



Global Forum on Steel Excess Capacity

2021 GFSEC Ministerial Report

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Overview of key messages

Shaping a better future for the steel industry

The economic recovery is boosting steel demand, but structural imbalances persist. More than a year after the Covid-19 shock, the steel industry is showing signs of a strong recovery as economies rebound from the crisis. Government infrastructure spending and stronger activity in key steel-using sectors are expected to raise global steel demand by 5.8% in 2021 and 2.8% in 2022, according to the World Steel Association. Despite this recovery, excess capacity still looms large as investments in new capacity, including offshore investments, continue to take place at a robust pace in some economies despite uncertain long-term steel demand prospects. Indeed, the current market growth and high steel prices are short-term impacts that are unlikely to resolve the issue of structural overcapacity.

The causes of excess capacity have not been addressed. A key lesson learned from the past is that, if the root causes of excess capacity are left unaddressed during the upturn, then future cyclical market downturns could easily plunge the industry into further crises when steel demand begins to lose momentum. Avoiding future crises and trade tensions will require, among other things, that governments refrain from market-distorting subsidies and other government support measures that contribute to excess capacity and that governments ensure market-based outcomes in the industry. Doing so is essential for returning the steel industry to long-term sustainability and economic health, conditions that are necessary to ensure that it can continue to respond effectively to society's evolving needs for steel. Particularly in developing economies, the need for further economic development will require steel industry growth in a manner consistent with market mechanisms that can contribute to industrialization, economic growth and prosperity, and the social well-being of citizens. GFSEC members agree that capacity growth in some developing jurisdictions will be within ranges consistent with consumption of steel, noting that output increases outside of market frameworks can result in unfair trade of steel that inflicts harm on trading partners.

Promoting a healthy steel industry in the post-Covid era. Lessons from past crises can offer beneficial insights for governments and the industry today. Government support provided to the industry to help it deal with the impacts of the Covid crisis should not keep unviable and otherwise uneconomic facilities alive indefinitely, as this would diminish the viability of the most productive firms and contribute to excess capacity. Government support to investments in new capacity that are not driven by market demand should also be strictly avoided. In this context, raising awareness about the long-term fundamentals of steel demand, and the lessons learned from overoptimistic demand expectations in the past, can help prevent further exacerbation of excess capacity going forward.

Steel industry revival will require companies to address rising concerns over climate change. Steel is vital to all modern economies. The steel industry is also a key sector that generates more than 2.5 billion tonnes of carbon dioxide annually, accounting for 7%-9% of global CO₂ emissions. The challenge for the steel industry is to reduce the relatively high emissions while at the same time to

enhance energy and material use efficiency. In addition to the current economic context, the specific challenges of decarbonisation in the steel sector reinforce the need for a healthy steel market and a strong financial position of firms. Indeed, steel being a 'hard-to-abate' sector, carbon emission reductions depend closely on innovation in steelmaking technologies that still need to be developed on an industrial scale, along with the related clean energy infrastructure. These fundamental transformations imply high costs, which are all the more challenging for companies to bear in the absence of international green steel standards, and given the burden of costs on the final consumer.

Reducing excess capacity is essential to improve the environmental performance. The ability of the industry to respond to these challenges will depend critically on the investment funds needed to develop and deploy effective environmental strategies. In this regard, government investment funds should be consistent with WTO rules and not serve to maintain uneconomic capacity. Eliminating market-distorting government subsidies and support measures would boost the steel industry's profitability, promote reductions in excess capacity and may help to accelerate the transition to a low-carbon future. By working to reduce such subsidies and support measures, and foster more stable market conditions where steel companies operate on a fair and level playing field, the work of the GFSEC therefore provides important incentives for the industry to invest in the new technologies necessary to meet countries' climate change and related environmental goals.

GFSEC commitments and efforts to help shape a better future for the steel industry. Significant progress has been achieved by the GFSEC, not only in the development of policy principles and recommendations, but also in establishing a robust and rich exchange of information by Forum members. The tools developed by the GFSEC can help countries reduce overcapacity, phase out support measures that contribute to excess capacity, and ensure that their framework conditions and institutional settings promote market forces in the sector. Despite these achievements, concerns about support measures persist, and developments in non-participating jurisdictions continue to remain problematic. To address current and emerging challenges, GFSEC participants are fully committed to: i) phasing out Covid-related measures designed to support the industry during the crisis, ii) adhering to the Berlin principles and policy recommendations, iii) expanding outreach to non-GFSEC economies, iv) reaffirming efforts to reduce global excess capacity, and v) enhancing the competitiveness of the steel industry. The overall goal is to enhance free and fair competition in world steel markets by reducing and ultimately eliminating the distortions caused by government support measures and by ensuring market-based outcomes in the steel industry. At the same time, governments are committed to providing guidance to support the industry with its efforts i) to reduce carbon emissions and ii) promote innovation to help boost productivity and enhance its long term viability.

The GFSEC welcomes cooperation with all G20 jurisdictions, as well as non-member jurisdictions, to foster better conditions for the steel industry. Excess capacity and climate-related challenges in the steel sector are issues of global importance, which can be addressed most effectively with the engagement of all major steel-producing economies. However, a number of large steel producing jurisdictions are no longer actively participating in the GFSEC, while they are still witnessing additional capacity investments. GFSEC members welcome non-participating jurisdictions to join the Forum's work where countries work together to implement policies that foster more stable global market

conditions. The lessons learned in the GFSEC, benefitting from close engagement with industry stakeholders, can contribute importantly to the G20 and other relevant fora's work on curbing carbon emissions, providing insights for broader application of best practices that can help resolve sectoral problems while contributing to the major societal challenge of climate change.

I. Introduction

1. The steel industry has long been a focus of attention by governments, reflecting its importance in economies, and the significant policy issues that have surfaced in many areas, including trade, investment, environment and competition. Steel enables modern economies to function, and is an essential input for all sectors of the economy, including construction, which is the largest downstream user of steel, automotive, machinery and equipment, shipbuilding, container, appliance and energy sectors. Without this material, transport and infrastructure networks would not work, renewable and other energy generation systems would fail, and hospitals and other buildings could not be built. Other end uses range from pins and needles to use in nuclear reactors, medical devices and aerospace.
2. Iron and steel companies account for around 95% of all the tonnage of metal produced around the world.¹ Around 90 countries generated 1.88 billion tonnes of steel production in 2020, in tonnages ranging from less than 50 000 tonnes, to more than a billion tonnes. Considerable shifts have occurred over the past twenty years, with production shares declining among many GFSEC economies.
3. The industry has been in a serious excess capacity crisis for more than a decade, with the situation becoming particularly acute in 2015 with the capacity-demand gap reaching nearly 800 million metric tonnes (mmt), which has undermined competition and resulted in trade tensions. The growing crisis has led governments at the multilateral level to address the industry's challenges. In 2016, the Global Forum on Steel Excess Capacity was created to tackle the problem, under the auspices of the G20. In particular, one of the successes of the GFSEC has been to concisely and clearly define the issue of excess capacity and its causes. Since then considerable progress has been made in enhancing transparency and in establishing policies and recommendations to facilitate restructuring and eliminate excess capacity. The level of overcapacity, however, continues to pose serious trade and adjustment challenges with the capacity-demand reaching 568 mmt in 2020, requiring continued attention at the multilateral level.
4. The pandemic has had a relevant effect on the steel industry in many countries, pressuring companies to adjust to a collapse of markets. Recovery is, however, currently underway, as are further increases in capacity, the latter of which will continue to distort competition and undermine efficient steel producers.
5. The Global Forum on Steel Excess Capacity, which gathers and reports the only global compilation of self-reported steel data, continues to respond to its mandate of facilitating information sharing and transparency. Particularly, GFSEC provides a venue for regular exchanges among members and reviews of information on crude steel capacity developments, as well as on government policies (including market-distorting subsidies and other support measures that contribute to steel excess capacity). Through its comprehensive work, the Forum has raised awareness on the industry problems.
6. Moreover, discussions at meetings have provided opportunities for further deepening understanding, particularly with respect to the policies that can be used to facilitate industry restructuring. Much attention has been paid in this

¹ According to the USGS. See https://www.usgs.gov/centers/nmic/iron-and-steel-statistics-and-information?qt-science_support_page_related_con=0#qt-science_support_page_related_con

regard to the lessons learned from actions taken by governments to address previous steel industry crises during the past 50 years.

7. An important pillar of the GFSEC's work are its policy principles, recommendations and its roadmap for policy actions to address excess capacity in the steel sector (see Box 1 and Box 2 extracted from the 2017 Berlin Ministerial report of the GFSEC).² The policy recommendations provide solutions to help: i) improve the functioning of markets, ii) level the playing field and iii) encourage restructuring. Paragraph 57 of the Berlin report is key, as it identifies specific actions that governments should avoid and, if already in place, remove:

Governments should remove and refrain from market-distorting subsidies and other types of support measures by governments or government-related entities that contribute to excess capacity. This is irrespective of the vehicles used for such measures, whether direct or indirect, or whether they are or are not subject to WTO agreements, and covers the value chain from inputs to the final steel product.

8. Under the GFSEC review process, many of the measures notified by governments in recent years have been found to adhere to this provision, which is essential for successfully addressing the steel industry's excess capacity.
9. There is concern, however, that global excess capacity is once again increasing, particularly in countries which are not actively participating in the GFSEC. A significant number of projects do not appear to be in line with market demand and there are concerns that some may be supported by government policies. In light of these developments, it is imperative that the GFSEC continues its work, while exploring ways to enhance its effectiveness. *Stronger engagement with non-participating jurisdictions* is key in this regard. This could be achieved, for example, by inviting these jurisdictions to take part in multi-stakeholder events where the GFSEC can share its work on public policies, as well as on the challenges facing the industry, particularly with respect to excess capacity, but also in relation to the process towards the green and digital transition. Continuing to share the work that has been done by the GFSEC on the history of government involvement in the industry and the painful periods of restructuring and underscoring the need to carefully assess the risks associated with steel investment, could be also beneficial. A greater appreciation of the effects that excess capacity has had, even on highly efficient and competitive firms, could also be further explored.
10. There is also scope for *expanding the role of industry* in the Forum's work. The work that has been done on developments in steel markets, capacity and government policy has made much progress, and the exchange of information is robust. There is now a unique opportunity to turn the spotlight on the revival strategies that governments and the private sector are pursuing in the post-pandemic period.

