

STEEL SECTOR - DOWNSTREAM INDUSTRIES IN QATAR

SME INDUSTRY
SERIES REPORT
2022



QDB

بنك قطر للتنمية
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MESSAGE FROM THE CEO



Small and Medium sized enterprises (SMEs) are backbone of any economy and are key to building a diversified economy for State of Qatar. Promotion of SMEs are cornerstones of country's aspired knowledge based sustainable economy. Qatar Development Bank (QDB) plays a vital role in this objective wherein it facilitates development of an enabling eco-system for entrepreneurship and formation of new ventures on sustainable basis within the SMEs sector.

Steel is one of the most diversified metal to be used by human race and has always been central part of global economic progress. Steel consumption is widely taken to be an indicator of economic development. It is the basic construction element of all buildings, vehicles, and industries. Global steel production has almost quadrupled over the past 50 years, to support the 5.3x expansion in global economy during this period. The story in Qatar has also been similar, with consumption of steel an important indicator of the economic prosperity overtime. During the period of 2000-2020, consumption of finished steel in Qatar has increased by 2.1 times, while the economic expansion in constant terms has been pegged at 4.8 times. Most of the demand for finished steel products continue to be generated by oil & gas, construction and engineering sectors.

The growth in demand for finished steel products is also an indicator of the increasing importance and contribution of downstream steel sector to a country's development.

“

Qatar has a growing industry with more than 320 small and medium enterprises engaged in production of ~2.2 million tonnes of downstream steel products.

”

These companies continue to improve their competitiveness by leveraging on access to finance, technology, and policy support from the government. Many of these companies are now moving from production of structural metals and commoditized products to more technically intensive areas such as production of pipes and tubes that need to meet global standards. It is also important to note that local production of downstream steel products in Qatar has expanded at a CAGR of ~5% during the period of 2018-2021; during the same period, imports has reduced by ~8%. This would suggest that local producers are increasingly reducing dependence of importers in the last few years.

The main focus of this report is to understand the landscape of the steel industry in Qatar and provide insights particularly into the downstream steel products. The report also showcases product segments that can be considered as attractive opportunities based on prevailing and evolving market dynamics, and this is further supported through deep dive into six product segments based on harmonized system codes to provide a more comprehensive analysis.

The State of Qatar offers political and economic stability, high-quality infrastructure, and one of the lowest corporate tax rates in the world. The country offers several business opportunities to grow, especially now with the emphasis on localization and pursuit to meet the objectives of Qatar National Vision 2030. These factors make Qatar one of the favored destinations for doing business.

This report provides a holistic view of the downstream steel sector in Qatar and I hope it will be beneficial to all stakeholders within the country. I invite readers to go through the report to gain in-depth knowledge about this sector's prospects.

Abdulrahman Hesham Al Sowaidi

Acting Chief Executive Officer

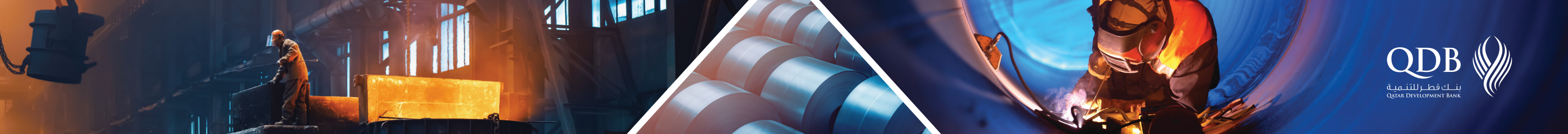


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1 - OVERVIEW OF STEEL INDUSTRY

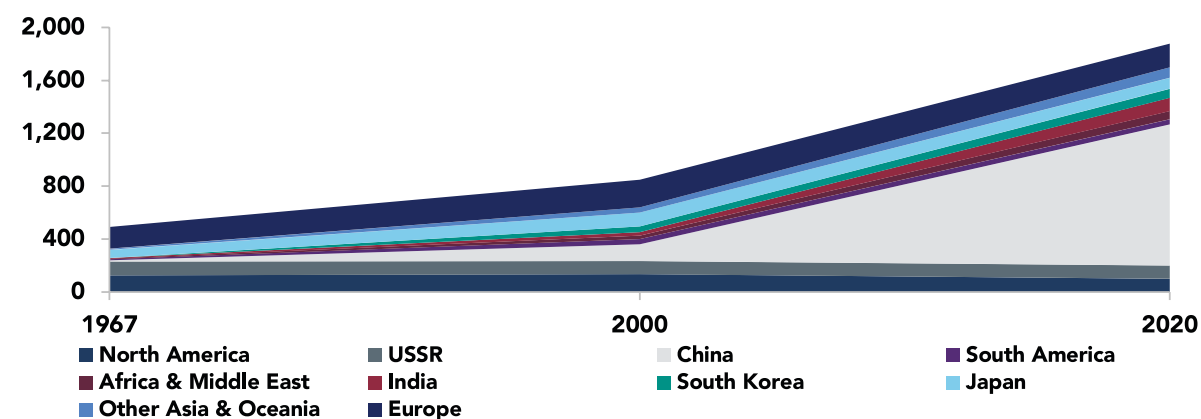
1.1 EVOLUTION OF STEEL INDUSTRY

Steel has always been central part of global economic activity, from deep sea to deep space. Steel is a key ingredient to be used in infrastructure development for a country. Infrastructure is a key index of a country's economic position at the global stage. It augments a country's productivity, making firms more competitive and boosting the overall economy of a region. Countries need steel to build new infrastructure like roads, railway lines, buildings, and bridges, etc. Steel consumption is widely taken to be an indicator of economic development.

It is the basic construction element of all buildings, vehicles, and industries, with 1,878¹ million metric tons of crude steel produced in 2020. Global steel production has increased by 3.8 times between 1967 to 2020, despite nations like the U.S. and Russia scaling down their domestic production.

It's true strength lies in its infinite recyclability with no loss of quality and it being stronger than other abundantly available metals. The average life of steel products ranges from a few weeks for steel packaging to up to 100 years for buildings and infrastructure. Steel will continue to be the backbone and enabler of society's progress considering it is at the core of realizing a true circular economy. Tomorrow's smart cities will be built on steel. It will remain the principal component in diverse systems and applications. Moreover, advancements in metallurgy and digitization with automation within the steel industry will enhance the properties of steel, creating new applications in future.

Chart 1: Global Crude Steel Production in Million Tonnes (1967 – 2020)



Source: World Steel Association

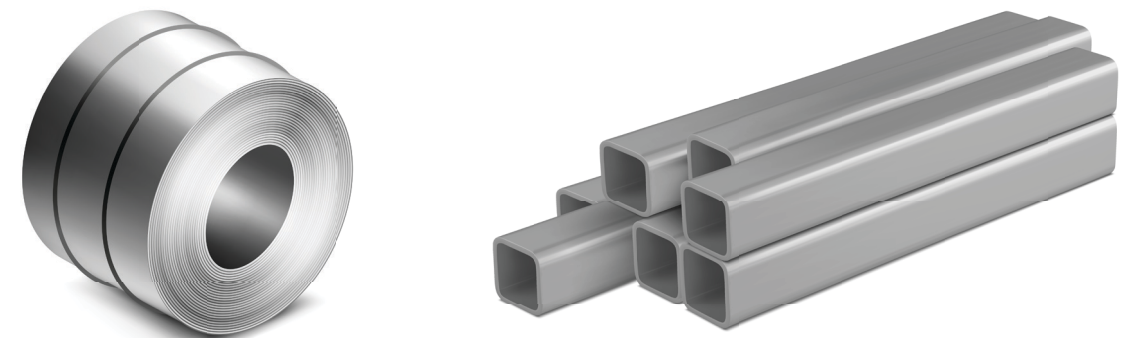
¹ Report Published by World Economic Forum based on the 2021 data from World Steel Association

With the evolution of steel industry in the past 50 years, there is a steady shift in steel consumption from developed economies to the countries that are aspiring to become developed economies of 21st century. A classic example is China, where the steel production was negligible in the early 1970s, China accounts for:



~56.7% of global crude steel production in 2020

Its growth in the past two decades can be measured by its dominance to become single largest country with substantial rise in steel consumption. Strong surge in steel consumption is an indication of its dominance in manufacturing, construction, and other infrastructure projects globally. This growth also indicates the global dependence for steel from China, which has made it a key influencer in the steel production and pricing globally.

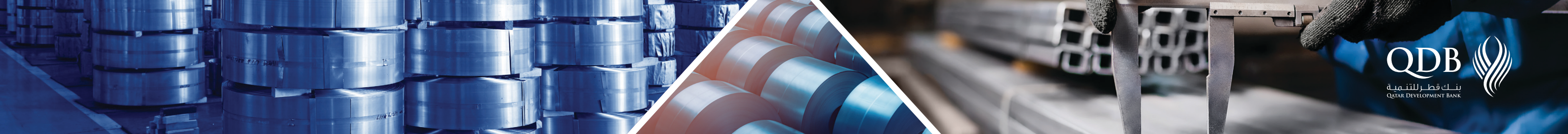


India is the second major steel producing country next to China, accounting to:



5.3% of global crude steel production & **5.0%** of global finished steel products.

Although India is at distant second position compared with China, the country is targeting exporting of steel both in the semi-finished and finished form to the countries of Asia, Africa and Middle East region.



Japan is another country that has consistent contribution in steel production for the past 50 years. Steady infrastructure and economic growth, coupled with technological advancement has helped Japan retain its position in steel production. However, the key difference between Japan and China is that Japan's production is largely directed towards catering to domestic consumption, while China has positioned itself as a global production hub with equal importance for self-consumption and exports. Japan maintained being the 3rd major steel producing country accounting to:



4.4% ²of global crude steel production & **3.0%** of global finished steel products.

1.2 TAXONOMY & COVERAGE

Steel Industry is classified as Upstream, Midstream and Downstream to capture its entire production and supply chain. Based on the raw material, steel can be classified as carbon steel and stainless steel & alloy steel. Carbon steel follows the complete upstream, midstream and downstream model, while stainless steel is very similar to carbon steel where the processing, cutting and pipe manufacturing in the midstream varies, while downstream is the same as carbon steel.

1.2.1 STEEL INDUSTRY – UPSTREAM

Upstream starts with raw materials such as iron ore and coking coal, using blast furnace process. This method of steel production relies on iron ore and coking coal, which in turn is dependent on mining activities. Hence, during 2019 (the trade negotiation between the U.S and China) and during the pandemic of 2020, when mining activity got restricted, affected the entire steel industry.

Steel manufacturing using electric arc furnace (EAF) uses scrap steel and iron than depending on iron ore and coking coal. Countries with less access and availability to iron ore use scrap steel or iron and produce steel using EAF. Countries with self-reliance in energy use EAF by importing and recycling local steel scrap. However, steel production through EAF is limited due to low availability of scrap, and it is considered more as a top up to the existing steel production, than being the sole steel production technology.

² 2021 World Steel in Figures – Report by World Steel Association

1.2.2 STEEL INDUSTRY – MIDSTREAM

Midstream process of steel entails melting iron at very high temperatures of ~1,600 degree Celsius, and mixing it with carbon, chromium or other additives to produce semi-finished products such as bloom beams, billets and slabs of different slabs and density. These intermediate products are rolled and molded to transform them into finished steel products.

1.2.3 STEEL INDUSTRY – FINISHED STEEL PRODUCTION

Finished steel products can be of different types such as bars, reinforcing bars (rebars), sections, wire rods, CR coils, tubes, HR coils, tubes, galvanized steel, plates, railway material, tinplates, and welded tubes.

HR coils and tubes are largely used in industrial and manufacturing processes. When a steel bar has a diameter of less than 14mm, it is termed as steel wire, when the diameter is greater than 14mm it is defined as a bar. Reinforcing steel bar is largely used for construction, while other bars and tube products are used in various applications in the chemical industry, dairy and food processing, power plants, modern architecture, oil & gas processing, water treatment facilities, desalination plants etc.

Steel sections are products in a predesigned shape that could be used for specific construction and industrial application, these are called regular steel sections, that are readily available in designated shape and size. Some examples are angled sections that are manufactured in L shape, with two legs, channel sections are a C-section that has two equal flanges, T-section with a web and flange arranged in T-shape and I-section that are also called as steel beams.

Galvanized steel are the ones that have a coating of zinc, protecting steel from corrosion. This product is largely used when steel is exposed to environment in outdoor applications, such as high-tension electric towers, protective gears, and also in household appliances such as washing machines, and air conditioning units.

Steel plates are steel in the form of corrugated plates that are used in construction equipment in schools, bridges, floors in manufacturing floors, sports facilities, train stations and so on. It is also used in manufacturing heavy equipment such as bulldozers and machineries.

These downstream products are raw materials for producing finished articles of steel such as seamless and ERW pipes & tubes; fittings and accessories; structures; tanks and containers; wire ropes, wire meshes and fences; roller chains, anchors and grapnels for ships; and needles, syringes, stoves and other consumer appliances.

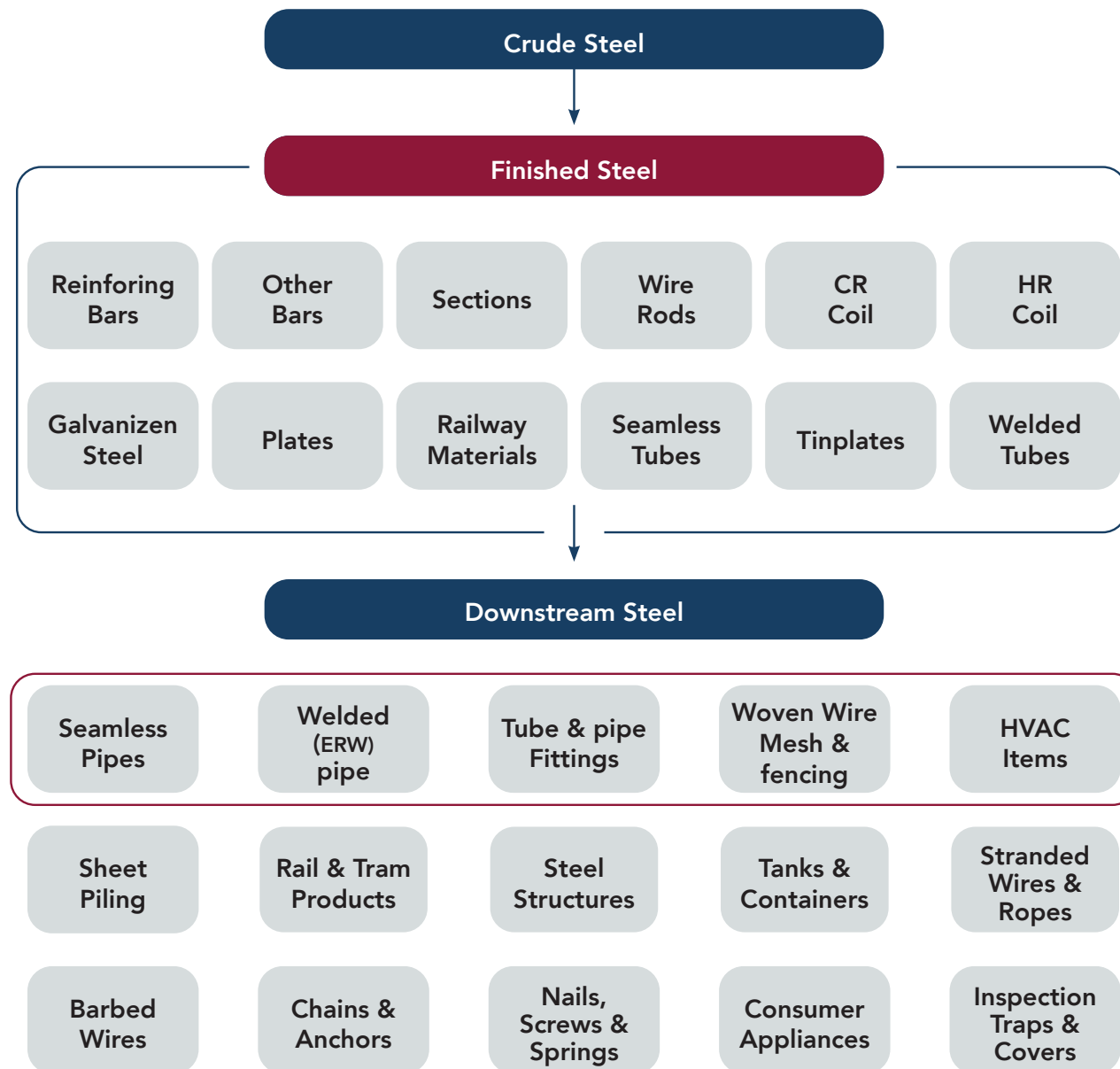
1.2.4 STEEL INDUSTRY – DOWNSTREAM STEEL PRODUCTS

The finished steel products can be further processed to produce finished articles of steel such as seamless and ERW pipes & tubes; fittings and accessories; structures; tanks and containers; wire ropes, wire meshes and fences; roller chains, anchors and grapnels for ships; and needles, syringes, stoves and other consumer appliances. These products are used in a variety of applications including machinery and equipment, transportation, oil & gas, industrial and construction projects.

This report focuses on providing an overview of the downstream steel products market, benchmarking of these products to determine the top six product segments based on harmonized system codes that can be considered as attractive based on prevailing market dynamics, and deep-diving into these shortlisted product segments.

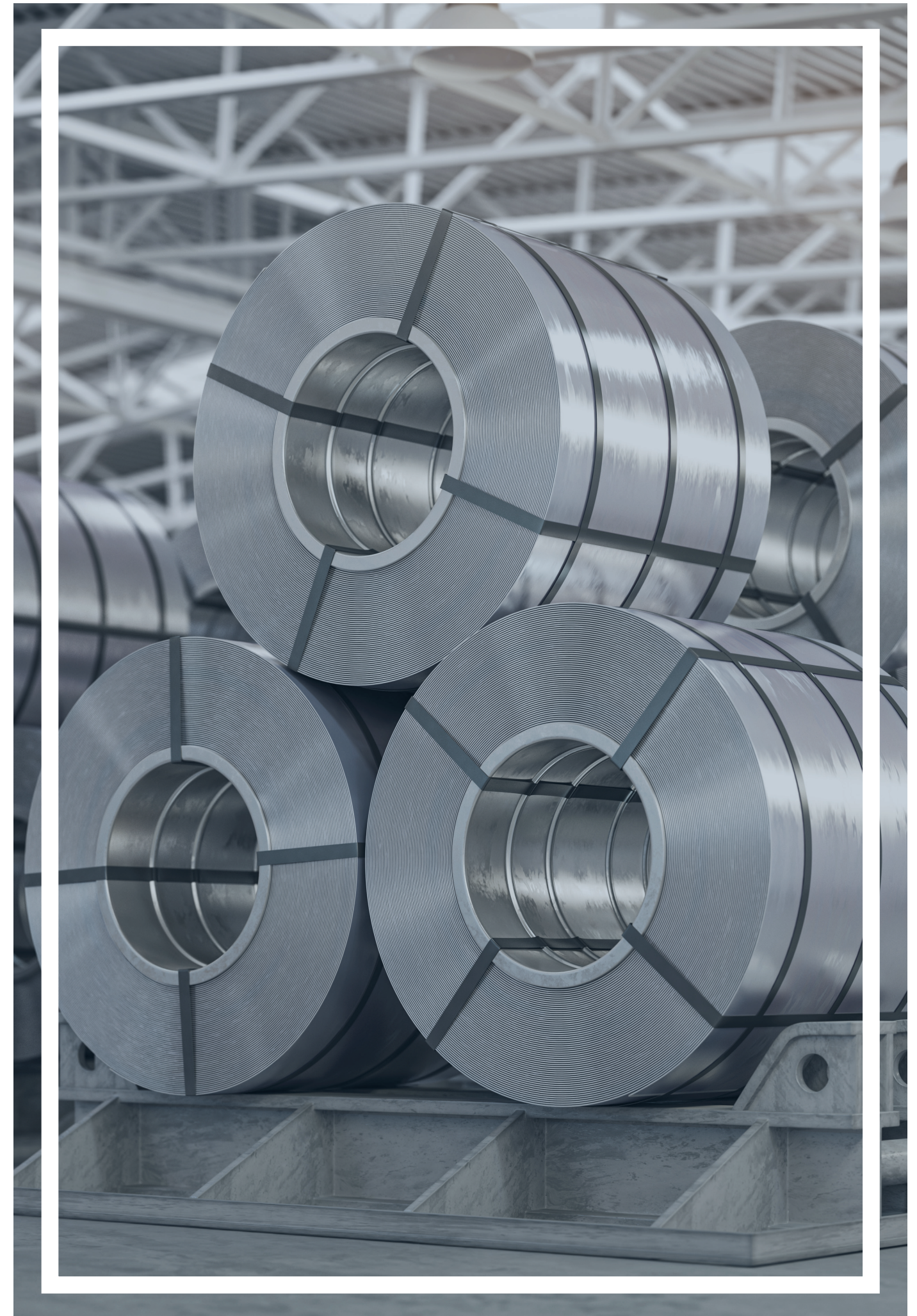


Figure 1: Taxonomy for Finished Steel Products & Coverage



Note: Products considered later in the report have been highlighted in red

Source: News Articles, Websites of Steel Producers



1.3 CHARTING ACTIVITIES OF STEEL INDUSTRY

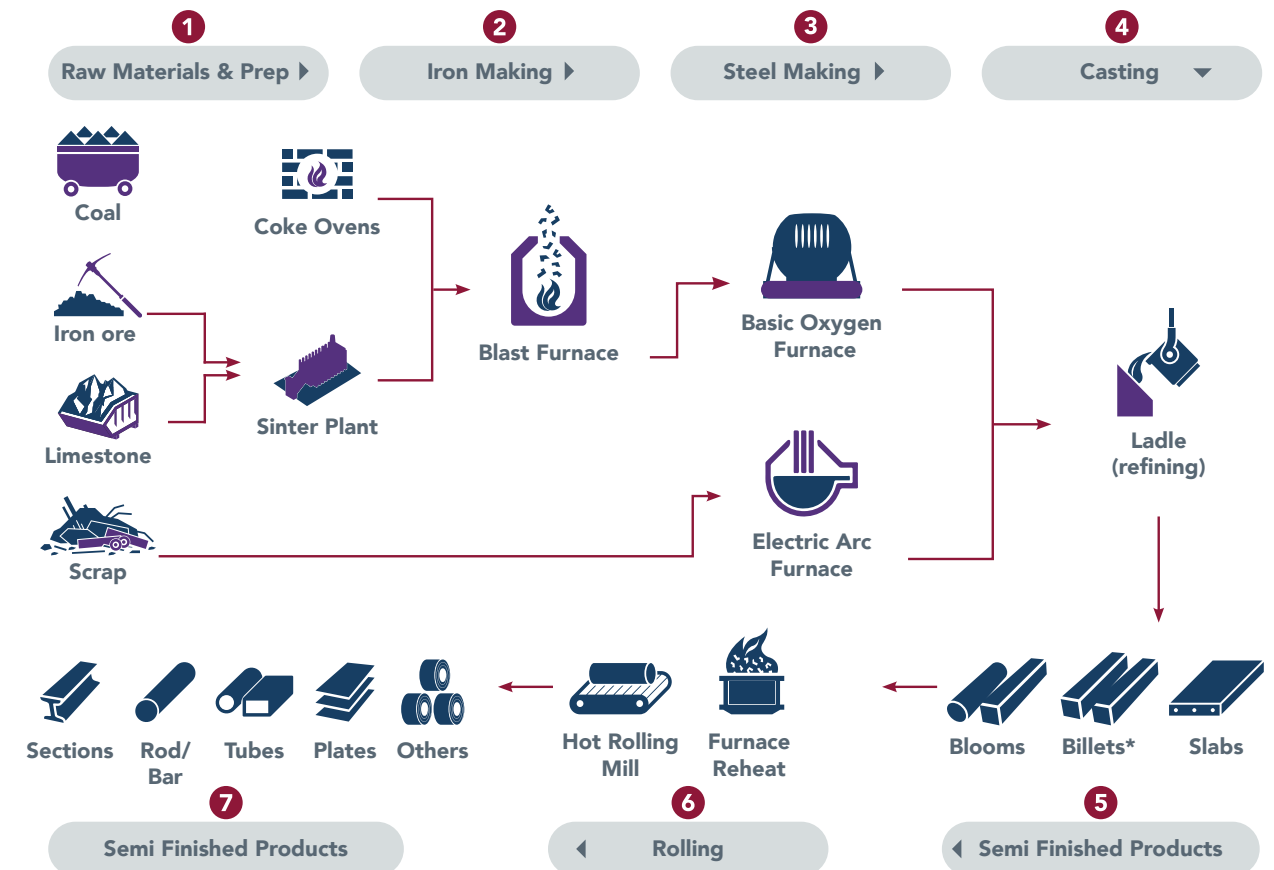
Steel production involves 7 stages (as depicted in figure below) which starts from processing of raw materials to forming of finished products such as sections, bars, plates, tubes and others.

In a crude steel production plant, raw material processing depends on the type of furnace used, which could be blast furnace or EAF. Blast furnace uses iron ore and coking coal as raw material and produces direct reduced iron (DRI) or pig iron which is further processed in a basic oxygen furnace to produce steel. In an electric arc furnace, steel scrap is used to produce steel, which eliminates the requirement for coking coal and blast furnace.

The semi-finished steel is further processed by steel mills or standalone steel plants to produce downstream products. An integrated steel plant is involved in producing both semi-finished steel and finished products, and the number of integrated steel plant is much less than the standalone steel plants globally.



Figure 2: Charting Activities of Steel Industry



Source: New Steel Construction Magazine, Websites of Steel Producers

According to World Steel Association, production of crude steel in the Middle East was:

45.4
million tonnes
in 2020

compared to:

29.3
million tonnes
in 2015



UAE



Iran



KSA



Qatar



Bahrain



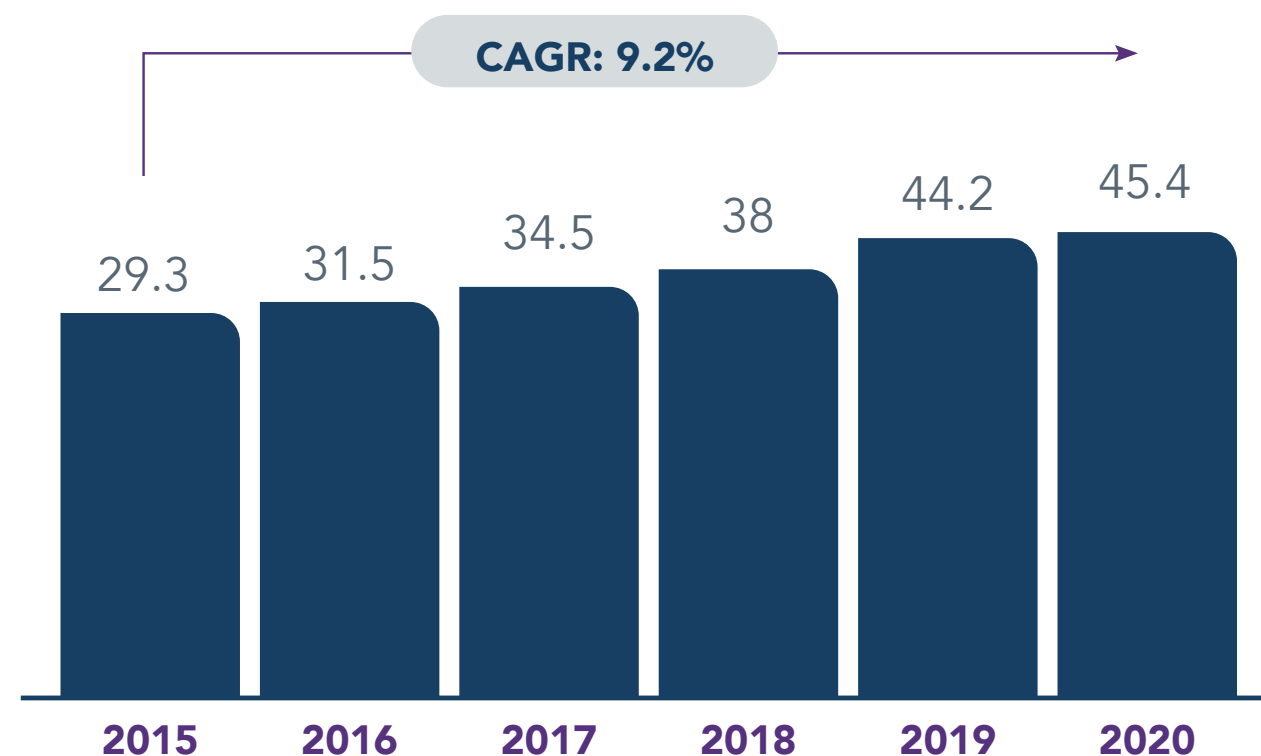
Oman



Kuwait

UAE, Iran, KSA, Qatar, Bahrain, Oman and Kuwait are the countries from Middle East region involved in steel production. Among them, Iran, Saudi Arabia and Qatar has integrated steel plants that offers both semi-finished and finished steel products.

Chart 2: Production of Crude Steel in the Middle East (Million Tonnes)



Source: World Steel Association

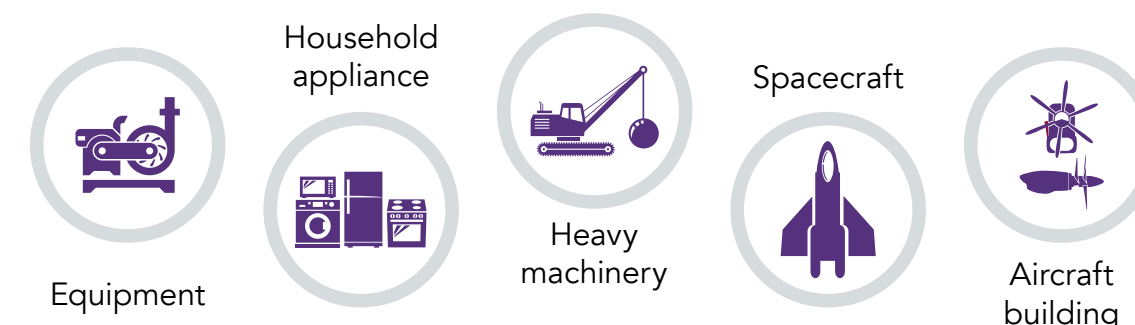
Qatar, being world's largest natural gas supplier, use EAF for steel production. This eliminates the need for coking coal and use natural gas to produce steel from direct reduced iron (DRI); a sponge iron developed from iron ore, and steel scrap materials. This makes steel production less polluting as coal is replaced by natural gas.

Qatar Steel, the major steel manufacturer from Qatar offers semi-finished product in the form of billets, and finished product in the form of rebars. Most of the other finished product such as sections, tubes, and plates are largely imported for specific applications.

2 - IMPORTANCE OF STEEL INDUSTRY

2.1 KEY INDICATOR OF INFRASTRUCTURE DEVELOPMENT & ECONOMIC GROWTH

Steel is an important metal that is inevitable in everyone's life globally. Higher steel consumption in a country is an indication of construction activities, and infrastructure growth as steel is the common ingredient for both. Steel is a unique metal as it offers consistent reliability and versatility in manufacturing and commercial applications. It is 100% recyclable which makes it environment-friendly, cost-effective, and reliable to use. It also finds application in a wide range of equipment from the most common household appliance to heavy machinery, spacecraft, aircraft building. Such diverse usage makes steel the evergreen metal which will always be in demand for any country with stable economic growth.



