further specialisation. This growth will mainly be driven by R&D processes and acquisitions. Elkem has decided to invest in a new R&D centre in Lyon, France. The plan is also to make investments in the Paraguay-plant to move the production from standard ferrosilicon to foundry alloys. In addition, Elkem may do acquisitions of speciality companies enabling the company to capitalise on already strong upstream positions. These initiatives are well within Elkem's financial capabilities.

### 9.2 Statement of no material adverse change

There has been no material adverse change in the prospects of the Issuer since the date of their last published audited financial statements. See clause 12.5.

Poard of Directors

# 10 Administrative, management and supervisory bodies

### 10.1 Information about persons

Board of Directors		
Name	Position	Business address
Michael Koenig	Chairman	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Olivier de Clermont-Tonnerre	Board member	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Guihua Pei	Board member	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Anja-Isabel Dotzenrath	Board member	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Caroline Grégoire Sainte-Marie	Board member	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Dag J. Opedal	Board member	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Marianne Færøyvik	Board member (employee representative)	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Terje Andre Hanssen	Board member (employee representative)	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway

#### Michael Koenig

Michael Koenig has been the chairperson since September 2016. He is currently the chief executive officer of China National Bluestar (Group) Co., Ltd. A position he has held since January 2016.

Michael Koenig (03 September 1963) serves as a member of the board of directors of China National Bluestar (group) Co. Ltd., Adisseo and Quenos. He has extensive professional experience from the Bayer group in which he has held various positions, including chief executive officer of Bayer Group Greater China and Head of Polycarbonates Business Unit of Bayer Material Science.

He also served as a member of the board of directors of Bayer AG from 2013 until 2015 and as the chairperson of the board of directors of Currenta from 2013 until 2015. Hence, Michael Koenig has accumulated rich experience in running large multinational corporations.

He holds a degree in chemical engineering from the Chemical Engineering Department of the TU Dortmund University in Germany. Michael Koenig is a German citizen, residing in China.

#### Olivier de Clermont-Tonnerre

Olivier de Clermont-Tonnerre has been a board member since 2011.

Olivier de Clermont Tonnerre (18 July 1951) has since January 2011 held the position as chief strategic and as corporate development officer at National China Bluestar Corp., in addition to executive strategic adviser at Elkem Silicones Service France.

He is a member of the board of directors of National China Bluestar Corp. (since 2007), Bluestar Elkem Luxembourg (since 2007), Elkem (since 2011), REC Solar (since 2015) and Syngenta (since 2017).

Olivier de Clermont Tonnerre has extensive professional experience from the Rhone-Poulenc group and Rhodia group in which he held several executive positions for worldwide SBU's such as Surfactants, Food Additives and then Silicones-SilicaRare Earth based in France and in the USA.

He was a member of Rhodia executive committee, chief executive officer of Silicones-Silica- rare earth and also supervising the Rhodia group sales & marketing excellence program, before he joined the Bluestar group in 2007 after the acquisition of the Rhodia silicones business by Bluestar.

Olivier de Clermont Tonnerre was then appointed as chief executive officer of Bluestar Silicones until 2010. Mr. de Clermont Tonnerre holds a degree in chemical engineering from Toulouse Institut Polytechniques (France), a Master in Economics from Paris- Nanterre University (France) and an MBA from INSEAD (France). Mr. de Clermont Tonnerre is a French citizen and resides in France.

#### Guihua Pei

Guihua Pei has been a board member since 2018.

Guihua Pei (6 March 1975) is currently the chief legal officer of China Bluestar (Group) Co. Ltd and has served as chairperson of the board of supervisors in Bluestar Adisseo Company. Ms. Guihua Pei graduated with a doctor degree of law from China University of Political Science and Law in January 2014, and has qualification in the legal profession in China. Ms. Guihua Pei has also worked as a judge in the Dongcheng District People's Court of

Beijing for ten years and as the first-class prosecutor in the Beijing People's Procuratorate for five years. Ms. Guihua PEI is a Chinese citizen, residing in China.

#### Anja-Isabel Dotzenrath

Anja-Isabel Dotzenrath has been a board member since 2018.

Anja Isabel Dotzenrath (30 September 1966) has more than 25 years of industrial and top management consulting experience in the energy and chemical industry, with extensive expertise in strategy development, transformation, post-merger integration and finance. She has worked across a range of geographies, including Central and Eastern Europe, the U.S. and Asia.