² www.bmwi.de/Redaktion/EN/Downloads/global-forum-on-steel-excess-capacity-report.pdf?__blob=publicationFile.

Box 1. Six principles that guided the development of policy solutions to reduce excess capacity

1. Steel excess capacity is a global issue which requires attention in a global format with broad participation of economies and effective policy solutions to enhance the market function and reduce steel excess capacity. To support these, Forum members may set and publish goals, if appropriate.
2. In order to ensure that the steel market operates under market principles, governments and government-related entities should refrain from providing market-distorting subsidies and other types of support measures to steel producers. These include subsidies and other government support measures that sustain uneconomic steel plants, encourage investment in new steelmaking capacity which otherwise would not be built, facilitate exports of steel products, or otherwise distort competition by contributing to excess capacity.
3. Irrespective of ownership all enterprises acting in the steel market (whether privately-owned or directly or indirectly owned, fully or in part, by their governments or by government-related entities) should not receive directly or indirectly subsidies or other type of support that distort competition by contributing to excess capacity, and should follow the same regulations with economic implications and rules, including bankruptcy procedures. A level playing field should be ensured among steel enterprises of all types of ownership. Global Forum members should also continue to fight protectionism including all unfair trade practices while recognising the role of legitimate trade defence instruments in this regard.
4. Open and competitive markets and a market-driven approach to resource allocation based on the competitive positions of steel enterprises should be the driving forces of the steel sector. New investment, production and trade flows should reflect market-based supply and demand conditions.
5. Wherever excess capacity exists, governments have a role in advancing policies that facilitate the restructuring of the steel industry while minimizing the social costs to workers and communities. Governments should ensure conditions exist for market based adjustment, by facilitating the exit of consistently loss-making firms, “zombie” firms, obsolete capacity facilities and firms not meeting environmental, quality and safety standards. This would lead to a net reduction of capacity.
6. Recognizing that collective policy solutions and transparency are vital for market-based responses by the industry to changing conditions in the steel market, governments should on a reciprocal basis increase transparency through regular information sharing, analysis, review, assessment and discussion as well as regular exchanges about data and concrete policy solutions, among the members of the Global Forum. Governments should ensure that any relevant information on steelmaking capacity developments; supply and demand conditions as well as policy responses including support measures by governments and government-related entities is available on an on-going basis. Members should exchange information on the nature and extent of export credit agency support for new steel projects. The Global Forum will report to the G20 and to interested OECD countries being member of the Global Forum on progress.

Source: Report of the Global Forum on Steel Excess Capacity approved on 30 November 2017 in Berlin

Box 2. Policy recommendations

a) Framework conditions

1. Members should consider the extent to which their framework conditions and institutional settings ensure proper market functioning and policy objectives consistent with the need for reducing global excess capacity.
2. Particular attention should be given to ensure that: i) competition law, trade and investment policies, and other policies foster a level playing field for competition among companies irrespective of ownership, both domestically and internationally; ii) bankruptcy legislation is effective and procedures are expedited efficiently; iii) the internal financial market is able to price risk and deal with non-performing loans; iv) labour markets and social security systems adequately support adjustment, v) different levels of government do not have conflicting policy objectives and, vi) Procurement policies should not contribute to excess capacity.

b) Market distorting subsidies and other support measures by government or government-related entities

1. Members should remove and refrain from adopting market-distorting subsidies and other support measures provided by governments and government-related entities that encourage companies to undertake capacity expansion projects, maintain consistently loss-making or uneconomic steel plants in the market, or which otherwise distort the market.
2. All Members should expeditiously share data on market-distorting subsidies and other support measures by government or other government related entities. The proper implementation of subsidies and other support measures that facilitate permanent closures of steel facilities should be carefully analysed and follow strict guidelines.
3. Governments should remove and refrain from market-distorting subsidies and other support measures by government or government-related entities that contribute to excess capacity.
4. Governments may encourage innovations in the steel sector and implementation of best available technologies among steel producers irrespective of ownership insofar as this does not distort competition and contribute to excess capacity.

c) Fostering a level-playing field in the steel sector

1. Irrespective of ownership, all enterprises acting in the steel market (whether privately-owned or directly or indirectly owned, fully or in part, by their governments or by government-related entities) should not receive subsidies or any other types of support that distort competition by contributing to excess capacity.
2. All enterprises acting in a country's steel market should follow the same rules and regulations with economic implications, including bankruptcy procedures.
3. A level playing field should be ensured among steel enterprises of all types of ownership.

d) Fostering industry restructuring by assisting displaced workers

1. Governments should favour active labour market policies which maintain and increase the employability of workers who are dismissed as a result of the restructuring.
2. Employment adjustment measures are an important instrument for addressing the social cost of restructuring. This should be provided as support to workers and should not constitute subsidisation to companies, which could maintain existing capacities in place.
3. The specific needs of older workers and other disadvantaged groups affected by restructuring should be taken into account to facilitate their transitioning into alternative occupations.
4. The effectiveness and efficiency of the measures should be evaluated.

e) Government targets

1. Steel excess capacity is a global issue which requires attention in a global format with broad participation of economies. To support these, Global Forum members may set and publish goals, as appropriate, to reduce excess capacity through legal and market methods. Capacity reduction targets should be accompanied by actions to eliminate policies that contribute to excess capacity, such as market-distorting subsidies and other types of support by government or government-related entities

2. The criteria for capacity reductions should, irrespective of ownership, simulate the process of market selection with consistently loss making or non-environmentally compliant firms being forced to exit the market. Ex post assessments of whether this is the case should be undertaken.
3. Government objectives to increase capacity should not be accompanied by market-distorting subsidies or other types of support by government or government-related entities that contribute to excess capacity, including input support to steel production.
4. Government targets should take into consideration demand conditions.

f) Issues related to mergers and acquisitions

1. Mergers and acquisition should not contribute to excess capacity.
2. Any measures taken to encourage mergers and acquisitions need to be taken in accordance with effective competition law and market principles.

g) Ensuring export credits do not contribute to excess capacity

1. Members should refrain from issuing officially supported export credits for steel plants and equipment which contribute to the expansion of global steel capacity that would not otherwise take place but for such subsidisation or not be in line with global steel demand.
2. When such support is provided, the terms and conditions of officially supported export credits for steel plant and equipment should be transparent, reflect market pricing and practices, and take note of guidelines agreed among some members and on-going international negotiations. This will minimise the subsidisation associated with export credits, and thus avoid supporting the creation of additional steelmaking capacity.

h) Enhance transparency

1. Members should regularly update the information on sectoral trends (incl. capacity developments and production) and policy measures.
2. The Global Forum should regularly analyse, review, assess and discuss how the provided information aligns with the agreed principles.

i) Continue the process of the Global Forum

1. The Global Forum will meet at least three times per year to further discuss, assess and review this information, to ask questions and provide answers and share best practices thereon. The Argentinian G20 presidency foresees to hold 3 meetings in 2018.
2. As the priority for 2018, the Global Forum members should swiftly and fully apply the agreed principles and recommendations.
3. In the first half of 2018, members of the Global Forum will share information on the steps taken to eliminate market-distorting subsidies and other types of support by governments and related entities, as well as tangible and swift policy action for their removal.
4. The Global Forum should share best practices of steel industry adjustment and exchange experiences on new sources of steel demand.
5. The Global Forum will report on the process and concrete results in addressing excess capacity to G20 and to interested OECD countries being member of the Global Forum.

Source : Report of the Global Forum on Steel Excess Capacity approved on 30 November 2017 in Berlin

II. The global steel market situation and challenges facing the steel sector

Global pandemic has hit the world economy

11. The global pandemic had a significant impact on the world economy, with world GDP falling by 3.5% in 2020. India (-7.7%), South Africa (-7.0%) and Brazil (-4.1%) were amongst the hardest hit, as were OECD countries with a GDP contraction of almost 5% on average. China and Turkey were among the few economies to manage a small increase in GDP, of 2.3% and 1.8%, respectively.
12. Global growth prospects have improved markedly since the height of the Covid-19 crisis. The economic impact of the Delta variant has so far been relatively mild, but has lowered near-term economic momentum in some countries and has added to pressure on global supply chains and costs. Monetary policy remains accommodative in advanced economies and in most emerging economies, though rising inflationary pressures seen recently may lead to a tighter policy stance going forward. The fiscal policy also seems to be tightening, following the significant government spending and debt accumulation that was necessary during the height of the pandemic to cushion the impact of Covid-19 restrictions on household purchasing power and support business activity.
13. According to the OECD's September 2021 Interim Economic Outlook, the global recovery is projected to strengthen gradually, particularly in the latter half of 2021. World GDP is forecast to increase by 5.7% in 2021, with growth slowing to 4.5% in 2022. Global GDP has now surpassed its pre-pandemic level, but output in mid-2021 was still 3.5% lower than projected before the pandemic. The recovery remains very uneven, with significant differences in economic outcomes across countries.