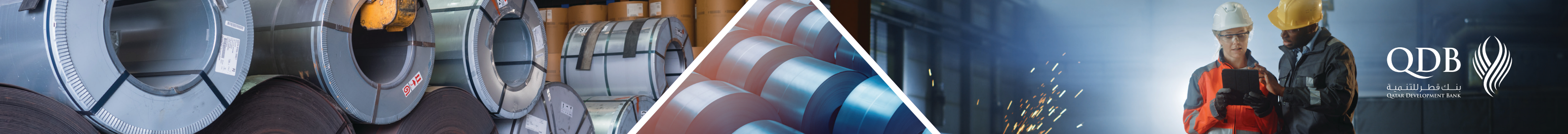
In addition to its favorable features, steel as an industry is an important sector offering direct employment opportunities in countries that are involved in steel manufacturing process. Nearly 6.2 million people are directly involved in steel production and processes globally. For every 2 jobs in steel sector, 13 more jobs are supported throughout the supply chain, offering indirect employment to nearly 40 million people globally³.

Comparing global trend with Qatar, the labor force is ~75% of its population; manufacturing sector, which includes steel production, accounts for nearly 7%⁴ of total labor market.



³ The Role of Steel Manufacturing in the Global Economy – 2019 Report by Oxford Economics for World Steel Association

⁴ International Labor Organization, Qatar Planning and Statistics Authority



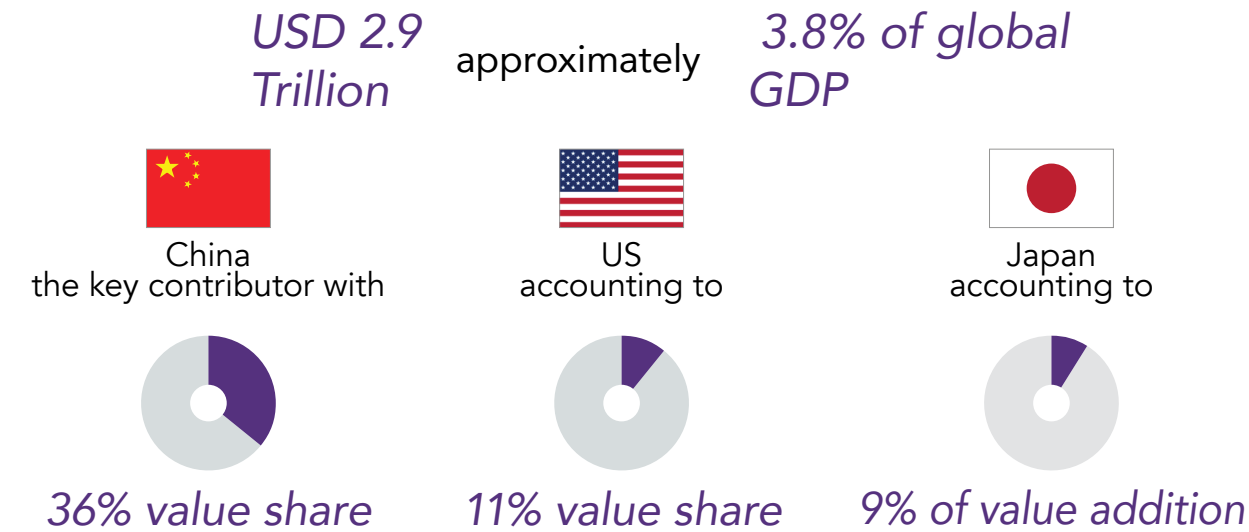
Supportive policies by Qatar government to improve domestic manufacturing capabilities has led the employment generated in manufacturing sector to be ~ 4.77% of the total economically active population (15 years and above) in 2020. This includes the employment in steel and its allied sectors as well. Further, plans to accelerate non-hydrocarbon sector exports under the Qatar National Manufacturing Strategy 2018-2022, along with support under the Qatar National Vision 2030 (QNV2030), and second National Development Strategy (NDS-2) could drive production value for manufacturing sector by 30%⁵ from 2019 to 2025.

2.2 BENCHMARKING CRUDE STEEL PRODUCTION TO CONSTANT GDP GROWTH

Research from The International Association for Energy Economics⁶, Kearney⁷, Multidisciplinary Digital Publishing Institute⁸ and other agencies suggest that global steel consumption is closely related to growth in economic activity because of its wide applications in developing products that impact modern lifestyle.

Research by World Steel Association⁹ has concluded that modern economy may not be sustainable without steel, which is a vital factor of production across industries.

The findings of this study also estimate the value added by total steel sector at:



⁵ NSD2 Document by Qatar National Vision and Ministry of Development Planning and Statistics

⁶ Steel Intensity as a Dynamic Function of Economic Growth, Mathieu Bordigoni, ERDF, La Défense, France

⁷ Rewriting the growth story for India's steel industry - Kearney

⁸ Metals I Economic and Qualitative Determinants of the World Steel Production

⁹ The Role of Steel Manufacturing in the Global Economy – 2019 Report by Oxford Economics for World Steel Association



Direct contribution of the steel sector to global GDP stands at: **QR 1,825 billion,**

while another **QR 4.4 trillion** is generated from ancillary industries.

The years with increasing trend in GDP, have registered higher steel consumption rates. Global GDP expanded from 2015 to 2019 due to the strong economic activity in the construction and infrastructure sector. However, the year 2020 witnessed a sudden decline due to Covid-19 pandemic that disrupted economic activity globally, including key markets for steel such as the U.S, Japan, India and China.

Crude steel production also witnessed similar growth trajectory with market growing 2015 to 2019, with only a soft increase in steel production in 2020. This trend is predominantly attributed to the crude steel production that resumed in the second half of 2020 in China, while the other key countries were reeling under the effects of pandemic.

However, GDP of the GCC region is largely dependent on oil & gas sector. Qatar with a GDP, in constant terms, of:

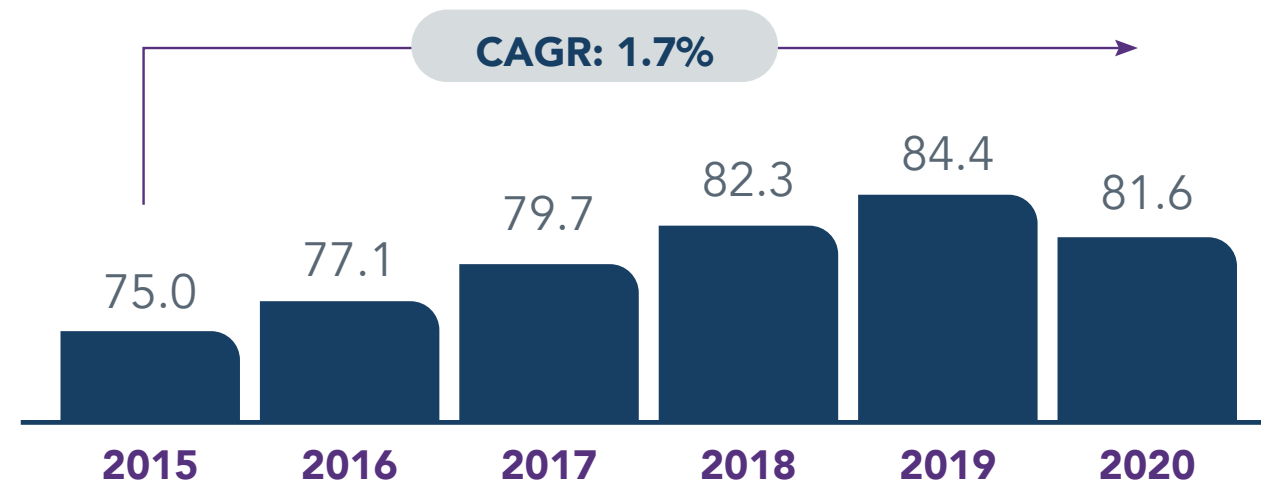
QR 648 billion for 2020 had 37% of its economic output from oil & gas production.



High dependence on oil & gas sector makes this region different from the global corollaries, with oil prices predicating economic development. Drop in oil prices from QR 237/barrel (USD 65.1/ barrel) in 2018 to QR 163/barrel (USD 44.8/ barrel)¹⁰ in 2020 along with surplus oil production strained the economy and lower spending.

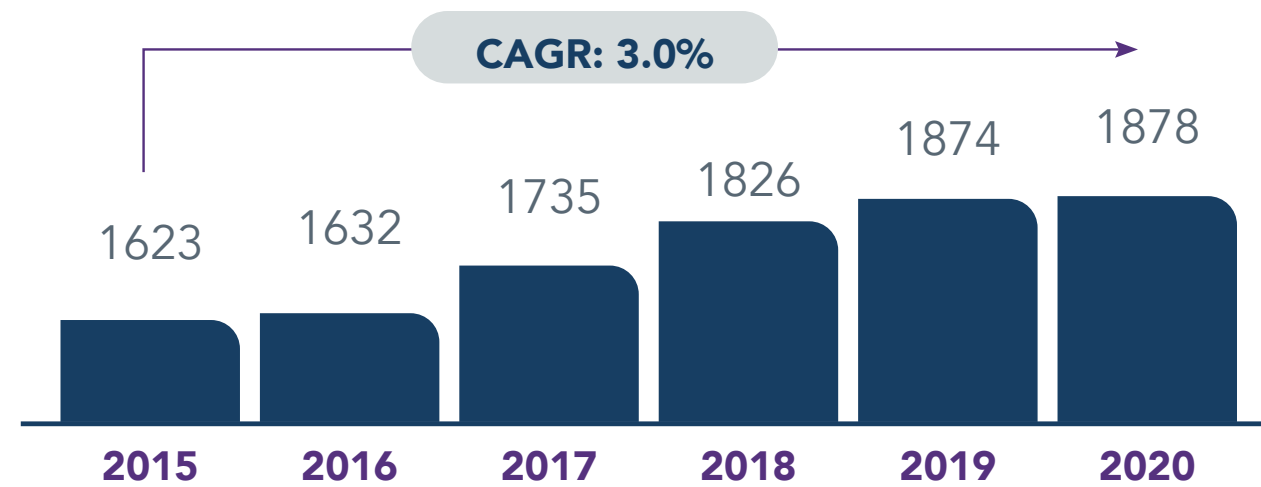
¹⁰ Independent Statistics & Analysis – U.S. Energy Information Administration

Chart 3: Global Gross Domestic Product at Constant 2015 Prices in Trillion USD (2015 – 2020)

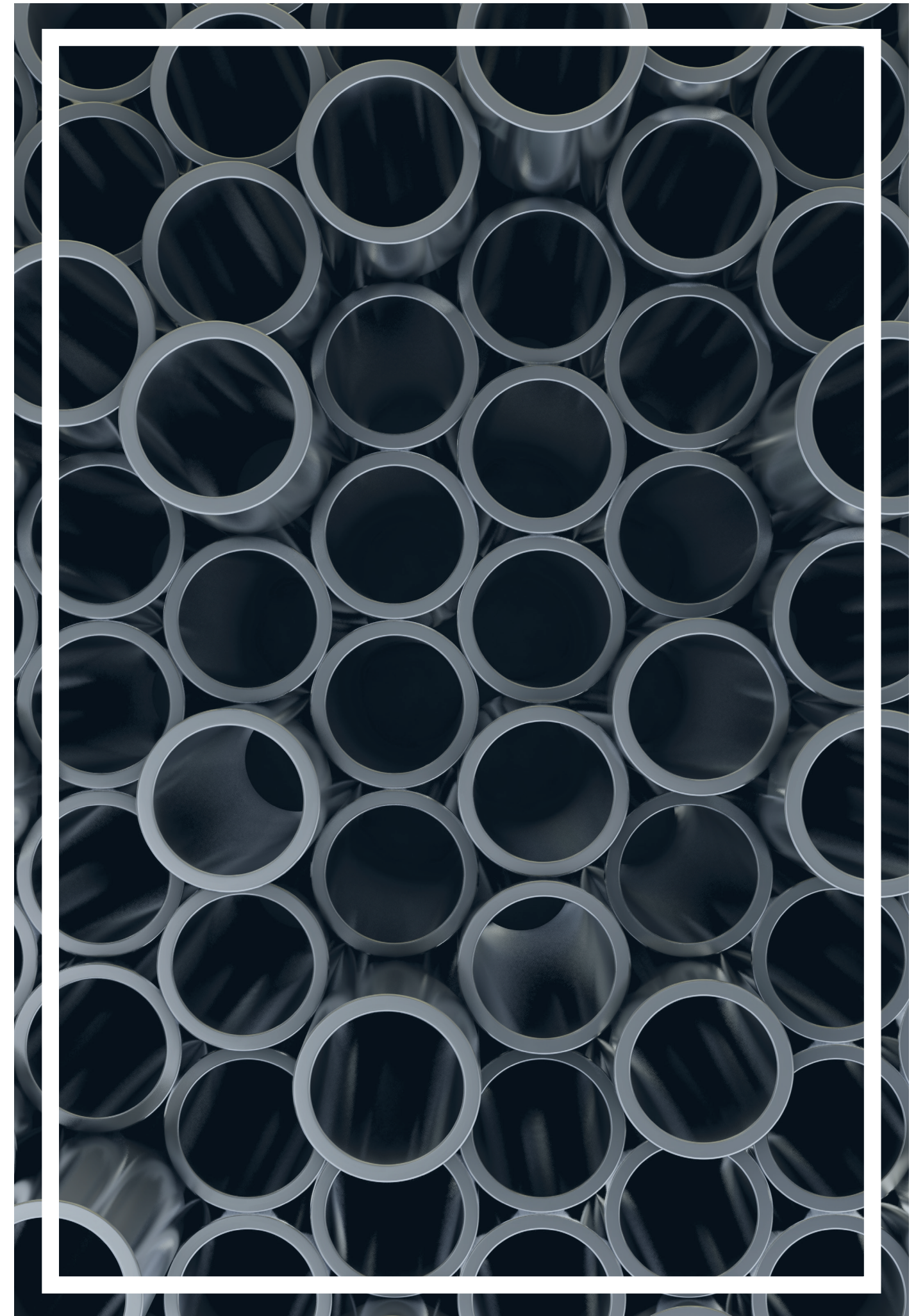


Source: World Bank

Chart 4: Global Crude Steel Production in Million Tonnes (2015 – 2020)



Source: World Steel Association



2.3 GLOBAL CRUDE STEEL PRODUCTION TRENDS

Crude steel production trends are largely based on the global economic activity and has witnessed a steady increase in the past decade. Influenced by raw material availability, pricing and demand from infrastructure projects, production has witnessed a CAGR of 3% during the period of 2015-20. More than 50% of crude steel production is from China, and this trend continued from 2016 till 2020. Though Covid-19 pandemic impacted production in Europe, Japan and American regions, China restarted its mining activities at scale from mid-2020, leading to a marginal increase in production during the year.

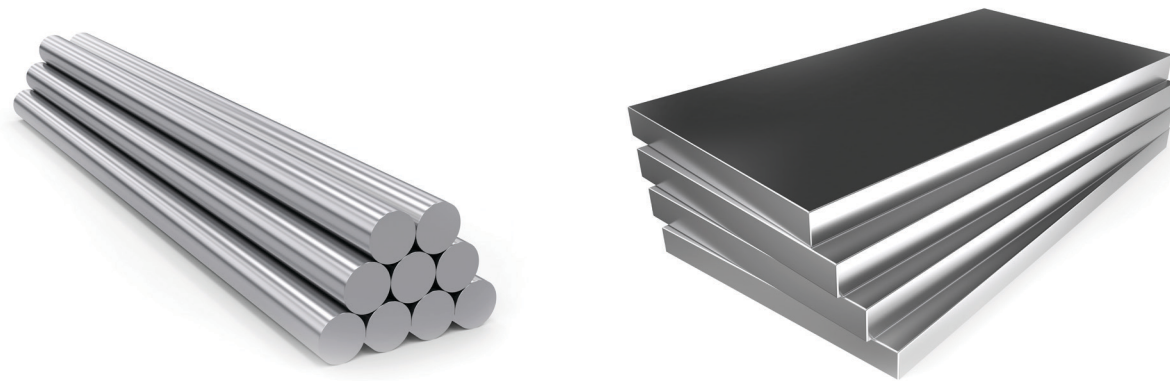
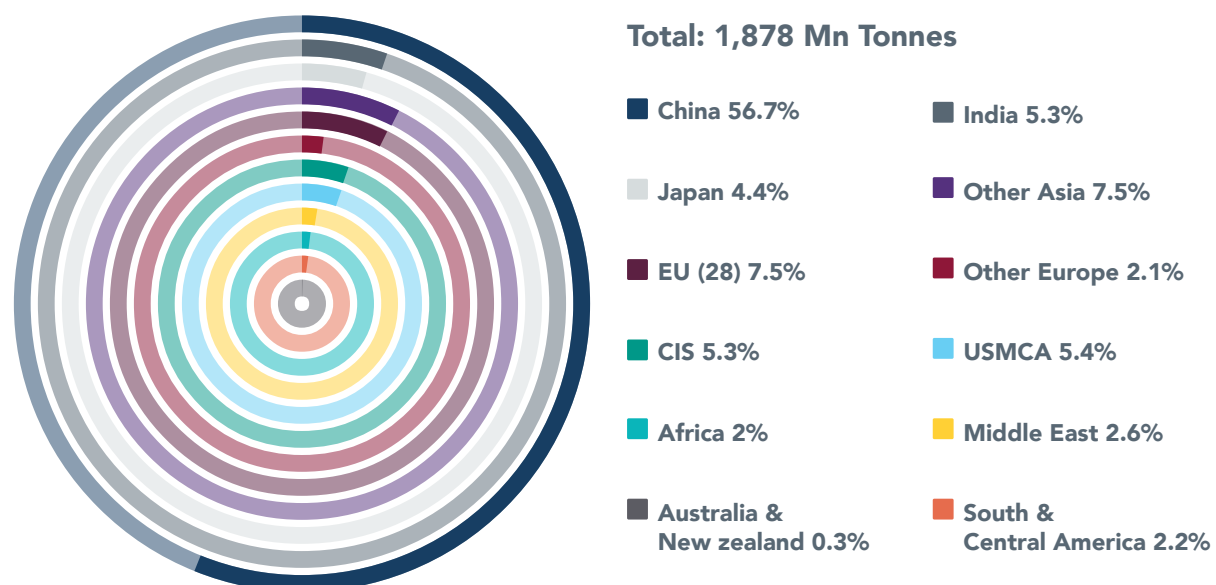


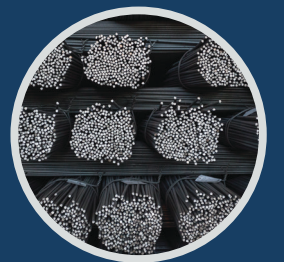
Chart 5: Global Crude Steel Production by Countries (2020)



Source: World Steel Association

2.3.1 CRUDE STEEL PRODUCTION TRENDS IN MIDDLE EAST REGION

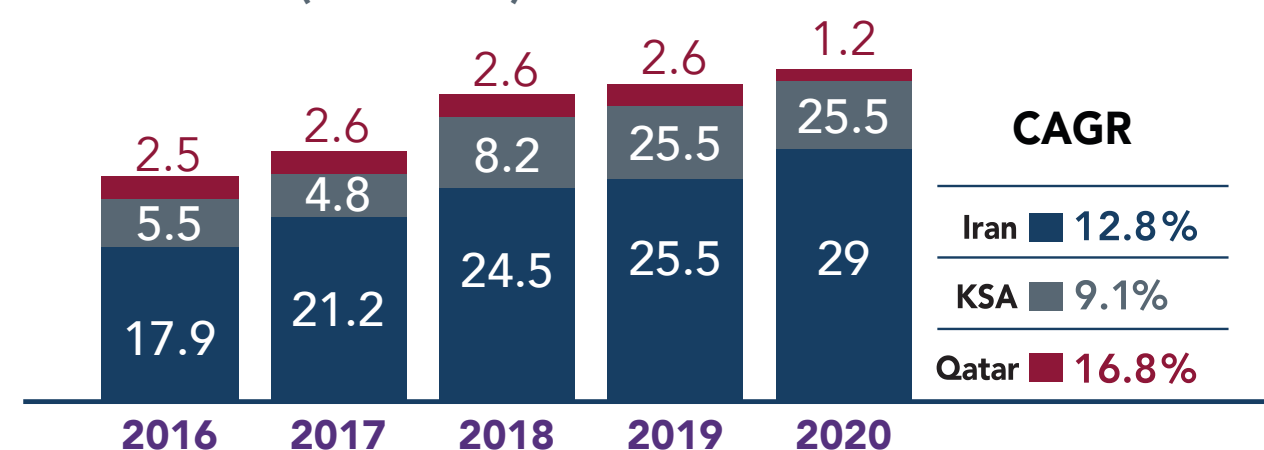
Iran is one of the largest steel producing country in Middle East region, with consistently high production over the past 5 years. Strong domestic demand led to significant growth of the sector even in 2020, at a time when most of the countries globally were facing slowdown due to the Covid-19 pandemic. For instance, Saudi Arabia and Qatar both witnessed a reduced steel production in 2020. Manufacturing plants were shutdown, while the pace of construction and other infrastructure projects were affected. Thus, the contraction in economic activity during the year had a negative impact on steel sector especially in Qatar, where steel production was down more than 50% y-o-y in 2020. Not just Qatar, the whole of GCC witnessed a drop in steel consumption to as much as 23%¹¹ of its usual consumption leading to cut down in production and imports.



¹¹ Global Forum for Steel Excess Capacity – 22Sep2020 by Emirates Steel



Chart 6: Crude Steel Production of Key Countries in Middle-East in Million Tonnes (2016-2020)



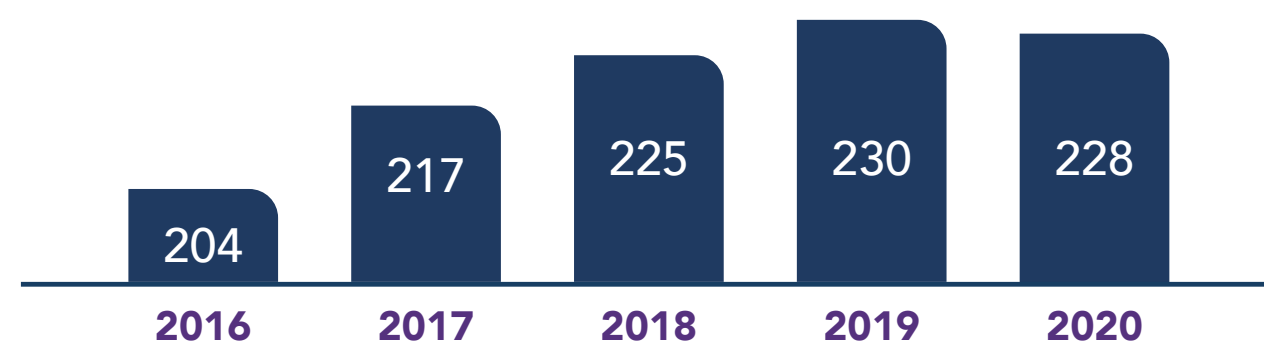
Source: World Steel Association, Commercial Databases

2.3.2 TREND IN PER CAPITA STEEL CONSUMPTION

The reduced demand in 2020 is reflected in a decrease in global per capita steel consumption during the year. Global per capita steel consumption follows a similar trend as GDP, with an increase from 2016 to 2019, and contraction in 2020.

China recorded an increasing per capita consumption of 482 kg in 2016 to 691 kg in 2020, while the U.S, Japan and Middle East recorded a decline from 2016 to 2020. Per capita steel consumption in the U.S declined from 284 kg in 2016 to 242 in 2020. Similarly, per capita consumption in GCC countries declined from 240 kg in 2016 to 187 kg in 2020.

Chart 7: Global Per Capita Steel Consumption in Kilograms (2016 – 2020)



Source: World Steel Association

2.3.3 RAW MATERIAL PRICING

Steel raw material pricing witnessed a decreasing trend during the first half of 2020 and gradually started to rebound by end of 2020 due to pick up in demand from China. By mid-2020, prices for iron ore, coking coal and scrap were 9%, 4% and 3% lower than the pricing during the same period in 2019.



The historical average iron ore price for the period of:



which is only marginally higher than the long term average. Iron ore prices are largely dependent on China, as it is the largest importer of iron ore globally. Price fluctuations in iron ore pricing have significant impact on the cost of steel, as roughly 1.6¹² tonnes of iron ore is needed to produce 1 tonne of pig iron.

Meanwhile, historical average price of coking coal – for the period of January 2008 to June 2020 – was at QR 661/, whereas the price in July 2020 was QR 350/tonne¹³, which is almost half the historical average. Coking coal price have now started to increase as Chinese producers shut down coal mines for safety and environmental reasons, while other producers (apart from China) reduced coking coal supply by 25 million Tonnes/ annum.

¹² World Steel Association – Article on Raw Materials

¹³ Steel Market Developments - Q4 2020 Report by Organization for Economic Co-operation and Development

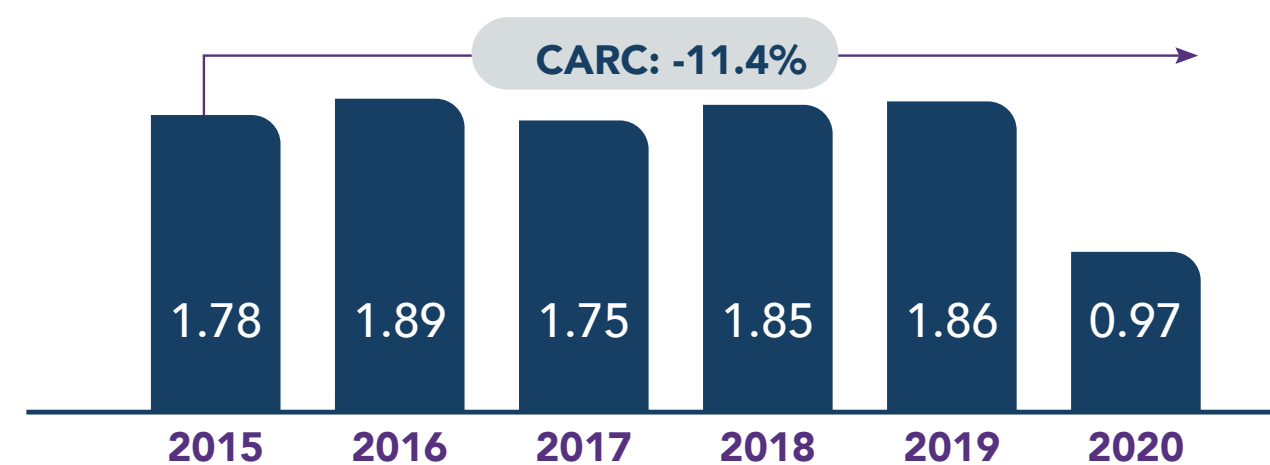
3 - ANALYSIS OF FINISHED STEEL INDUSTRY IN QATAR

3.1 FINISHED STEEL PRODUCTION ANALYSIS

Finished steel products includes rebars, HR coil, CR coil, wire rod, welded tubes, railway track material, tinplate, sections, plates and galvanized materials. Some of the products such as HR coils, rebars, other bars, wire rod and welded tube are produced in Qatar, while finished steel plates, CR coil, sections, railway track material, seamless tubes, wire rod and welded tubes are all imported to meet Qatar's demand.

Qatar's demand for finished steel products is driven by industrial activities like oil & gas, chemicals, water treatment & desalination plants and other infrastructure projects. When the country was bouncing back to the production of its pre-blockade years, witnessing steady growth in 2018 and 2019, the 2020 pandemic slowed industrial and infrastructure sectors, finished steel demand declined significantly. Qatari finished steel manufacturers such as Khalifa Steel Industries, Q-COAT, Seashore Steel and Qatar Steel reduced their production. In fact, Qatar Steel, the largest finished steel manufacturer in Qatar, had a 50% reduction in 2020 compared to its finished steel production of 1.86 Million Tonnes in 2019. The company had deferred production in certain facilities as a decision to cater only to local demand from Q2 2020, as exports were also affected due to the pandemic.

Chart 8: Qatar Finished Steel Production in Million Tonnes (2015 – 2020)



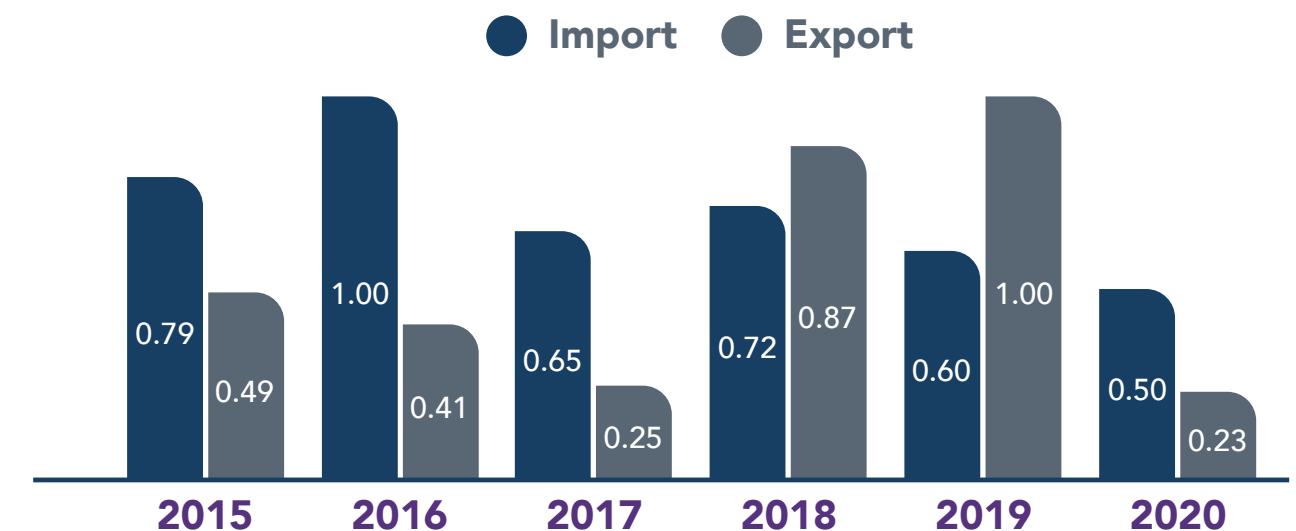
Source: World Steel Association

Rebar is the prominent finished steel product manufactured in Qatar, while few other finished products such as wire rods, other types of bars, welded tube are produced in minimal quantity. Rebars are priced at QR 1,889 per tonne on an average compared to billets and other products that fetch an average price of QR 1,567 per tonne, which in conjunction with high demand explains the focus on rebars by the domestic industry in Qatar.

3.2 TRADE DATA ANALYSIS

GCC finished steel industry was facing fluctuating demand due to decreasing public spending and limited activity from oil & gas industry. In addition, Qatar faced blockade in 2017 which impacted trade with other Middle East countries, thereby affecting capacity expansion plans. The country witnessed a slump in both import and export of steel in 2017 and 2020. Production was largely diverted to meet local demand, leading to a slump in exports in 2017. In the subsequent year, steel imports increased by 1.7% and exports by 28.3%. In 2019, exports surged by 2.8% while importing finished steel products declined by 3.0%. Policy level support and strategic initiatives from the Government towards self-reliance led to a growth in domestic finished steel production in 2019, before the impact of Covid-19 pandemic in 2020.