Anja Isabel Dotzenrath has been the CEO of E.ON Climate & Renewables at E.ON SE since April 2017 responsible for E.ON's industrial-scale renewable energy activities and one of the three business pillars of E.ON. Prior to this, she served as the chief operating officer at E.ON Climate & Renewables and as a member of the board of E.ON's integrated conventional generation and renewables business.

Anja Isabel Dotzenrath joined E.ON in 2011. She has a degree in Electrical Engineering and Business Administration, both from RWTH Aachen University. She is a German citizen, residing in Germany.

#### Caroline Grégoire Sainte-Marie

Caroline Grégoire Sainte-Marie has been a board member since 2018.

Caroline Grégoire Sainte-Marie (27 October 1957) has built extensive managerial and board experience throughout her career, having held chief executive, presidential and other highly-ranked positions in several large corporations, as well as serving multiple board memberships. Since May of 2017, Caroline Grégoire has held the position as senior advisor with HIG Capital Europe. Caroline Grégoire has several current directorship positions, including independent director of Groupama SA France and as a member of Wienberger AG's board of directors, where she also is a member of the audit committee and the strategy committee. Further, Caroline Grégoire is also on the board of directors of CALYOS and of FLSmidth, where she is a member of the Technology Committee and Audit Committee as well. In addition, Caroline Grégoire is the founding partner of Definnov SAS. Caroline Grégoire is a graduate of Institut d'Études Politiques Paris and Université Droit Paris Sorbonne. Caroline Grégoire is a French citizen, currently residing in France.

#### Dag J. Opedal

Dag J. Opedal has been a board member since 2018.

Dag J. Opedal (13 April 1959) has extensive managerial experience from previous positions in several Norwegian public and private companies. He is the former chief executive officer of Orkla ASA, EVP Norgesgruppen ASA, president of Ferd Capital, and managing director for Stabburet AS.

Dag J. Opedal has also been a board member of Carlsberg, Jotun, REC, Sapa / Alcoa (JV) and Telenor ASA. In addition, he was the Chairperson of Elkem AS from 2006 to 2009. He has a degree in economics from the Norwegian School of Economics (NHH), in addition to an MBA from INSEAD business school in France. Dag J. Opedal is a Norwegian citizen, currently residing in Norway.

#### Mariann Færøyvik

Marianne Færøyvik has been an employee representative director of the board since 2016.

Marianne Færøyvik (21 October 1967) has been with Elkem since 1995. Prior to this, she was a deputy board member at the Elkem board of directors.

She has worked with engineering, technical development, project procurement, production improvement and manufacturing analysis in Elkem and is currently a senior chemical engineer.

Marianne Færøyvik is educated at the Norwegian University of Science and Technology (NTNU) and has a Ph.D. in Inorganic Chemistry, also from NTNU. She is a Norwegian citizen, residing in Oslo, Norway.

#### Terje Andre Hanssen

Terje Andre Hanssen has been an employee representative director of the board since 2018.

Terje Andre Hanssen (27.03.1963) has been an employee of Elkem since 1998 and has served as an observer in the Elkem board since 2010. For the last ten years, Terje Andre Hanssen has also been the union leader of Fiskaa Verks Arbeiderforening (FVA) (Fiskaa Plant Workers Union). Before Terje Andre Hanssen started working for Elkem, he worked at Hydro Aluminum Karmøy.

#### Elkem ASA, prospectus of 14 March 2019

**Registration Document** 

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Corporate	management

Name	Position	Business address
Helge Aasen	Chief Executive Officer	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Morten Viga	Chief Financial Officer	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Katja Lehland	SVP Human Resources	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Asbjørn Søvik	SVP Business development	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Håvard Moe	SVP Elkem Technology	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Louis Vovelle	SPV Innovation & R&D	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Frédéric Jacquin	SVP Silicones	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Trond Sæterstad	SVP Silicon Materials	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Inge Grubben- Strømnes	SVP Carbon	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway
Jean Villeneuve	SVP Foundry Products	Elkem ASA, Drammensveien 169, 0277 Oslo, Norway

#### Helge Aasen

Helge Aasen (16 February 1963) has been the Chief Executive Officer of Elkem since 2009.

Helge Aasen has worked both at plants and in corporate functions internationally and in Norway. He has held the posts as Division Director in Elkem Carbon AS (2000-2007), after he was appointed CEO of Elkem Solar AS.