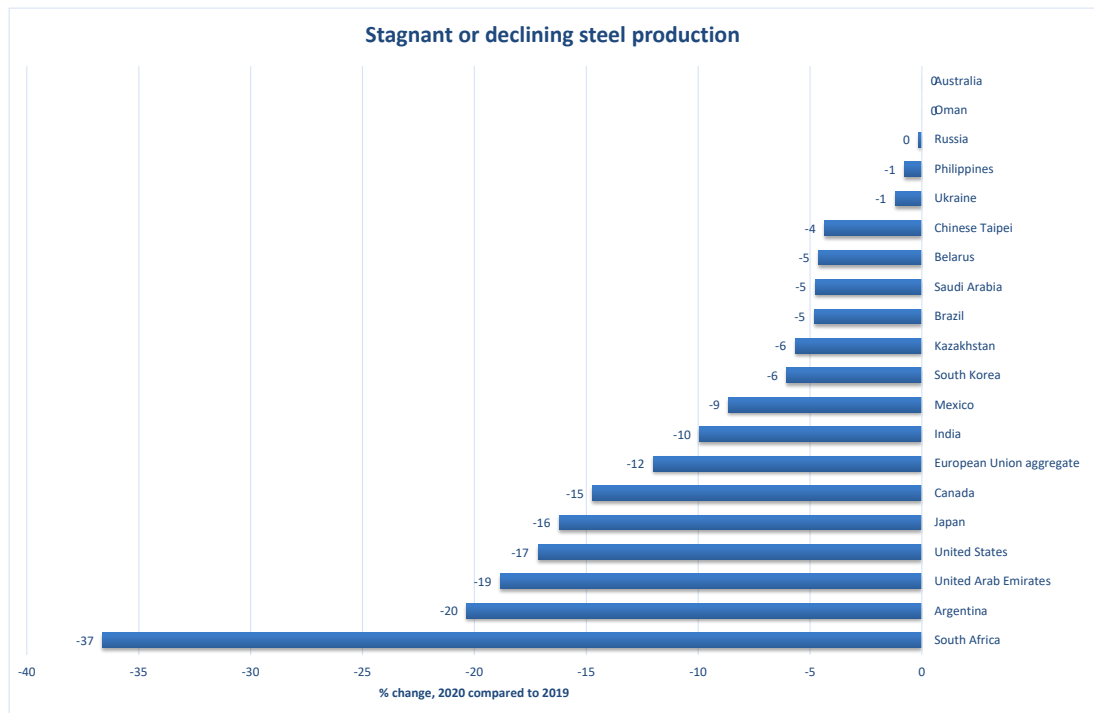
Impact on the steel industry was pronounced in most GFSEC economies in 2020 but a sharp rebound has boosted the industry in 2021

14. The economic downturn had a significant negative impact on the steel industry during 2020, significantly exceeding the GDP declines in many jurisdictions. The Covid-19 pandemic and the measures taken by governments to mitigate the health crisis initially impacted parts of the service sector, notably air transport, hospitality, recreational facilities and retail trade. While these sectors are relatively less important for steel demand, the economic recessions that quickly ensued across most countries in the spring and summer months of 2020 were marked by a collapse in activity across numerous steel-consuming industries, notably construction, automotive, mechanical machinery and metal goods. Global steel demand fell sharply in the first and second quarters of 2020, but began to recover in the second half of the year as activity started to rebound in many downstream steel-using industries.
15. For 2020 as a whole, the World Steel Association's April Short Range Outlook indicates that world finished steel demand declined by 0.2%.³ The steel demand downturn had a variable impact on steel production across countries. A large number of economies, many of which are GFSEC members, experienced steep declines in their steel production (Figure 1). India, the European Union and

³ The latest Short Range Outlook is available at: <https://www.worldsteel.org/media-centre/press-releases/2021/worldsteel-short-range-outlook-april-2021.html>

many of its Member States, Canada, Japan, and the United States experienced declines of 10-20%, while Argentina and South Africa suffered production declines of more than 20% in 2020. Many steel plants in these countries responded to the pandemic-induced collapse in steel demand by idling their operations to bring supply more in line with the weak market situation.

Figure 1. Steel production fell sharply in many GFSEC economies in 2020



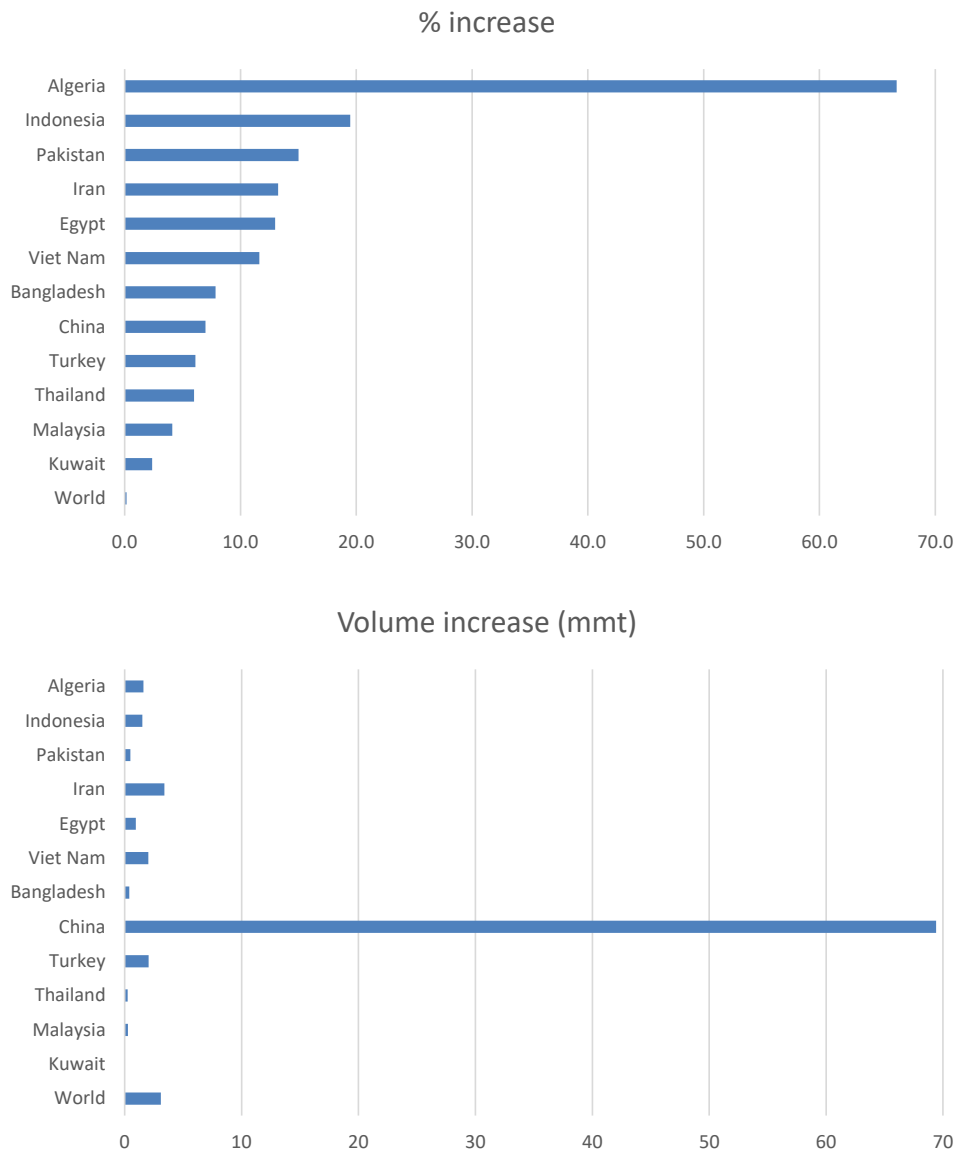
Source: OECD calculations based on data from the World Steel Association's *World Steel in Figures 2021*.

16. On the other hand, China, the world's largest steel producer, recorded steel output growth of 7% in 2020 (i.e., an increase of 69.4 mmt), boosting its share of global steel production to 57%, facilitated by various government support measures.⁴ With indicators of real steel demand growth less buoyant, the rapid growth in production resulted in significant inventory accumulation in China, creating serious concerns among industry stakeholders about the potential for disruptive conditions in the event the inventories were released in international markets at a vulnerable time for steel producers in many economies. A number of other economies, primarily in Southeast Asia, the Middle East and North Africa, also recorded robust production growth in 2020, some of which is due to substantial offshore investment, particularly from China. For example, steel production increased by 3.4 mmt in Iran, 2 mmt in Viet Nam, 1.6 mmt in Algeria, 1.5 mmt in Indonesia, 0.9 mmt in Egypt, and 0.5 mmt in Pakistan, with all these economies posting production growth of more than 10% in 2020 (see Figure 2).

⁴ According to the balance of the collective exchanges of the GFSEC review process with respect to the subsidies and other types of support by government and government-related entities on whether or not they fall under paragraph 57 of the Berlin Ministerial Report. For further details, see Annex 2 of the 2020 GFSEC Ministerial report and Annex 2 of the 2019 Chair's report, available at www.steelforum.org.

Indeed, many of these economies have become major steel producers in a relatively short period of time, supported by significant steel capacity investment activity in recent years.

Figure 2. Steel production grew in a number of other economies in 2020



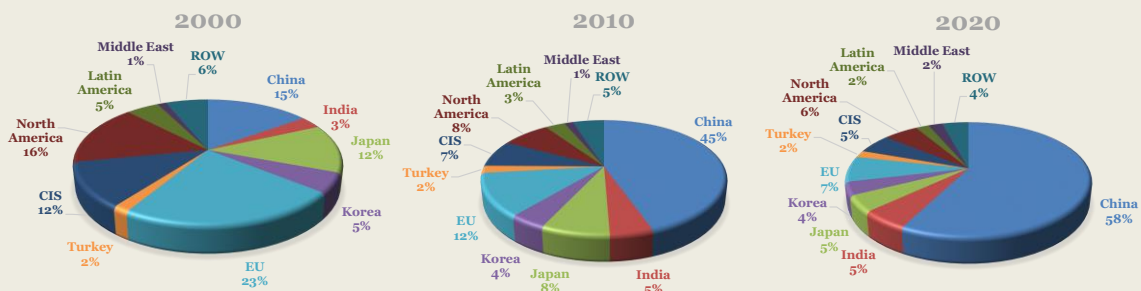
Source: OECD calculations based on data from the World Steel Association's *World Steel in Figures 2021*.

Box 3. Changing players in global steel production

Developments in 2020 reinforced the long-term declines in the global steel production shares of many GFSEC members

Developments in 2020 reinforced the long-term declines seen in many GFSEC members' global steel production shares. Figure 3 shows that the European Union has experienced a steep decline in its share of global production from 23% in 2000 to 12% in 2010, with a further decline to only 7% in 2020. During this same period, North American steel producers have seen their share fall from 16% to 6%, while Japan's share has diminished from 12% to 5%. Regions such as Latin America and the Commonwealth of Independent States have witnessed similar, albeit more moderate, reductions in their production shares.