Chart 9: Trend in Trade of Finished Steel in Qatar in Million Tonnes (2015 – 2020)



Source: World Steel Association

3.3 SEGMENTATION OF THE MARKET BY PRODUCT SEGMENT

Finished steel is classified as products that could cater to multiple applications in the form of:

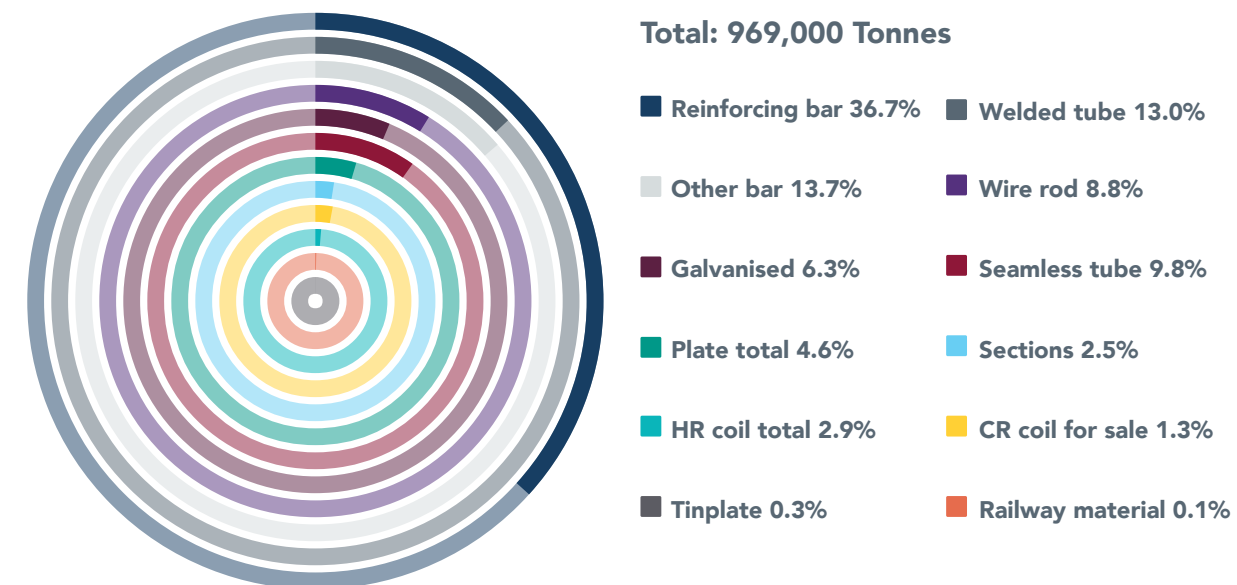


Global consumption pattern of these products is driven by a country's economic activities and its steel demand. In addition to semi-finished material, HR coil and rods are widely used in making pipes, industrial and manufacturing applications, and construction activities. It provides better surface finish for steel products, has high formability, excellent dent resistance, tensile strength, and welding properties. Hence, HR coil and rods have high demand and accounts for 20.4% of all the steel products exported globally.

Galvanized steel is another important finished steel product in high demand because it prevents corrosion and exhibits excellent resistance to mechanical damage. Thus, it has wide applications across industries such as paper and pulp, chemicals and petrochemicals, food and beverage, automotive, wind and solar, energy, construction, and telecommunications.

Contrary to the global pattern, rebar is the most widely used finished steel product that accounts to 37% of total demand for finished steel products. Construction activities such as Lusail city development, Musheireb Downtown Doha Regeneration, New Port construction project, Hamad International Airport Expansion are driving demand for rebar and welded tube in Qatar.

Chart 10: Finished Steel Products Consumption in Qatar (2020)



Source: World Steel Association, Metals Consulting International

Rebars, wire rods and other steel bars together account for two thirds of the demand for finished steel products in Qatar. These products are mainly used in construction and with oil & gas sectors. For rebars, the overall consumption has reduced in the last few years as projects commissioned for the FIFA World Cup are closer to completion.

Meanwhile, wire rods are used to making nails, fasteners, wires etc. and have also been impacted because of a slowdown in infrastructure and construction activity. Welded tube, which is mainly used in oil & gas applications, witnessed a decline as it is being substituted by seamless tube products. Hence, the loss of market value in welded tubes has translated into a gain in demand for seamless tubes. In fact, this product has witnessed sustained demand despite the economic uncertainties due to the blockade and the Covid-19 pandemic. Nevertheless, both these segments are likely to see increased demand in the future on account of development of North Field Expansion Project, which entails a ~QR 111 bn investment to increase gas production capacity to 110 Mtpa by 2027.

Galvanized steel is another widely used steel product which has seen sustained demand in recent years. Qatar does not produce this locally, instead relies entirely on imports to meet local demand. The local demand for plates, coils and sections are met entirely through imports.

Steel plates are commonly used in the fabrication process. Demand for this product segment has not recovered after the blockade in 2017. Meanwhile, the demand for hot rolled coil has also been hit as end-use sectors prefer other products that can be used in high precision construction designs.


Steel sections are used in construction, transportation, automotive, packaging and durables. Though the demand for this finished steel product saw a significant increase in 2018, it was an aberration with consumption settling back to blockade levels.

CR coils are used only for applications that require soft low malleable steel like household appliances, furniture, lockers, and cabinets. Since Qatar does not have a strong manufacturing sector for these products, usage of CR coil has been gradually declining.

Tin plates and railway materials also declined post the blockade. Although the emphasis to encourage food processing and F&B sector as a part of the Qatar National Vision 2030 could positively impact tinplate demand post 2025. However, domestic demand for railway materials is expected to be negligible.

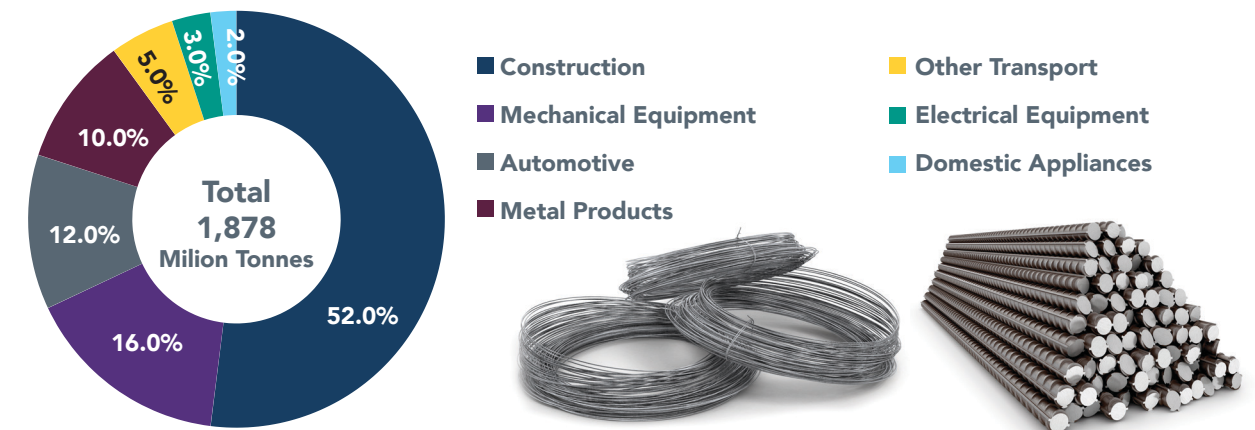
3.4 QATAR IN GLOBAL FINISHED STEEL PRODUCTS INDUSTRY

 Global finished steel industry is dominated by China accounting for: **57%** of total finished steel production in 2020

 **6%** of world steel production is from "China Baowu Group" company, producing 115.29 million tonnes in 2020

 **4.2%** of world steel production is from "Arcelor Mittal" company the second major contributor

Chart 11: Global Steel Products Applications (2020)

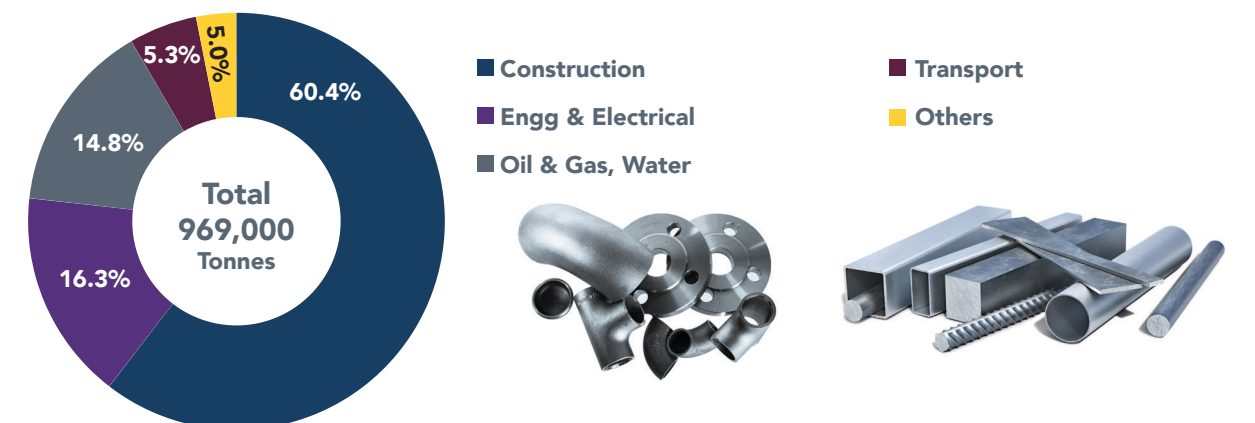


Source: World Steel Association, Metals Consulting International

Qatar is a very small player in both the global and regional stage; it accounts for mere 0.1% of the global steel production. In the Middle East region, Iran and KSA are major finished steel manufacturers accounting to 1.5% and 0.4% of global finished steel production.

Globally, more than half of total finished steel produced is used in construction activities, while heavy machinery, automotive units are the other key applications using steel to a considerable extent. However, Qatar doesn't have automotive application, while oil & gas, water is an important sector replacing automotive and mechanical equipment segments.

Chart 12: Qatar Finished Steel Products Applications (2020)



Source: World Steel Association, Metals Consulting International

Construction sector is the largest end user segment for finished steel products in Qatar. Although the size of demand from the sector has declined from 78.3% (2015) to 60.4% (2020) of the total consumption of finished steel, it remains the single largest demand center. With construction market in Qatar expected to grow at a CAGR of 10.1% during 2021-25, the sector will continue to drive the market for finished steel products.

Oil & Gas segment is another important contributor to the demand for finished steel. Though subdued oil process in 2020 led to a decrease in demand, this sector will likely contribute to demand for finished steel as oil prices rebound on the back on international demand. North Field expansion is important for Qatar to support Qatar National Vision 2030, by increasing Qatar's LNG production by 43%. In addition to North Field expansion, other oil & gas projects such as Bul Hanine Oilfield Redevelopment – QR 41 Billion Qatar Petroleum funded project, Barzan Gas Development – QR 38 Billion Ras Gas project¹⁴ are the key projects that will boost steel demand in the coming years.

Engineering & Electrical, along with Auto are the other key end use sectors contributing to the demand for finished steel in Qatar. However, their share remains relatively low because of the absence of prominent electrical and automobile manufacturers with production facilities in the state. However, this could change post 2025, as the government is keen on working with European automotive companies such as Frisker, Volkswagen etc. to set up electric vehicle manufacturing facilities in Although the steel sector in Qatar enjoys strong government support and a sustained domestic demand, its annual crude steel production is only:

15% of the production output from KSA & **4%** of output from Iran

Qatar is likely to increase its production capacity from 2025. Also, Qatar Steel is the only major steel producer in Qatar. In contrast:



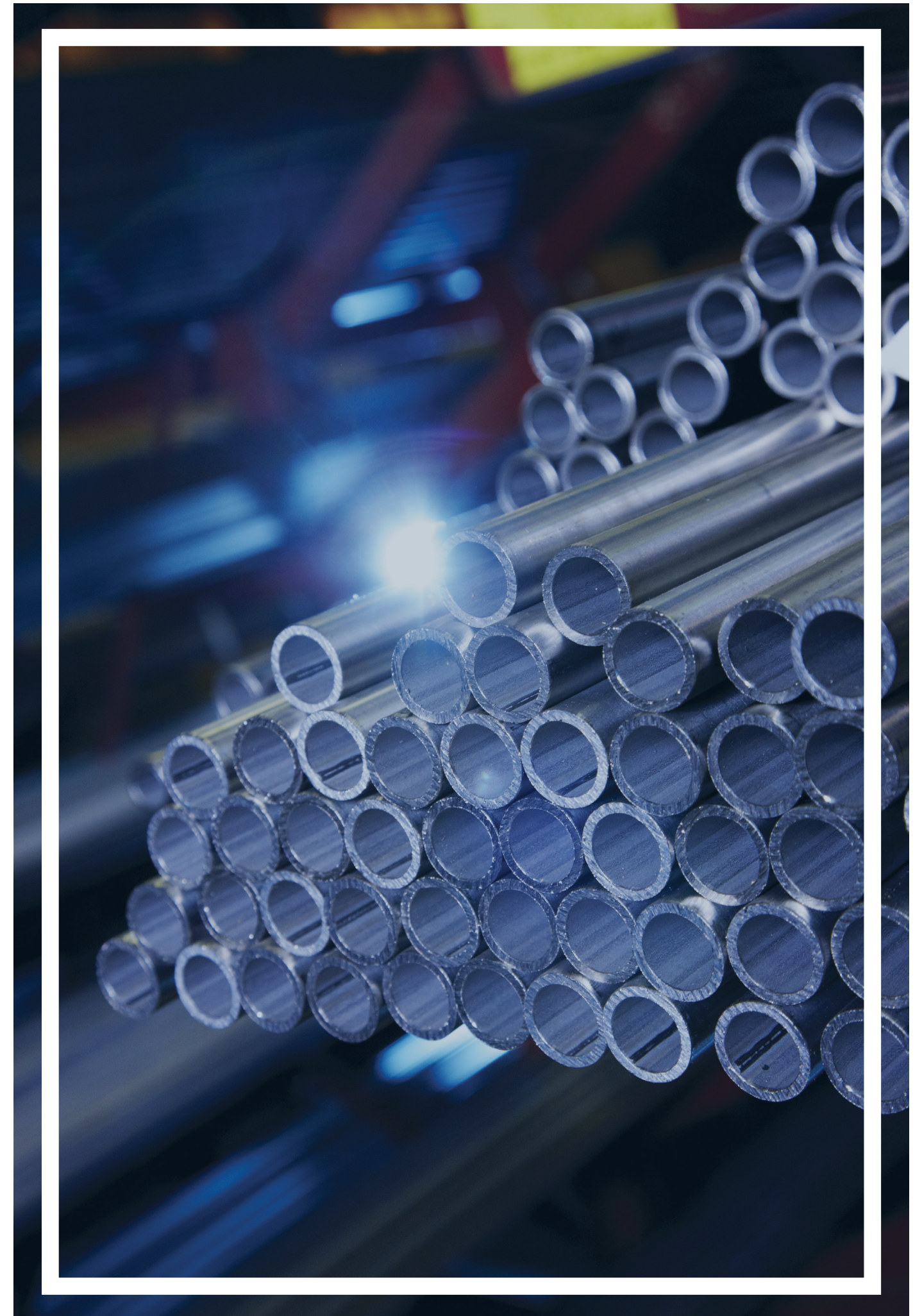
Iran has **5** steel companies



KSA has **9** companies operating in the Kingdom



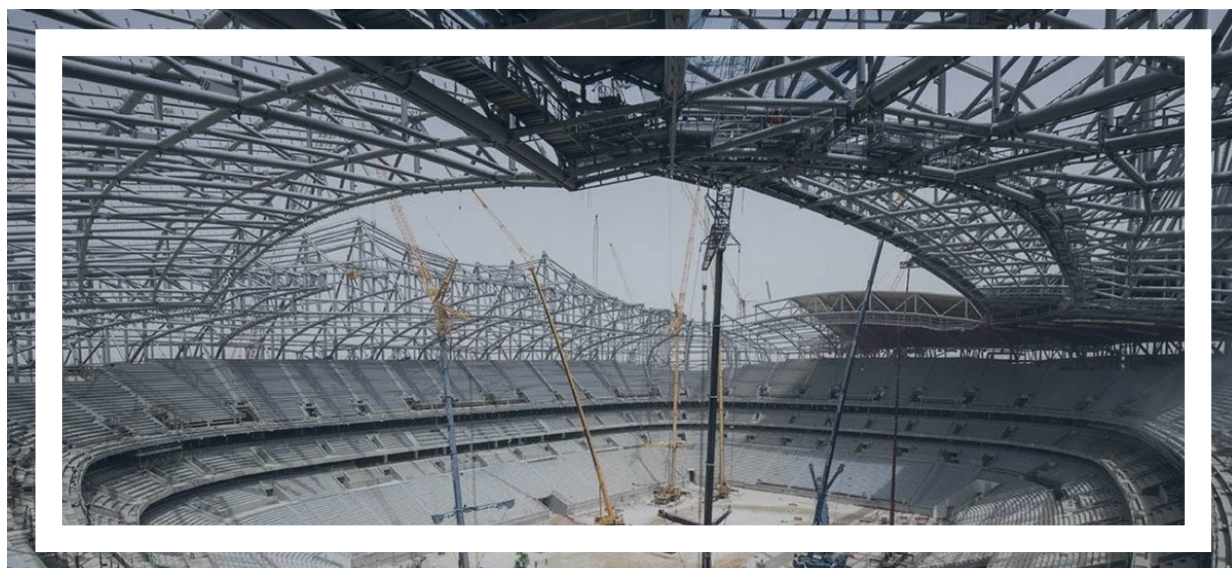
¹⁴ MEED - Qatar





3.5 ANALYZING KEY DRIVERS IMPACTING DEMAND FOR FINISHED STEEL

Qatar hosting the 2022 FIFA World Cup, was a major driver to its construction and infrastructure growth during the years of 2018 to 2021. The country's public works department, Ashghal is involved in various infrastructure projects from road construction, hospital, educational institution construction, municipality, and road development projects. These projects sustain steady demand for domestic construction activities, as it progresses to meet QNV2030 goals.



The Second National Developmental Strategy launched for a period from 2018-2022 targets economic growth through activities in the non-oil and gas sector, in the areas of merchandise and traded services, thereby reducing heavy dependence on the oil & gas sector. Rationalization of government spending to balance the public financial status of Qatar and facilitate the contribution of private sector in key projects is also part of this strategy. Qatar, being the country with the second-highest gross domestic product (GDP) per capita in the world, primarily attributed to have the third-largest natural gas reserves in the world, is now working on diversifying its economy to ensure overall growth and less dependency on oil & gas sector. The 2021 Qatar State budget allocated QR 16.5 bn for healthcare, representing 8.5% of the total expenditure, and QR 17.4 bn for education, 8.9% of total expenditure¹⁵.

¹⁵ Planning and Statistics Authority, Qatar

3.5.1 OIL & GAS PROJECTS

Oil & gas sector has been consistently contributing to at least 80% of the government revenues since 2014¹⁶. Among the oil & gas project, North Field is an important one occupying an area of more than 6,000 square kilometres. It holds approximately 900 trillion cubic feet of natural gas (roughly 10% of the world's known reserves). Gas from this field is processed to produce LNG, gas-to-liquids, natural gas liquids and other gas-related industries, in addition to pipeline gas for export. This project is likely to be operational by the end of 2023, is expected to be a milestone in achieving QNV2030.

The NFE project is likely increase Qatar's LNG production capacity from 77 million tonnes per annum (Mtpa) to 110Mtpa, approximately 43% increase, which is expected to increase to 64%, with 126Mtpa of LNG by 2027. This expansion project is considered one of the world's largest and one of the energy sector's most lucrative project. Other projects such as Bul Hanine Oilfield Redevelopment and Barzan Gas Development project would directly drive Qatar's steel demand.

¹⁶ Qatar Country Commercial Guide, World Bank



3.5.2 INFRASTRUCTURE PROJECTS

Ashghal, the public works department is working on building infrastructure through multiple programs such as expressway, local roads & drainage, hospital/healthcare center construction/ educational institute construction, parks and beautification projects across Qatar. These projects will drive demand for domestic steel consumption as these projects are spanned over a period of 5 years. Among them, Ashghal Expressway Programme, is a ~QR 74 billion project to develop a number of major motorways to relieve traffic congestion, including the Al Bustan Highway, Orbital Expressway, Al Rayyan–Dukhan road and the Al Khor Coastal Road. Similarly, Ashghal Local Roads and Drainage Programme is a QR 54 billion project under which Ashghal will complete a network of roads, drainage, utilities and related infrastructure.



A series of construction, infrastructure project in addition to Government's QNV2030 target to ensure improved lifestyle, self-reliance and increased industrial activities could support demand for steel in Qatar in the next few years.

¹⁷ The Projects and Construction Review – The Law Reviews, 2020"

3.5.3 DIGITAL DISRUPTIONS & TECHNOLOGICAL ADVANCEMENTS

Digital disruptions in supply chain management, and steel distribution is enabling for a transparent steel market structure and Qatar is also embracing for this trend. Export and import of steel products through a single-window online portal enable transparent operations. The portal (Al-Nadeeb) also displays the import duty, tariff for a product based on the HS code which makes import/export efficient by the participants.

The country's only integrated steel producer, Qatar Steel, is upgrading its technology in steel manufacturing process, enabling technological advancements to increase efficiency in steel production. The concept of robotization of factories are also in place aiming at better manufacturing process and employer safety in a country with more migrant employees than local citizens.



4 - INDUSTRY STRUCTURE & VALUE CHAIN FOR STEEL

4.1 MARKET PARTICIPANTS IN QATAR

Although Qatar has multiple finished steel manufacturers, state-owned Qatar Steel is the only integrated steel producer operating in Qatar. All of the crude steel locally produced in Qatar is from Qatar Steel. It offers both semi-finished steel in the form of billets and finished steel in the form of rebars. Qatar Steel procures its raw material from the major Brazilian iron ore supplier Vale, in addition to its JV with Qatar Mining, that has mining operations in Algeria. It caters to domestic demand in addition to exporting to Asian countries such as Malaysia and other Middle East countries. However, rebar is the key product that is manufactured in Qatar by producers, while other finished products such as plates, sections, railway materials, seamless tubes, welded tubes are all imported into the country.

Below is a list of key steel producers in the country:

4.1.1 QATAR STEEL

Government enterprise operated as wholly-owned subsidiary of Industries Qatar. This is the first integrated steel plant in the Arabian Gulf to offer both semi-finished and finished steel. The company has its presence in Dubai at Jabel Ali Free Zone to cater to GCC demand. Qatar plant offers semi-finished steel in the form of billets, and finished steel is offered in the form of rebars.

4.1.2 KHALIFA STEEL INDUSTRIES

Started as an authorised Distributor of Qatar Steel, Khalifa steel industries emerged as steel processing company offering largest manufacturer of welded reinforcement wire mesh, deformed wire rod in coils in Qatar. This company has a production capacity of 107.7 thousand tonnes in addition to being a distributor to Qatar Steel and Emirates Steel products.

4.1.3 QATAR METALS COATING (Q-COAT)

Qatar Metal coating company was formed as a joint venture between Qatar Steel Company and Qatar Industrial Manufacturing Company. It offers epoxy coated rebar ranging in diameter ranging from 8mm to 40mm, with an annual production capacity of 100,000 tonnes per year.

4.1.4 SEASHORE STEEL

Seashore steel is the first private steel melting and hot rolling plant in the state of Qatar. This plant produces mild steel billets and structural steel products, with a capacity of 100,000 tonnes. Product list includes equal angles, flat bars, steel channels in addition to billets.

4.1.5 QATAR NATIONAL ALUMINIUM SHEETS COMPANY

Offers stainless steel composite panels in the form of steel veins and galvanized steel that can be used as honey comb and solid cladding sheets. Being a key company offering aluminium products, stainless steel panels are one among the products offered by this company.

4.1.6 MACASCO EXPRESS STEEL FACTORY

Deformed steel bars, cut and bend steel supply, and wire mesh are the products offered by this company. Among them, steel bars, reinforcement steel mesh are from the rebar factory in the New Industrial Area of Doha. In addition to its presence in Qatar, this company also has its presence in KSA.

4.1.7 AL KAWTHER STEEL STRUCTURE FACTORY

Al Kawther steel building factory offer welded wire mesh (WWM), expanded mesh, flat steel bar square, U-shaped steel section to align with British Standard BS4483 as well as the American Standard ASTM A615 GR60.

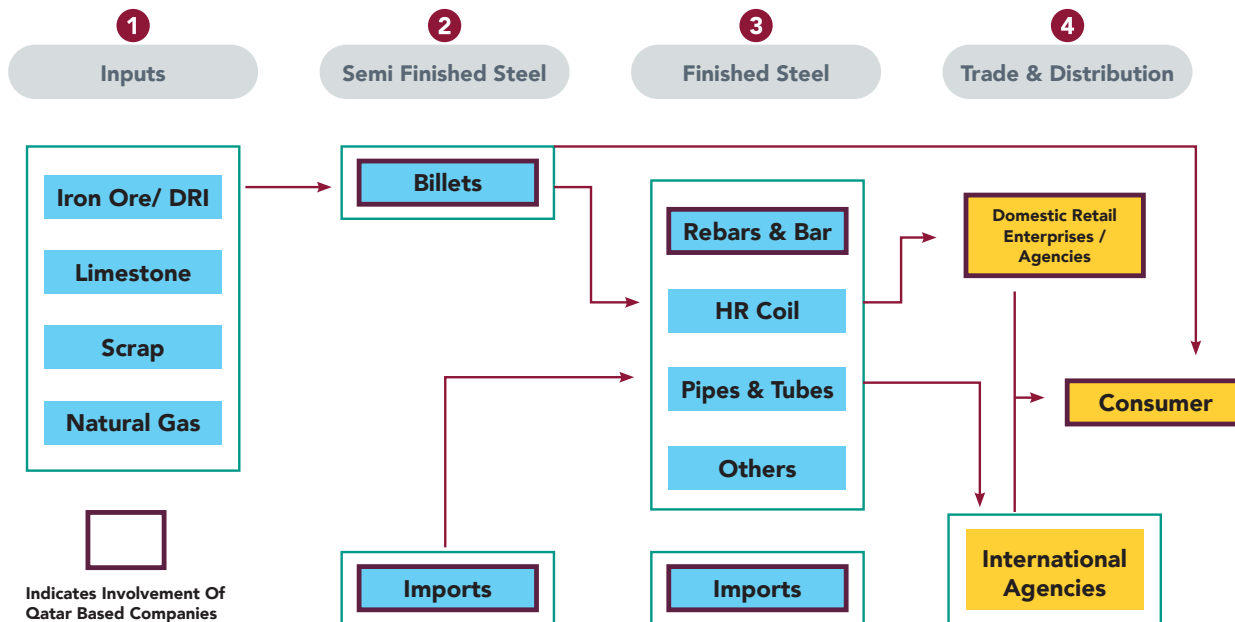
Other important participants include Hyojong Industrial Company offering seamless tubes and plates, and National Steel Sections Company offering rebars of 10-32mm diameter.



4.2 ASSESSING INDUSTRY VALUE CHAIN

Qatar Steel is the only integrated steel plant in the state. It uses EAF in the production process. Qatar being the largest exporter of natural gas, Qatar Steel uses EAF technology using natural gas for manufacturing process and eliminates the need for coking coal. This plant offers semi-finished product in the form of billets and finished steel products in the form of rebar.

Figure 3: Charting Industry Value Snapshot Activities of Steel Industry

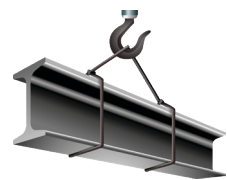


Source: Qatar Steel, News Reports, Primary Research

Qatar being the world's largest producer of LNG uses natural gas as a raw material replacing coking coal in steel production. Direct Reduced Iron (DRI), a simplified form of iron ore is used in preparing semi-finished steel (in the form of Billets) and finished steel (as Rebars) using Electric Arc Furnace (EAF) process.

Scrap is an important raw material in producing semi-finished steel in Qatar. Scrap used by Qatar Steel had its contribution increasing consistently from 14.9% in 2016 to 33.3% in 2020 as EAF input.

Domestic production of semi furnished steel is only from Qatar Steel and it is available the form of billets. These billets are used in producing rebars, other bars and wire rod, by 10 companies based in Qatar (including Qatar Steel). In addition to domestic demand, billets and rebars are exported from Qatar to countries such as Egypt, Malaysia, Bahrain and other neighboring countries



Egypt



Malaysia



Bahrain

Qatar Steel, the only integrated steel producer, leverages the state's abundantly available natural gas, instead of coal as raw material, through EAF than Blast Furnace – Basic Oxygen Furnace (BF-BOF) process. This ensures steel manufacturing process is less energy intensive. Qatar Steel's DRI requirement is catered through gas-based lump/pallet type iron ore, which offers improved capacity utilization. However, capacity of DRI is still higher than the demand (capacity is in deficit between 2015-19).

Scrap is another important raw material in the production process; most of its scrap requirement is either generated locally or purchased from companies through tenders that includes imported scrap material as well.



4.2.1 SCRAP COLLECTION AS RAW MATERIAL

Scrap as a raw material is consistently increasing from 14% in 2016 to 33%¹⁸ in 2020, creating a market for scrap collection to be used in the steel manufacturing process. Most of its scrap requirement is either generated locally or purchased from companies through tenders that includes imported scrap material as well.

Companies involved in dealing with compressed iron and steel scrap, which becomes a raw material for Qatar steel, include:



Metal recycling division of Venture Gulf Group and Metals Forming Center are important supplier of scrap to Qatar Steel, while SAP and AHR are marginal participants with key focus in rubber and slag scrap. Since Qatar Steel aims to increase the contribution of scrap as raw material in steel processing to 45%, these companies play an important role in the steel manufacturing value chain. By the second half of 2020, Qatar Steel has already raised its scrap consumption to 44% of the total feed to EAF process. Other players such as Seashore Steel have smaller divisions to source scrap locally for their limited requirements.



¹⁸ Qatar Steel Integrated Report 2020



5 - OVERVIEW OF DOWNSTREAM STEEL PRODUCTS

Downstream finished products are steel products that could be directly used by consumers, for multiple applications in, oil & gas and MEP (mechanical, electrical, plumbing) projects. As downstream finished products are universal, they are categorized into 26 subsegments based on Harmonized System (HS) classification. The list of subsegments includes sheet pilings, railway construction material, tubes and pipes of varying diameter and material, steel structures that are used in construction of bridges, sections, reservoirs and containers for storing anything from compressed natural gas, oil, to any liquid material, wires of varying density from barbed wire to a fine mesh usually called as cloth, screws and nuts, needles, cookware materials such as stoves, cooker, tables and other household articles, sanitaryware, furniture and other steel fiber materials.

