



Sales fell 16.8% to KRW 1,400 billion in 2018 as polysilicon prices dropped sharply worldwide following major policy changes in China's solar PV market. EBITDA fell 53% to KRW 150 billion due to inventory write-off losses related to our polysilicon business.

Basic chemicals



Polysilicon

This raw material is the primary material used to manufacture solar PV cells and modules as well as semiconductor wafers.

We have produced polysilicon since 2006 at our Gunsan plant in Korea. In 2017, we began production at our first overseas plant in Sarawak, Malaysia. Today, we are the world's No. 2 polysilicon maker with a nameplate production capacity of 72,000 metric tons.

In 2018, sales volume rose but profitability fell as the structural oversupply situation in the industry sharply worsened in the wake of China's sudden cut in solar PV project subsidies at the end of May. The ensuing rapid drop in demand in the world's largest solar PV market sent prices on the spot market tumbling from the USD 15/kg level to under USD 10/kg, erasing hopes for what was expected to be a solid year for the industry.

Looking ahead, the significant gains in cost reduction we have achieved and continue to improve on at our Sarawak plant in Malaysia have put us on track to be cost competitive with the industry's lowest-cost solar-grade producers.

We are also accelerating the shift in production from solar-grade polysilicon to semiconductor-grade at our Gunsan plant with the goal of reaching 5,000 metric tons by 2022 to serve the needs of our growing customer base in the thriving Asian semiconductor industry.

Phosphoric acid

This chemical (H_3PO_4) is used in etching semiconductors, industrial applications, and food additives.

We have produced H_3PO_4 since 1980, expanding our product portfolio over the years to meet growing demand for high-purity products from the semiconductor industry. Today, our 15,000 metric ton plant in Gunsan, Korea supplies major customers in Taiwan and South Korea.

In 2018, we continued to grow sales and profitability backed by our advanced production capabilities as we increased capacity by 5,000 metric tons during the year.

Looking ahead, we are on schedule to complete an additional 5,000 metric ton expansion in 2019 that will boost capacity of our Gunsan plant to 20,000 metric tons, enabling us to meet growing demand from major South Korean semiconductor makers.

Hydrogen peroxide

This chemical (H_2O_2) is used as an oxidizing agent in various applications such as bleaches, feedstocks, preservatives, sterilizers, and etching and cleaning agents used in electronics manufacturing.

We have produced hydrogen peroxide at our Iksan plant in Korea since 1979. Today, we are capable of producing 75,000 metric tons of industrial-grade, 30,000 metric tons of electronic-grade, and 3,000 metric

tons of semiconductor-grade products annually.

In 2018, both sales and profitability were solid, driven by growing demand from the semiconductor industry.

Looking ahead, we anticipate continued growth in this field. We aim to increase electronic-grade production capacity by 20,000 metric tons and semiconductor-grade capacity by 10,000 metric tons in 2019 as we continue to move our product portfolio up the value chain.

Fumed silica

This white, fluffy amorphous powder has extremely low bulk density and high specific surface area. It is used as a thickener, reinforcing filler, or abrasive in paint and coatings, sealants, rubber, adhesives and chemical mechanical polishing slurry.

Since entering this business in 2006, we have emerged as a top-5 global producer with a total production capacity of 15,000 metric tons,

including 9,000 tons in Korea and 6,000 tons in China.

In 2018, sales and profitability were very good as we benefitted from market trends that continued to increase our competitiveness in global markets.

Looking ahead, we are now in the process of expanding our hydrophobic fumed silica capacity from 500 to 1,000 metric tons at our Gunsan plant in Korea. We are also evaluating options for additional capacity expansion in the coming years to meet growing long-term demand in that market.