Figure 3. Shares of global steel production since 2020



Source: OECD calculations based on data from the World Steel Association's Steel Statistical Yearbook electronic platform and World Steel in Figures 2021 publication.

Competition is a driving force behind these changes...

Shifts in producers' market share, in any sector, often reflect a natural and healthy process of so-called creative destruction, whereby better ways of making steel, new products and even businesses emerge and gain market share by proving to be superior to their alternatives through the process of competition. The rise in basic-oxygen steelmaking, for example, which adopted a much faster way of producing steel with lower energy consumption, eventually replaced open-hearth furnace facilities, bringing tremendous productivity and competitiveness gains to the industry around the middle of the 20th century.⁵ Some steel companies began installing "mini-mills" in the 1980s, based on productivity and cost factors, which led to further structural change. This competition encouraged producers to reallocate their resources in response to the new competition.⁶ The integrated production route, however, still accounts for a large share of steel production in many economies.

At the same time, demand for new kinds of materials with specific mechanical properties has increased. Moreover, competition from other materials has led steelmakers to constantly develop new products, such as new high-strength, low alloy steels needed in many modern applications requiring material strength, safety and energy efficiency. In all these instances, existing steel producers that successfully responded to innovations by innovating themselves, or adapting to the newly emerging competition by streamlining their own operations or raising productivity in order to remain profitable, were able to survive, and even prospered, in the face of these changes.

... as is also the global and structural excess capacity in steel.

In contrast to this process whereby innovation and competition lead to structural changes, efficient and competitive steel producers have been displaced as a result of government policies and measures that bestow undue advantages to selected steel producers, and by so doing generate global excess capacity. The work of the GFSEC has shown that the magnitude and scope of this global excess capacity have been fuelled, and continue to be fuelled, by – among other factors – government subsidies and other support measures aimed at i) propping up uncompetitive facilities and ii) subsidizing the construction of new facilities. These support measures have distorted competition, slowing the closure of outmoded facilities, while creating advantages for the new facilities at the expense of competitive firms that do not receive support. These support measures and other factors have also led to job losses and have negatively affected cross-border trade.

The outlook has improved but excess capacity poses significant risks

17. The situation in international steel markets improved in early 2021, as economic activity in downstream steel-using sectors recovered further. Imploding steel markets in many economies during 2020 threatened the viability of many firms as prices slumped. As in other sectors, the relatively rapid economic turnaround in many areas in recent months has created supply bottlenecks, resulting in sharp increases in steel prices. Global industrial production, which by the end of 2020 had reached pre-pandemic levels observed in the fourth quarter of 2019, stabilised in the first few months of 2021. This stabilisation reflects moderating growth in China while economies such as the EU, Japan, India, the United Kingdom and the United States continue to recover from the pandemic-related industrial recessions of 2020.
18. The recovery in industrial production and downstream steel-using sectors resulted in a rebound in indicators of global steel demand which started in the third quarter of 2020 and continued in the first half of 2021 (see Figure 4). While industrial production led the upturn during the initial phase of economic recovery from the pandemic during the second half of 2020 and first half of 2021, with services lagging due to health-related restrictions, the outlook for the quarters ahead shows the second stage of recovery being led by services as these restrictions ease.⁷
19. The structure of the economic recovery will have implications for steel demand. In certain countries, the economic rebound going forward will provide less stimulus to steel demand as it will be driven more by services and less by industrial activity, unlike the case in late 2020 and early 2021 when industry led the economic upturn across most countries. Steel demand growth is thus expected to have peaked in the first half of 2021, and could slow appreciably going forward. The latest forecasts by the World Steel Association show that, following a global steel demand rebound of 5.8% in 2021, growth should slow

⁵ A useful historical account of developments concerning the emergence of steel production methods is available at: <https://www.worldsteel.org/en/dam/jcr:4a047381-8332-457d-9b40-b84bc506d7d5/The%2520White%2520Book%2520of%2520Steel.pdf>

⁶ For an academic study on the matter, the reader is referred to https://www.nber.org/system/files/working_papers/w18739/w18739.pdf

⁷ Based on analysis by Oxford Economics. See for example <https://www.oxfordeconomics.com/my-oxford/presentations/633257>.

to less than half this pace in 2022 (2.7%).⁸ However, these projections may be impacted by government infrastructure spending in certain economies, which could lead to a rise in demand for steel products.

Figure 4. Indicator of real steel demand returned to pre-pandemic levels in early 2021



Note: The indicator of real steel demand presented above is calculated using the output (real value added) of steel using sectors (construction, metal goods, mechanical machinery, domestic appliances, electrical engineering, automotive, and other transport) weighted by their share in demand. Unlike measures of apparent steel consumption, this indicator reflects real underlying demand for steel as required by the steel-using industries without taking into account the net increase in consumer and merchant inventories of steel.

Source: OECD.

20. While steel demand has rebounded from the pandemic-related lows of 2020, and steel prices have recently been elevated, the industry still finds itself with significant excess capacity, most of which is structural in nature. In 2020, global steelmaking production capacity exceeded demand for steel by 568 mmt, increasing for the first time since 2015. Indeed, current growth prospects and high steel prices are short-term impacts only, which fundamentally cannot last.

The structural character of excess capacity...

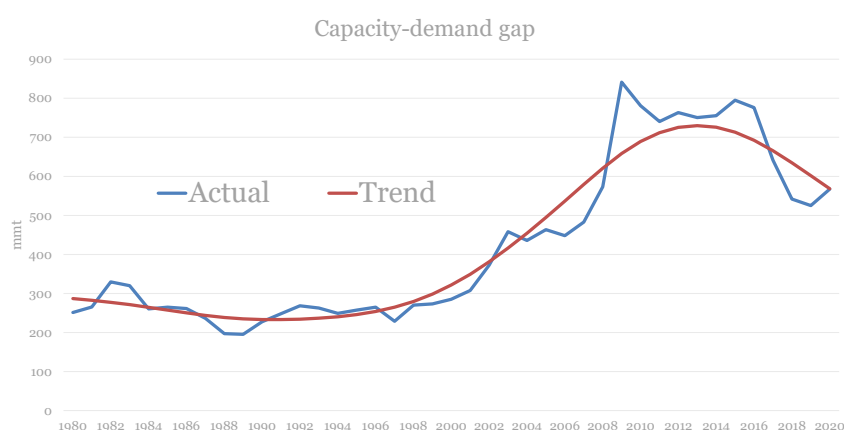
21. Understanding the extent to which this capacity-demand gap is driven by structural factors, and the extent to which it is affected by short-term fluctuations in the economic cycle, is of importance to policymakers. Figure 5 shows the long-term trend of the global capacity-demand gap, a measure that aims to capture the structural nature of excess capacity, as well as the actual level of the gap. The difference between the two represents the effects of short-term economic cycles on the actual level of excess capacity (thus during cyclical downturns actual excess capacity can exceed the structural level, and during

⁸ See the April 2021 Short Range Outlook released by the World Steel Association available at: <https://www.worldsteel.org/media-centre/press-releases/2021/worldsteel-short-range-outlook-april-2021.html>

cyclical expansions actual excess capacity can fall below the long-term structural level).

22. Cyclical economic fluctuations are found to be relatively small and short term in nature. Only through structural reform – in other words by implementing the policy recommendations of the Berlin Ministerial report, particularly by removing the market-distorting subsidies and other support measures that contribute to excess capacity as outlined in paragraph 57 of the report and ensuring market-based outcomes in the industry – can excess capacity worldwide be reduced in a way that is long-lasting and structural.

Figure 5. Global excess capacity remains structurally very high



Note: To shed light on the distinction between the effects of structural factors and short-term economic fluctuations on excess capacity, the gap between global steelmaking capacity and demand has been decomposed into a trend series and a cyclical component, where the trend is meant to capture the long-term growth of the series and the cyclical component is the deviation of the series from that trend. The method used to extract the trend component is the Hodrick-Prescott (HP) filter (Hodrick and Prescott, 1997).
Source: OECD.

23. Figure 5 shows that the excess capacity problem grew continuously since the start of the 2000s fuelled by factors including problematic government interventions that distorted steel markets and eventually led to the excess capacity crisis of the mid-2010s. The situation shifted around 2016, at the time the GFSEC was established and governments of *all* major steel-producing economies began working towards implementing the Berlin policy recommendations, which began a process leading to lower structural excess capacity. Important reforms supported by the GFSEC's work have since occurred. When it was a GFSEC member during 2016-19, China noted its efforts to reduce excess capacity through the closure of old and outdated facilities. This trend has reversed recently, with crude steelmaking capacity increasing in 2019 and again in 2020 as well as 2021, accompanied by cross-border investments that are contributing to capacity growth in other regions.⁹ Many other members continue to ensure strict adherence to the policy principles and recommendations of the Berlin Ministerial report. For those members that are undergoing capacity expansions, this includes adhering to the principle that

⁹ See <https://stats.oecd.org> for OECD historical capacity data and <https://www.oecd.org/industry/steelcapacity.htm> for the latest published analysis on world steelmaking capacity developments.

any capacity increases should be purely based on market forces, and ensuring that targets for the steel sector's expansion were not accompanied by any direct or indirect government support. The GFSEC demonstrates that when all major steel-producing jurisdictions are involved in this process, implementation of the Berlin principles and recommendations can lead to meaningful reductions in structural excess capacity over time.