Table 1: Listing and Description of Downstream Steel Products

HS Codes	Description
7301	Steel piling of iron or steel. Products include road barricades, slotted angles and pilings
7302	Railway or tramway track construction material for producing rails, switch blades, crossing frogs, sleepers, chairs etc.
7303	Tubes, pipes and hollow profiles of cast iron. Prominent products include soil and spun pipes
7304	Seamless tubes, pipes and hollow profiles of iron or steel
7305	Electric Resistance Welded (ERW) pipes with external diameter less than 16 inches
7306	Electric Resistance Welded (ERW) pipes with external diameter greater than 16 inches

HS Codes	Description
7307	Tube or pipe fittings of iron or steel. Product examples include couplings, elbows and sleeves
7308	Structures and parts of structures. Products include bridge-sections, lock-gates, roofs, doors and windows and their frames, etc.
7309	Reservoirs, tanks, vats and similar containers for any material other than compressed or liquefied gas of a capacity exceeding 300L
7310	Tanks, casks, drums, cans, boxes and similar containers for any material other than compressed or liquefied gas of a capacity not exceeding 300L
7311	Containers of iron or steel, for transportation of compressed or liquefied gas
7312	Stranded wire, ropes, cables, plaited bands, slings of iron or steel
7313	Barbed wires, twisted hoop or single flat wire and loosely twisted double wire used for fencing
7314	Woven wire mesh, netting and fencing of iron and steel
7315	Chain and parts thereof, of iron or steel. Product examples include roller & skid chains
7316	Anchors, grapnels and parts thereof, of iron or steel
7317	Nails, tacks, drawing pins, corrugated nails, staples and similar articles, of iron or steel
7318	Screws, bolts, nuts, coach screws, screw hooks, rivets, cotters, cotter-pins, washers and similar articles of iron or steel

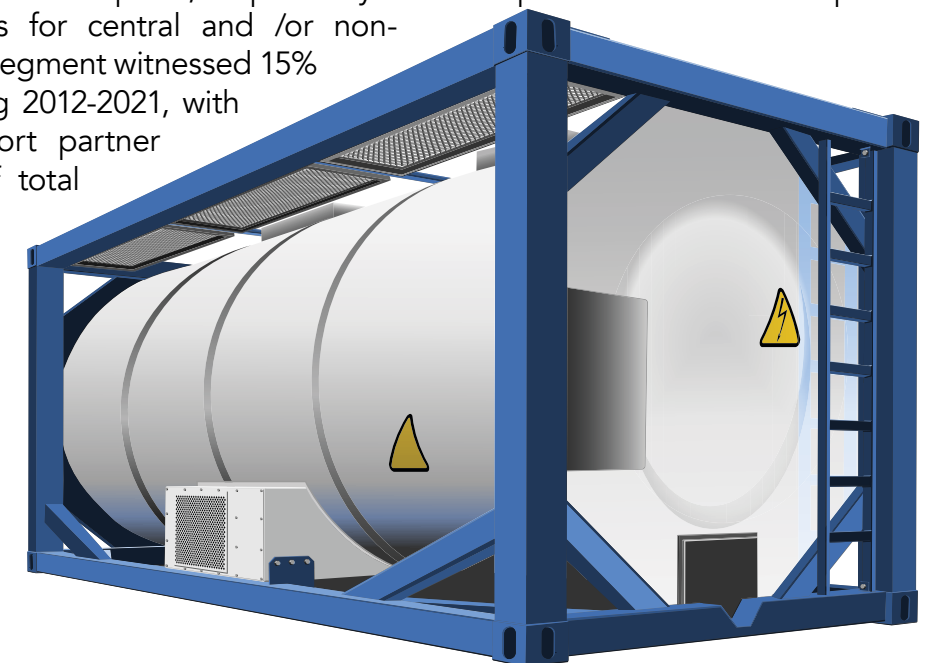
HS Codes	Description
7319	Sewing needles, knitting needles, bodkins, crochet hoods, embroidery stilettos and similar articles of iron or steel
7320	Springs and leaves for springs of iron or steel. Product examples include leaf-springs, helical springs etc.
7321	Stoves, ranges, grates, cookers, barbecues, plate warmers and similar non-electric domestic appliances of iron or steel
7322	Radiators for central heating and non-electrically heated applications
7323	Table, kitchen or other household articles of iron or steel; iron or steel
7342	Sanitary ware and parts of iron or steel.
7325	Articles of iron or steel, cast. Products include cast articles such as inspection traps and drain covers.
7326	Articles of iron or steel used in HVAC solutions and other applications

Source: PSA, ITC, World Customs Organization

Tubes & pipes is an important downstream finished product that has witnessed a consistent domestic demand in Qatar. It is an important subsegment that is categorized based on the material and size. Also, the production techniques and technology differ based on the shape, tensile strength, outer diameter and other characteristics of the pipes and tubes. For instance, ERW (Electrical Resistance Welding) pipes, especially of smaller diameters, find application in a host of commercial projects are produced in Qatar. However, production of large diameter ERW pipes and seamless pipes with higher wall thickness and pressure ratings that confirm with ASTM standards is a complicated process; thus, these products are generally imported into Qatar.

Contrary to the trend witnessed in larger tubes & pipes, structures is a segment that has a large base of local producers as finds immense usage in the construction sector to meet the target set for FIFA World Cup 2022, infrastructure growth to establish itself despite blockade, and the efforts to sustain being world's largest exporter of liquified natural gas. Fabricated structures had an important contribution to the construction sector as it fastened the pace of construction. Although, these structures were manufactured in Qatar, production could witness only 6% growth, which was insufficient to meet domestic demand. Hence, this segment had larger share of imports, of approximately 10 times the domestic production. However, the flattening of construction activity as many projects neared the end of their investment cycle along with economic slowdown because of the Covid-19 pandemic resulted in imports declining by 3% over the last year. Nevertheless, this segment has the highest participants with 143 companies operating in Qatar.

Reservoirs and containers are another important subsegment that has a strong production base in Qatar. These tanks/containers are largely used for storing, heating, and distributing various liquids, in addition to other applications such as garbage and storage containers. Meanwhile, steel products involving kitchen appliances such as stoves, cookers, barbecues, plate warmers etc. are not manufactured locally and are fully dependent on imports. China, Turkey and Italy are the three main import partners for these products, accounting for 43%, 14% and 33% of the share of imports, respectively. Another product with 100% import dependency is radiators for central and /or non-electrically heating. This segment witnessed 15% growth in imports during 2012-2021, with Turkey the largest import partner accounting for ~83% of total imports. Similarly, screws, nuts and sewing needles are another category of products that is cost effective to import because of the presence of suppliers in low-cost countries who produce at scale and are able to supply at highly competitive rates.



Demand for iron or steel casting products such as inspection traps and drain covers are also primarily met through imports. As these products vary in sizes and type of construction (commercial and residential). Thus, it is economical to import these products according to the construction pattern of that year, then engaging a dedicated production line which might not operate at optimal capacity through the year.

A common trend among all the high import dependence products is that most of it is sourced from Asian countries that produce on a large scale at low costs. More importantly, they have local access to raw materials for manufacturing these downstream steel products; coupled with low cost of labor, they tend to have a competitive advantage in most global market they supply to, especially if they are commoditized in nature.

Table 2: Production and Imports of Downstream Steel Products in Qatar (1,000 tonnes)

HS Codes	Description	Production				Imports				Growth 2018-2021	Growth 2018-2021
		2018	2019	2020	2021	2018	2019	2020	2021		
7301	Steel piling of iron or steel. Products include road barricades, slotted angles & pilings	4.71	7.75	7.66	7.66	2.64	2.30	1.27	2.49	↑ 17.6%	↓ 17.6%
7302	Railway or tramway track construction material for producing rails, switch blades, crossing frogs, sleepers, chairs etc.	-	-	-	-	1.58	0.27	0.97	0.55	-	↓ -29.8%
7303	Tubes, pipes and hollow profiles of cast iron. Prominent products include soil and spun pipes	-	-	-	-	62.09	30.51	60.68	41.24	-	↓ -12.8%
7304	Seamless tubes, pipes and hollow profiles of iron or steel	-	-	-	-	82.03	110.56	116.27	86.61	-	↑ 1.8%
7305	Electric Resistance Welded (ERW) pipes with external diameter less than 16 inches	128.94	152.12	172.48	172.18	73.40	116.23	53.84	45.41	↑ 10.1%	↓ -14.8%

HS Codes	Description	Production				Imports				Growth 2018-2021	Growth 2018-2021
		2018	2019	2020	2021	2018	2019	2020	2021		
7306	Electric Resistance Welded (ERW) pipes with external diameter greater than 16 inches	0.15	0.15	0.15	0.15	72.35	49.05	58.95	65.95	0.0%	↓ -3.0%
7307	Tube or pipe fittings of iron or steel. Product examples include couplings, elbows and sleeves	3.42	4.33	4.33	4.33	31.45	22.58	20.43	22.61	↑ 8.2%	↓ -10.4%
7308	Structures and parts of structures. Products include bridge-sections, lock-gates, roofs, doors and windows and their frames, etc.	989.54	977.97	1168.43	1192.81	166.90	124.63	129.70	121.36	↑ 6.4%	↓ -10.1%
7309	Reservoirs, tanks, vats and similar containers for any material other than compressed or liquefied gas of a capacity exceeding 300L	193.03	193.03	192.78	190.81	3.79	4.83	2.83	2.87	↓ -0.4%	↓ -8.8%
7310	Tanks, casks, drums, cans, boxes and similar containers for any material other than compressed or liquefied gas of a capacity not exceeding 300L	-	1.20	3.05	3.05	3.47	3.06	2.15	2.08	↑ -	↓ -15.8%
7311	Containers of iron or steel, for transportation of compressed or liquefied gas	-	-	-	-	2.34	1.94	1.70	1.36	↑ -	↓ -16.4%
7312	Stranded wire, ropes, cables, plaited bands, slings of iron or steel	4.75	4.75	4.75	4.75	16.59	21.97	19.51	14.88	0.0%	↓ -3.5%
7313	Barbed wires, twisted hoop or single flat wire and loosely twisted double wire used for fencing	1.09	1.13	1.13	1.13	0.36	0.28	0.60	0.08	↑ 1.3%	↓ -40.2%

HS Codes	Description	Production				Imports				Growth 2018-2021	Growth 2018-2021
		2018	2019	2020	2021	2018	2019	2020	2021		
7314	Woven wire mesh, netting and fencing of iron and steel	69.04	84.05	79.35	102.66	7.28	3.47	5.42	4.97	↑ 14.1%	↓ -12.0%
7315	Chain and parts thereof, of iron or steel. Product examples include roller & skid chains	-	-	-	-	1.34	1.31	0.91	0.70	-	↓ -19.3%
7316	Anchors, grapnels and parts thereof, of iron or steel	-	-	-	-	1.07	0.58	0.50	0.51	-	↓ -21.8%
7317	Nails, tacks, drawing pins, corrugated nails, staples and similar articles, of iron or steel	554.26	554.26	554.26	555.31	7.74	4.50	5.34	3.27	↑ 0.1%	↓ -25.0%
7318	Screws, bolts, nuts, coach screws, screw hooks, rivets, cotters, cotter-pins, washers and similar articles of iron or steel	0.02	0.04	0.04	0.00	24.51	18.98	20.81	22.11	↓ -73.8%	↓ -3.4%
7319	Sewing needles, knitting needles, bodkins, crochet hoods, embroidery stiletos and similar articles of iron or steel	-	-	-	-	0.06	0.06	0.07	0.07	-	↑ 4.1%
7320	Springs and leaves for springs of iron or steel. Product examples include leaf-springs, helical springs etc.	-	-	-	-	1.26	0.62	0.27	0.49	-	↓ -27.2%
7321	Stoves, ranges, grates, cookers, barbecues, plate warmers and similar non-electric domestic appliances of iron or steel	-	-	-	-	2.71	2.74	2.33	3.08	-	↑ 4.3%

HS Codes	Description	Production				Imports				Growth 2018-2021	Growth 2018-2021
		2018	2019	2020	2021	2018	2019	2020	2021		
7322	Radiators for central heating and non-electrically heated applications	-	-	-	-	0.28	0.32	0.10	0.26	-	↓ -2.4%
7323	Table, kitchen or other household articles of iron or steel; iron or steel	0.08	0.08	0.08	0.08	6.44	6.04	4.63	5.21	0.0%	↓ -6.8%
7324	Sanitary ware and parts of iron or steel.	-	-	-	-	2.15	1.95	1.56	1.67	-	↓ -8.0%
7325	Articles of iron or steel, cast. Products include cast articles such as inspection traps and drain covers.	1.13	1.13	1.13	-	25.14	24.25	20.02	22.54	-	↓ -3.6%
7326	Articles of iron or steel used in HVAC solutions and other applications	33.91	34.48	39.75	39.35	25.65	15.24	13.84	14.94	↑ 5.1%	↓ -16.5%

Source: PSA, ITC, World Customs Organization



6 - SHORTLISTING OF ATTRACTIVE PRODUCT SEGMENTS

The focus of this section is on to identify product segments that have the potential to attract investments and drive the downstream steel sector in Qatar. For the purpose of this report, a prioritization framework has been developed using the quantitative approach. The framework for Priority Shortlisting Matrix incorporates key parameters and uses a weighted score methodology to derive the most attractive segments.

The framework considers a long list of 26 downstream steel product segments based on the HS code classification. Thereafter, a two-step process has been used. These are as follows:

I. STEP 1: FILTRATION OF INDUSTRIES

The Qatar Development Bank (QDB) publishes a comprehensive and unified list of industrial products that are unattractive for financing. The list is based on several market indicators such as saturation of domestic market, securing raw materials, high manufacturing costs versus supply, and other indicators that shows infeasibility of manufacturing some of the products. Based on the QDB list published in April 2020, five products segments have been deemed as unattractive and therefore not considered further in our analysis. These five unattractive product segments are:

A HS Code 7308:

Structures and parts of structures (for example, bridges and bridge-sections, lock-gates, towers, lattice masts, roofs, roofing frame-works, doors and windows and their frames and thresholds for doors

B HS Code 7309

Reservoirs, tanks, vats and similar containers for any material (other than compressed or liquefied gas), of iron or steel, of a capacity exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment. Key products are tanks and drums of capacity greater than 300L

C HS Code 7310:

Tanks, casks, drums, cans, boxes and similar containers, for any material (other than compressed or liquefied gas), of iron or steel, of a capacity not exceeding 300 l, whether or not lined or heat-insulated, but not fitted with mechanical or thermal equipment. Key products are tanks and drums of capacity less than 300L

D HS Code 7308:

Nails, tacks, drawing pins, corrugated nails, staples (other than those of heading 83.05) and similar articles, of iron or steel, whether or not with heads of other material, but excluding such articles with heads of copper

E HS Code 7308:

Screws, bolts, nuts, coach screws, screw hooks, rivets, cotters, cotter-pins, washers (including spring washers) and similar articles, of iron or steel

I. STEP 2: WEIGHTED SCORE METHODOLOGY

The remaining 21 product segments have been scored, and ranked, based on 8 parameters. These are:

A

Scale of Average Import: Average import has been considered for four years i.e. from 2018-2021. Higher is the average import, higher is the score assigned to the respective product segment. This is because high imports signify high demand which can potentially be substituted by an increase in local production.

B

Average Import Growth Rate: The average import growth rate has been considered for nine years i.e. 2012-2021. Higher import growth rate has been assigned a higher score. This is because high growth rate signifies a growing market which is an indicator of potential opportunity for domestic players.

C

Scale of Average Domestic Export: Average export has been considered for four years i.e. from 2018-2021. Higher is the average export, higher is the score assigned to the respective product segment. This is because high exports signify well-established export routes and buyers that, in turn, signify good business opportunities for local players.

D

Average Export Growth Rate: The average export growth rate has been considered for nine years i.e. 2012-2021. Higher import growth rate has been assigned a higher score. This is because high export growth rate signifies a growing export market which is an indicator of potential opportunity for domestic players.

E

Scale of Average Local Production: The average local production for four years i.e. 2018-21 has been considered. This parameter assigns higher scores to those product segments that are already being produced extensively in Qatar. This is because higher local production indicates favorable demand and market dynamics.

F

Capacity Utilization Rate: Capacity utilization rate for the year 2021 has been considered. Higher is the utilization rate, higher is the score assigned to the product segment. This is because higher utilization rate indicates the existing ease at which domestic producers are able to produce.

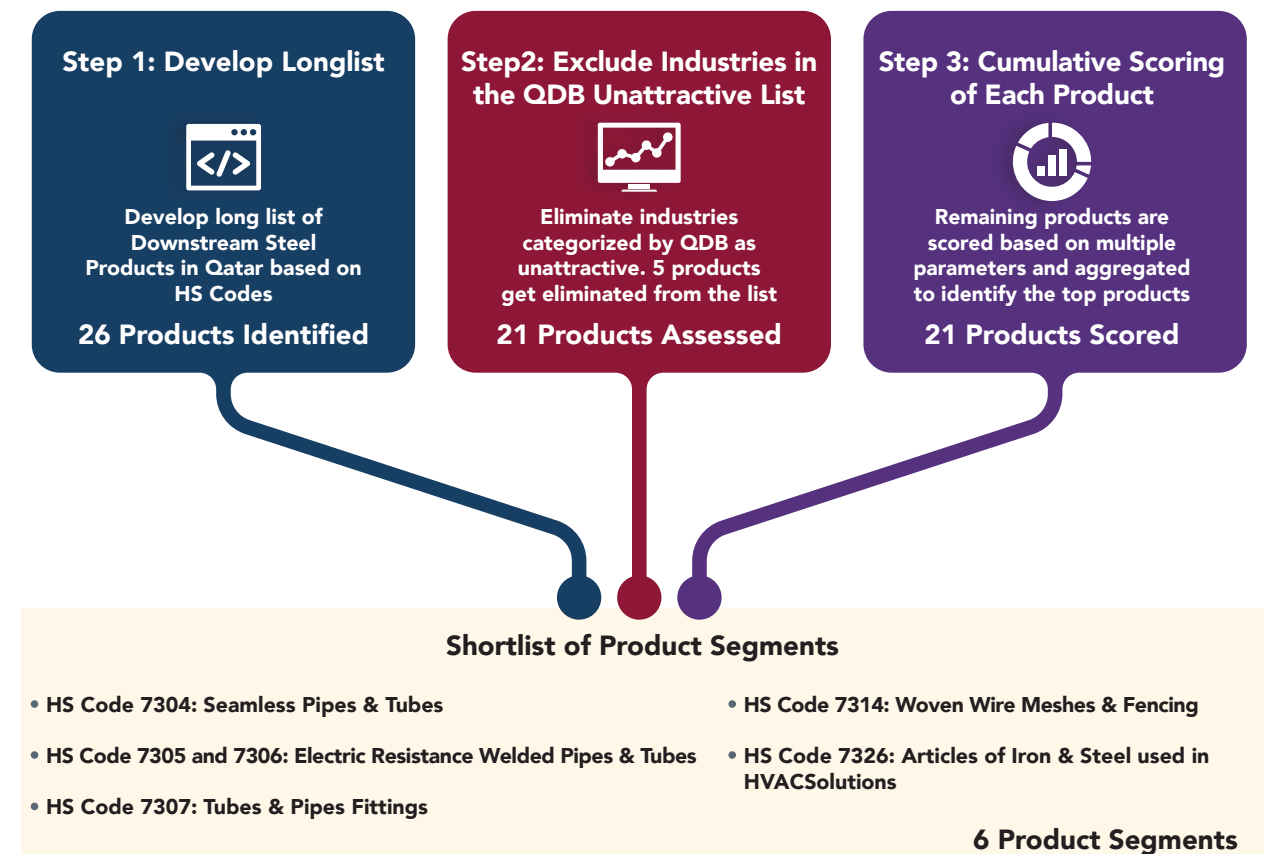
G

Import Concentration from Low-Cost Countries: This parameter considers the competitive advantage of domestic producers vis-à-vis low cost importers. Competing with low-cost imports shall pose a challenge for domestic producers which is why those product segments, where imports are highly concentrated from low cost countries, have been assigned a low score.

H

Attractiveness Measure based on Experts' comments: Primary interviews were conducted with industry experts to gain insights on the attractiveness of each product segment based on several parameters such as demand growth, technology conduciveness, local manufacturing advantage. Higher score is assigned to those product segments that have been rated well by industry experts.

Figure 4: Prioritization Framework



Source: QDB Team Analysis

Based on the prioritization framework, the six most attractive products in the order of their harmonized system codes are:

I HS Code 7304:
Seamless Tubes & Pipes - This category includes all seamless tubes and pipes made of steel. The products included in this category are hollow profiles of stainless steel, line pipes, drill pipes, CR pipes and other types of seamless pipes & tubes. These products are primarily used in the oil and gas industry.

II HS Code 7305 and 7306:
Electric Resistance Welded (ERW) - This category includes welded pipes and tubes of small, medium and large sizes in terms of outer diameters. The products included in this category are ERW line pipes, welded tubes, square or rectangular cross section pipes & tubes, riveted tubes & pipes, and all other type of welded tubes.

III HS Code 7307:
Tubes & Pipes Fittings - This category includes all accessories to tubes and pipes including elbows, bends, sleeves, flanges as well as butt welded and other types of iron and steel accessories.

IV HS Code 7314:
Woven Wire Meshes & Fencing - This category includes wire meshes and related products such as steel grill nettings & fencing, and wire meshes of iron & steel.

V HS Code 7326:
Articles of Iron & Steel used in HVAC Solutions - Though this category includes an assortment of products; for Qatar, the main products traded are HVAC components such as air ducts, cable conduits & carriers, installation systems, loading trays. There are some other products such as steel cages and lighting poles that are also included in this category of products.



7 - ANALYSIS OF THE ATTRACTIVE PRODUCT SEGMENTS

This chapter provides an analysis of each of the five attractive product segments shortlisted using the prioritization framework.

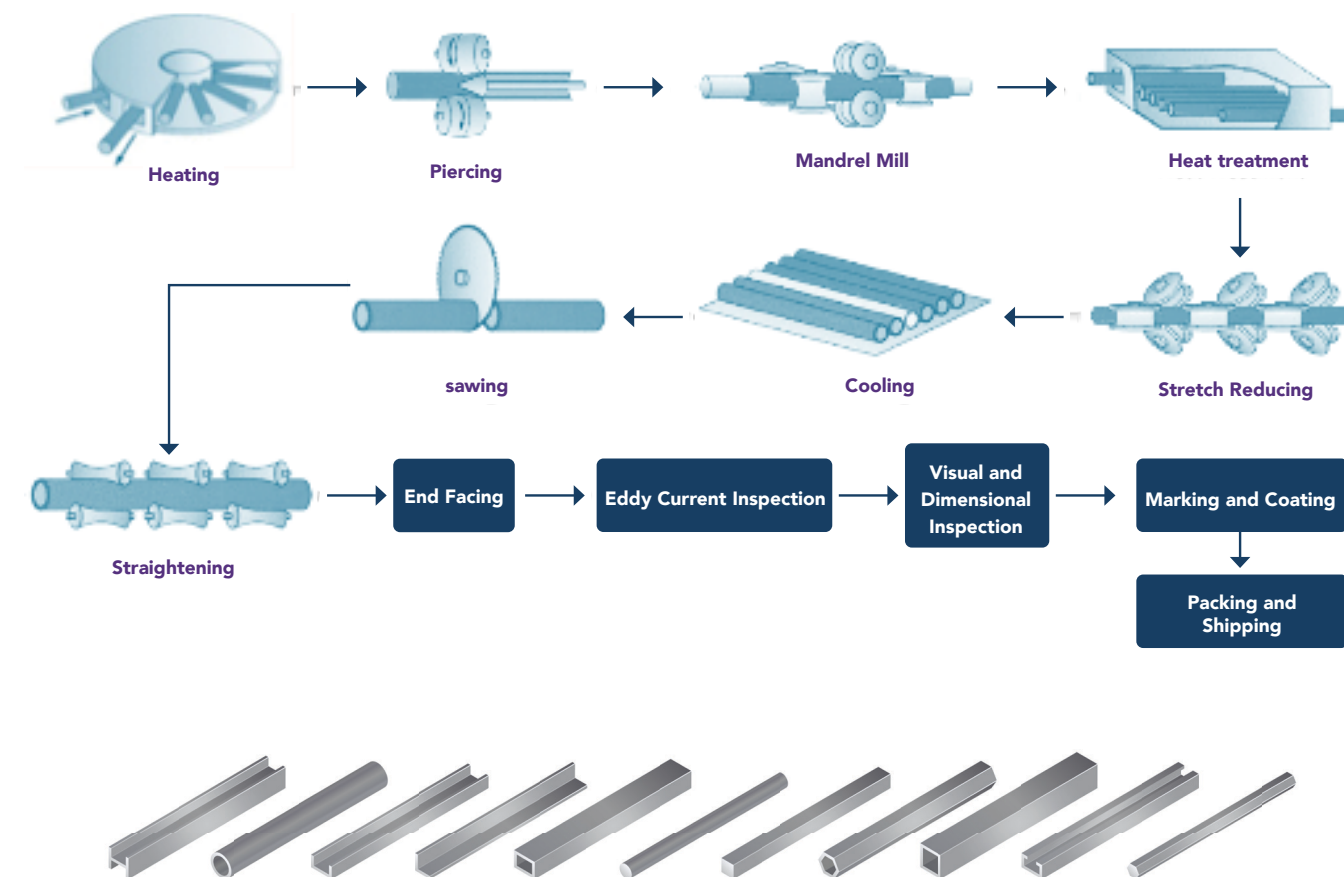
7.1 SEAMLESS TUBES AND PIPES

Seamless pipes and tubes, classified as HS 7304, are completely homogenous and are manufactured without cutting or welding process. Thus, these pipes are stronger, can withstand high pressure and are more expensive than welded pipes. These pipes use steel billets as raw material which are heated and drilled to make a tubular structure. Seamless tubes and pipes can be further categorized as line pipes (used in conveying high pressure liquids and gas), drill pipes (used in drilling applications at land or sea), and petroleum cracking tubes (largely used in oil & gas application), furnaces and heat exchangers, depending on its applications.

Seamless pipes are used in upstream, midstream & downstream applications in the oil & gas sector. In upstream and midstream operations, they are largely used for carrying and distributing oil, gas, slurries, steam and acids. Line pipe and drill pipe is used for drilling oil rigs and conveying liquids and gases. As pressure maintenance is crucial for these processes, seamless pipes are preferred than welded pipes. Downstream operations such as process piping used to refine oil and gas use seamless pipes. Seamless pipes are available at different grades with materials made of carbon steel, chrome-alloy steel and stainless-steel.

7.1.1 PRODUCTION SCHEMA

Figure 5: Production Process for Seamless Pipes



Source: Primary Research, Optical Metrology Services Ltd

Seamless pipes are produced by heating and molding of square steel billets into cylinder shapes called rounds. The round is heated to white-hot in a furnace and rolled under high pressure. As the billet stretches out, a hole forms in the center and a bullet-shaped piercer point pushed through. Larger diameter pipes then go through the mandrel mill process where the pierced pipe shell is rolled through a mandrel mill with mandrel bars inside, to create a more standard outside diameter and controlled wall thickness.

7.1.2 DOMESTIC CONSUMPTION

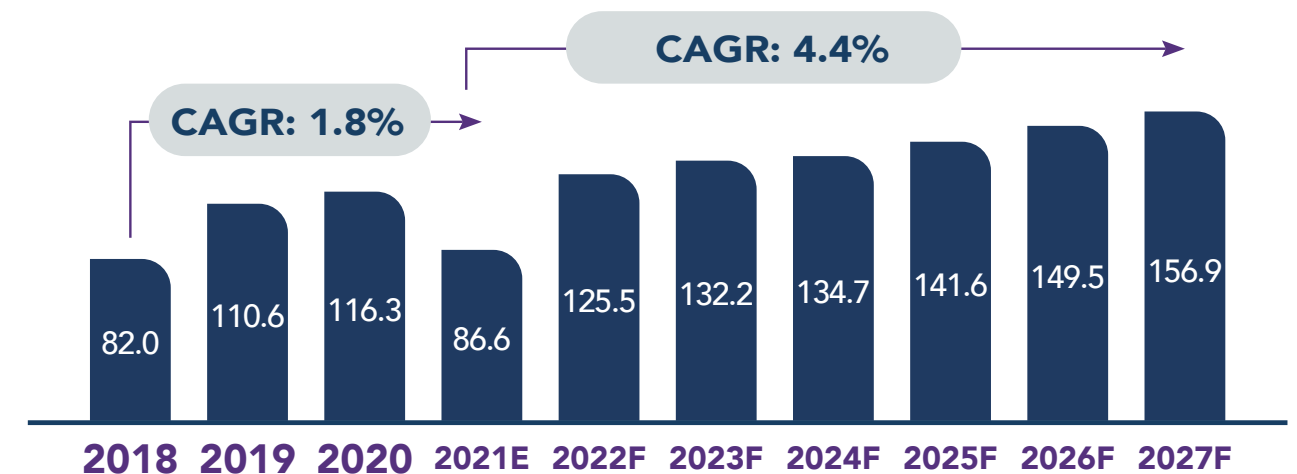
Overall consumption of seamless tubes is largely driven by oil and gas activities in Qatar. As this is a cyclical activity involving heavy investments and planning, demand is catered through imports as and when there is a need for a specific type of product. For example, NorthField Expansion (NFE) project is proposed in North Field, the world's biggest single non-associated natural gas field, in the offshore north-east Qatar Peninsula. The proposal to expand this field was announced in 2017, after a gap of 12 years, from its development. NFE has milestones of first expansion, which would begin gas production by 2025 and increase Qatar's LNG production capacity to 110 Million Tonnes per Annum (MTPA) from 77 MTPA. The next expansion is planned to begin production by 2027, which would further increase Qatar's LNG production capacity to 126 MTPA, as a part of Qatar National Vision 2030. Thus, drilling activities, exploration doesn't happen continuously, rather in phases. This, in turn, has an impact on the domestic demand for seamless pipes and tubes. Although there remains a small but continuous demand for maintenance activities, contractors prefer to rely on imports because of the specialized nature of the pipes/tubes and their non-production locally.

7.1.3 ANALYSIS OF SEAMLESS PIPES IMPORTS

The below chart depicting import trend from 2018 to 2021 indicates the cyclical pattern, where the projects that began before blockade contributed to demand in 2018 and continued till 2020, even during the times of pandemic. With Luxembourg headquartered Tenaris, a global manufacturer and supplier of steel pipes, winning a sizable contract for supply of seamless pipes for the NFE expansion project, imports are expected to pick up again in the next few years.

This cyclical pattern encourages imports for this product, as consistent demand is only through maintenance activities. However, maintenance requirements are relatively smaller in scale and does not support a dedicated production line. Additionally, EPC contractors prefer to import products that it uses globally in other locations to ensure quality and performance. This is another reason for high dependency on imports to cater to domestic requirements and little presence of local production of seamless pipes in the country.

Chart 13: Seamless Pipes Imports to Qatar (1,000 Tonnes)



Source: Qatar Planning and Statistics Authority

Most of the imports into Qatar for seamless pipes and tubes are from Latin America, China, Japan and Europe because of the presence of prominent suppliers in these countries. For instance, Tenaris has seamless pipe manufacturing in Italy, Japan, Mexico, Argentina and Brazil. Typically, these imports are facilitated by engineering, procurement and construction contractors who are awarded the contracts. Also, local distributors act as intermediaries for sourcing seamless tubes in cases of smaller commercial contracts, or to meet maintenance requirements.