Helge Aasen holds an MSc in Engineering from the Norwegian University of Science and Technology (NTNU), and has participated in the executive leadership development programme at IMD in Switzerland.

During his 25 years at Elkem, he has acquired a broad industrial experience of most of the company's different functions, from sales through operations to logistics and purchasing.

#### Morten Viga

Morten Viga (03 November 1964) has been the Chief Financial Officer of Elkem since 2006.

Morten Viga has worked in Elkem since 2001. He held the post as Financial Director for the Silicon Materials division before he was appointed CFO for Elkem.

He holds an MSc in Economics and Business Administration from the Norwegian School of Economics (NHH). In the course of his 16 years at Elkem, he has acquired a broad experience from corporate level and from divisional and plant level.

#### Katja Lehland

Katja Lehland (03 January 1968) has been the Chief Human Resources Officer of Elkem since 2011.

Katja Lehland has worked in Elkem since 2006. Prior to her position in Elkem, Mrs. Lehland held several international HR Director-positions in Nokia, United Biscuits and Schindler where she served on the companies' management teams and has also held several board positions. Mrs. Lehland has during her career acquired an extensive international business experience. Mrs. Lehland holds a BSc in Economics and Marketing and has completed high-level executive management development programmes

#### Asbjørn Søvik

Asbjørn Søvik (08 May 1963) has been the SVP of Business development since 2018.

Asbjørn Søvik has worked in Elkem since 1995 and was previously responsible for business development in Elkem corporate. He has an extensive international management experience from plants and divisions in the United States, Brazil and Norway. He has a broad knowledge of most of Elkem's different functions, such as Raw Materials, Energy, Operations and M&S. Mr. Søvik holds an MSc in Engineering from the Norwegian University of Science and Technology (NTNU) and an MBA from IESE in Spain. Søvik was the SVP Carbon of Elkem from 2007 to 2018.

#### Håvrd Moe

Håvard Moe (17 February 1966) has been the SVP of Elkem Technology since 2008.

Håvard Moe has worked with R&D, engineering, corporate procurement and industrial projects in Elkem. Prior to his position in Elkem, he held various management positions in ABB and Statoil. Mr. Moe has a broad international experience from technology development and execution of complex industrial projects. He has been in involved in all of Elkem's large projects since 2008, including Elkem Solar, energy recovery projects in Thamshavn and Chicoutimi, and two furnace upgrade projects in Salten.

He has also supported Elkem's owners, both Orkla and Bluestar, in quality assurance of their expansion projects in Europe and China. Mr. Moe holds an MSc in Mechanical Engineering and a PhD in Chemical Engineering from the Norwegian University of Science and Technology (NTNU), and has participated in the transition to general management programme at INSEAD in France.

#### Louis Vovelle

Louis Vovelle (06 October 1958) has been the SVP of Innovation and R&D of Elkem since 2015.

Louis Vovelle has worked both in corporate and divisional functions internationally. He has held the post as R&D Director for Elkem Silicones International (2007-2010), after which he was appointed Vice President for Innovation and Strategy of Elkem Silicones International (2010-2015). Mr. Vovelle holds an Engineer diploma in Chemistry from the Ecole Nationale Supérieure de Chimie de Paris (1983), a PhD in Physics from Ecole Centrale de Lyon (1987), and has participated in the General Management Programme at CEDEP-INSEAD in France (1998-1999).

In the course of his 20 years of experience as R&D director and Vice President in international companies (Rhône-Poulenc, Rhodia, Bluestar), he has developed a sustainable innovation and R&D vision for developing new products and new processes. During the last 8 years at Bluestar Silicones International and Elkem, an extensive R&D collaborative network has been created supported by Open Innovation with international universities, high schools and clusters in chemistry and materials.

#### Frédéric Jacquin

Frédéric Jacquin (07 june 1967) has been the SVP of Silicones of Elkem since 2015.

Frédéric Jacquin has previously worked 11 years in Elkem Silicones International. He held the position as Vice President of Marketing and Sales before he was appointed CEO of Elkem Silicones in early 2015. He has a long experience with specialty chemicals and has thereby acquired a broad and international experience in specialty chemicals business development and industrial marketing. Mr. Jacquin holds an Executive MBA from the ESSEC French Business School and a Magistere in Marketing and Communication from La Sorbonne French University (Celsa).

#### Trond Sæterstad

Trond Sæterstad (15 January 1960) has been the SVP of Silicon Materials of Elkem since 2012.