24. The risk going forward is that, because structural excess capacity remains stubbornly high and could start to increase again, and several major steel-producing jurisdictions are no longer committed to the GFSEC process, an eventual slowdown in steel demand and cooling markets could trigger a painful downturn for the industry in all regions, which will be exacerbated to the extent that market-distorting industry supports remain in place and uneconomic capacity continues to expand. This pattern has repeated itself time and time again, as seen from the steel crises of the 1970s and 1980s that eventually led to painful and costly industry restructuring in many OECD economies, to the steel crises of the 1990s and early 2000s that led to international efforts to discipline steel subsidies, as well as the more recent excess capacity crisis that led, in 2016, to the G20 commitment to take effective steps to emphasise market driven adjustment in the steel sector.
25. This boom-bust pattern is typical of the steel industry. Some producers – particularly inefficient ones that are subsidised or receive unfair preferential treatment – are only viable during peaks of the cycle, when steel demand and prices have reached high levels. During market slowdowns, when steel demand and prices start to fall, such inefficient producers often do not reduce supply in response to falling demand as their fixed costs are high and they tend to keep production running at high levels in order to minimise losses (by simply covering variable costs). The maintenance of excess capacity as a result of these government subsidies and other interventions contributes to the severe over-supply imbalances in the market, price collapses, and unsustainably weak profitability for all steel producers, including the more efficient and otherwise economically viable producers operating without subsidies and other support measures.

... shows that structural reforms are needed

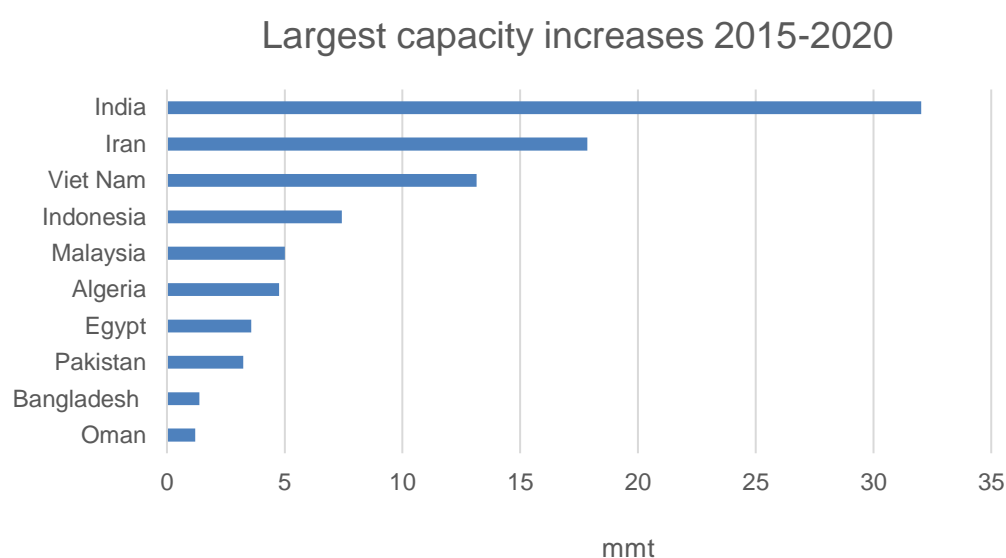
26. A key lesson learned from the past is the need to address the root causes of excess capacity during upturns, when the pressures on the industry are relatively low. Avoiding future crises will require governments to refrain from market-distorting subsidies and other government support measures that contribute to excess capacity and ensure market-based outcomes in the steel industry. Doing so is essential for returning the steel industry to long-term sustainability and economic health, conditions that are necessary to ensure that it can continue to respond effectively to society's evolving needs for steel.
27. The reprieve that the steel industry is experiencing in 2021 has, for the moment, overshadowed the persistent structural imbalance between steel supply and demand. Additional capacity was added each year during 2000-2014; modest reductions slimmed capacity by 2.1% in the three-year period from 2015 to 2018, with growth of 3.1% occurring in the two-year period 2019 and 2020.¹⁰ Despite the excess capacity crisis and sluggish steel demand growth in recent years, an increased desire in some economies to expand the production

¹⁰ The latest OECD figures published in July 2021 are available at https://stats.oecd.org/Index.aspx?DataSetCode=STI_STEEL_MAKINGCAPACITY

capacities of the local steel industry, or to create a new steel industry where previously one did not exist, persist.

28. Figure 6 presents the ten economies with the largest net capacity increases over the past five years, showing that growth is occurring mostly in economies that are not members of the GFSEC. Over the last five years alone, India has added 32 mmt of capacity, an amount roughly equivalent to Brazil's current steel production, and has added nearly double that amount (59 mmt) since 2010. Iran has also experienced extremely rapid growth, adding nearly 18 mmt over the last five years and seeing its industry more than double in size since 2010. Further robust expansion is expected over the next three years, bringing Iran's capacity to 68.7 mmt by 2023. This would result in Iran becoming the seventh largest steelmaking country in the world, surpassing both Germany and Turkey. Viet Nam is, in relative terms, one of the fastest-growing steel producers today, as capacity continues to be installed at a breakneck pace. Over the last five years, Viet Nam's capacity increased by 13 mmt, and almost by 20 mmt since 2010. Much of the capacity growth in Southeast Asia in recent years has been driven by foreign investment, in particular from China.

Figure 6. Robust capacity expansions seen in some economies over the last five years

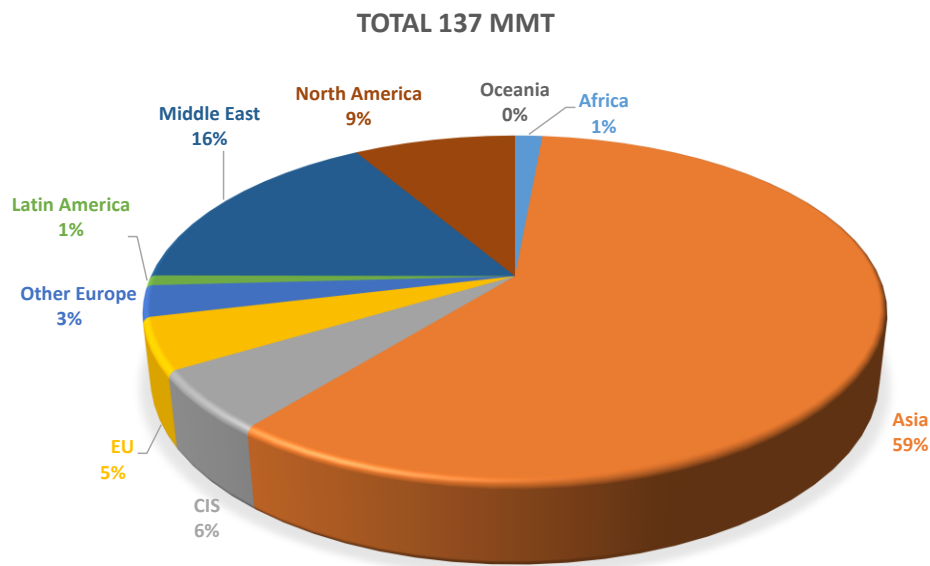


Source: OECD.

29. The capacity-demand gap will persist over the next few years (2021-24), as some 137 million tonnes of new capacity are already under construction or are planned, in particular in Asia and the Middle East; if realized, capacity could grow by an additional 5.6% during 2021-24 (see Figure 7).¹¹

¹¹ See the OECD's steelmaking capacity portal at <https://www.oecd.org/industry/steelcapacity.htm> for recent analysis on world steelmaking capacity developments.

Figure 7. World capacity additions during 2021-24 and share by region



Source: OECD.

30. In the Middle East, there are a large number of new capacity projects taking place in Iran, and several in Saudi Arabia and Oman. In Southeast Asia, heavy investment activity is taking place in Malaysia, Indonesia and Viet Nam (Figure 8), much of it driven by Chinese investments (e.g. Delong Steel – Dexin, Moralawi Industrial Park and Malaysia-China Kuantan Industrial Park¹²). The outcomes of the GFSEC’s collective review process in 2020 showed that, in general, views pointed to the Chinese outward investment measures discussed as falling under paragraph 57 of the Berlin Ministerial report.¹³ Some of these investments may be coupled with broader government plans, such as the Belt and Road Initiative. In the future, increasingly stringent environmental regulations in China may accelerate the investment rate in other Southeast Asian jurisdictions. These Southeast Asian jurisdictions could produce semi-finished products, which are imported to China in a later stage. Such an investment model could lead to further carbon-intensive capacity growth in Southeast Asia. In South Asia, there are many projects in India, and many underway in Pakistan. China also continues to build capacity and its steel inventory despite its problematic overcapacity, calling for further efforts to address the situation.¹⁴ Moreover, some of the new Chinese capacity

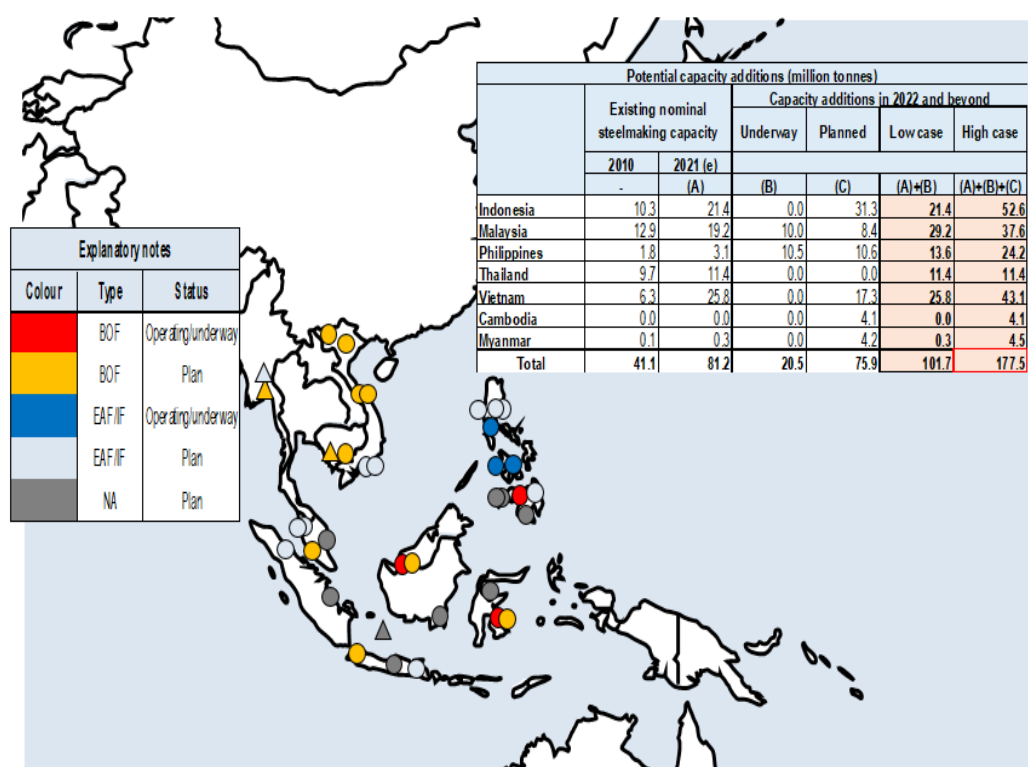
¹² For more information, see the comparative analysis on steel investments in industrial parks in Indonesia and Malaysia, T.S. Yean and S.D. Negara, available at https://www.iseas.edu.sg/wp-content/uploads/2020/09/ISEAS_EWP_2020-08_Tham_Negara.pdf

¹³ See the 2020 GFSEC Ministerial report at: <https://www.steelforum.org/events/gfsec-ministerial-report-2020.pdf>

¹⁴ Ibid.

announced earlier this year is carbon (coal) intensive.¹⁵ More details on each of the GFSEC Member's submissions related to non-participating jurisdictions can be found on the GFSEC's internal platform.