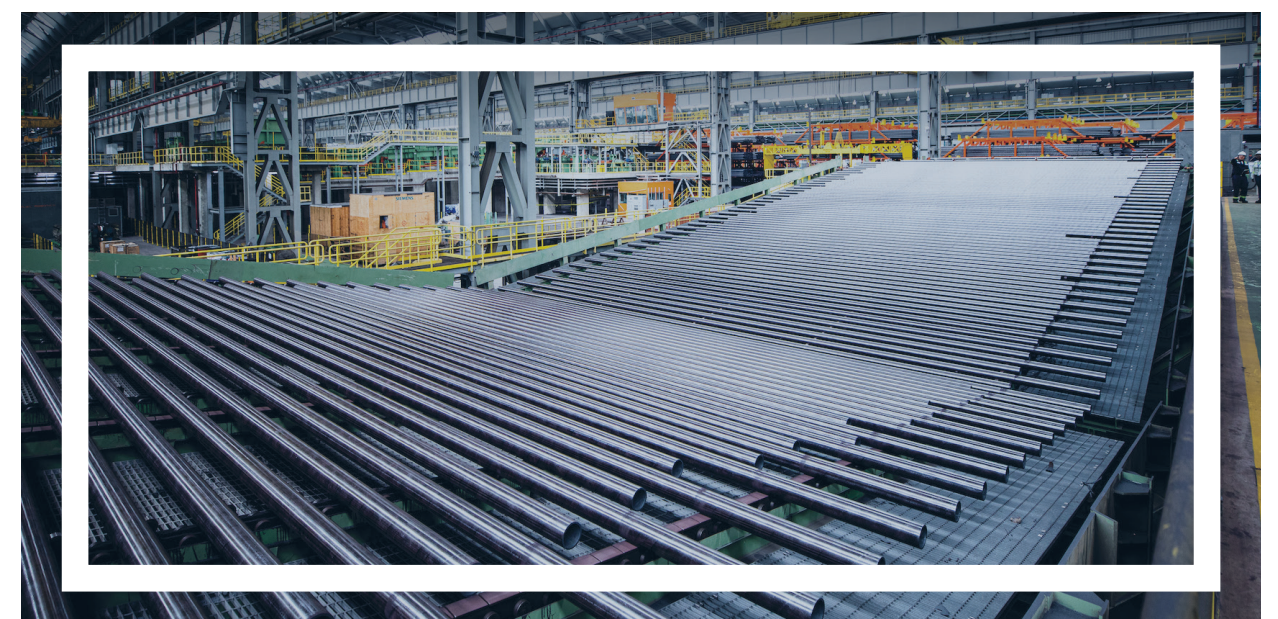


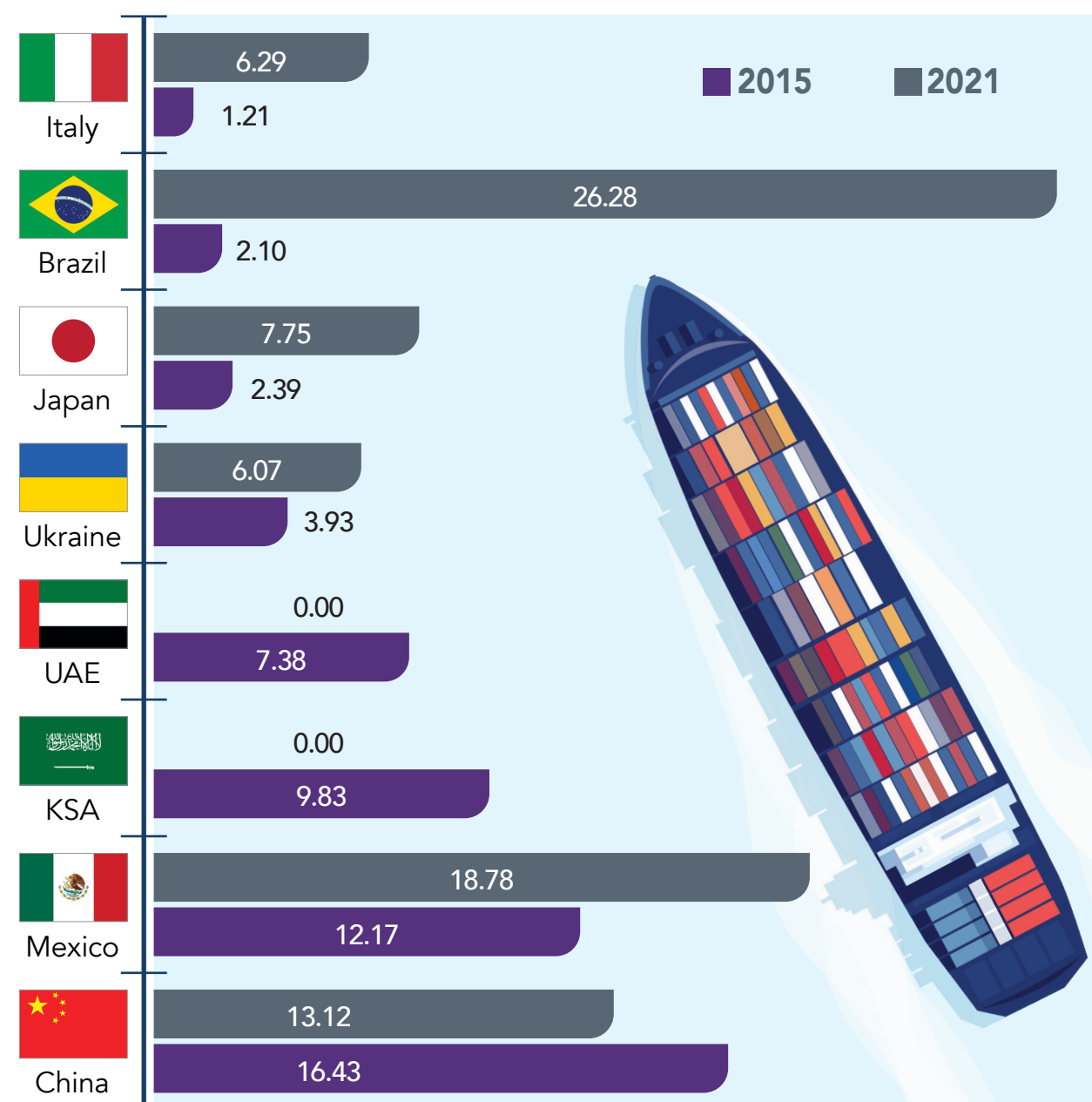
Table 3: Total Seamless Pipes Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	Brazil	22,762.27	26.3	109,340.00	11.5	4.80
2	Mexico	16,264.25	18.8	112,582.00	11.8	6.92
3	China	11,359.51	13.1	48,874.07	5.1	4.30
4	Japan	6,709.47	7.8	306,192.02	32.2	45.64
5	Italy	5,452.07	6.3	44,925.58	4.7	8.24
6	Ukraine	5,253.72	6.1	21,550.11	2.3	4.10
7	Argentina	4,461.60	5.2	32,411.02	3.4	7.26
8	Austria	3,823.44	4.4	20,108.16	2.1	5.26
9	India	1,903.31	2.2	13,299.50	1.4	6.99
10	Oman	1,842.15	2.1	5,602.75	0.6	3.04
11	Sweden	1,836.97	2.0	145,000.06	15.3	78.93
12	Spain	1,532.54	1.8	36,625.94	3.9	23.90
13	Others	3,409.17	3.9	54,178.68	5.7	-
Total		86,610.46	100%	950,689.9	100%	-

Source: Qatar Planning and Statistics Authority

Before the blockade of 2017, Qatar used to import small size seamless tubes from Saudi Arabia and UAE. These are the only two countries in the GCC region that have facilities for manufacturing seamless tubes. However, trade from both these countries have dried up in the aftermath of the blockade.

Chart 14: Seamless Pipes Import Concentration (Volume-based, %)



Source: Qatar Planning and Statistics Authority

7.1.4 - TYPES OF SEAMLESS PIPES

7.1.4.1 HOLLOW PROFILES OF STAINLESS-STEEL

This category of seamless pipes include steel tubes and pipes that are hollow, used in engineering for transporting liquids and are preferred in applications that require strong resistance to corrosion. These tubes/pipes generally find applications in oil & gas for control lines, chemical injection and sub-sea safety valves. The inherent property of stainless-steel offering high resistance to corrosion and ability to withstand pressure makes these pipes a good transportation medium for liquids. These products are being imported into Qatar from Asia and European countries.

Table 4: Hollow Profiles of Stainless-Steel Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	China	3,666.28	56.5	15,079.41	40.5	4.11
2	Ukraine	776.84	12.0	3,177.08	8.5	4.09
3	Spain	553.67	8.5	3,948.68	10.6	7.3
4	India	297.43	4.6	3,437.81	9.2	11.56
5	Poland	207.55	3.2	1,693.88	4.6	8.16
6	Others	990.56	15.2	9,862.49	26.6	-
Total		6,492.33	100%	37,199.35	100%	-

Source: Qatar Planning and Statistics Authority

7.1.4.2 LINE PIPE

Line pipe is manufactured from high strength carbon steel for oil & gas applications. As high-pressure levels are frequently involved in transportation of oil & gas, these pipes find utility in in transmission lines, distribution main lines, and offshore pipeline systems. Interpipe Group from Ukraine is one of the prominent supplier of line pipes from Ukraine.

Table 5: Line Pipe Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	Ukraine	1,867.41	31.5	6,497.16	24.1	3.48
2	China	1,549.54	26.2	3,720.39	13.8	2.40
3	India	894.87	15.1	4,157.32	15.4	4.65
4	Italy	838.76	14.2	5,954.64	22.1	7.10
5	Spain	256.06	4.3	1,443.90	5.4	5.64
6	Others	517.75	8.7	5,236.97	19.2	-
Total		5,924.39	100%	27,010.38	100%	-

Source: Qatar Planning and Statistics Authority

7.1.4.3 DRILL PIPES

Drill pipe, used for drilling application, is a hollow, thin-walled steel pipe predominantly used in oil rigs. It is hollow to allow drilling fluid to be pumped down the hole through the bit and back up the annulus. This subsegment includes drilling pipe made of stainless-steel and other materials excluding stainless-steel. Stainless-steel drilling pipes is largely preferred in oil rigs, as it can be used in offshore sea water, without the risk of corrosion. Qatar is largely dependent on China for this product as stainless-steel drill pipe is available in multiple thickness and grades and manufactured in large volumes.

Table 6: Drill Pipe of Stainless-steel Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	China	4,839.04	92.8	20,520.56	91.8	4.2
2	Ukraine	312.04	6.0	1,077.86	4.8	3.5
3	Others	56.76	1.2	763.46	3.4	-
Total		5,207.8	100%	22,361.9	100%	-

Source: Qatar Planning and Statistics Authority

7.1.4.4 DRILL PIPES OF MATERIALS EXCLUDING STAINLESS STEEL

Drill pipe of other materials excluding stainless-steel, includes pipes made of carbon steel, chrome steel and other alloys. These drill pipes are of wide range of varying material and sizes, and generally used in drilling applications for water well. Hence specific demands are met by products from different countries. Imports are predominantly from European countries, with low dependence from Asian manufacturers. China contributes to 28% share, while European countries contributes to more than 40% of Qatar's demand. Although products from the U.K and France are at higher average pricing, specific products to meet exclusive drilling operation are imported from these countries.

Table 7: Imports of Drill Pipes of materials to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	China	2.43	28.0	15.17	1.6	6.24
2	UK	1.91	22.0	690.87	71.5	361.71
3	USA	1.87	21.6	28.73	3.0	15.36
4	Italy	1.38	15.9	71.08	7.4	51.51
5	France	0.45	5.2	144.17	14.8	320.38
6	Others	0.64	7.3	16.77	1.7	-
Total		8.68	100%	966.79	100%	-

Source: Qatar Planning and Statistics Authority

7.1.4.5 OTHER CASING, TUBING AND DRILL PIPE OF STAINLESS-STEEL

Casing is a series of steel pipes that run into drilled oil well to stabilize the well and keeping contaminants out of the oil stream and prevent oil from leaching into the groundwater. Casing is installed in layers in sections of decreasing diameter that are joined together to form casing strings. There are five different types of casing string, viz. conductor casing, surface casing, intermediate casing, casing liner, and production casing. Depending on the type of drilling design, suitable casing is deployed. Casing needs to meet strict requirements for compression, tension, collapse, and burst resistance, quality and consistency. When casing is intact in its place, tubing is set-up to transport the oil or gas. Both casing and tubing are manufactured at proportional diameters and wall thickness and is used according to the design, plan and specification of the drilling site.

Table 8: Other Casing, Tubing and Drill Pipe of Stainless-Steel Imports to Qatar 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	Mexico	15,608.61	37.6	106,762.90	16.1	6.84
2	Brazil	9,608.77	23.1	34,207.22	5.2	3.56
3	Japan	6,239.00	15.0	303,278.00	45.7	48.61
4	Argentina	4,363.97	10.5	32,118.80	4.8	7.36
5	Italy	3,258.40	7.9	29,358.20	4.4	9.01
6	Others	2,441.32	5.9	158,302.26	23.8	-
Total		41,520.08	100%	664,027.4	100%	-

Source: Qatar Planning and Statistics Authority

Casing and tubing requirements is arrived through a detailed plan, specification and customized design; thus, Latin American countries caters to Qatar's requirement as the products from these countries are supplied by reputed global companies and adhere to well accepted API (American Petroleum Institute) standards.

7.1.4.6 OTHER TUBES AND PIPES

This includes tubes and pipes of other materials such as carbon steel, chrome steel and other alloys. These have similar functionalities but are used in non-critical applications where corrosion, heat, pressure doesn't play a major role. The usage of these pipes in volume terms is relatively lower compared with stainless-steel pipes used in critical, specific oil & gas applications. More than 85% of Qatar's demand is met by developing economies of Europe and Latin America.

Table 9: Other Tubes and Pipes Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	Brazil	12,780.72	61.9	72,722.3	49.8	5.69
2	Austria	3,813.13	18.5	19,256.30	13.2	5.05
3	Romania	779.85	3.8	5,747.52	3.9	7.37
4	Italy	636.45	3.1	3,920.56	2.7	6.16
5	Mexico	551.37	2.6	4,206.97	2.9	7.63
6	Others	2,084.28	10.1	40,239.91	27.5	-
Total		20,465.81	100%	146,093.60	100%	-

Source: Qatar Planning and Statistics Authority

7.1.4.7 COLD-REDUCED OR COLD-DRAWN

Cold-drawn seamless tubing is a manufacturing process at room temperature. Cold-drawn tube offers uniform tolerances and enhanced machineability compared with normal hot-rolling production process.

Oman is the domestic GCC participant catering to more than 58% of Qatar's demand with Jazeera Steel the primary supplier¹⁹. Even Interpipe²⁰ from Ukraine supplies these products to customers in Qatar. These two countries together account for more than 70% of Qatar's demand for cold-drawn products.

Table 10: Cold-rolled or Cold-Drawn Pipes Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	Oman	1,693.53	43.7	4,758.82	17.1	2.81
2	Ukraine	531.3	14.0	2,153.01	7.9	4.05
3	China	203.05	6.9	1,558.78	5.8	5.81
4	Spain	157.39	4.1	812.13	2.9	5.15
5	Romania	141.01	3.6	1,288.84	4.6	9.13
6	Others	1,073.0	27.7	3,412.67	61.7	-
Total		3,874.04	100%	27,794.54	100%	-

Source: Qatar Planning and Statistics Authority

¹⁹ Primary research

²⁰ Primary research

7.1.4.8 SEAMLESS TUBES, PIPES AND HOLLOW-PROFILES OF IRON OR STEEL (EXCEPT STAINLESS STEEL)

This product includes seamless hollow profiles, tubes and pipes made of iron or other steel material except stainless-steel. These are used in all the non-critical applications that require higher tolerance for corrosion. Demand for this product is limited since they are used for specific purposes in chemical processing and firefighting.

Ukraine caters to nearly 35% of Qatar's demand at an average pricing lower than most of the countries. As this product includes, tubes, pipes and hollow profiles of iron, chrome steel, carbon steel or other alloy, it allows a wide pricing range largely influenced by the material of the pipe. For example, pricing of hollow profiles made of iron will be lesser than hollow profiles from carbon steel.

Table 11: Seamless Tubes, Pipes and Hollow-Profiles of Iron or Steel Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	Ukraine	1,039.26	35.4	5,560.01	26.9	5.35
2	China	547.67	18.7	3,696.77	17.9	6.75
3	India	355.61	12.1	2,243.89	10.9	6.31
4	Italy	324.19	11.0	1,559.37	7.6	4.81
5	Japan	133.00	4.5	782.03	3.8	5.88
6	Others	537.57	18.3	6,800.44	32.9	-
Total		2,937.29	100%	20,642.51	100%	-

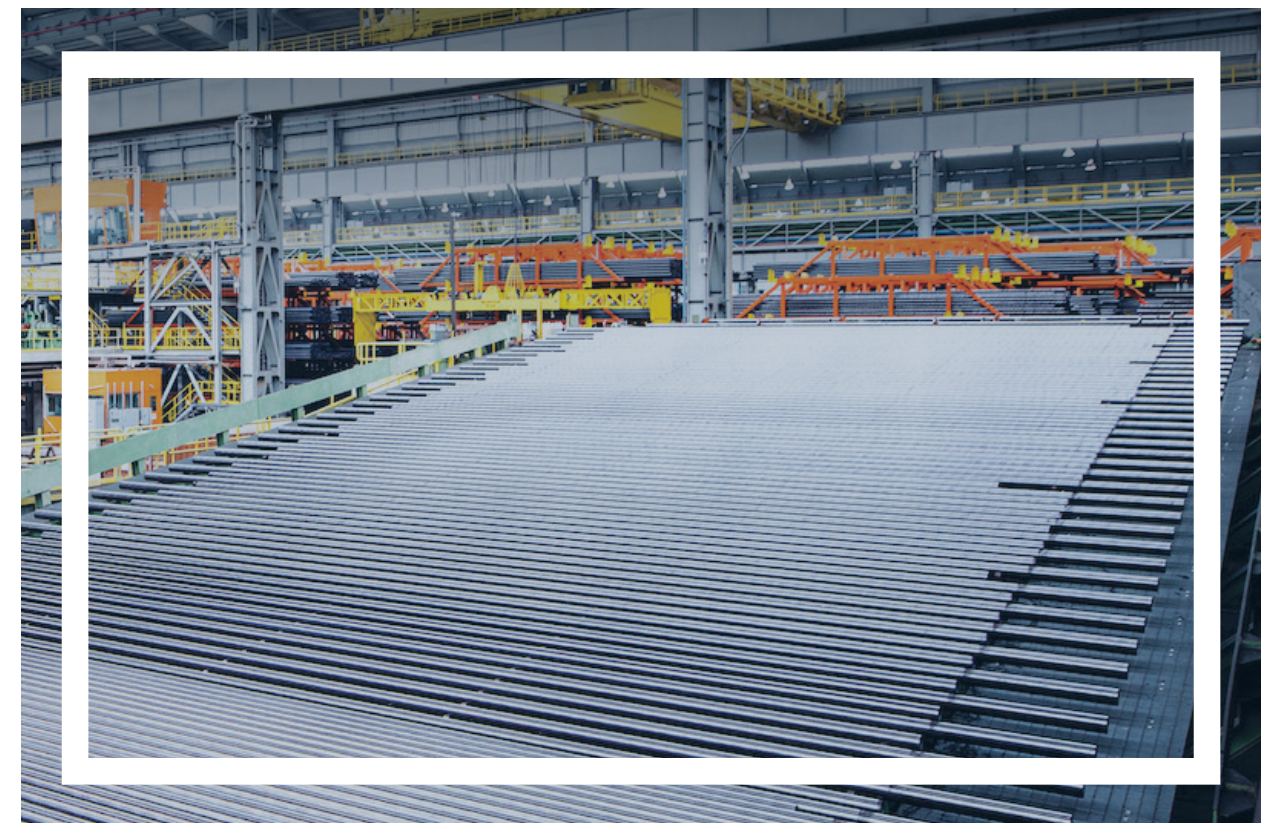
Source: Qatar Planning and Statistics Authority

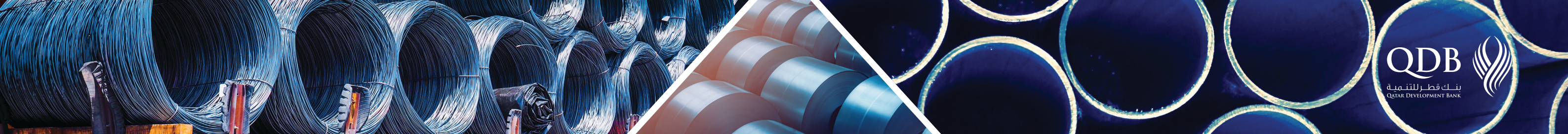
Lastly, other types of seamless tubes and pipes accounts to 1% of the total seamless tubes segment, which is largely used in niche and ad-hoc requirements.

7.2 ELECTRIC RESISTANCE WELDED (ERW) TUBES AND PIPES

Electric Resistance Welded (ERW) tubes and pipes (HS Codes 7305 and 7306) are manufactured by cold forming a steel coil into a round cylindrical shapes. The primary difference between seamless pipes and ERW pipes are the welded joints of coils and strips in the cross-section of an ERW pipe. Hot rolled (HR) coil is the raw material for making ERW pipes, so these pipes have the same high surface quality as the HR coil, which facilitates uniform wall thickness and better surface quality than seamless pipes. By physical dimension, ERW pipe can be a longitudinal welded pipes, square pipes, and rectangular pipes. ERW pipes offer high leak resistance, long service life, reliability and versatility for transporting liquids or gases through a long pipeline.

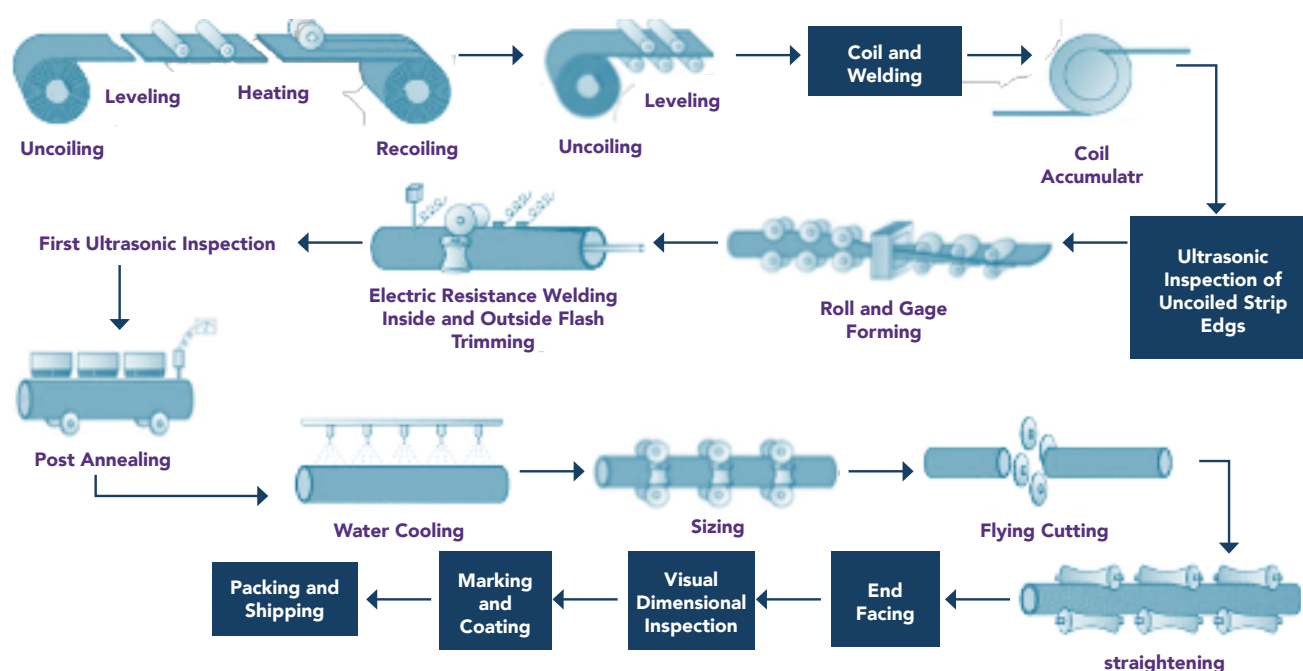
ERW pipes are largely classified as small and mid-sized pipes, with diameter less than 406.4 mm and large pipes with diameter more than 406.4 mm. The larger diameter pipes are further classified as line pipes that are longitudinally welded, tubes that are longitudinally welded, casing for drilling pipes, and other similar pipes. Similarly, pipes with smaller diameter are further classified as welded tubes of circular cross-section, pipes/tubes of square or rectangular cross sections and casings.



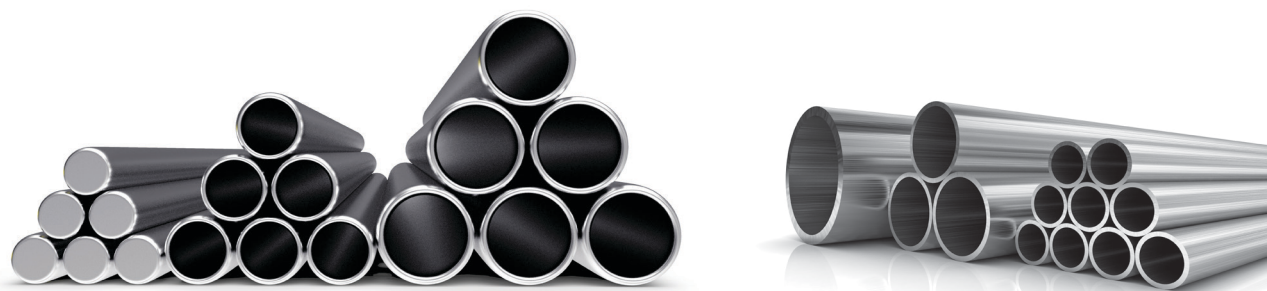


7.2.1 PRODUCTION SCHEMA

Figure 6: Production Process for ERW Pipes



Source: primary research with Industry experts

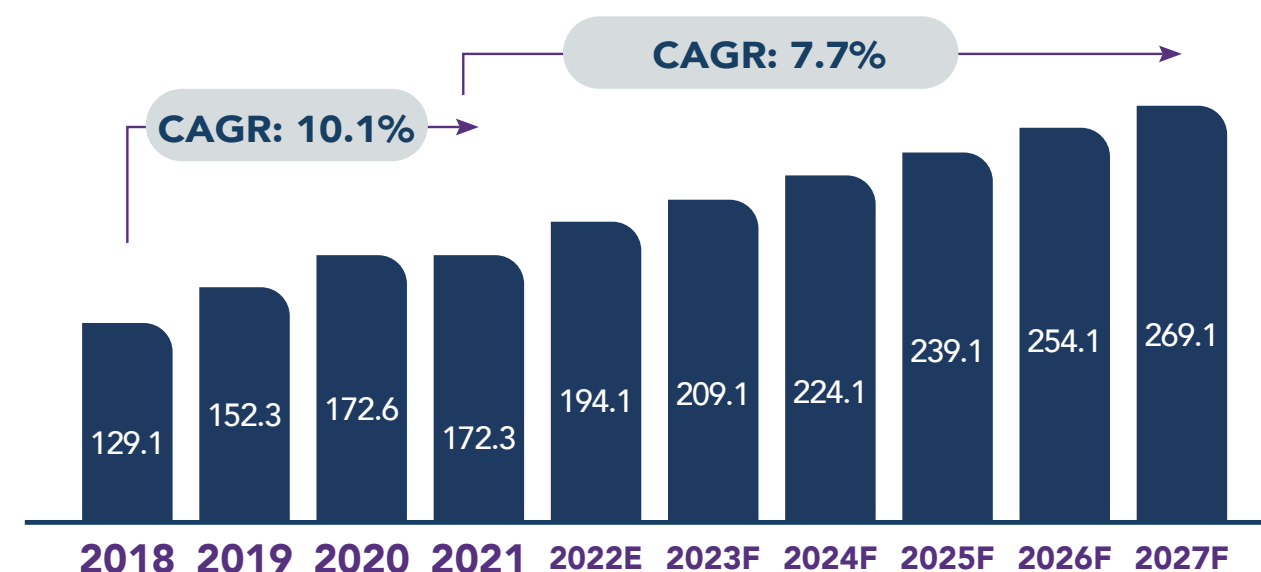


Welded pipes are made from long flat pieces of steel that are curved into tubular shapes and sealed along the seam. After fabrication, the raw steel ingots are processed by rolling to create blooms and transformed into slabs. The slabs are processed further through heating, coating, descaling and rolling to be converted into narrow strips called skelp. Thereafter, the steel skelp is unrolled, heated and passed through grooved rollers, making the ends curl up and form the pipe shape. The unwelded pipe is passed through welding electrodes, causing heat and molten pools at the edges to form welded pipes.

7.2.2 ANALYSIS OF DOMESTIC PRODUCTION

The market for ERW pipes in Qatar is driven by the construction and infrastructure sector, in transporting liquids or gases in the oil & gas, industrial processes, desalination plants, irrigation, water recycling, and majority of the mechanical, engineering and plumbing (MEP) projects. As there are multiple categories of ERW pipes to cater a specific requirement, some of the products are manufactured locally by domestic producers while the remaining demand especially for large diameter tubes are catered through by imports. When ERW pipes are used in projects that are executed by global EPC contractors, there is a higher possibility of imported pipes from global manufacturers being used for the project. Also, the demand for an ERW pipe with larger diameter is project specific and the volumes are driven by specific project, while ERW pipes with smaller diameter is a high-volume commercial product that is used in a wide range of applications.

Chart 15: Domestic Production for ERW Tubes and Pipes (1,000 Tonnes)



Source: Qatar Ministry of Commerce and Industry, Qatar Planning and Statistics Authority



7.2.2.1 DOMESTIC MANUFACTURERS

NBTC, and Seashore Steel are the prominent Qatari manufacturers involved in the production of ERW pipes, across different diameters for varying applications. The most common applications of locally produced ERW pipes includes safety and water pipelines in firefighting applications, transportation pipelines for gas or water in power stations, chemical and petrochemical industry, refineries and other industrial plants. These pipes are also used in agricultural sector as water line pipes for irrigation, in structural applications and general engineering applications involving medium pressure. Typically, the domestic companies supply their products to distributors who fulfil the requirements from end-users.

Table 12: Key Domestic Manufacturers of ERW Tubes and Pipes

Company Name	Business Overview & Other Details	Head quarters	Annual Production Capacity (approx. in tons)
Qatar Steel Industries Factory	Established in 1980, Qatar Steel Industries Factory manufactures a variety of flat structural and industrial steel solutions. It is a leading steel pipe supplier in the country. Its portfolio of products also include angles, beams, roofing sheets, wall panels etc.	Doha	~60,000
Seashore Steel	Established in 2008, was the first steel melting and hot-rolling company in the private sector of Qatar. The company has an annual production capacity of around 100,000 tons of billets and structural steel products. It offers ERW steel products in a range of 12mm to 508mm thickness	Doha	~25,000
National Buildtec Trading & Contracting Company (NBTC)	NBTC is a prominent producer of steel structures and components in Qatar. The company offers a range of of steel plates/ sheets, hollow sections and round pipes. The company has ISO9001, ISO14001& OHSAS 18001 and Bureau Veritas certifications	Doha	~25,000

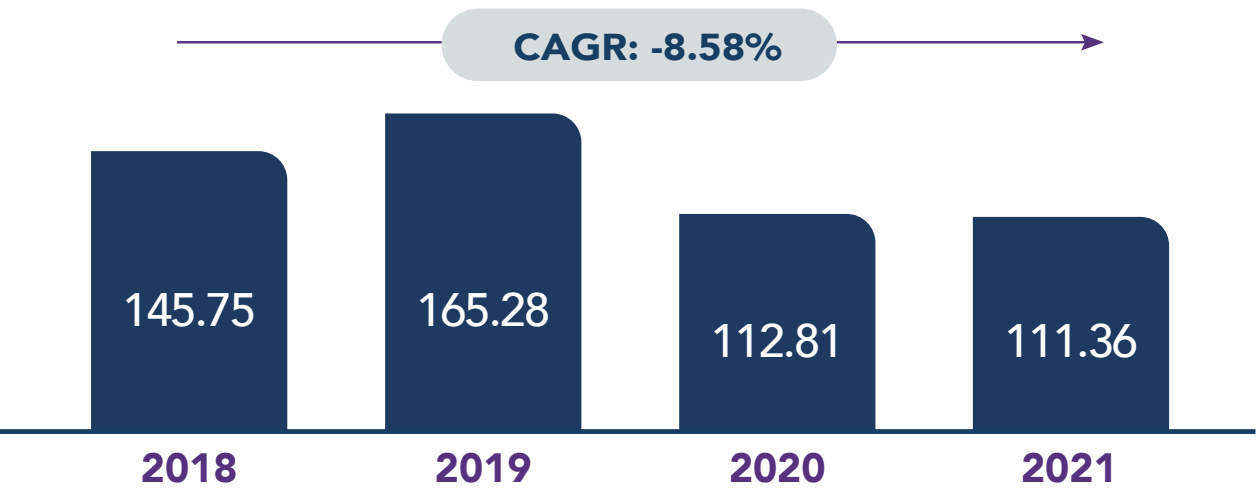
Source: Qatar Ministry of Commerce and Industry, Primary research

7.2.3 ANALYSIS OF IMPORTS

ERW pipes and tubes are high-volume commercial products which have to confirm to global ASTM or API standards. The standardized characteristic makes it easier to source for producers across the globe. Generally, ERW pipes with diameter above 406.4mm is used in oil & gas rigs, casings, bulk transportation, these pipes are imported from high quality, global manufacturers instead of being procured from low-cost producers in Asia. In fact, Germany is a partner for import of larger diameter ERW pipes into Qatar. Meanwhile, small diameter pipes that are light weight and withstand impact of transportation, tends to be sourced for China and India in large quantities.

Though the volume of imports witnessed an increase in 2019 on account of increased demand from industrial and construction sector, tapering of economic activity on account of the Covid-19 pandemic and completion of important infrastructure projects has impacted demand and consequently, imports into the country.

Chart 16: ERW Tubes and Pipes Imports to Qatar (1,000 Tonnes)



Source: Qatar Planning and Statistics Authority

ERW pipes with diameter above 406.4mm is primarily imported from European countries of Germany and Turkey, followed by supplies from Italy, the U.K, Poland, Sweden, France, Netherlands and Estonia. Together, they account for ~55% of the total imports of large diameter pipes.