Trond Sæterstad has previously held the position as Senior Vice President of Elkem Solar AS, and has been the former plant manager at Elkem plants both for Silicon and Ferroalloy before he was appointed Head of Silicon Materials.

Trond Sæterstad holds an MSc in Chemical Engineering from the Norwegian University of Science and Technology (NTNU), and Business Economist from the Norwegian Business School (BI). He has participated in the leadership development programme in IMD in Switzerland. Trond Sæterstad has broad industrial experience from different management positions in Elkem, Vale as Managing Director, Akzo Nobel in operation and Statoil as project engineer.

#### Inge Grubben-strømnes

Inge Grubben-Strømnes (24 August 1974) has been the SVP of Carbon since 2018. Before that, he was the SVP of Business development in Elkem (2008-2018).

Inge Grubben-Strømnes has worked with strategy and business development in Elkem since 2005. He was also the CEO of Elkem Solar AS from 2012 to 2016.

Prior to his position in Elkem, he worked with McKinsey & Company for 4 years. Inge Grubben-Strømnes holds an MSc in Zoology and a Bachelor in Biology from the Norwegian University of Science and Technology and an MBA from EM-Lyon.

#### Jean Villeneuve

Jean Villeneuve has been the SVP of Foundry Products of Elkem since 2011.

Jean Villeneuve has worked in Elkem since 2006 as Plant Manager for Elkem Chicoutimi and as General Manager Americas before he was appointed Head of Foundry Products. Mr. Villeneuve holds a Bachelor's degree in unified engineering on electrical option from the University of Chicoutimi in Quebec, Canada. He has also participated in a leadership program at the Center for Creative Leadership in Colorado Springs.

# 10.2 Administrative, management and supervisory bodies conflicts of interest

There are no potential conflicts of interest between any duties to the Issuer of the persons referred to in item 10.1 and their private interests and or other duties.

# 11 Major shareholders

## 11.1 Ownership

As at 30 September 2018	581 310 344
Capital increase	179 310 344
Share split	401 999 999
As at 1 January 2018	1
	Outstanding

In an extraordinary general meeting in Elkem ASA 23 February 2018, it was approved a split of Elkem's one share into 402 million shares.

On 22 March 2018 Elkem ASA's shares were listed on Oslo Stock Exchange. At the same date the share capital was increased with 179,310,344 shares. The capital increase was completed at an offer price of NOK 29 per share, which gives a gross capital increase of NOK 5,200 million.

The share capital of Elkem ASA is NOK 2,906,551,720 divided into 581,310,344 shares at a nominal value of NOK 5.00 each.

An overview of the Company's 20 largest shareholders as of 8 February 2019 is set out in the table below:

	Name	Shares	%
1	BLUESTAR ELKEM INT.CO.LTD S.A	338 338 536	58.2
2	VERDIPAPIRFONDET DNB NORGE (IV)	15 294 698	2.6
3	FOLKETRYGDFONDET	9 852 393	1.7
4	STATE STREET BANK AND TRUST COMP	6 983 732	1.2
5	THE NORTHERN TRUST COMP, LONDON BR	6 196 221	1.1
6	ARCTIC FUNDS PLC	6 095 576	1.0
7	JPMORGAN CHASE BANK, N.A., LONDON	5 862 900	1.0
8	VERDIPAPIRFONDET ALFRED BERG GAMBA	5 759 489	1.0
9	STOREBRAND NORGE I VERDIPAPIRFOND	5 037 984	0.9
10	FIRST GENERATOR	4 939 017	0.8
11	STATE STREET BANK AND TRUST COMP	4 196 212	0.7
12	FERD AS	4 075 000	0.7
13	JPMORGAN CHASE BANK, N.A., LONDON	3 750 279	0.6
14	HSBC TRINKAUS & BURKHARDT AG	3 653 155	0.6
15	STATE STREET BANK AND TRUST COMP	3 516 457	0.6
16	JPMORGAN CHASE BANK, N.A., LONDON	3 500 000	0.6
17	MUST INVEST AS	3 451 888	0.6
18	CITIBANK, N.A.	3 406 500	0.6
19	J.P. MORGAN SECURITIES LLC	3 139 561	0.5
20	VERDIPAPIRFONDET DNB NORDEN (III)	2 970 482	0.5

### 11.2 Change in control of the issuer

There are no arrangements, known to the Issuer, the operation of which may at a subsequent date result in a change in control of the Issuer.