Figure 8. Capacity investment projects in Southeast Asia



Notes: This document, as well as any data and any map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. Locations in this map are only approximations. Circles denote projects for which the information on location is available, while triangles denote projects for which the information on location is not available. Planned capacity additions include projects expected for completion in the period until 2024 as well as projects for which the completion year is later than 2024 or undisclosed.

Source: OECD, September 2021.

31. The number of steel-producing economies is also set to increase in the future. Steel plants are starting to be built for the first time in economies such as Bolivia, Namibia and Mozambique. Growing foreign investment activity in the African mining and steel sectors, particularly by Chinese investors, also suggests that new steel production activity on that continent could increase appreciably in the future, a trend that is being supported by growing steel demand, particularly for construction activities, as economies in the region develop and incomes rise.

¹⁵ See analysis by the Centre for Research on Energy and Clean Air (CREA) available at: <https://energyandcleanair.org/china-2021q2-coal-steel-co2/>. According to the CREA report, new coal power and steel projects announced in China in the first half of 2021 alone will lead to significant CO₂ emissions. The report notes that "A total of 18 new blast furnace projects with a total capacity of 35 million tonnes per year and 43 new coal-fired power plant units were announced by China".

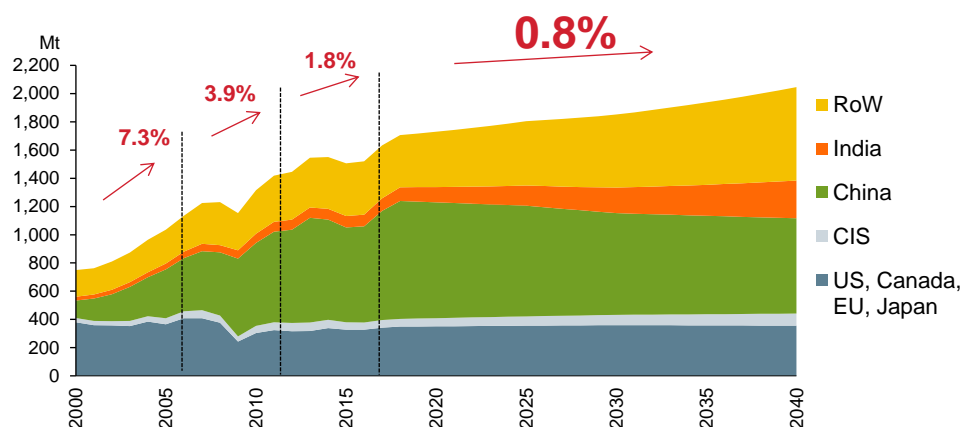
32. Indeed, in developing regions around the world the need for further economic development will require a growing local steel industry that can contribute to industrialization, economic growth and prosperity, and social well-being. The issue is not about capacity growth per se – as noted earlier, competition will always result in rationalisation of some segments of the market, and growth of others – particularly given the role that steel plays as an enabler of modern economies. In this regard, *all* GFSEC members agree that needed capacity growth will be within ranges consistent with consumption of steel in their economies and regions. Members agree that output increases outside of market frameworks can result in unfair trade of steel that inflicts harm on trading partners. In addition, fair international trade should play its full role in meeting expected increases in demand as recalled already in the GFSEC Berlin Ministerial report. This highlights the importance of the GFSEC's work and members' commitments to find solutions that would lead to more open markets, closer cooperation against unfair trade measures and fair trade in steel products, a common challenge not only for governments participating in the GFSEC but also international industry stakeholders that support the process.

As steel becomes more efficient, demand for steel will taper off in the long term

33. One of the key challenges for the steel industry over the long term, with implications for excess capacity developments, is that global steel demand growth is expected to slow down appreciably. Part of this slowdown reflects positive factors occurring in the steel and downstream industries. Indeed, steel is becoming increasingly efficient as a product, leading to lighter, stronger, more resistant and longer-lasting steel products. These quality improvements reduce the sheer volumes of steel needed for different applications, and the associated production capacity necessary to meet society's demand for steel. As highlighted in the 2020 GFSEC Ministerial report, many of the advanced steel products that society is beginning to require can be manufactured by enhancing the properties of steel and reducing the actual volumes of steel required in those applications. This can be seen in the automotive sector, where demand for steel is increasingly centred on high strength, light and highly formable steel. In the construction sector, demand for steel is turning to high performance steel to meet evolving architectural needs, while in the energy and shipbuilding sectors demand is shifting towards steel products with properties to deal for example with extreme conditions and which yield higher strength.
34. These trends would also be supported by the strengthening of circular economic systems, where steel is re-used and recycled more in existing products made out of steel. The circular economy provides a comprehensive process to reduce waste and to design steel-containing products in better ways. As an infinitely recyclable material, steel plays a prominent role in the circular economy. The shift toward more efficient material use, remanufacturing (refurbishing and repair) and reuse of consumer and other end products tends to prolong the lifetime of these goods and reduces the amount of new steel that is necessary for their production.
35. Taking a closer look at future trends, global future steel demand growth in the mid- to long-term (until 2040) is expected to be only around 0.8 per cent per annum, with regional variations (see Figure 9). Regional variations can be the result of diverging trends in steel intensity per unit of GDP, whereby growth rates in steel demand are higher in economies at earlier stages of industrialisation. The relationship between GDP and steel consumption growth often takes the form of an inverted U-shaped curve, where economies reach a peak in the level of steel consumption for a certain level of GDP per capita. Peaks in steel demand crucially depend on the structural composition of an economy and are

attained at different levels of GDP per capita. As a result, while there is a general consensus that steel demand will grow faster in developing economies, growth rates may substantially vary within these economies.

Figure 9. Long-term expected steel demand trends



Source: World Steel Association presentation to the GFSEC, October 2019.

III. Steel in the post-Covid era

Major challenges for the steel industry on the horizon which hinge on addressing the problem of excess capacity

36. The steel industry is recovering from the Covid crisis but its profitability remains unsustainably low, and lags behind that of many other industries in view of the challenges related to excess capacity. This situation directly hampers the steel industry's responses to three emerging challenges in the post-Covid era. First, the steel industry must mitigate its impact on the environment. Second, it must adjust to, and absorb, the rapid technological advances taking place around the world, which will change the way steel is made and require innovations to meet the changing needs of downstream steel-consuming industries. Third, it must adjust to a lower steel demand growth over the long term.
37. As previously mentioned, one of the biggest long-term challenges for the steel industry in the post-Covid era will be to find ways of mitigating its impact on the environment. The steel industry has traditionally relied heavily on fossil fuels, but has managed to reduce its energy consumption per tonne of steel produced by 60% over the last 50 years.¹⁶ However, even in 2020, for every tonne of steel produced, the industry emitted 1.85 tonnes of carbon dioxide on average, amounting to total direct emissions of 2.6 billion tonnes and 7%-9% of global anthropogenic carbon emissions.¹⁷ In the short term, further efficiency gains in existing steel production facilities will help to reduce carbon emissions based

¹⁶ See references in https://www.worldsteel.org/en/dam/jcr:66fed386-fd0b-485e-aa23-b8a5e7533435/Position_paper_climate_2018.pdf

¹⁷ See https://www.worldsteel.org/en/dam/jcr:228be1e4-5171-4602-b1e3-63df9ed394f5/worldsteel_climatechange_policy%2520paper.pdf

on best available technologies. However, reaching international targets for deep emission reductions by 2050 will require new ways of making steel. Bringing carbon-neutral technologies into commercial production over the longer term will be very expensive, requiring that business conditions will be stable enough over the next few decades to allow sufficient returns on these investments.

38. Furthermore, the industry needs to accelerate investments in innovation and value creation, so it can adjust effectively to the fundamental changes in economic activity brought on by the fourth industrial revolution. The ongoing shift occurring in developed and developing economies alike, towards digital economies and automation will impact not only on how steel is produced, but will also lead to enormous changes in the products manufactured by downstream steel-consuming activities. The industry will need to innovate and invest heavily in the coming years, to enable it to develop steel products with the characteristics demanded in the modern era – from smart manufacturing, to automated ships and new modes of transport, to the building of smart cities and the way energy is produced, to new trends in urbanisation and architectural needs, and much more.¹⁸
39. At the same time, countries and societies will need a healthy steel industry that is able to produce, innovate and adapt flexibly to changing economic structures in the post-Covid era, including by ensuring that the material needs of downstream industries and sectors are met as they evolve in response to the fourth industrial revolution. A healthy steel industry is also needed for furthering economic prosperity. While the industry directly contributes to hundreds of billions of dollars of value added and several million jobs, the positive indirect effects it has on enabling economic activity and employment in other sectors is far vaster, reaching 3.5% of global GDP and 3% of global employment.¹⁹
40. As noted earlier, steel is an essential material used in virtually all manufacturing sectors and construction applications, and is fundamental to all aspects of life. While substitutes for steel exist in some applications, the physical properties of steel – strength, resistance, durability and its infinite recyclability – make it essential for a range of economic activities necessary for modern economies to function. Transportation and infrastructure systems, medical systems, energy and environmental systems all need steel to operate effectively. Developing economies in particular will require healthy steel industries to facilitate industrialisation. Indeed, for all economies, a healthy steel industry is a prerequisite for enabling economic and social well-being.
41. Governments can play an important role and help the steel industry in addressing these challenges, but, as provided in the Berlin Ministerial report, they need to do so in a manner which does not, either directly or indirectly, contribute to industry overcapacity or unduly distort competition. Whatever support is eventually given in these areas should be done transparently and be done in ways that are consistent with WTO rules.