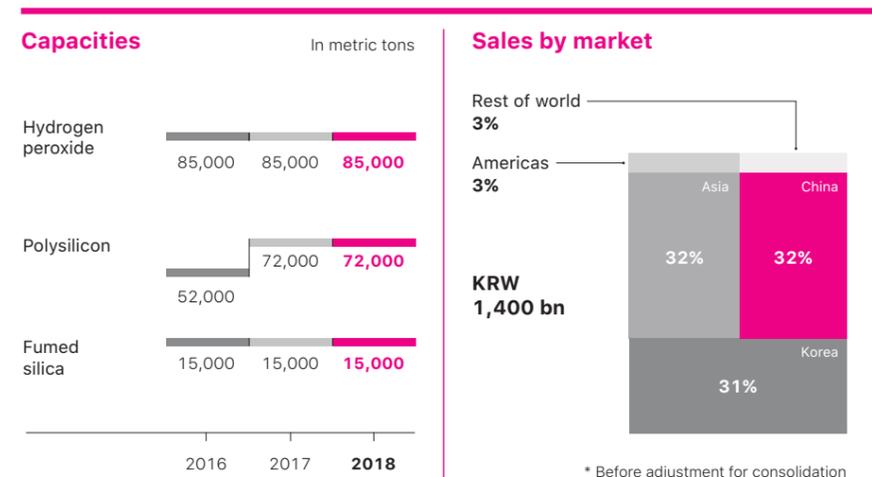
Chlor alkali

Caustic soda, chlorine, and hydrogen are the products of the chlor-alkali process. These products as well as downstream compounds such as hydrochloric acid and sodium hypochlorite are used in a wide range of applications, processes, and everyday products.

We began producing chlor alkali products in 1990. Today, we produce 117,000 metric tons of products annually for both captive use and sale to domestic customers.

In 2018, sales and profitability continued to rise as global supply remained tight and ongoing cost-reduction initiatives enhanced our competitiveness.

Looking ahead, we expect domestic market supply to remain tight in the coming year. This will continue to create opportunities for growth as well as cost-savings for our other business operations that rely on these feedstocks.





Sales rose 8% to KRW 1,426 billion in 2018 backed by strong performances by our carbon black operations in Korea and pitch operations in China. EBITDA fell 9% to KRW 225 billion as the imposition of US trade tariffs on Chinese tires and rubber products delayed the ramp-up of our carbon black operations in China and global oversupply in the TDI market reduced the profitability of that business.

Petrochemicals & carbon materials



Carbon black

This material is produced by the incomplete combustion of hydrocarbon fuels. It is primarily used as a reinforcing filler in tires and other rubber products as well as a color pigment in plastics, paints, and inks.

We have produced carbon black since 2000. Today, we are Korea's No. 1 carbon black producer with plants in Korea and China and a global sales capacity of 450,000 metric tons, including 100,000 tons from joint venture subsidiary Hyundai OCI Carbon.

Sales were up 24% in 2018 thanks to the smooth startup of Hyundai OCI Carbon in Daesan, Korea, which was solidly profitable in its first full year of operations. Our plans for our Shandong OCI-Jiayang Carbon Black joint venture plant in China's Shandong Province suffered a setback in 2018. Despite successfully completing qualification with major global tiremakers operating in the region early in the year, new contracts were delayed due to the escalating US-China trade war.

Looking ahead, our diversified production network positions us to supply global tiremakers who strategically relocate production outside of China to maintain competitiveness. We will accelerate development of value-added products to improve profitability. We will also be moving forward with construction of the second phase of the Hyundai OCI Carbon plant to boost capacity by 50,000 metric tons to 150,000 metric tons in 2019.

Toluene di-isocyanate (TDI)

This chemical is normally reacted with polyol to produce polyurethane used for slab and mold foam in furniture, automobiles, electronic components, and shoes as well as paints and resins.

We have produced TDI at our Gunsan plant since 1990. In addition to being a top-3 supplier in our home market, we supply TDI to more than 200 customers in 70 countries spanning Asia, the Middle East, Africa, and South America.