# 12 Financial information concerning the Company's assets and liabilities, financial position and profits and losses

## 12.1 Historical Financial Information

The financial statements for Elkem AS group (the Group) have been prepared in accordance with International Financial Reporting Standards and interpretations issued by the International Accounting Standards Board (IASB) as adopted by the EU (EU-IFRS).

The separate financial statements of Elkem AS have been prepared in accordance with the Norwegian Accounting Act from 1988 and Generally Accepted Accounting Principles in Norway.

The accounting policies of the Group and the Company are shown in the Annual Report 2018, pages 94-102 note 2 and pages 165-168 note 2, respectively.

According to the Commission Regulation (EC) No 809/2004 of 29 April 2004 implementing Directive 2003/71/EC of the European Parliament and of the Council, information in a prospectus may be incorporated by reference. Because of the complexity in the historical financial information and financial statements this information is incorporated by reference to <u>Annual Report 2018</u> and the <u>Annual Report 2017</u>, available at the webpage of the Company (<u>https://www.elkem.com/investor/reports-and-presentations/</u>) Please see Cross Reference List for complete references.

	Annual Report	
	2018*)	2017*)
Group	Page(s)	Page(s)
Statement of profit and loss	88 - 89	34 - 35
Statement of financial position	90	36
Statement of cash flow	91	38
Notes	94 - 161	39 - 94
Elkem ASA		
Income statement	162	96
Balance sheet	163	97
Statement of cash flows	164	98
Notes	165 - 192	99 - 127

On 22 March 2018 Elkem ASA's shares were listed on Oslo Stock Exchange

\*) including comparative figures for previous year

# 12.2 Financial statements

See section 12.1 Historical Financial Information.

# 12.3 Auditing of historical annual financial information

## 12.3.1 Statement of audited historical financial information

The historical financial information for 2018 and 2017 has been audited.

A statement of audited historical financial information is given in the Annual Report 2018 pages 193 - 196 and in the Annual Report 2017 pages 128 - 130, available at the webpage of the Company <u>https://www.elkem.com/investor/reports-and-presentations/</u>. Please see Cross Reference List for complete references.

### 12.4 Legal and arbitration proceedings

Elkem Iceland is in an arbitration process to determine the price for an extension of a power contract for the next 10 year period. The Issuer does not expect any material effect on the Groups's financial position. There are no other governmental, legal or arbitration proceedings (including any such proceedings which are pending or threatened of which the issuer is aware), during a period covering at least the previous 12 months which may have, or have had in the recent past, significant effects on the Issuer and/or Groups's financial position or profitability.

## 12.5 Significant change in the financial or trading position

There has been no significant change in the financial or trading position of the Group which has occurred since the end of the last financial period for which either audited financial information or interim financial information have been published.

# 13 Third party information and statement by experts and declarations of any interest

## 13.1 Third party information

Part of the information given in this Registration Document has been sourced from a third party. It is hereby confirmed that the information has been accurately reproduced and that as far as Elkem is aware and is able to ascertain from information published by that third party, no facts have been omitted which would render the reproduced information inaccurate or misleading.

# 14 Documents on display

The following documents (or copies thereof) may be inspected for the life of the Registration Document at the headquarters of the Company, Drammensveien 169, 0277 Oslo, Norway

- (a) articles of association of the Company;
- (b) all reports, letters, and other documents, historical financial information, valuations and statements prepared by any expert at the Company's request, any part of which is included or referred to in the Registration Document;
- (c) the historical financial information of the Company and its subsidiaries, for each of the two financial years preceding the publication of the Registration Document.

# **Cross Reference List**

Reference in Registration Document	Refers to	Details
11.1 Historical Financial Information	Annual Report 2018, available at https://www.elkem.com/globalassets/corpor ate/documents/elkem-annual-report- 2018.pdf	Accounting policies, pages 94 - 102 note 2 (the Group) and pages 165 - 168 note 2 (the Company)
	Annual Report 2018, available at https://www.elkem.com/globalassets/corpor ate/documents/elkem-annual-report- 2018.pdf	Group Statement of profit and loss, pages 88 - 89 Statement of financial position, page 90 Statement of cash flow, page 91 Notes, pages 94 - 161
		Elkem ASA: Income statement, page 162 Balance sheet, page 163 Statement of cash flows, page 164 Notes, pages 165 - 192
	Annual Report 2017, available at https://www.elkem.com/globalassets/corpor ate/documents/elkem-annual-report- 2017.pdf	Group Statement of profit and loss, pages 34 - 35 Statement of financial position, page 36 Statement of cash flow, page 38 Notes, pages 39 - 94
		Elkem AS: Income statement, page 96 Balance sheet, page 97 Statement of cash flows, page 98 Notes, pages 99 - 127
11.3.1 Statement of audited historical financial information	Annual Report 2018, available at https://www.elkem.com/globalassets/corpor ate/documents/elkem-annual-report- 2018.pdf	Auditor's report, pages 193 - 196
	Annual Report 2017, available at https://www.elkem.com/globalassets/corpor ate/documents/elkem-annual-report- 2017.pdf	Auditor's report, pages 128 - 130