¹⁸ <https://www.steelforum.org/stakeholders/gfsec-march-2020-posco.pdf>

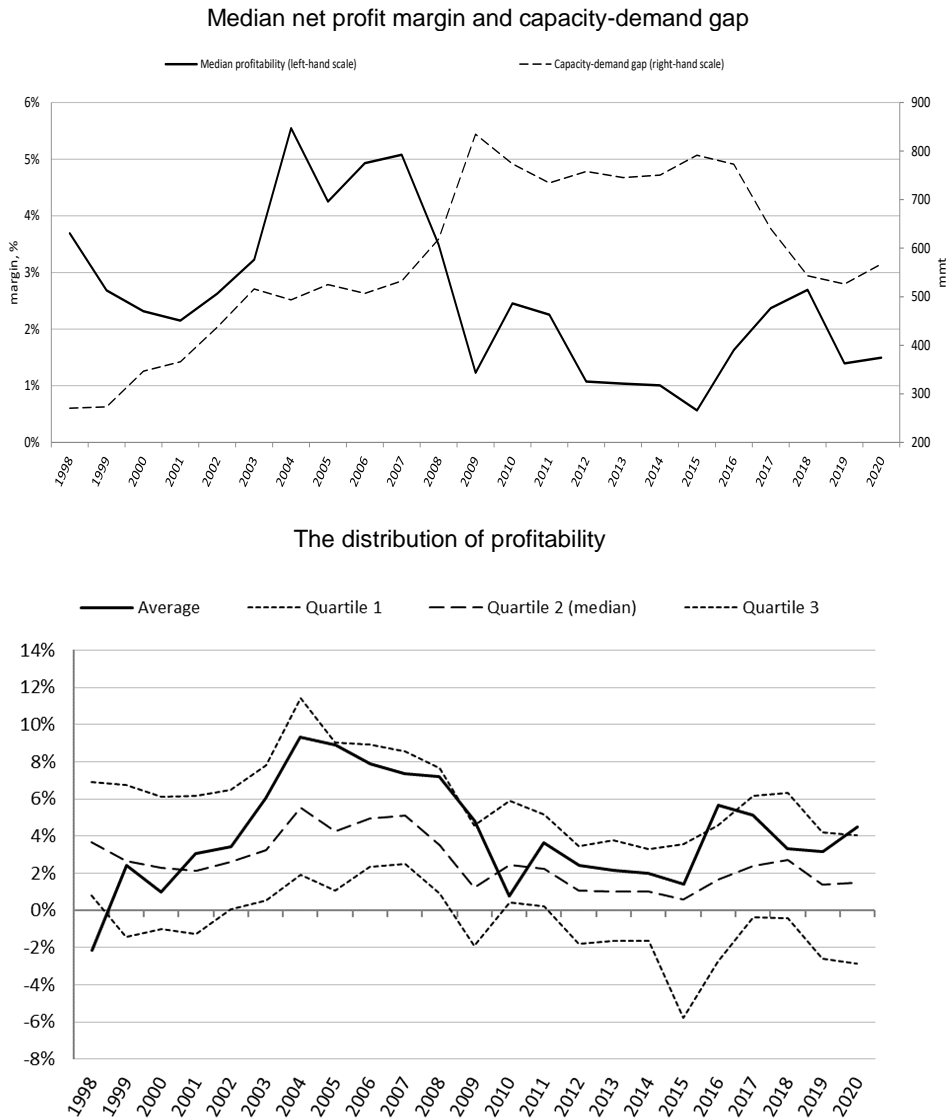
¹⁹ For a recent analysis of the economic and employment contributions made by the steel industry to the global economy see a study conducted by the Oxford Economics available at: <https://www.worldsteel.org/en/dam/jcr:fd44918-de3b-455b-9083-f770afa4a214/OE%2520Executive%2520Summary.pdf>

Improving the industry's financial situation through excess capacity reduction

42. The major difficulty facing the steel industry, in terms of meeting the challenges of reducing its impact on the environment and the need to increase its investments in new equipment, is that it is starting from a point of profitability. While currently experiencing a short-term boost due to high prices, profitability has been historically weak and continues to suffer from structurally high excess capacity that will continue to depress the industry's financial situation if left unaddressed. Profitability will be needed to allow for the funding and realisation of important investments.
43. The steel industry has faced financial challenges for more than a decade. With the deceleration of Chinese economic growth in the 2010s, modest increases in global steel demand were no longer able to keep pace with the new capacity that had come on stream, and by 2015 global steel prices and profitability fell to historical lows (Figure 10). Since then, there has only been a marginal improvement in profitability, during 2016-18 in line with the small reduction in global excess capacity, but the median firm saw net profit margins fall to around 1.5% in 2019 and 2020. The profitability distribution across steel firms (lower panel of Figure 10) shows net losses for at least a quarter of the weakest-performing firms, year after year since 2010.
44. Other financial indicators also paint a bleak picture with respect to the investment opportunities of the steel industry. So-called price-to-book ratios, which reveal markets' expectations about companies, have been low in the steel industry in past years, and often much lower compared to other sectors.²⁰ This is often regarded as a signal that steel companies are earning poor returns on assets and should not commit to new investments.
45. After experiencing increasing debt levels from 2005 to 2014, the steel sector seems to have slowly deleveraged over the past several years. The ratio of total assets to liabilities is, however, still close to 60% for median firm, and more than 75% for firms in the upper quartile of the distribution (see Figure 11). Over the longer-term, steel mills may find it harder to access funding, even in a context of overall extremely low borrowing rates, due to the negative expectations of lenders and investors about the long-term prospects of the sector, if excess capacity remains a permanent feature of the industry.

²⁰ See OECD analysis at <https://www.oecd.org/sti/ind/Evaluating-Financial-Health-Steel-Industry.pdf> and more recent profitability data for different sectors at http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/pbvdata.html

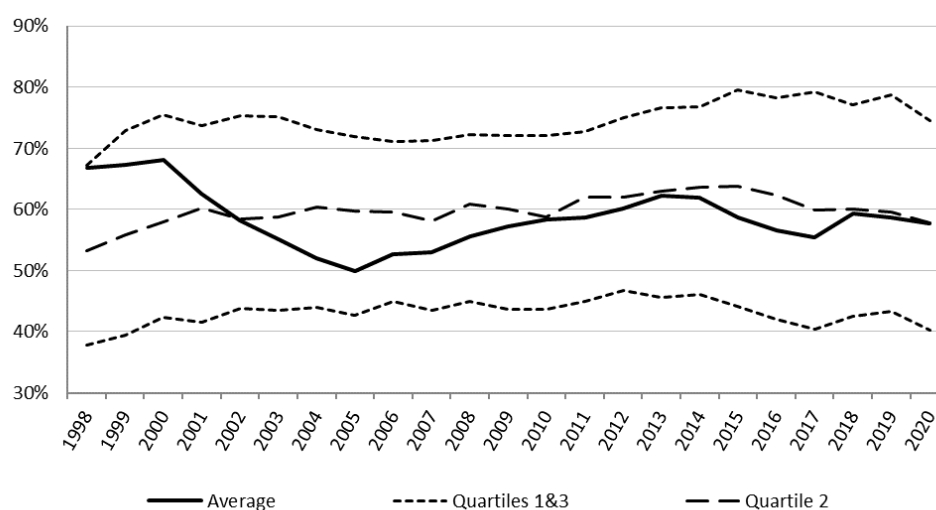
Figure 10. Steel industry profitability remains very weak



Notes: The upper panel shows the net profit margin of the median firm, defined as EBITDA (earnings before interest, taxes, depreciation and amortisation) minus all expenses incurred by firms, including taxes, interest paid on debt, depreciation and amortisation, relative to sales revenue in per cent. The capacity-demand gap is measured in million metric tonnes (mmt). In the lower panel, the dotted lines provide information on the distribution (first and third quartiles) of net profit across the firms in the sample, as well as the average for all firms in the sample, weighted by total sales.

Source: OECD calculations based on data from Refinitiv.

Figure 11. Ratio of steel firms' liabilities over assets



Source: OECD calculations based on data from Refinitiv.

46. Addressing excess capacity is ultimately a key ingredient to improving the financial health of the industry. While arguably not sufficient for encouraging a complete shift towards low-carbon steel production, it is essential to allow the transition to start happening. Excess capacity reductions would improve industry profitability through a number of channels. At the global level, the effects would be felt in terms of fewer trade disturbances and more stable prices on international markets. A more open and level playing field for competition would foster resource reallocation towards efficient steel producers, raising overall productivity and the long-term financial prospects for the industry. Moreover, scarce resources currently spent by governments on distortive subsidies and other interventions that generate excess capacity could be redirected to more productive societal ends, allowing resources currently spent on efforts to offset the effects of unfair trade to be redirected towards innovation and investing in the future of the steel industry and its workers.
47. The steel industry is also being transformed by developments and investment in new technologies. Artificial intelligence or the blockchain can be coupled with real-time big data analytics to i) predict trends in steel demand, ii) optimise manufacturing processes and iii) monitor global steel excess capacity more closely while reducing the industry's environmental footprint. They provide the potential for the industry to strengthen the coordination between upstream, midstream and downstream players, leading to efficiency gains. This in turn could lead to a reduction in wasteful spending and overproduction. Measurement techniques, data analysis, export monitoring, planning and control of production processes could equally be improved. These could optimise restructuring processes in the industry, notably in view of the decarbonisation targets. The technologies, fuelled by development of smart cities, connected through the Internet of Things and the Internet of Value, thus have the potential to enhance the performance and prospects of the steel industry.
48. Innovation is occurring not only at the production stage, but also in the development of new and improved steel products. The production of high-performance steel grades might result in greater efficiency in the use of steel, which might similarly decrease the amount of carbon emissions released into

the atmosphere. The new and improved products could enhance the use of steel in atypical or adverse conditions and expand use in aerospace applications.