**Table 13: ERW Tubes and Pipes (Diameter Exceeding 406.4mm)
Imports to Qatar in 2021**

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	Germany	14,873.86	32.8	344,305.20	64.3	23.15
2	Japan	13,699.89	30.2	78,963.81	14.8	5.76
3	Turkey	7,388.01	16.3	51,154.09	9.6	6.92
4	South Korea	5,717.59	12.6	33,381.18	6.2	5.84
5	China	1,490.57	3.3	5,201.36	1.0	3.49
6	Others	2,242.69	4.8	21,969.97	4.1	-
Total		45,412.61	100%	534,975.6	100%	-

Source: Qatar Planning and Statistics Authority

In contrast, ERW pipes with diameter less than 406.4mm are very commoditized in nature, and generally imported from low-cost producers. In fact, China and India together account for ~63% of the imports.

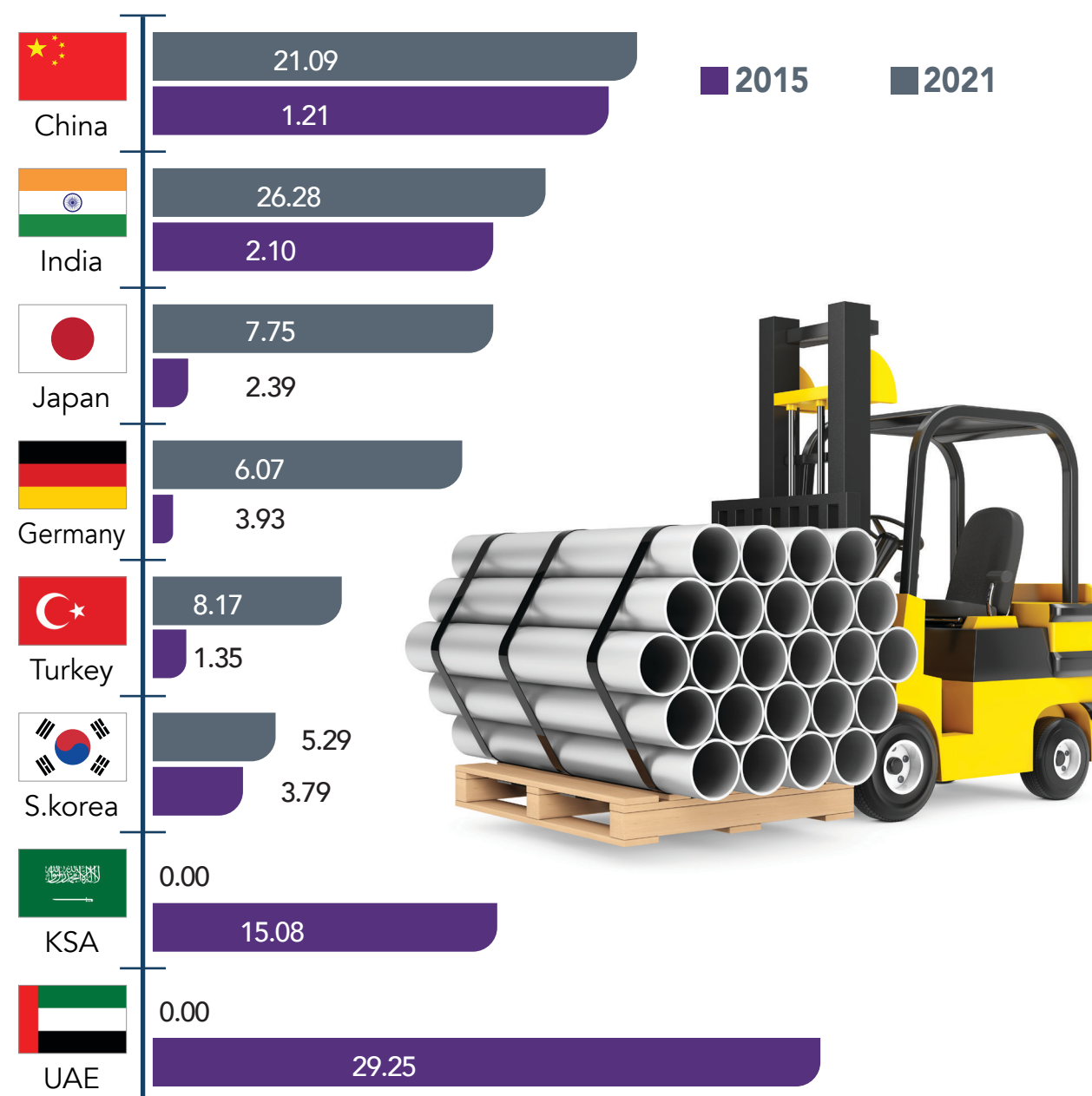
**Table 14: ERW Tubes and Pipes (Diameter Below 406.4mm)
Imports to Qatar in 2021**

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	China	21,995.21	33.4	81,992.75	26.5	3.73
2	India	19,136.00	29.0	74,770.17	24.2	3.91
3	Oman	12,191.42	18.5	48,148.88	15.6	3.95
4	Japan	2,955.72	4.5	11,211.48	3.6	3.79
5	UK	2,457.25	3.7	17,076.67	5.5	6.95
6	Turkey	1,709.30	2.6	4,755.96	1.5	2.78
7	Others	5,506.22	8.3	70,987.94	23.0	12.89
Total		65,951.12	100%	308,943.9	100%	-

Source: Qatar Planning and Statistics Authority

While imports from these markets continue to grow, shipments from Saudi Arabia and UAE, which together accounted for ~45% of the total imports of ERW tubes and pipes before the blockade has now dropped to negligible levels. This provided an impetus to Qatar to expand their trade relationships with other partners and also promote local production of tubes and pipes.

Chart 17: ERW Tubes and Pipes Import Concentration (Volume-based, %)



Source: Qatar Planning and Statistics Authority

7.2.4 - ANALYSIS BY TYPES OF ERW TUBES AND PIPES

7.2.4.1 ERW LINE PIPES

ERW Line pipes are ones with diameter above 406.4mm, including longitudinally submerged arc welded pipes and other longitudinally welded pipes. These line pipes are lengthy compared with the seamless line pipes, and it is used in medium pressure applications, such as transportation of water or oil, irrigation, agriculture, water mains and sewerage systems.

Around 37.35% of these pipes are imported from Germany, for its quality, and better performance. Japan is the second largest trade partner accounting for ~28.0% of ERW line pipes imports.

Table 15: ERW Long Pipes Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	Germany	14,675.00	37.3	342,272.00	70.0	23.32
2	Japan	11,008.30	28.0	57,425.10	11.7	5.22
3	Turkey	7,388.01	18.8	51,154.10	10.5	6.02
4	South Korea	4,037.51	10.3	22,931.00	4.7	5.68
5	Brazil	1,279.21	3.3	11,684.50	2.3	9.13
6	Others	975.83	2.3	3,712.16	0.8	-
Total		39,363.80	100%	489,178.00	100%	-

Source: Qatar Planning and Statistics Authority

7.2.4.2 WELDED TUBES

Welded tubes include all types of carbon steel, alloy steel and stainless-steel welded tubes that are both longitudinally welded and other types of welding such as butt welding, flash welding etc. Tubes are important components in engineering and construction. Most of the large diameter requirements for welded tubes are sourced from South Korea; smaller diameter tubes used for fencing, scaffolding etc. are mainly sourced from India and China.

Table 16: Welded Tubes Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	India	14,129.60	35.5	55,370.93	29.9	3.9
2	China	11,472.21	28.8	45,781.92	24.7	4.0
3	Oman	9,039.38	22.7	37,283.81	20.1	4.1
4	South Korea	1,595.41	4.0	9,895.26	5.3	6.2
5	Others	3,606.65	9.0	36,741.15	19.9	10.2
Total		39,843.28	100%	185,073.03	100%	-

Source: Qatar Planning and Statistics Authority

7.2.4.3 CASING OF IRON OR STEEL

ERW tubes and pipes used as casing is an important application in oil & gas rigs, drilling sites and in transportation of oil and gas. These have diameter above 406.4mm, with ~94.5% of the imports from Japan.

Table 17: Large Diameter Casing of Iron or Steel Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	Japan	2,643.05	35.5	20,838.90	29.9	7.88
2	South Korea	84.67	28.8	554.91	24.7	6.55
3	Oman	58.3	22.7	254.86	20.1	4.54
4	Others	10.00	4.0	60.10	5.3	-
Total		2,796.02	100%	21,718.77	100%	-

Source: Qatar Planning and Statistics Authority

Smaller diameter casings are used for non-critical applications in construction and infrastructure projects. Imports for these products are from US and Oman, which can be attributed to project specific requirements sourced from these countries.

Table 18: Small Diameter Casing of Iron or Steel Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	US	167.98	48.0	2,492.48	54.1	14.83
2	Oman	83.30	23.8	656.36	14.3	7.88
3	China	44.10	12.6	104.90	2.3	2.38
4	Indonesia	38.66	11.0	694.02	15.1	17.95
5	Others	16.25	4.6	657.70	14.2	-
Total		350.29	100%	4,605.46	100%	-

Source: Qatar Planning and Statistics Authority

7.2.4.4 ERW TUBES AND PIPES WITH SQUARE OR RECTANGULAR CROSS SECTION

ERW tubes and pipes with square or rectangular cross section of diameter less than 406.4mm is imported China, India and other Asian markets. These are generally commoditized products and have relatively low demand in Qatar.

Table 19: Tubes and Pipes with Square or Rectangular Cross Section Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	China	7,514.41	33.2	28,730.80	34.6	3.82
2	India	4,219.13	18.7	14,846.30	17.8	3.51
3	Oman	3,606.39	16.0	12,084.3	14.5	3.35
4	Japan	2,703.60	12.0	9,837.42	11.8	3.63
5	Others	4,544.37	20.1	17,725.50	21.3	-
Total		22,587.9	100%	83,224.4	100%	-

Source: Qatar Planning and Statistics Authority

7.2.4.5 RIVETED TUBES & PIPES

Riveted tubes & pipes that are not welded and have internal and external circular cross sections, account for a very small portion of imports. These products have outer diameter measure exceeding 406.4mm and are used in the oil & gas sector.

Table 20: Riveted Tubes and Pipes Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	Netherlands	48.58	52.5	688.82	67.8	14.4
2	China	43.93	47.4	302.35	29.3	6.88
3	Others	0.1	0.1	30.05	2.9	-
Total		92.61	100%	1,032.22	100%	-

Source: Qatar Planning and Statistics Authority

7.2.4.6 OTHER TUBES & PIPES

All other ERW tubes and pipes are categorized in this section that accounts to ~5% of total imports. These tubes and pipes are generally of low size diameters and imported from low-cost producers in Asia and Eastern Europe.

Table 21: Other Tubes & Pipes Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	China	3,377.99	58.9	8,488.78	15.7	2.51
2	Indonesia	873.6	15.2	29,547.10	54.5	33.82
3	India	723.98	12.6	3,463.89	6.4	4.78
4	Poland	228.09	4.0	1282.69	2.3	5.62
5	Others	527.74	9.2	11,413.30	21.1	-
Total		5,731.4	100%	54,195.80	100%	-

Source: Qatar Planning and Statistics Authority



7.3 TUBES OR PIPE FITTINGS

Fittings for steel tubes and pipes, which are categorized under HS code 7307, includes components that help in routing a pipe or tube for directional changes, size changes, and branch connections. These fittings play an important role in smooth, error-free functioning of a tube or pipe over longer distances and used in both seamless and welded (electric resistance welded-ERW) pipes to complete the piping circuit.

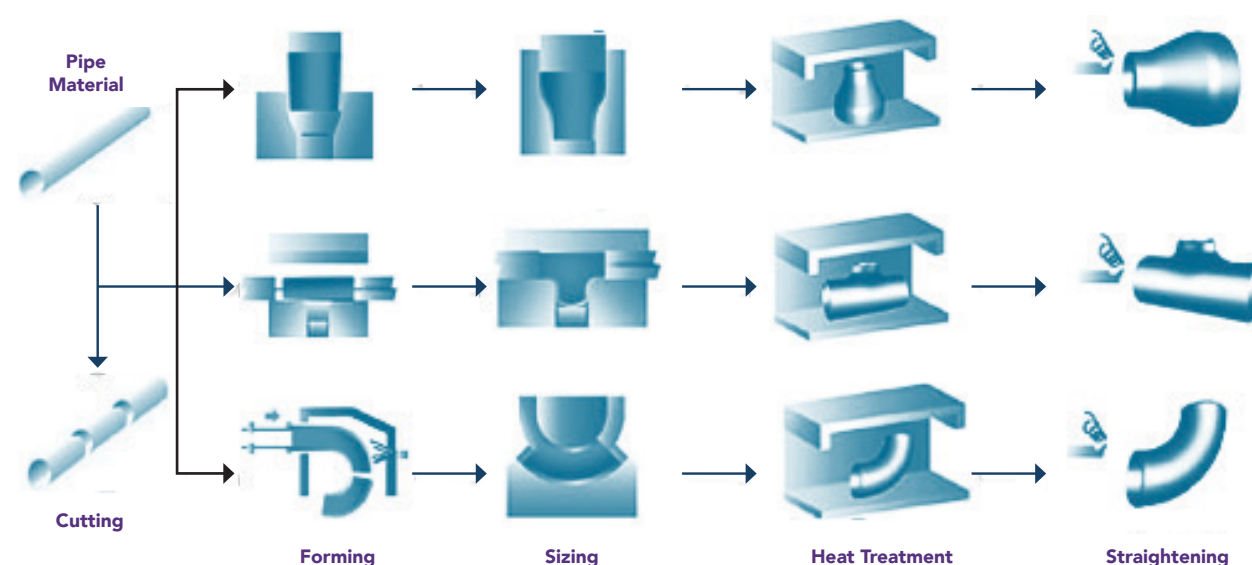
Fittings are essential in mechanical, electrical, and plumbing (MEP) projects where piping elbows, reducers, tee connections, wyes, caps, crosses etc. are used in connecting a pipe or tube in transportation or distribution purposes. Depending on the type of connection for a specific application, fittings are categorized as block fitting, threaded fitting and groove fittings. Block fitting is when an accessory is welded to a pipe or tube, to make it as a part of the pipe/tube, without the possibility to dismantle it at later stage. This requires high precision and usually done by butt welding. Threaded fitting is when the accessories are added and can be removed by threading action. Threaded fittings are used in applications that does not handle high pressure liquids or gases. Some of the specific, niche applications in the firefighting segment uses groove fittings where a groove is made at both ends of a pipe and fittings are bolted to the groove.

Some of the commonly used accessories include piping elbow (available as 90° elbow, 45° elbow, long radius elbow, and short radius elbow), tee-connection (available as equal tee, reducing tee, and barred tee), reducer (available as concentric reducer, and eccentric reducer), unions, adapters, couplings (available as half coupling, full coupling, and reducing coupling), olet-connections (available as weldolet, sockolet, elbowlet, thedolet, nipolet, latrolet, sweepolet, and flageolet), piping valves (available as gate valve, ball valve, check valve, plug valve, needle valve, butterfly valve, and globe valve), cross (available as equal cross and reducing cross), wyes, cap, nipples, plug, bushing, flanges, expansion joint, steam traps, long radius bend (available as 3-D bends and 5-D bends), barb, locknut and miter bend.

Tubes and pipes fittings is a commoditized business characterized by high volume and price elasticity to cater to requirements from both initial installation and replacement demand. In either case, the local producers and foreign suppliers depend on local distributors to stock the products for distribution to end use customers.

7.3.1 PRODUCTION SCHEMA

Figure 7: Production Process for Pipe Fittings



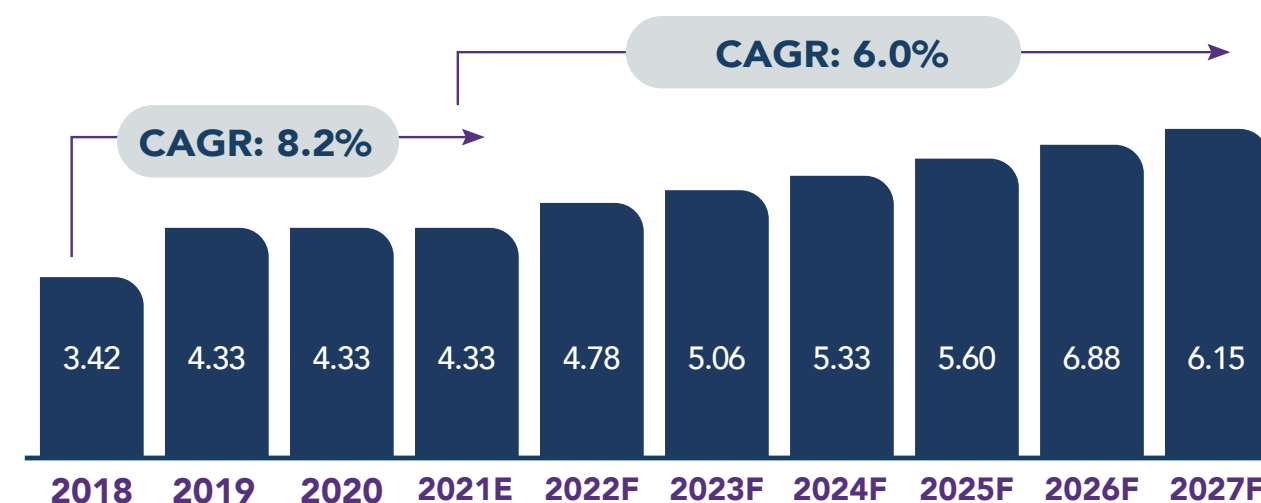
Source: Primary research, Sunny Steel

Pipe fittings are made hot forming that includes bending and forming to a particular shape. The process involves a pipe cut to length, heated and molded into specific shapes. Heat treatment is rendered to remove residual stresses and obtain desired mechanical properties.

7.3.2 ANALYSIS OF DOMESTIC PRODUCTION

Fittings and accessories are essential for any pipe/tube installations in oil & gas, industrial processes, water transportation to waste disposal. As there are multiple categories and subsegments within fittings and accessories, some of the products are manufactured locally by domestic producers, while majority is still being imported. In fact, imports was ~5.2x the volume of annual local production in 2021.

Chart 18: Domestic Production for Tube or Pipe Fittings (1,000 Tonnes)



Source: Qatar Ministry of Commerce and Industry, Qatar Planning and Statistics Authority

Metalex Trading and Contracting Co W.L.L, Solb 26, Oryx Engineering Solutions company, National Electrical Breakers Factory, and Ethos Energy are some of local companies involved in the production of some of the fittings and accessories. They generally produce pipe joints, elbows, tees, reducers, flanges, connectors, and rolls that are used in any application involving pipes or tubes. However, fittings that require precise engineering are not yet manufactured by the domestic players.

Table 22: Domestic Manufacturers of Tube or Pipe Fittings

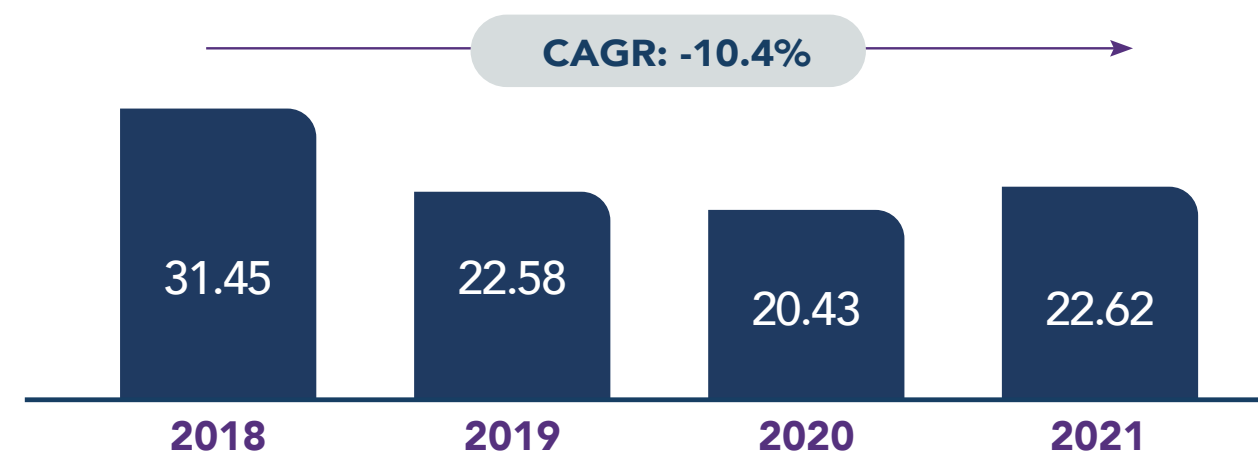
Company Name	Business Overview & Other Details	Product Categories	Head quarters	Annual Production Capacity (approx. in tons)
Metalex Trading & Contracting	A steel fabricator in Qatar, the company is involved in metal manufacturing process that produces light metal rolls which could be used as fittings in non-critical applications. Qatar Sat is largely involved in manufacturing connectors for multiple applications including electrical applications.	Light Rolls	Ar-Rayyan	~2,500
Solb 26	A structural steel company involved in manufacturing structural steel for construction, while also involved in manufacturing fittings involved in cutting and repair works of these sheets, as a part of its manufacturing process.	Fittings for Cutting & Repair	Ar-Rayyan	~2,500
Oryx Engineering Solutions	It offers comprehensive, customized engineering solutions for infrastructure development, in addition to manufacturing flanges, pipe joints, and fittings for MEP projects.	Stainless-steel Flanges, Pipe Joints, Elbows/ Tees/ Reducers	Ad-Dahirah	NA

Source: Qatar Ministry of Commerce and Industry, Primary research

7.3.3 ANALYSIS OF IMPORTS

The quantity of imports has declined by 10.4% during the period of 2018-21. The initial slowdown can be attributed to the economic uncertainty around the 2017 blockade which impacted demand; thereafter, 2020 saw another disruption because of Covid-19 related restrictions. More importantly, expansion in local production in the aftermath of the 2017 blockade had an influence in the reduction of imports. Nevertheless, the level of imports continues to be high relative to domestic production as Qatari manufacturers face competition from import partners such as China, India and Thailand.

Chart 19: Tubes or Pipes Fittings Imports to Qatar (1,000 Tonnes)



Source: : Qatar Planning and Statistics Authority

Because pipes and tubes fittings are a commoditized business, low-cost production countries such as China, India and Thailand are prominent trade partners. The average pricing for fittings from China in the last year was QR 7.3 per kg, while imports from India and Thailand were priced at QR 10.1 and QR 9.5 on a per kg basis, respectively. Meanwhile, precision fittings made for specific requirements continue to be imports from global players based in Europe.

Table 23: Tubes or Pipe Fittings Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	China	5,128.06	22.7	37,404.15	10.0	7.29
2	India	5,098.46	22.5	51,319.58	13.8	10.07
3	Thailand	2,406.60	10.6	22,860.38	6.1	9.50
4	Italy	2,298.10	10.2	68,615.71	18.4	29.86
5	France	1,700.87	7.5	31,119.33	8.4	18.30
6	South Korea	1,621.49	7.2	25,045.62	6.7	15.45
7	U.K	1,077.18	4.8	25,822.57	6.9	23.97
8	Poland	518.23	2.3	8,926.75	2.4	17.23
9	U.S	368.81	1.6	27,340.56	7.3	74.13
10	Germany	353.03	1.6	13,034.49	3.5	36.92
11	South Africa	350.14	1.5	8,678.75	2.3	24.79
12	Malaysia	251.25	1.1	3,428.06	0.9	13.64
13	Others	1,442.84	6.4	48,978.57	13.3	-
Total		22,614.99	100%	37,2574.5	100%	-

Source: Qatar Planning and Statistics Authority

While imports from these markets continue to grow, shipments from Saudi Arabia and UAE, which together accounted for ~10% of the total imports of pipe fittings, has now dropped to negligible levels because of the blockade imposed on Qatar. This provided an impetus to Qatar to expand their trade relationships with other partners and promote local production of tube and pipe fittings/accessories.

Chart 20: Tube or Pipe Fittings Import Concentration (Volume-based, %)



Source: : Qatar Planning and Statistics Authority

7.3.4 - ANALYSIS BY TYPES OF TUBE OR PIPE FITTINGS

7.3.4.1 TUBES OF NON-MALLEABLE CAST IRON

This includes tubes fittings made of non-malleable cast iron, which is made by pouring molten metal into a mold of desired shape. When such cast tube is made of non-malleable cast iron it is durable, strong and does not corrode. They are used as tube fittings in water, gas and oil systems and in plumbing for residential, commercial and industrial settings. Being a casting product, demand is very price elastic with high import dependence on Asian low-cost production countries.

Table 24: Cast Tube of Non-Malleable Cast Iron Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	India	2,671.77	41.9	30,605.76	43.3	11.46
2	China	1,762.89	27.7	11,752.42	16.6	6.67
3	Thailand	976.02	15.3	7,663.75	10.8	7.85
4	U.K	330.40	5.2	5,940.99	8.4	17.98
5	Germany	149.89	2.4	1,693.88	2.4	11.30
6	Others	485.31	7.5	1,3082.32	18.5	-
Total		6,376.29	100%	70,739.13	100%	-

Source: Qatar Planning and Statistics Authority

More than 40% of these tube fittings are imported from India, more for its conformity to ASTM standards and product reliability. China, follows India, with a competitive offering primary catering to demand from commercial plumbing projects.

7.3.4.2 NON-MALLEABLE CAST TUBE FITTINGS

This segment includes cast tube fitting manufactured from metals other than non-malleable cast iron. Most of these cast tubes made of black metal or the similar metal as tube metal to match its performance and physical properties. France is the key trade partner for sourcing of non-malleable cast tubing, accounting for 34.3% of the imports in 2021. This is largely due to the requirement for class K9 ductile pipe fittings that would withstand high pressures and are used in critical, high precision applications. Other prominent import partners include Thailand, China and India who together accounted for ~35% of total imports into Qatar.

Table 25: Other Cast Tube Fittings Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	France	1,133.24	34.3	15,249.36	38.7	13.46
2	Thailand	418.82	12.7	4,744.92	12.1	11.33
3	China	398.58	12.1	3,206.89	8.2	8.05
4	India	367.27	11.1	1,805.88	4.6	4.92
5	Poland	331.86	10.1	4,919.46	12.4	14.82
6	Others	653.79	19.7	9,444.43	24.0	-
Total		3,303.56	100%	39,370.94	100%	-

Source: Qatar Planning and Statistics Authority

7.3.4.3 FLANGES

Flanges connects piping and its components in a piping system by using bolted connection and gaskets. It serves to increase strength and easier attachment/transfer of contact force/pressure with another end, and find application in water systems to connect pumps, valves, pipes allowing for easier maintenance, repair and operations (MRO) processes. Flanges is specified by standards that includes its dimensions, surface finish, facing type, marking, material and technical specifications to align with European Standards (EN) and American Society for Testing and Materials (ASTM) standards.

Due to quality and manufacturing specifications, Italy is key import partner accounting for 33.95% of total imports in 2021, followed by China which accounted for 20.76% of Qatar's imports. Some of the specific flanges are imported from U.K which accounts to a niche, specific model that is cost effective when used in premium applications. As flanges includes products made with a wide range of materials to suit a specific application, it is mix of premium products and commoditized products, which is reflected by the dominance from Italy and U.K accounting to more than 40% of the total flanges volume, while the commoditized flanges are imported from Asian countries accounting to 35% of total volume.

Table 26: Flanges Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	Italy	1,430.72	34.0	33,590.00	40.6	23.48
2	China	875.03	20.8	6,403.57	7.7	7.32
3	U.K	442.16	10.5	1,384.08	1.7	3.13
4	India	417.18	9.9	4,479.59	5.4	10.74
5	South Korea	214.83	5.1	4,724.33	5.7	21.99
6	Others	834.84	19.7	32,112.40	38.8	-
Total		4,214.76	100%	82,693.97	100%	-

Source: Qatar Planning and Statistics Authority

7.3.4.4 THREADED ELBOWS, BENDS AND SLEEVES

Threaded elbows, bends and sleeves are used to connect pipe segments together in a straight line. Threaded products allow for dismantling of connectors to the pipe, unlike welded fittings. Being the most common type of connector and fitting, this is a commoditized market with suppliers from China accounting for 34.4% of Qatar's imports. Meanwhile, imports from other countries such as South Korea and Italy cater to specific application in firefighting, oil & gas, chemical Industry.

Table 27: Threaded Elbows, Bends and Sleeves Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	China	654.35	34.4	6,507.89	16.5	9.95
2	South Korea	287.41	15.1	4,292.86	10.9	14.94
3	India	209.46	11.0	11,751.28	29.8	56.10
4	Italy	166.57	8.8	6,888.69	17.4	41.36
5	Thailand	93.15	4.9	1,623.05	4.1	17.42
6	Others	493.38	25.9	8,440.28	21.4	-
Total		1,904.32	100%	39,504.15	100%	-

Source: Qatar Planning and Statistics Authority

7.3.4.5 BUTT WELDING FITTINGS

Butt welding fittings are fitted to the pipe by welding and thus requires high precision fittings. They are predominantly used in an industrial piping system to change direction, branch off or to mechanically join equipment to the system. Compared with threaded fittings, which is available up to 4-inch nominal size, butt weld fittings are available at sizes from ½ inch to 72 inches. Welded connections are more robust, acts as continuous metal structure that adds strength to piping system and offers seamless flow inside the pipe. Majority of the imports for butt welding fittings comes from suppliers in Asian markets.

Table 28: Butt Welding Fittings Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	South Korea	1,089.35	24.3	15,143.84	18.2	13.90
2	China	1,073.05	24.0	5,437.35	6.5	5.07
3	Thailand	763.95	17.6	6,540.98	7.8	8.32
4	India	496.08	11.1	4,241.30	5.1	8.55
5	Italy	413.18	9.2	21,572.45	25.9	52.21
6	Others	622.88	13.9	30,451.38	36.5	-
Total		4,481.05	100%	83,387.30	100%	-

Source: Qatar Planning and Statistics Authority

7.3.4.6 OTHER TUBE OR PIPE FITTINGS

This segment includes an assortment of tube or pipe fittings such as unions, adapters, couplings, olet-connections, piping valves, cross, wyes, cap, nipples, plug, bushing, steam traps, barb, locknut and miter bend. These are commoditized accessories with low-cost producers in India and China accounting for more than half of the imports into Qatar. These suppliers have long term relationships with distributors and stockists in Qatar which facilitates a steady flow of imports into the country.

Table 29: Other Tube or Pipe Fittings Imports to Qatar in 2021

Rank	Name	Quantity (Tonnes)	Volume share (%)	Value (1,000 QR)	Value share (%)	Average Import Prices (QR per Kg)
1	India	784.10	36.8	6,725.84	15.8	8.58
2	China	290.78	13.6	3,005.98	7.1	10.34
3	South Africa	281.35	13.2	6,658.06	15.6	23.66
4	Italy	161.22	7.6	5,837.93	13.7	36.21
5	Thailand	126.69	5.9	1,963.30	4.6	15.50
6	Others	487.28	22.9	18,389.48	43.2	-
Total		2,131.42	-	42,580.59	-	-

Source: Qatar Planning and Statistics Authority

In addition to the above discussed subsegments, there are few other products such as links, slings, and exists for fire extinguishers and other fittings that accounts for mere 0.83% of total import volumes.