In 2018, sales volume and profitability fell as the global industry moved from undersupply to oversupply with worldwide spot prices and operating rates declining due to high inventory levels.

Looking ahead, we expect this market to face significant oversupply for the foreseeable future. Backed by the unique cost advantages that come from being able to self-source key feedstocks such as chlorine and hydrogen, we will be focusing on flexibly managing production and pursuing higher-margin products and markets worldwide to drive future growth and profitability.

Pitch

This material is used as a binding agent in high-quality anodes for aluminum smelting, graphite electrodes, refractory bricks, and water-proofing products. Coal tar, the raw material used to make pitch, can also be distilled to produce carbon black oil

and naphthalene, both key feedstocks used in our carbon black and phthalic anhydride businesses.

We have produced pitch since 1976. Today, we are a global top-3 coal tar distiller with a total distillation capacity of 1,280,000 metric tons, including 550,000 metric tons at two plants in Korea and 730,000 metric tons at two plants in China. We currently supply pitch to major aluminum smelters in the Middle East, Africa, Oceania, and North America.

In 2018, pitch export sales volume from China continued to increase as our 350,000 metric ton Ma Steel OCI Chemical plant in Anhui Province completed its second full year of operations. We also continued to expand our customer base, increasing our annual contract volume with global aluminum smelters to a record high level.

Looking ahead, our diversified East Asia production network encompassing four plants in Korea and China positions us to further increase our global market share. This production flexibility combined with more than two decades of experience in the business and long-term supply agreements with the world's top aluminum smelters gives us a solid foundation for growth going forward.

BTX

These three chemicals are the mainstay aromatic hydrocarbon feedstocks of the chemical industry used to make countless other petrochemicals. Benzene is used in styrene monomer, phenol, cyclohexane, and aniline.

Toluene is used as a solvent for various chemical products and as a raw material for dinitrotoluene. Xylene is used as a solvent.

We have produced BTX products since 1995 and are Korea's sole manufacturer of coal-based BTX products with a capacity of 260,000 metric tons.

In 2018, sales fell slightly despite rising oil prices. Profitability gains were limited due to reduced BTX demand connected with the ongoing US-China trade war and benzene price weakness due to increased supply driven by higher demand for paraxylene in China.

Looking ahead, we will continue to leverage our economies of scale and technical innovation to improve competitiveness and profitability going forward.

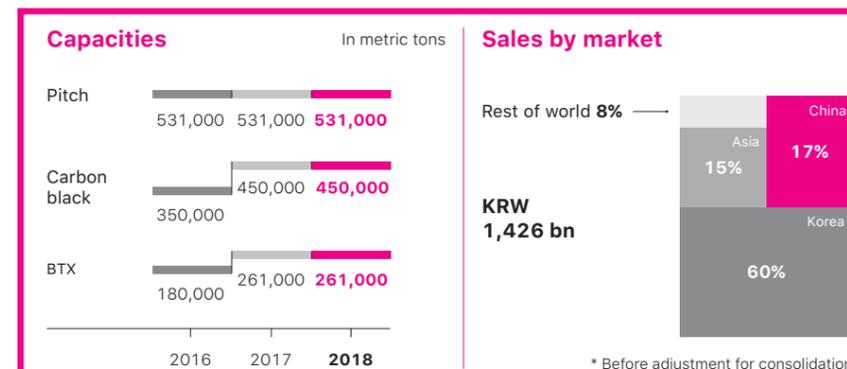
Other aromatics

Phthalic anhydride is used in plasticizers, unsaturated polyester resins, paints, and pigments. Plasticizers are used to soften PVC plastics to produce products such as wire insulation, synthetic leather, film, automotive sealer, and building materials.

We have produced plasticizers since 1991. Today, our Pohang plant produces 65,000 metric tons, including 15,000 metric tons of dioctyl terephthalate (DOTP), a non-phthalate, environmentally friendly plasticizer. Our ability to source 100% of our feedstocks—including phthalic anhydride—internally gives us a unique competitive advantage.