References to the above mentioned documents are limited to information given in "Details", e.g. that the non-incorporated parts are either not relevant for the investor or covered elsewhere in the prospectus.

# Joint Lead Managers' disclaimer

DNB Bank ASA, DNB Markets and Nordea Bank Abp, Norwegian branch, the Joint Lead Managers, have assisted the Company in preparing the Registration Document. The Joint Lead Managers have not verified the information contained herein. Accordingly, no representation, warranty or undertaking, express or implied, is made and the Joint Lead Managers expressly disclaim any legal or financial liability as to the accuracy or completeness of the information contained in this Registration Document or any other information supplied in connection with the issuance or distribution of bonds by Elkem ASA.

This Registration Document is subject to the general business terms of the Joint Lead Managers, available at their respective websites. Confidentiality rules and internal rules restricting the exchange of information between different parts of the Joint Lead Managers may prevent employees of the Joint Lead Managers who are preparing this Registration Document from utilizing or being aware of information available to the Joint Lead Managers and/or any of their affiliated companies and which may be relevant to the recipient's decisions.

Each person receiving this Registration Document acknowledges that such person has not relied on the Joint Lead Managers, nor on any person affiliated with it in connection with its investigation of the accuracy of such information or its investment decision.

Oslo, 14 March 2019

DNB Bank ASA (<u>www.dnb.no</u>) Nordea Bank Abp, Norwegian branch (www.nordea.no)

#### Annex 1 Articles of Association of the Company

ARTICLES OF ASSOCIATION FOR ELKEM ASA (reg no 911 382 008) Last amended on 21 March 2018

#### § 1 Name

The company's name is Elkem ASA. The company is a public limited company.

#### § 2 Registered business address

The company's registered business address is in the municipality of Oslo.

#### § 3 Object

The object of the company is to develop and engage in industry, mining, trade and transportation as well as exploration and exploitation of natural resources. The company may also develop, acquire and exploit patents inventions and technical knowhow. The company may participate directly or indirectly or by other means in companies engaged in activities outlined above or activities that promote or support such objects.

#### § 4 Share capital

The share capital is NOK 2,906,551,720, divided into 581,310,344 ordinary shares, each with a nominal value of NOK 5. The shares shall be registered with a securities register.

#### § 5 Board

The company's board of directors shall consists of 3-10 members, according to the decision of the general meeting.

#### § 6 Signatory rights

The chairman of the board and one board member jointly, or the CEO alone, have the right to sign on behalf of the company.

#### § 7 Nomination committee

The company shall have a nomination committee. The nomination committee shall consist of two or three members, according to the decision of the general meeting. The members of the committee, including the chairman, shall be elected by the general meeting. Unless otherwise resolved by the general meeting, the elections shall be held every two years.

The nomination committee shall make recommendations to the general meeting for the election of shareholder elected board members and members of the nomination committee, and the remuneration to the members of the board of directors and the nomination committee. The remuneration to the members of the nomination committee shall be resolved by the general meeting. The general meeting may establish guidelines for the nomination committee.

#### § 8 General meeting

Documents related to matters to be considered at the general meeting, including documents which shall, according to law, be included in or attached to the notice of the general meeting, do not need to be sent to the shareholders if the documents are made available on the company's website. A shareholder may, nevertheless, demand to receive the documents concerning matters which are to be discussed at the general meeting.

The shareholders shall be able to cast their votes in writing, including by electronic means, in a period prior to the general meeting. The board of directors may provide guidelines for such voting. The notice of the general meeting shall include the guidelines adopted by the board of directors.

The annual general meeting shall deal with and decide the following matters:

- Approval of the annual accounts and the annual report, including distribution of dividend.
- Any other business which according to law pertains to the annual general meeting.