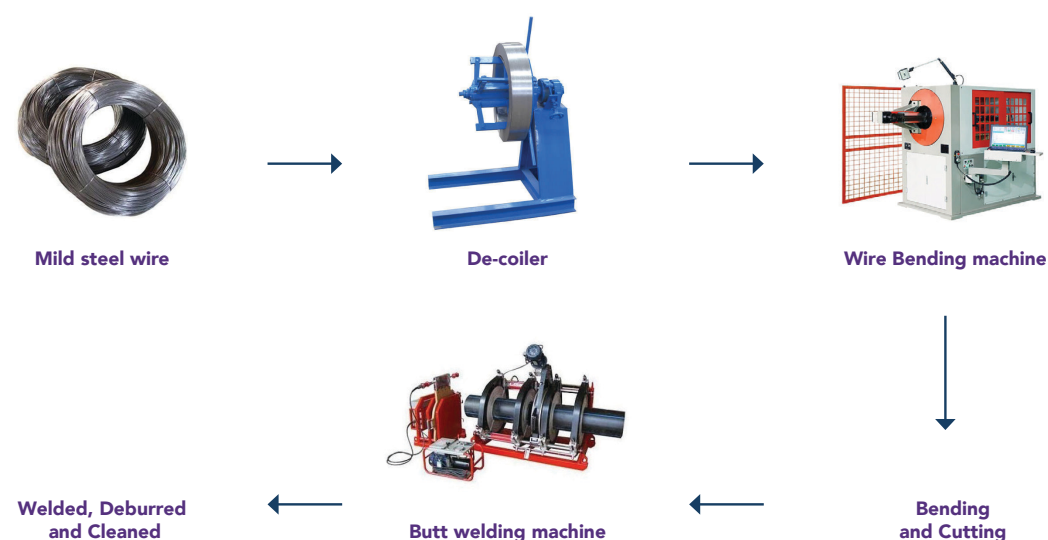


7.4 - WOVEN WIRE MESH AND FENCING

Woven wire mesh and fencing products are classified as HS code 7314; these products are mainly utilized by the construction industry for fencing, reinforcements and screening and beautification of residential and commercial projects.

7.4.1 PRODUCTION SCHEMA

Figure 8: Production Process for Woven Wire Fencing



Source: Primary research, Chainlinkfencing.org, A-1 Fence Inc.

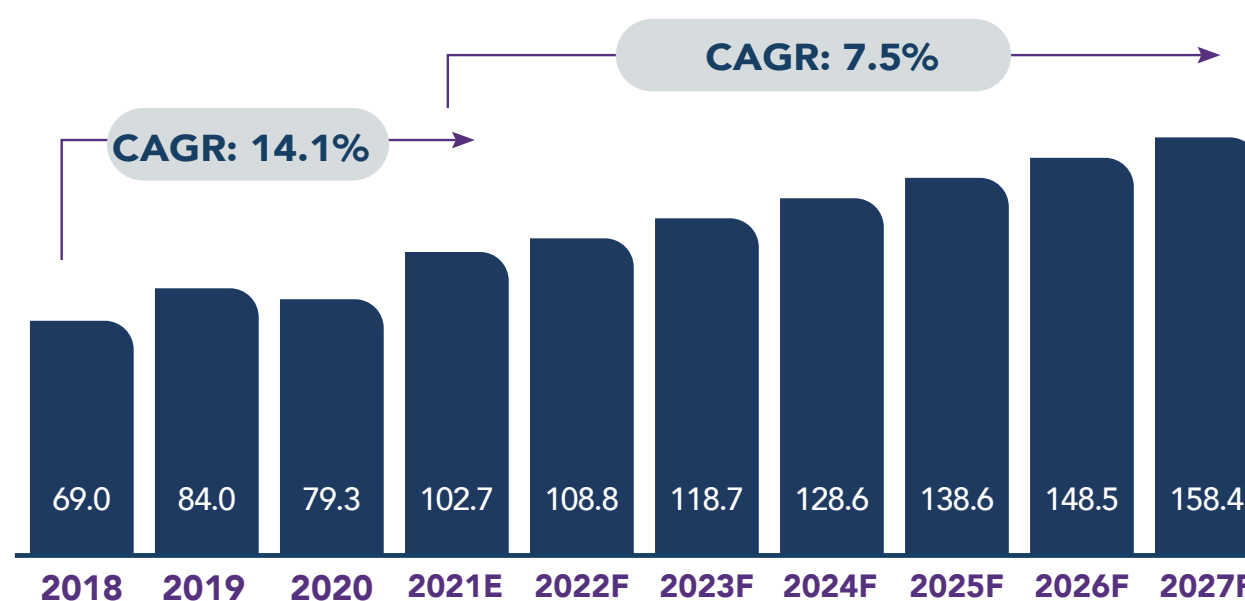
Mild steel wire is first de-coiled and fed into an automatic wire bending machine for straightening of the feed wire, and then cut to specific size and bent to form links. This is fed into an electro-mechanical butt welding machine where the chains are automatically welded and deburred, before being cleaned with acid and water.

7.4.2 PRODUCTION ANALYSIS

The domestic production of woven wire mesh and fencing products has seen a strong growth of CAGR 14.1% during the period of 2018-21. In fact, 2021 saw production jump by 30% year on year on the back of demand from ongoing and completed construction projects such as stadiums and facilities for FIFA 2022, residential city projects like Madinatna & Barahat Al Janoub, and various roadways and industrial projects underway.

The construction business is already the largest non-mineral industry category accounting for 15%²¹ of the current GDP in 2020 with mega infrastructure and commercial projects supporting development of the industry. The continued development of the construction sector would have a positive impact on the local demand for woven wire meshes and fencing products. This could, in turn, incentivize local producers to invest in capacities to meet the growing local demand.

Chart 21: Domestic Production Volumes – Fencing and Wire mesh (1,000 Tons)



Source: Qatar Planning and Statistics Authority

The prominent producers of woven wire mesh and fencing in Qatar cater to both standardized and custom requirements. In this category, most of the local production is for fencing & grills which are steel plated, or zinc coated and welded at intersection²². Chain Link Industries and Clic Qatar are the two prominent local producers who not only cater to local demand, but also has plans to export to the Middle East and Africa markets. These companies typically rely on distributors to fulfil the demand for woven wire mesh and fencing products.

²¹ Planning and Statistics Authority, Qatar

²² Qatar Ministry of Commerce and Industry

Table 30: Key Local Manufacturers of Fencing and Wire Mesh Products in Qatar

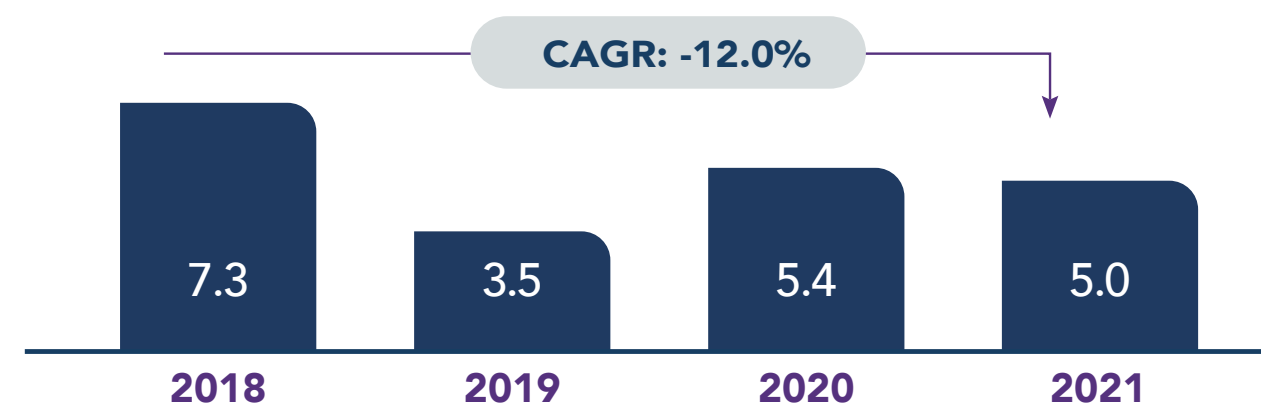
Company Name	Business Overview	Head quarters	Annual Production Capacity (tons)
Chain Link industries of Qatar	Chain link industries in involved in manufacturing, installation & servicing of fencing and wire mesh products for residential, commercial & industrial purposes along with providing wide variety of coating, colors, structures, and other customization options for the last 15 years. Some of the fencing types offered are welded mesh, chain link, traffic control, high security, farm & desert fences. Apart from fencing segment, they offer transportation containers, racking systems, cabins, and other niche offerings.	Doha	NA
Clic Qatar	Established in 2003, Clic Qatar is focused on manufacturing products to provide wide range of fencing solutions. Chain link fence systems, decorative fences and welded mesh fences are some of its offerings within this category. It also offers barbed wires and few other fencing solutions from different HS code segment.	Doha	~1,200

Source: Qatar Ministry of Commerce and Industry, Primary research

7.4.3 IMPORT ANALYSIS

The import of woven wire mesh and fencing has continued to decline at a CARC of 12.0% during the period of 2018-21. This can be attributed to Qatar moving away of imports from Saudi Arabia; instead focusing on encouraging local production to meet local demand. Consequently, the overall dependency on imports has declines and currently accounts for just 5% of the local production. Moreover, suppliers from KSA and UAE which together accounted for 55.5% of total imports in 2015 now has negligible presence in the Qatar market.

Chart 22: Import of Fencing and Woven Wire mesh to Qatar (1,000 Tons)

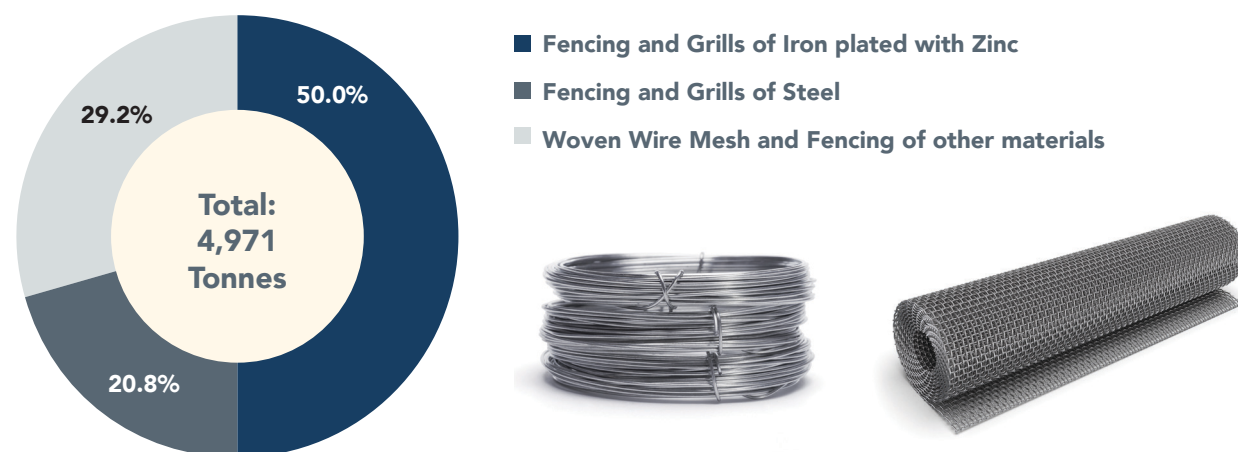


Source: Qatar Planning and Statistics Authority

The most prominent fencing product imported by material type is iron with zinc coating. Products of this type is not produced locally, thus contractors rely on supplies from China and India which is available at very competitive prices (QR 3.3/kg in 2021).



Chart 23: Imports Segmentation of Fencing and Wire mesh Products by Material (2021)



Source: Qatar Planning & Statistics Authority

Turkey and China are the main import partners for this product segment, accounting for over 85% of the total import volumes in 2021. Turkey is the primary supplier of zinc plated iron fencing & grills, making it the largest trade partner for this category of products.

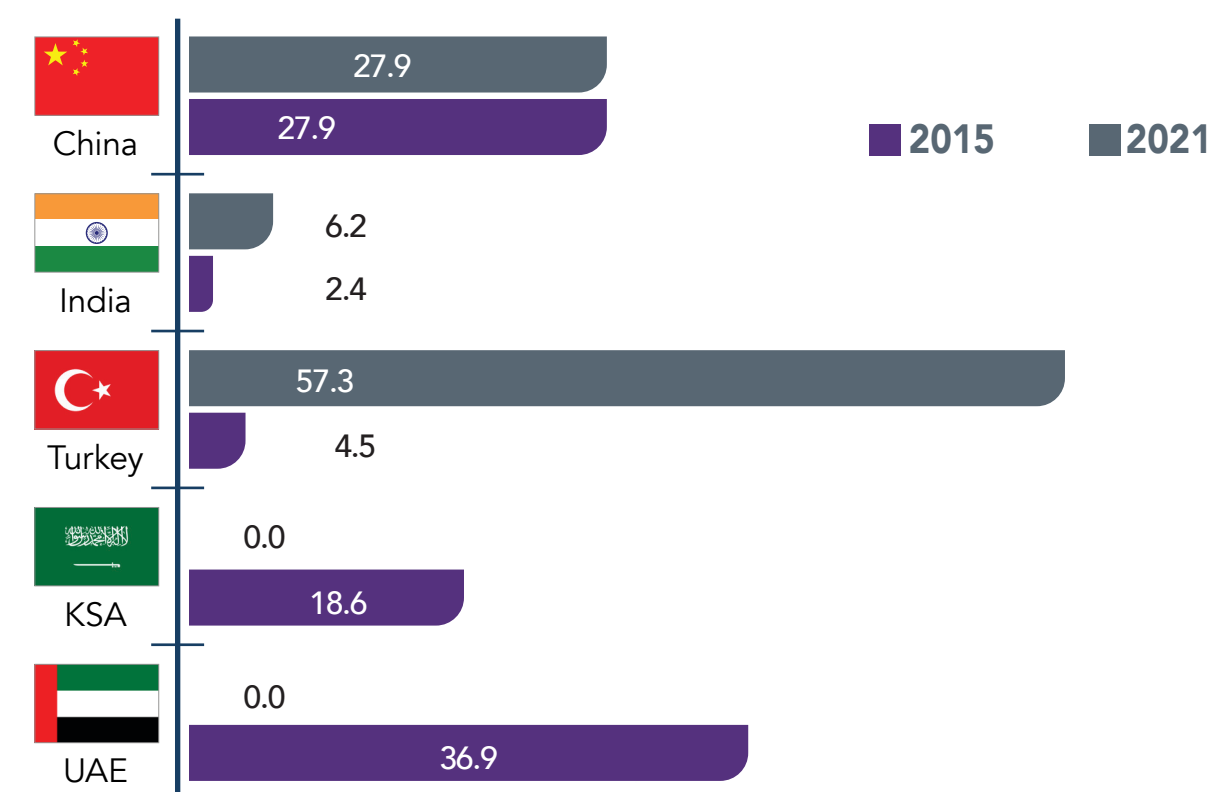
Table 31: Import of Fencing and Woven Wire mesh to Qatar in 2021

Rank	Name	Quantity (000's Tonnes)	Volume share (%)	Value (000's QR)	Value share (%)	Average Import Prices (QR per Kg)
1	Turkey	2,849.2	57.3	13,869.6	48.8	4.9
2	China	1,384.9	27.9	5,665.7	19.9	4.1
3	India	309.6	6.2	4,107.7	14.4	13.3
4	Others	427.2	8.6	4,762.7	16.9	-
Total		4,970.9	-	28,405.7	-	-

Source: Qatar Planning and Statistics Authority

The blockade imposed by neighboring countries and Turkey's significant price reduction (import prices: QAR 15.7/Kg in 2015 to QAR 4.9/Kg in 2021) played a key role in shift in the import concentration among trade partners. Saudi Arabia and UAE accounted for 55.5% of the import volumes in 2015, which was mainly captured by Turkey.

Chart 24: Fencing and Woven Wire mesh Import Concentration (Volume-based, %)



Source: : Qatar Planning and Statistics Authority

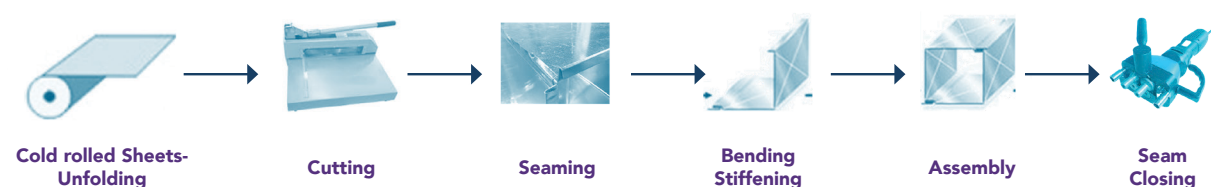


7.5 - ARTICLES OF IRON OR STEEL USED IN HVAC SOLUTIONS

Articles of iron or steel classified under HS 7326 are products used by the heating, ventilation and air conditioning (HVAC) and construction industry. These include air ducts, cable conduits, cable carriers, anchored bolts, and other cable management devices. Some other categories classified under 7326 include cages & boxes and electricity poles; however, the production and trade of these products in Qatar is very low.

7.5.1 PRODUCTION SCHEMA

Figure 9: Production Process for Air Ducts and Conduits



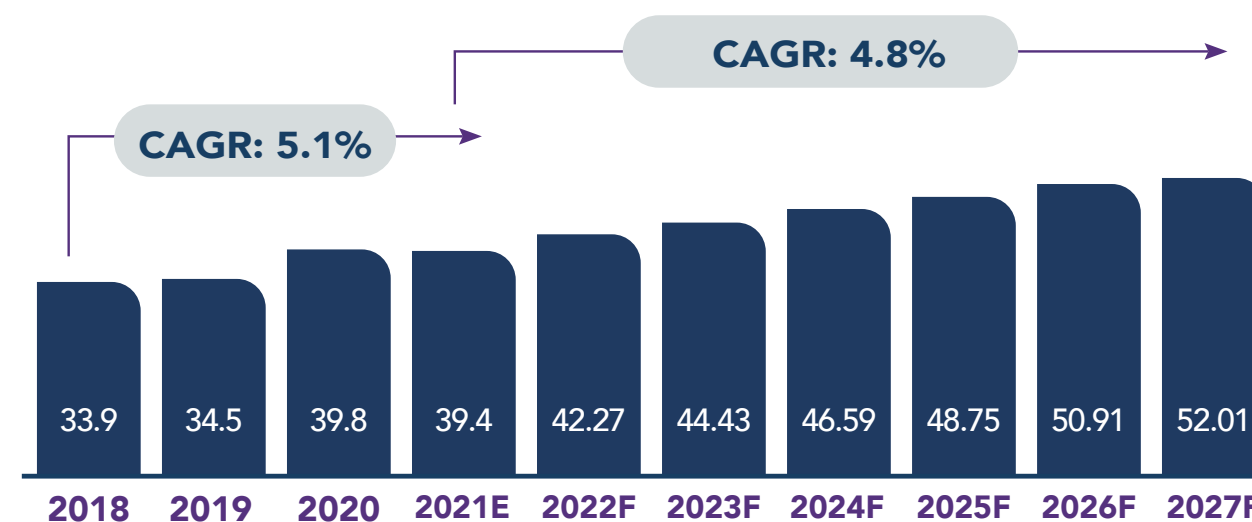
Source: : Qatar Planning and Statistics Authority

Air ducts and conduits are made from cold rolled sheets which are unfolded and blanked to specifications. This is followed by a shearing process which involved a combination of manual and machine cutting. Thereafter, the sheet is put through a forming or bending process using tools and punches, before final assembly.

7.5.2 PRODUCTION ANALYSIS

Qatar produced 39,400 tonnes of articles of iron and steel in 2021, primarily to cater to demand from HVAC contractors. The production has seen a steady rise over the years of 5.1% during the period of 2018-2021. In fact, local production has gained some momentum in the last couple of years as local companies, especially HVAC contractors, seek to expand their capacities in the aftermath of the blockade and subsequent impetus by the government to support and promote local companies.

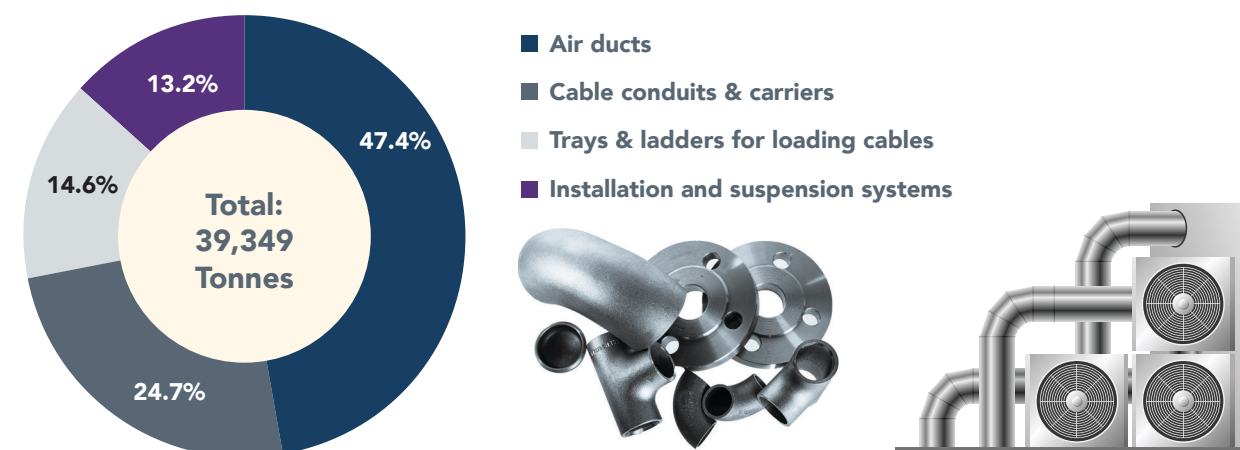
Chart 25: Domestic Production for Articles of Iron and Steel used in HVAC solutions (1,000 Tons)



Source: Qatar Ministry of Commerce and Industry

Air ducts is the major product manufactured in Qatar on the back of demand from construction and real estate sector for HVAC solutions. For cable carriers and conduits, which accounts for almost a quarter of the local production, a small portion of demand comes from industrial and laboratory equipment apart from construction industry, which remain to be the major customer for these products.

Chart 26: Domestic Production Volumes Segmentation by Product (2021)



Source: Qatar Planning & Statistics Authority

With some of the major construction projects completed recently, including stadiums and facilities for FIFA-2022, Lusail city development, Musheireb Downtown Doha Regeneration Project and many others, the construction business has become the largest non-mineral industry category accounting for 15% of Qatar's GDP in 2020²³. The construction industry is anticipated to grow at around 10.1% during the period of 2021-25²⁴, with Qatar government committed to investing QR 61bn in infrastructure and real estate projects under National Vision 2030. This anticipated growth in construction segment would likely drive demand for HVAC solutions. Even the cable management system, which includes cable carriers, conduits and other accessories is estimated to grow by around 10% till 2026 for MENA regions with various government initiatives being the major driver for growth in demand.²⁵

While the market for HVAC systems is on a rise, large quantities of air ducts and other accessories associated with HVAC will continue to be produced locally in comparison to the imports quantities: HVAC systems are a part of construction projects which are time sensitive in nature. Importing these products, which is a labor-intensive manufacturing process, could enhance the risk of project timelines being breached.

Also, air ducts, which are produced by fabrication and welding, are typically customized depending on the project needs. Thus, being close to the end market provides manufactures with better understanding of customer's requirements. The size of the contracts is also relatively small for these products to be produced in a small workshop without the need for heavy machinery or specialized labor.

²³ Thomson Eikon

²⁴ Metals Consulting International

²⁵ Mordor Intelligence Global Cable Management Market Report

Further, this is a very price sensitive category with players continuously exploring ways to minimize overheads. The additional costs of transportation for limited volume of consignment makes it favorable for these products to be mainly manufactured locally. Considering the fragmented nature of demand, contractors sourcing these products rely on distributors who procure the articles from local producers.



Table 32: Local manufacturers of HVAC solutions including air ducts, cable carriers/conduits and other accessories

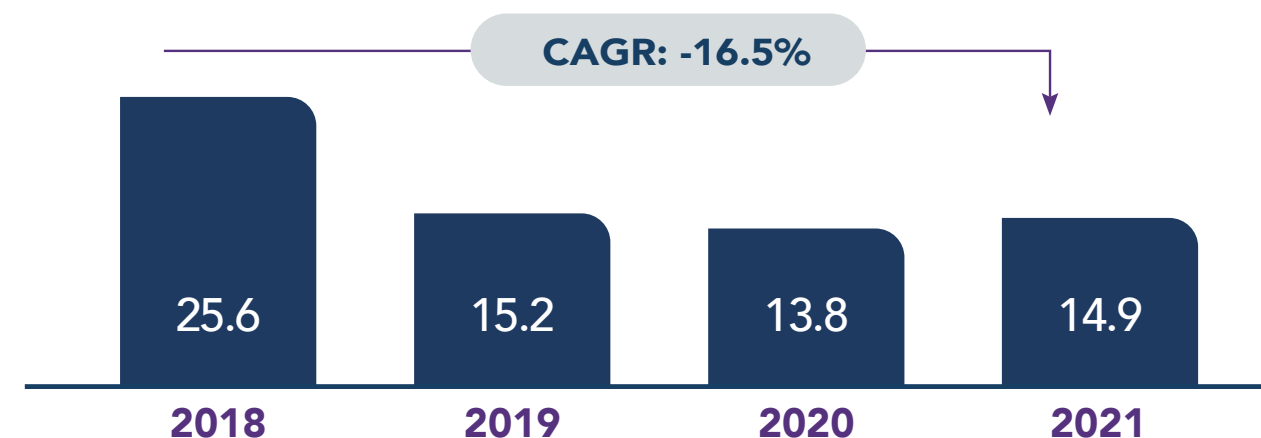
Company Name	Business Overview & Other Details	Product Categories	Head quarters
Saif-Qatar	Established in 2011 as a producer of ducts, now manufacturers various products in HVAC segment and are in HVAC contracting business. Has been certified with ISO 9002-1994 and ISO 9001-2015.	Air terminals, ducts, fans, dampers, cladding, chutes, industrial kitchen etc.	Doha
Qatar Air Distribution Network Manufacturing Factory W.L.L. (QADNET)	Established in 2004, QADNET is a HVAC contractor and provides end to end solutions from pre-design phase to maintenance of Central Air Conditioning Products.	Ducts and ducts accessories, dampers, diffusers, prefabricated ducts, access doors, filters etc.	Doha
Duct Ventilation Air Conditioning Co. W.L.L – (DVAC)	Established in 2005, provides products and services in designing and manufacturing HVAC systems.	Various types of ducts, dampers, Louvers, fabrications, access doors & other HVAC systems	Doha
Industrial Cable Management System Co. (ICMS)	Established in 2005, ICMS were one of the first companies to produce complete cable management systems, fittings etc. in accordance with international standards.	Different types of cable trays, cable ladders, flexible conduits, metal boxes and other cable management accessories.	Mesaieed
Ramco Constructions and Metal Industries	A part of a diversified business group operating in services segment of steel design and construction industry. Established in 2008.	Cable management systems, metal doors, cladding systems and fabrications & installations	Doha

Source: Company Websites & Primary Research

7.5.3 IMPORT ANALYSIS

The scale of imports has declined by 16.5% CAGR during the period of 2018-21. One of the key reasons is for reduced dependency on imports is the trade blockade of 2017 and the consequent effort to encourage local production.

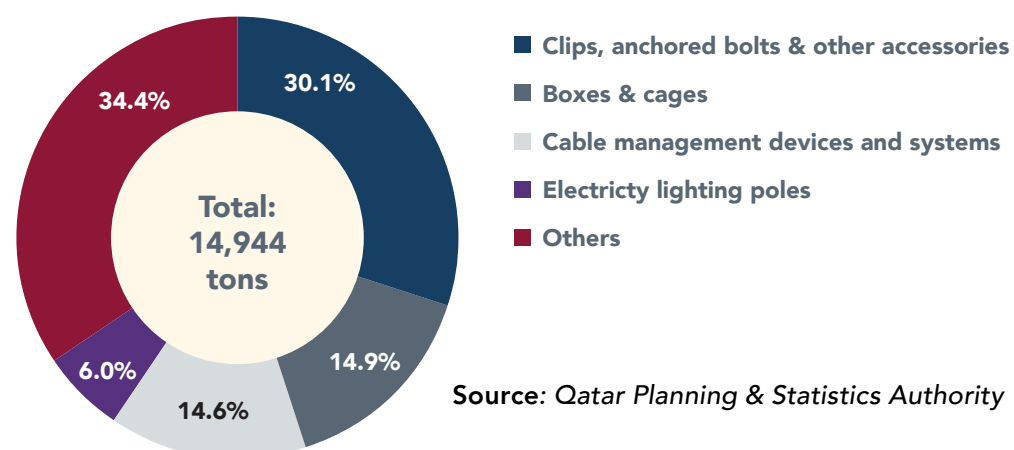
Chart 27: Import Volumes for Articles of iron and Steel used in HVAC solutions (1,000 Tons)



Source: Qatar Planning and Statistics Authority

Small components (accessories) and cable management systems for HVAC solutions are the two primary categories of products that are imported into the country. Both small components, which includes clips, bolts etc., and cable management systems, such as cable conduits, cable carriers, trays and ladders for loading cables etc., are commoditized products with little customization. Also, these are products that can be stocked by distribution and sold to customers based on requirements.

Chart 28: Imports Volumes Segmentation by Product (2021)



China and India are the main import partners for most of the products under HS 7326, accounting for over 50% of the total imports of these products in 2021. Meanwhile, Turkey is the primary supplier of boxes and cages (for poultry and animal rearing) accounting for 45% - 55% of the import volumes. Products in this category are price sensitive in nature and low-cost nations dominate as trade partners in this category.

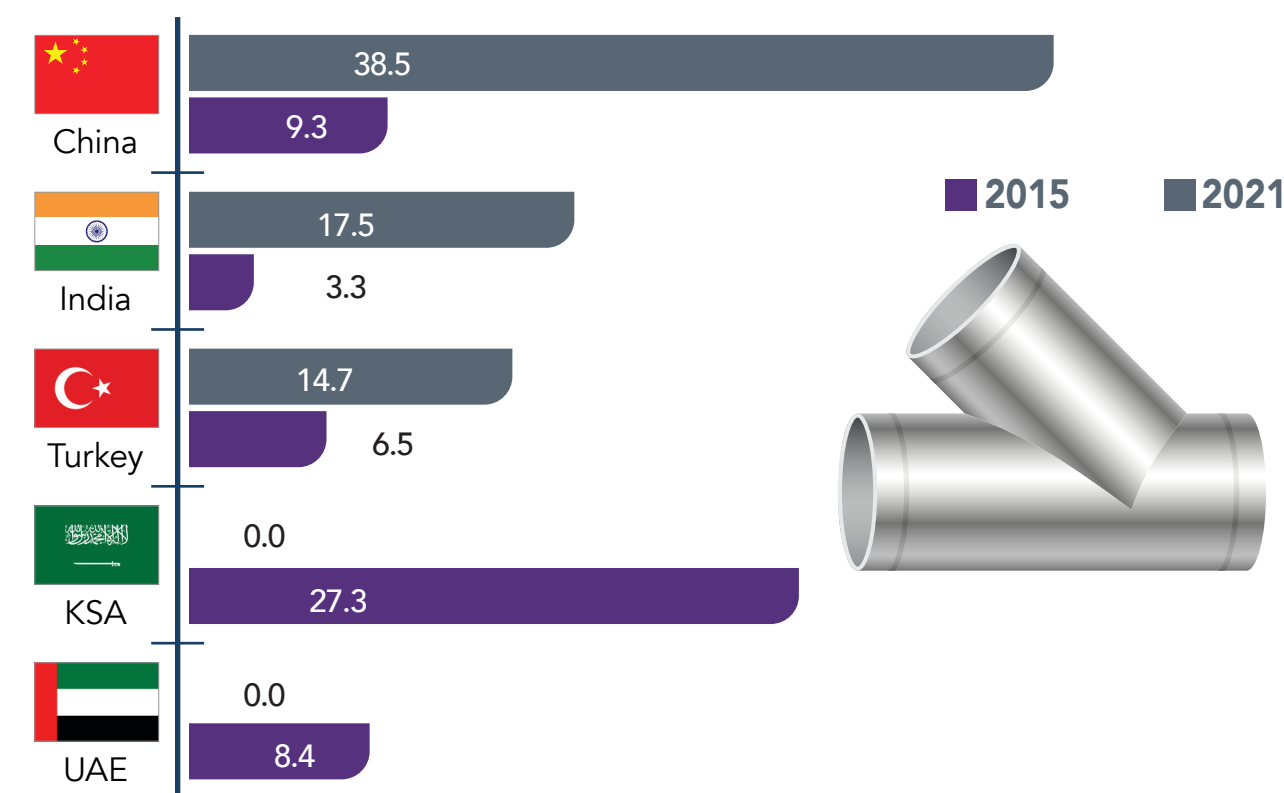
Table 33: Imports for articles of iron and steel used in HVAC solutions to Qatar in 2021

Rank	Name	Quantity (000's Tonnes)	Volume share (%)	Value (000's QR)	Value share (%)	Average Import Prices (QR per Kg)
1	China	5,759.4	38.5	64,372.6	25.8	11.2
2	India	2,618.8	17.5	20,699.7	8.3	7.9
3	Turkey	2,197.1	14.7	27,117.6	10.9	12.3
4	Germany	637.1	4.3	18,715.2	7.5	29.4
3	Others	3,731.9	25.0	118,554.9	47.5	-
Total		14,944.33	-	24,9460	100%	-

Source: Qatar Planning and Statistics Authority

The embargo put by the neighboring countries had considerable influence on the volume mix among the trade partners. Saudi Arabia & UAE accounted for 35% or more of import volumes, which after the blockade was mainly captured by China, India & Turkey. The average import prices from these three countries combined was around QAR 15.3 per Kgs in 2015 which was reduced to QAR 10.5 per Kgs by 2021. The competitive pricing enabled these countries to capture more market share during the trade blockade and strengthen their foothold in Qatar.