In 2018, plasticizer and phthalic anhydride sales rose modestly. However intensifying price competition in the Korean market due to extreme oversupply combined with increasing reliance on less-profitable export contracts continued to weaken margins.

Looking ahead, we are evaluating plans to build a 100,000 metric ton plasticizer plant adjacent to our polysilicon operations in Sarawak, Malaysia to more effectively meet future demand across Southeast Asia.





Sales declined 40% to KRW 483 billion in 2018 following the 2017 completion and monetization of the final phase of the Alamo solar PV project in the United States. EBITDA more than doubled to KRW 97 billion thanks to solid performances by our US solar module manufacturing operations and Korean cogeneration plant.

Energy solutions



Alamo solar PV plant, Texas, USA

Solar PV energy

The global solar PV market experienced a temporary setback in 2018 as demand in China, a market that accounted for over half of global demand in 2017, fell sharply in the second half of the year following the government's revision of feed-in tariffs. Overall global installations grew a modest 2% for the year from 99 GW to 101 GW. Despite its domestic market challenges, China continued to lead the global market followed by the United States, India, Japan, Germany, and Turkey.

We are a global solar PV project developer with a presence in key markets around the world that include the United States, China, and Korea. As of the end of 2018, we had completed projects totaling 696 MWdc. We currently operate projects totaling 83 MWdc worldwide with an additional 12 MWdc in development or under construction.

Our sole project monetization in 2018 was the sale of the Ivory project in the

US state of Texas in the third quarter. This 66 MWdc project was our second follow-up project for CPS Energy following the 560 MWdc Alamo project, the first and largest utility scale project in Texas to date completed between 2013 and 2017.

The strong performance of our Mission Solar Energy solar PV module manufacturing subsidiary in San Antonio, Texas was another growth driver in 2018. Established in 2012 to supply modules for the Alamo project, the company has shifted focus from the utility market to the distributed generation market over the past few years. In 2018, the company recorded its first operating profit to date as it expanded operations to 24/7 by adding a third production shift to meet growing demand from across the US market.

We also continued to enhance our expertise in the field of energy storage systems (ESS) during the year with the completion of a 51 MWh system at our Gunsan polysilicon plant in May.

Installed as part of a peak shaving strategy to significantly lower plant energy costs, the facility is also giving us the opportunity to test and improve our ESS technology as we prepare to begin delivering these systems with future solar PV projects in Korea.

Looking ahead, the global solar PV market is projected to return to double-digit growth in 2019. While the Chinese market is expected to stabilize at around 40 GW, growth in other regions is expected to rise significantly worldwide led by India, Europe, and North America. Our home market of Korea is also projected to surpass the 2 GW growth it recorded in 2018 thanks to new government incentives.

In January 2019, we acquired the Korean operations of German-based Kaco New Energy, a leading manufacturer of inverters and power conditioning systems, through our domestic solar PV development subsidiary OCI Power. This acquisition will help us accelerate development



Mission Solar Energy, Texas, USA



OCI SE cogeneration power plant, Saemangeum, Korea

and deployment of advanced energy storage systems that will make future solar PV plants even more efficient and reliable.

Cogeneration power plant

Our OCI SE subsidiary operates a 303 MW coal-fired cogeneration power plant in the Saemangeum Industrial Complex on Korea's west-central coast. Built with the best available technologies and backed by five decades of operational know-how gained through the operation of captive cogeneration plants at our Incheon, Gwangyang, and Pohang plants, the

Saemangeum plant completed its second full year of operations in 2018.

Sales grew incrementally in 2018 on the strength of higher system marginal prices and increased sales of renewable energy certificates earned from the use of wood pellets in the fuel mix. While power sales continued to meet targets, demand for steam continued to lag expectations due to the slow build-out of the industrial complex. We expect sales and profitability to grow incrementally over the long term as the complex attracts new manufacturing tenants.