Chart 29: Articles of Iron and Steel used in HVAC Solutions: Import Concentration (Volume-based, %)



Source: : Qatar Planning and Statistics Authority

8 - SWOT ANALYSIS

8.1 SWOT ANALYSIS OF DOWNSTREAM STEEL MARKET

The scale of imports has declined by 16.5% CAGR during the period of 2018-21. One of the key reasons for reduced dependency on imports is the trade blockade of 2017 and the consequent effort to encourage local production.

STRENGTH



- The growth of the Qatari economy will support the future growth of steel sector in Qatar
- Specifically, oil & gas and construction are two important sectors that will continue to see investments that will support demand for downstream steel products.
- Government's policy emphasis on localization and financial support to SMEs could encourage investments in downstream steel production.

WEAKNESS



- Companies have to rely on imports of raw materials (ore, semi-finished and finished steel products)
- The scale of the Qatar market is small, and is sometimes unviable for large scale production because of limitations in demand from local market.
- Some downstream steel products are cyclical or project specific, which might dissuade investments into setting up production units in Qatar.

OPPORTUNITIES

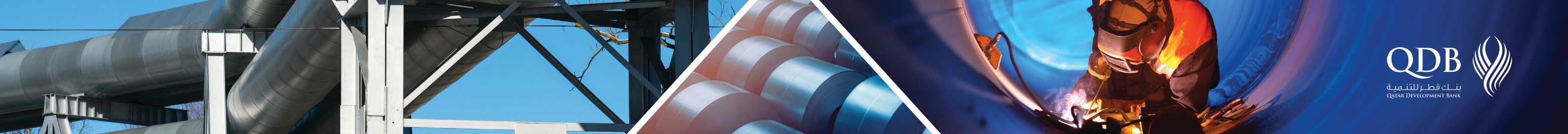


- Qatar is as yet exempt from anti dumping duties imposed on other producers such as India, China and neighboring markets of UAE and Oman. This could open export opportunities into North America and other global markets.
- The operationalization of free trade zones would allow producers in Qatar to be more competitive.

THREATS



- Gradual normalization of trade ties with neighboring countries after lifting of the blockade might bring in competition from neighboring markets such as KSA and UAE.
- The availability of downstream steel products from low-cost markets such as China and India might lead to continued dependency on imports to meet local demand.



9 - PORTER'S 5 FORCES ANALYSIS

9.1 BARGAINING POWER OF SUPPLIERS

Qatar has to rely on imports to source raw materials such as HR coil, steel sheets, etc. for producing downstream steel products. More so, the quantity of imports into Qatar is lower relative to other countries because of limited number of producers based in the country. However, the raw material are more or less standard and suppliers are available in multiple countries. Hence, bargaining power of suppliers are estimated to be low to medium.

9.2 BARGAINING POWER OF CUSTOMERS

Customers from the oil and gas sector might be very discerning, with a proven body of work required to make it to the supplier list of contractors. Meanwhile, customer from other sectors, such as construction, have the alternative of sourcing from global suppliers rather than domestic manufacturers in order to get the best terms. Hence, bargaining power of suppliers is estimated to be high.

9.3 COMPETITIVE RIVALRY

Production of most downstream steel products does not require significant investments. Even requisite technical know-how and labor can be accessed fairly easily. The limited entry barriers mean that new companies can be set up very easily; more so, the commoditized nature of most of the products make the market very competitive. In addition to local producers, competition also emanates from suppliers based in other steel producing countries. The competitive rivalry for downstream steel products is estimated to be medium to high.

9.4 THREAT OF SUBSTITUTES

Steel is critical for the economic development of countries because of its usage in infrastructure, construction, oil & gas and other critical sectors and for a variety of applications. The inherent properties of steel and its importance to economic progress means that steel and downstream steel products would continue to remain relevant for the foreseeable future. Hence, threat of substitutions is estimated to be low.

9.5 THREAT OF NEW ENTRANTS

The market for downstream steel is still at a nascent stage, more reliance on imports to meet local production. The government intent to encourage local production of downstream finished steel products could encourage establishment of new companies to cater to local demand. Additionally, local producers are competing for opportunity to enter new segments in order to gain relevant economies of scale and extending on their local know-how. Hence, threat of new entrants is estimated to be medium to high.

Table 34: PORTERS 5 Forces Analysis

Factors	Scale
Bargaining Power of Suppliers	Low to Medium
Bargaining Power of Customers	High
Competitive Rivalry	Medium - High
Threat of Substitutes	Low
Threat of New Entrants	Medium - High

Source: QDB Team Analysis

10 - OPPORTUNITIES IN DOWNSTREAM STEEL PRODUCTS

10.1 EVOLVING OPPORTUNITIES IN THE SHORTLISTED PRODUCT SEGMENTS

The demand for steel products has a direct correlation to an increase in economic activity. With Qatar expected to average 3.76% in real GDP growth for the period of 2022-26, the steel industry, including downstream steel products, is expected to see revival over the next few years.

Table 35: Current and Forecasted Market for Shortlisted Product Segments (1,000 tonnes)

Product Segments	2021	2027F	CAGR
HS Code 7304 - Seamless Pipes and Tubes	86.6	156.9	4.4%
HS Codes 7305 and 7306 - Welded Pipes and Tubes	172.3	269.1	7.7%
HS 7307 - Tubes or Pipe Fittings	4.3	6.1	6.0%
HS 7314 - Woven Wire mesh and Fencing	102.7	158.4	7.5%
HS 7326 - Articles of iron or steel used in HVAC solutions	39.4	52.0	4.8%

Source: MOCI Industrial Analysis, QDB Team Analysis

Seamless Pipes and Tubes: Currently, seamless pipes and tubes for use in oil & gas, and other critical applications are not manufactured in Qatar. Instead, it relies on imports to meet all its local requirements. The demand for these products is project specific and inextricably linked to the investment cycles of the industry. Moreover, the production of these products requires investments in procuring of furnaces, extrusion and other equipment for a steel mill. Also, any new steel mills producing seamless pipes and tubes have to start off on smaller contracts to build reputation and establish engineering quality that confirm to international standards. Thus, the gestation period for these projects is very long, typically in the range of 5 – 11 years before being able to compete for prominent contracts. The ability to manufacture seamless pipes and tubes in the GCC region is limited, with most of other countries also relying on imports to meet local demand. However, the concentration of oil and gas sector in the region and its contribution to the economic fortunes could translate into long term opportunities to localize production to meet the requirements of the region.

Welded Pipes and Tubes: Meanwhile ERW pipes, especially of smaller diameters, have a strong production base in the country to cater the growing local demand from MEP projects. The pricing for locally manufactured ERW pipes, in the range of QR3,800 – 4,000 per ton, is only ~10% higher than imports which is generally priced at QR 3,500. More importantly, anti-dumping duty applied by USA and Canada on imports of ERW pipes from China, India, UAE and Oman can open up potential export opportunities for Qatar based manufacturers. In fact, some domestic players have already started exploring these opportunities, albeit at a limited scale²⁶.

Tube and Pipe Fittings: Tube and pipe fittings is another segment that witnesses sustained local demand. Though they require precise engineering to meet technical standards, the products are commoditized in nature which allows companies manufacturing to large volumes to have a cost advantage. The equipment for casting and forging is easy and economical to procure, with local pricing of QR15,000 – 20,000 comparable to sourcing from foreign markets. This is because the higher cost of labor accrued in Qatar, in comparison to producers in low-cost markets, is balanced out by the lower spending on energy expenses.

Wire Mesh and Fencing: Similarly, setting up a facility to produce woven wire mesh and fencing does not entail significant²⁷ investment or technical expertise. The operations of this facility can be automated with only a couple of personnel required on the shop floor to operate the machinery. Due to machine

²⁶ Primary Research
²⁷ Primary Research

automation and limited manpower required, the labor cost for production is not significant²⁸. The price ranges from local producers and imports comparable. Locally these products are available in range of Q 5.5 – 7 per kg and the average import price for 2021 was QR 5.7 per kg. In addition, growing demand from Africa could also potentially open export opportunities which are currently being explored by local producers²⁹.

Articles of Iron and Steel used in HVAC Solution: Lastly, production of articles associated with HVAC solutions is a small-scale activity generally performed by HVAC contractors themselves. They can do so because of the relative simplicity in set up and low capital expenditure. Commercial manufacturing can be initiated in a small workshop with just 5-6 people, with welders and fabricators required for production. However, the manual intervention and effort required per tonne of output is higher than most of other metal products because light weight character of the thin steel sheets utilized as raw materials. Thus, low-cost markets would hold a price advantage with these products available from China and India at QAR 11.2 per kg and QAR 7.9 per kg, respectively. In comparison, the local cost of production itself would be in the range of QAR 9 – 11 per kg. Nevertheless, contractors prefer to source these products locally because of the level of customization required to meet project specifications, and the time-consuming process in importing from low-cost markets³⁰.

Table 36: Estimated Investments and Returns in Downstream Steel Projects

HS Code	Product Segment	Equipment Cost *	Return on Investment *
7304	Seamless tubes, pipes and hollow profiles of iron or steel	>QR 75 mn	10-20%
7305 & 7306	Electric Resistance Welded (ERW) pipes and tubes of small, mid or large size outer diameter	~QR 6 - 10 mn	15 -18%
4.3	Tube or pipe fittings of iron or steel. Product examples include couplings, elbows and sleeves	QR 0.6 - 0.8 mn	20-30%
102.7	Woven wire mesh, netting and fencing of iron and steel	QR 0.3 - 0.4 mn	20%
39.4	Articles of iron or steel used in HVAC solutions and other applications	QR 0.2 - 0.3 mn	<10%

Source: Primary research, Secondary research

²⁸ Primary Research

²⁹ Primary Research

³⁰ Primary Research

*The equipment cost and investment figures are indicative only. QDB has taken reasonable measures to ensure the reliability of the information included in the publication, however, such information is provided 'as is' without any warranty of any kind and QDB, in particular, makes no representation or warranty, express or implied, as to the accuracy, timeliness or completeness of any such information. Readers are requested to validate these figures before making any investment decisions. All information contained herein must be construed solely as statements of opinion.

10.2 SETTING UP BUSINESS IN QATAR

The State of Qatar offers political and economic stability, high-quality infrastructure, and one of the lowest corporate tax rates in the world. The country offers several business opportunities to grow, especially now with the emphasis on localization and pursuit to meet the objectives of Qatar National Vision 2030. These factors make Qatar one of the favored destinations for doing business.

It legal and financial requirements to set up a business in Qatar is simple and standardized. These include defining the business type, gaining licenses and permits, accounting, financing, and tax requirements etc. A downstream steel production business would also require approvals from Qatar Civil Defense to meet building and fire safety standards.

10.2.1 PROCEDURES, TIME, AND COST REQUIRED TO SET-UP A BUSINESS IN QATAR

The World Bank Group's Doing Business 2020 report has assigned the rank 77 to Qatar in terms of 'Doing Business'. This is an improvement over 83, its rank in the previous year. Qatar has also earned a spot in top 20 global business environment improvers. These improvements are due to Qatar Government's ambitious reforms in business regulations, especially in registration of the facility, access to electricity & utilities, and availability of credit facilities³¹. Even the time required to set-up a business in Qatar has decreased in the past decade from 10.7 days in 2010 to 8.7 days in 2019.

³¹ Doing Business 2020: Qatar's Ambitious Reforms Improve its Ranking; World Bank



Table 37: Starting a Business in Qatar: Procedure, Time and Cost

No	Procedures	Time to complete	Associated Costs (QR)
1	Reserve a unique company name at the Ministry of Commerce and Industry Agency: Ministry of Commerce and Industry	less than one day (online process)	QR 1,000 for reserving the name for 180 days
2	Reserve a unique company name at the Ministry of Commerce and Industry Agency: Ministry of Commerce and Industry	1 Day	QR 1,500
3	Authenticate the Articles of Association at the Ministry of Justice (one stop- shop counter at the Ministry of Commerce and Industry) Agency: Authentication Department of the Ministry of Justice	1Day	QR 1,000 for reserving the name for 180 days
4	Registering with the Commercial Registry and the Chamber of Commerce and Industry at the one-stop-shop of the Ministry of Commerce and Industry Agency: Ministry of Commerce and Industry	1 Day (Simultaneous with previous procedure)	QAR 2,200 (Chamber of commerce) + QAR 500-5,000 (Commercial Registration)
5	Obtaining the trade and signage licenses from the Municipality of Doha (one stop- shop counter at the Ministry of Commerce and Industry) Agency: Ministry of Commerce and Industry	1 Day (Simultaneous with previous procedure)	QR 10,020
6	Inspection of business premises Agency: Ministry of Commerce and Industry	1 Day	No Charge
7	Register for taxes and obtain a Tax Identification Number (TIN) Agency: Public Revenues and Tax department at the Ministry of Finance	1 Day	No Charge

Source: Doing Business in Qatar; Moore Qatar, Doing Business 2020 - Comparing Business Regulations in 190 Economics: Economy Profile Qatar; World Bank

11 - KEY SUCCESS FACTORS FOR DOWNSTREAM STEEL SECTOR IN QATAR

11.1 ACCESS AND AVAILABILITY OF RAW MATERIALS

Raw material is an important factor of production for the downstream steel industry. Since Qatar does not have any ore deposits or large steel producers (except Qatar Steel), it has to rely on imports for steel coils, sheets and other materials. The pricing for these products are typically dictated by the commodity market as well as global demand and supply dynamics. Thus, companies in Qatar have little control over the price for sourcing of raw materials exposes them to uncertainties in the cost of production. However, energy costs is very low in Qatar. This is an advantage, particularly for steel industry which is very power intensive.

11.2 ACCESS TO SKILLED LABOR

Although there has been a push to automation even in the steel sector, the downstream steel processing for producing article of steel can still be a manual process. The low cost and easy availability of labor in many emerging markets such as China, India, Indonesia etc. gives them an advantage in the global market. However, Qatar is a high-income country with a small population; thus companies have to rely on migrant labor force to undertake economic activities. Easy access to a knowledgeable workforce is also critical to improving efficiency and profitability of the downstream steel production facility.

11.3 INVESTMENTS IN MACHINERY

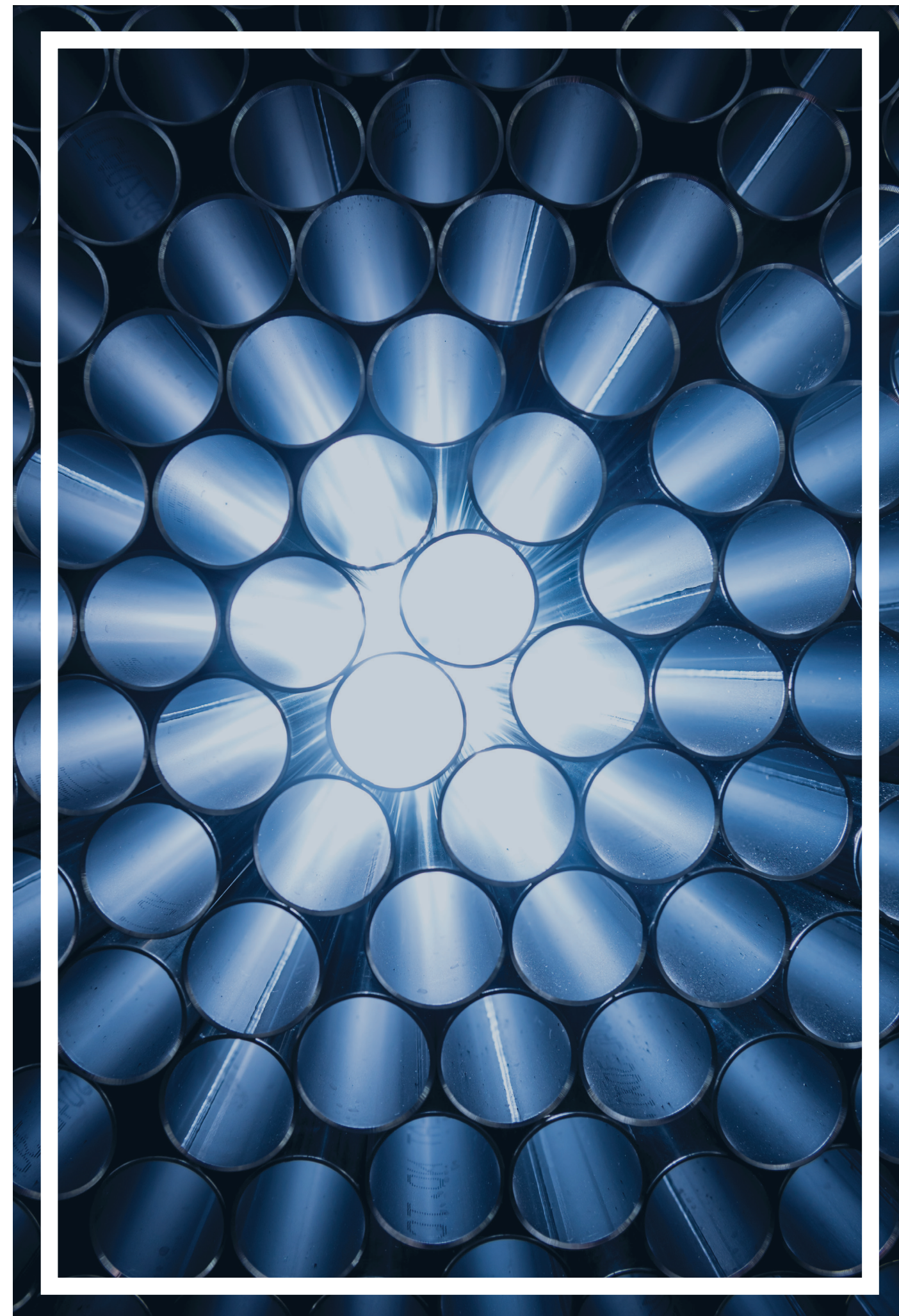
Downstream steel companies should invest in modern machinery to improve efficiency of the production process and generate returns. Accessing new technology through investment in appropriate equipment can bring competitive advantage for manufacturers and provide an edge over imports. This would be a critical factor in being able to compete with other global players for business.

11.4 OPERATIONAL EFFICIENCY

To compete with suppliers from low-cost markets, downstream steel companies in Qatar need to optimize their operational processes from sourcing of raw materials to recruiting and retaining human capital, standardization of procedures and driving efficiencies on the shop floor. These marginal gains could translate into domestic players being able to complete with importers in Qatar, and also create opportunities to export to neighboring markets in the Middle East and Africa.

11.5 STRONG RELATIONSHIPS WITH DISTRIBUTORS AND CONTRACTORS

Raw material is an important factor of production for the downstream steel industry. Since Qatar does not have any ore deposits or large steel producers (except Qatar Steel), it has to rely on imports for steel coils, sheets and other materials. The pricing for these products are typically dictated by the commodity market as well as global demand and supply dynamics. Thus, companies in Qatar have little control over the price for sourcing of raw materials exposes them to uncertainties in the cost of production. However, energy costs is very low in Qatar. This is an advantage, particularly for steel industry which is very power intensive.



12- ANNEXURES

ANNEXURE A

LIST OF PRODUCT SEGMENTS AND DATA ON RELEVANT PARAMETERS

HS Codes	Description	Included in QDBs Unattractive Industries List	Average Imports (2018-21) (tonnes)	Average Growth in Imports (2012-21)	Average Domestic Exports (2018-21) (tonnes)	Average Growth in Domestic Exports (2012-21)	Average Local Production (2018-21) (tonnes)	Import Concentration from Low-Cost Countries in 2021
7301	Steel piling of iron or steel. Products include road barricades, slotted angles and pilings	No	2,174.22	8.34%	-	-	6,946.61	61.80%
7302	Railway or tramway track construction material for producing rails, switch blades, crossing frogs, sleepers, chairs etc.	No	844.79	51.01%	2.61	2.56%	0	51.50%
7303	Tubes, pipes and hollow profiles of cast iron. Prominent products include soil and spun pipes	No	48,629.54	4.24%	1.00	231.33%	0	51.50%
7304	Seamless tubes, pipes and hollow profiles of iron or steel	No	98,866.17	9.00%	0.66	-37.27%	4.83	47.50%

HS Codes	Description	Included in QDBs Unattractive Industries List	Average Imports (2018-21) (tonnes)	Average Growth in Imports (2012-21)	Average Domestic Exports (2018-21) (tonnes)	Average Growth in Domestic Exports (2012-21)	Average Local Production (2018-21) (tonnes)	Import Concentration from Low-Cost Countries in 2021
7305	Electric Resistance Welded (ERW) pipes with external diameter less than 16 inches	No	72,219.83	12.21%	0.00	-99.86%	156,429	24.00%
7306	Electric Resistance Welded (ERW) pipes with external diameter greater than 16 inches	No	61,575.72	2.34%	6.05	-78.44%	147.6	70.10%
7307	Tube or pipe fittings of iron or steel. Product examples include couplings, elbows and sleeves	No	24,269.29	5.64%	11.28	175.94%	4,100.78	64.00%
7308	Structures and parts of structures. Products include bridge-sections, lock-gates, roofs, doors and windows and their frames, etc.	Yes	135,647.95	-3.08%	36.41	91.56%	1,082,186.96	65.80%
7309	Tubes, pipes and hollow profiles of cast iron. Prominent products include soil and spun pipes	Yes	3,579.08	0.63%	0.63	1207.45%	192,412.07	69.60%

HS Codes	Description	Included in QDBs Unattractive Industries List	Average Imports (2018-21) (tonnes)	Average Growth in Imports (2012-21)	Average Domestic Exports (2018-21) (tonnes)	Average Growth in Domestic Exports (2012-21)	Average Local Production (2018-21) (tonnes)	Import Concentration from Low-Cost Countries in 2021
7310	Reservoirs, tanks, vats and similar containers for any material other than compressed or liquefied gas of a capacity exceeding 300L	Yes	2,691.88	0.63%	0.63	1207.45%	192,412.07	69.60%
7311	Containers of iron or steel, for transportation of compressed or liquefied gas	No	1,833.46	12.35%	4.94	37.40%	0	43.90%
7312	Stranded wire, ropes, cables, plaited bands, slings of iron or steel and twisted fencing wire and barbed wire)	No	18,237.34	2.29%	0.00	-79.35%	4,750	89.70%
7313	Barbed wires, twisted hoop or single flat wire and loosely twisted double wire used for fencing	No	328.97	-7.34%	0.00	1257.48%	1,122.09	99.40%
7314	Tubes, pipes and hollow profiles of cast iron. Prominent products include soil and spun pipes	No	5,285.73	-10.96%	64.17	214.72%	83,773.76	92.10%

HS Codes	Description	Included in QDBs Unattractive Industries List	Average Imports (2018-21) (tonnes)	Average Growth in Imports (2012-21)	Average Domestic Exports (2018-21) (tonnes)	Average Growth in Domestic Exports (2012-21)	Average Local Production (2018-21) (tonnes)	Import Concentration from Low-Cost Countries in 2021
7315	Chain and parts thereof, of iron or steel. Product examples include roller & skid chains	No	1,066.78	-3.85%	0.63	20836.60%	0	81.10%
7316	Anchors, grapnels and parts thereof, of iron or steel	No	667.64	32.90%	0.00	0.00%	0	94.50%
7317	Nails, tacks, drawing pins, corrugated nails, staples and similar articles, of iron or steel	Yes	5,213.40	-4.52%	0.03	-90.00%	554,518	82.80%
7318	Screws, bolts, nuts, coach screws, screw hooks, rivets, cotters, cotter-pins, washers and similar articles of iron or steel	Yes	21,601.25	4.73%	1.72	6441.85%	24.54	79.90%
7319	Sewing needles, knitting needles, bodkins, crochet hoods, embroidery stiletos and similar articles of iron or steel	No	64.49	6.53%	0.04	31.29%	0	82.40%



HS Codes	Description	Included in QDBs Unattractive Industries List	Average Imports (2018-21) (tonnes)	Average Growth in Imports (2012-21)	Average Domestic Exports (2018-21) (tonnes)	Average Growth in Domestic Exports (2012-21)	Average Local Production (2018-21) (tonnes)	Import Concentration from Low-Cost Countries in 2021
7320	Springs and leaves for springs of iron or steel. Product examples include leaf-springs, helical springs etc.	No	658.05	7.19%	0.00	0.00	0.00	69.30%
7321	Stoves, ranges, grates, cookers, barbecues, plate warmers and similar non-electric domestic appliances of iron or steel	No	2,713.38	5.19%	0.18	-100.00%	0	82.10%
7322	Radiators for central heating and non-electrically heated applications	No	236.41	14.80%	0.00	-100.00%	0	82.10%
7323	Table, kitchen or other household articles of iron or steel; iron or steel	No	5,579.85	13.56%	0.02	57.50%	80	92.20%
7324	Sanitary ware and parts of iron or steel.	No	1,833.07	6.56%	0.00	-100.00%	3.67	80.50%

HS Codes	Description	Included in QDBs Unattractive Industries List	Average Imports (2018-21) (tonnes)	Average Growth in Imports (2012-21)	Average Domestic Exports (2018-21) (tonnes)	Average Growth in Domestic Exports (2012-21)	Average Local Production (2018-21) (tonnes)	Import Concentration from Low-Cost Countries in 2021
7325	Articles of iron or steel, cast. Products include cast articles such as inspection traps and drain covers.	No	22,987.65	117.53%	0.02	-69.87%	849.265	98.10%
7326	Articles of iron or steel used in HVAC solutions and other applications	No	17,418.11	-4.71%	132.91	127.47%	36,871.17	75.80%

ANNEXURE B

IMPORT TARIFF ON DOWNSTREAM STEEL PRODUCTS

HS Codes	Description	Qatar	UAE	Bahrain	Kuwait	Oman
7301	Steel piling of iron or steel. Products include road barricades, slotted angles and pilings	5.0%	5.0%	5.0%	5.0%	5.0%
7302	Railway or tramway track construction material for producing rails, switch blades, crossing frogs, sleepers, chairs etc.	5.0%	5.0%	5.0%	5.0%	5.0%
7303	Tubes, pipes and hollow profiles of cast iron. Prominent products include soil and spun pipes	5.0%	5.0%	5.0%	5.0%	5.0%
7304	Seamless tubes, pipes and hollow profiles of iron or steel	5.0%	5.0%	5.0%	5.0%	5.0%
7305	Electric Resistance Welded (ERW) pipes with external diameter less than 16 inches	5.0%	5.0%	5.0%	5.0%	5.0%
7306	Electric Resistance Welded (ERW) pipes with external diameter greater than 16 inches	5.0%	5.0%	5.0%	5.0%	5.0%



HS Codes	Description	Qatar	UAE	Bahrain	Kuwait	Oman
7307	Tube or pipe fittings of iron or steel. Product examples include couplings, elbows and sleeves	5.0%	5.0%	5.0%	5.0%	5.0%
7308	Structures and parts of structures. Products include bridge-sections, lock-gates, roofs, doors and windows and their frames, etc.	5.0%	5.0%	5.0%	5.0%	5.0%
7309	Reservoirs, tanks, vats and similar containers for any material other than compressed or liquefied gas of a capacity exceeding 300L	5.0%	5.0%	5.0%	5.0%	5.0%
7310	Tanks, casks, drums, cans, boxes and similar containers for any material other than compressed or liquefied gas of a capacity not exceeding 300L	5.0%	5.0%	5.0%	5.0%	5.0%
7311	Containers of iron or steel, for transportation of compressed or liquefied gas	5.0%	5.0%	5.0%	5.0%	5.0%
7312	Stranded wire, ropes, cables, plaited bands, slings of iron or steel	5.0%	5.0%	5.0%	5.0%	5.0%
7313	Barbed wires, twisted hoop or single flat wire and loosely twisted double wire used for fencing	5.0%	5.0%	5.0%	5.0%	5.0%

HS Codes	Description	Qatar	UAE	Bahrain	Kuwait	Oman
7314	Woven wire mesh, netting and fencing of iron and steel	5.0%	5.0%	5.0%	5.0%	5.0%
7315	Chain and parts thereof, or iron or steel. Product examples include roller & skid chains	5.0%	5.0%	5.0%	5.0%	5.0%
7316	Anchors, grapnels and parts thereof, of iron or steel	5.0%	5.0%	5.0%	5.0%	5.0%
7317	Nails, tacks, drawing pins, corrugated nails, staples and similar articles, of iron or steel	5.0%	5.0%	5.0%	5.0%	5.0%
7318	Screws, bolts, nuts, coach screws, screw hooks, rivets, cotters, cotter-pins, washers and similar articles of iron or steel	5.0%	5.0%	5.0%	5.0%	5.0%
7319	Sewing needles, knitting needles, bodkins, crochet hoods, embroidery stilettos and similar articles of iron or steel	5.0%	5.0%	5.0%	5.0%	5.0%
7320	Springs and leaves for springs of iron or steel. Product examples include leaf-springs, helical springs etc.	5.0%	5.0%	5.0%	5.0%	5.0%



HS Codes	Description	Qatar	UAE	Bahrain	Kuwait	Oman
7321	Stoves, ranges, grates, cookers, barbecues, plate warmers and similar non-electric domestic appliances of iron or steel	5.0%	5.0%	5.0%	5.0%	5.0%
7322	Radiators for central heating and non-electrically heated applications	5.0%	5.0%	5.0%	5.0%	5.0%
7323	Table, kitchen or other household articles of iron or steel; iron or steel	5.0%	5.0%	5.0%	5.0%	5.0%
7324	Sanitary ware and parts of iron or steel.	5.0%	5.0%	5.0%	5.0%	5.0%
7325	Articles of iron or steel, cast. Products include cast articles such as inspection traps and drain covers.	5.0%	5.0%	5.0%	5.0%	5.0%
7326	Articles of iron or steel used in HVAC solutions and other applications	5.0%	5.0%	5.0%	5.0%	5.0%

ANNEXURE C

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ANNEXURE D

ACRONYMS AND ABBREVIATIONS

- ASTM American Society for Testing and Materials
- CR Cold Rolled Process
- CAGR Compounded Annual Growth Rate
- CARC Compounded Annual Rate of Change
- DRI Direct Reduced Iron
- EAF Electric Arc Furnace
- EN European Standards
- EPC Engineering, Procurement and Construction
- ERW Electric Resistance Welded
- GDP Gross Domestic Product
- GCC Gulf Cooperation Council
- HR Hot Rolled Process
- HVAC Heating, Ventilation, and Air Conditioning
- KSA Kingdom of Saudi Arabia
- MENA Middle East and North Africa
- MTPA Million Tonnes Per Annum
- MEP Mechanical Electrical and Plumbing
- MRO Maintenance, Repair and Operations
- NDS2 Second National Development Strategy
- OECD Organization for Economic Cooperation and Development
- QNV2030 Qatar National Vision 2030
- QR Qatari Riyal
- SME Small and Medium Enterprises
- UAE United Arab Emirates

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