49. Technological and products developments also have implications for the work force, increasing demand for specialists in big data analytics, computer networking and network security. At the same time, the skill-set of the current workforce will need to be upgraded, creating opportunities to enhance job security while increasing the efficiency and competitiveness of steel firms.

IV. Work and progress of the GFSEC in 2021

50. Since its creation in 2016, the Global Forum on Steel Excess Capacity has established a high level of transparency on government measures and the market, increasing awareness of the scope and magnitude of industry problems. Importantly, the Forum developed policy principles, recommendations and a roadmap for policy actions to address excess capacity in the steel sector based on the Berlin Ministerial recommendations agreed to in 2017.
51. Members cooperate on a regular basis by sharing detailed information on steelmaking capacity developments in their economies as well as government policies and measures that impact capacity. This activity is accompanied by a rigorous review process whereby members assess the information submitted by their counterparts. Based on the outcome of the information sharing and review processes, members can undertake action which they consider appropriate, in line with the principles and policy recommendations of the GFSEC.
52. The in-depth discussions at GFSEC meetings have provided opportunities for deepening understanding of government policies and measures that are contributing to excess capacity and which members may wish to address, as well as policies that are helping to alleviate the excess capacity problem. The latter include policies used to facilitate steel industry restructuring as well as general framework conditions that encourage competition and foster a level playing field in the steel sector. These discussions offer insights of lessons learned and best practices which can be translated into voluntary policy actions to help the Forum members achieve the objectives set out in the Berlin Ministerial recommendations.
53. Governments participating actively in the Forum are, by and large, adhering to the policy recommendations of the GFSEC, creating opportunities for reducing global overcapacity. Capacity developments in their economies have been very modest, with many members experiencing stable or significant downwards adjustment in the period since 2014, while several others have recorded moderate increases in response to growing demand and other market-driven developments in their economies.
54. The work of the Forum in 2021 has also highlighted growing concerns about developments taking place in non-participating jurisdictions. Government support measures to traditional steel production especially in Asia and the Middle East, regions that are driving global capacity expansions at rates that exceed current and future demand developments, are creating further structural imbalances in an industry whose survival is already at risk. This underscores the need for enhanced cooperation with all steel-producing jurisdictions to address a common problem that affects all segments of the steel industry regardless of the industry's location or stage of production.

55. This section provides key insights from the information sharing and review processes in 2021 covering key steelmaking capacity developments, as well as government policies and support measures in GFSEC member economies. It also discusses the outcomes of the GFSEC exchanges with steel industry stakeholders in 2021 focusing on decarbonisation, smart steels, circular economy and implications of these on tackling excess capacity.

Key insights from the information sharing and review in 2021

Steelmaking capacity developments

56. During the two rounds of information sharing in 2021, GFSEC members exchanged information and reviewed developments on steelmaking capacity in their economies. Members also discussed capacity developments taking place in G20 economies that are not members of the GFSEC (see Table 1 for global capacity developments). All but two of the GFSEC's 31 members participated in the information sharing rounds conducted by the GFSEC in 2021. These members provided updated data on crude steelmaking capacity in 2020, confirmed or provided updated data for 2014-2019 and, where applicable, provided preliminary information on capacity developments in the first half of 2021. In light of these developments, this and the subsequent sections of the report will use public data from the OECD to measure crude steelmaking capacity for non-participating jurisdictions.
57. Based on data submitted by GFSEC members (and data from the OECD for India and Indonesia), total steelmaking capacity among GFSEC members amounted to 966.1 million metric tonnes in 2020. This combined capacity corresponds to about 39% of global capacity and 75% of capacity outside China. On the basis of these data, between 2014 and 2020 steelmaking capacity in the GFSEC member economies increased by 26.2 mmt.
58. An interesting trend visible in the data are the strong capacity increases taking place in other economies. China's steelmaking capacity increased by a cumulative 32.9 mmt during the two-year period of 2019 and 2020, accounting for 45% of the world's capacity increase of 73.7 mmt observed over these two years. Considerable capacity growth is also taking place in the "rest of the world" (i.e., the non-GFSEC and non-G20 economies), with growth of 65.1 mmt, i.e. 25.7%, since 2014. As discussed in the previous section, key economies contributing to this expansion include Iran, Viet Nam, Malaysia, Algeria, Egypt and Pakistan.

Table 1. World crude steelmaking capacity: 2014-2020

(1000s metric tonnes)

GFSEC member	2014	2015	2016	2017	2018	2019	2020	Change (volume) 2014-2020	Change (%) 2014-2020
European Union*	213,921	210,421	206,789	205,234	205,009	202,509	199,909	-14,012	-6.6%
Germany	50,881	50,881	50,081	49,921	50,041	50,041	50,041	-840	-1.7%
Italy	38,606	36,206	36,206	36,456	36,456	36,456	36,456	-2,150	-5.6%
France	20,946	20,946	21,116	20,641	20,841	18,341	18,341	-2,605	-12.4%
Spain	20,310	20,310	19,610	18,860	18,860	18,860	18,860	-1,450	-7.1%
Poland	12,260	12,260	12,260	12,560	12,710	12,710	10,110	-2,150	-17.5%
Belgium	8,620	8,620	8,900	8,900	8,900	8,900	8,900	280	3.2%
Austria	8,595	8,595	8,595	8,595	8,595	8,595	8,595	0	0.0%
Netherlands	7,260	7,260	7,000	7,000	6,813	6,813	6,813	-447	-6.2%
Sweden	5,950	5,950	5,950	5,950	5,950	5,950	5,950	0	0.0%
Slovak Republic	5,520	5,520	5,520	4,860	4,860	4,860	4,860	-660	-12.0%
Greece	4,760	4,760	4,760	4,760	4,760	4,760	4,760	0	0.0%
Finland	4,530	4,530	4,530	4,530	4,530	4,530	4,530	0	0.0%
Luxembourg	3,322	3,322	2,400	2,400	2,400	2,400	2,400	-922	-27.8%
Hungary	2,650	2,650	2,050	2,050	2,050	2,050	2,050	-600	-22.6%
India**	110,327	111,427	120,527	124,190	127,019	128,719	143,459	33,132	30.0%
Japan	136,268	135,631	134,447	132,411	131,055	131,205	129,685	-6,583	-4.8%
United States	121,749	119,124	120,624	120,624	120,184	119,934	121,374	-375	-0.3%
Russia	84,755	84,755	85,755	85,855	85,395	86,897	87,797	3,042	3.6%
Korea	79,675	80,275	80,775	80,775	80,175	78,345	78,345	-1,330	-1.7%
Turkey	50,213	50,439	51,506	51,181	51,884	50,698	53,358	3,145	6.3%
Brazil	47,410	47,960	51,450	51,450	51,450	51,450	50,950	3,540	7.5%
Mexico	26,555	29,105	29,505	29,505	29,505	29,155	29,155	2,600	9.8%
Canada	17,342	17,467	17,467	17,467	17,467	17,467	17,739	397	2.3%
Indonesia***	12,142	12,142	12,542	14,542	15,542	17,812	19,562	7,420	61.1%
United Kingdom	15,097	11,197	11,202	11,202	11,202	11,202	11,202	-3,895	-25.8%
South Africa	10,230	9,350	9,530	9,746	9,906	9,906	8,566	-1,664	-16.3%
Argentina	6,532	6,650	6,650	7,300	7,300	7,300	7,300	768	11.8%
Australia	5,570	5,570	5,570	5,570	5,570	5,570	5,570	0	0.0%
Switzerland	1,370	1,370	1,370	1,370	1,370	1,370	1,370	0	0.0%
Norway	800	800	800	800	800	800	800	0	0.0%
GFSEC total	939,955	933,682	946,508	949,221	950,832	950,338	966,140	26,185	2.8%
Non-Participating G20									
China	1,224,710	1,209,970	1,188,631	1,160,071	1,124,181	1,149,522	1,157,117	-67,593	-5.5%
Saudi Arabia	11,195	11,495	11,565	11,565	11,603	11,603	11,603	408	3.6%
Rest of the world	253,177	262,316	266,690	279,533	292,381	303,622	317,857	64,680	25.5%
World	2,429,037	2,417,463	2,413,394	2,400,390	2,378,997	2,415,085	2,452,716	23,680	1.0%

Notes: * The European Union's figure refers to the total capacity of all the EU Member States.** India did not take part in the information sharing exercise in 2020/21; figures for India in this table are based on the latest OECD estimates as of September 2021.*** Indonesia recently decided to withdraw from the GFSEC; figures for Indonesia in this table are based on the latest OECD estimates as of September 2021. GFSEC members are listed in the

table by the size of their capacity in 2020. Please note that the capacity data for GFSEC members in this table come from submissions by the members in the context of the GFSEC information sharing exercise. The capacity data for India, Indonesia, non-participating G20 economies and the world are the latest OECD steelmaking capacity figures (as of July 2021) based on the OECD's plant-level database. Because the OECD figures may differ from the capacity data submitted by GFSEC members in the context of the information sharing exercise, the GFSEC and non-GFSEC figures in this table may not be necessarily comparable.

Sources: Submissions by GFSEC members and the OECD.

Government policies and measures

Outcome of the review process

59. Two new rounds of the review process took place between February 2021 and September 2021. In the context of the Covid-19 pandemic and consequent measures taken, the review process took place through the written exchanges between members. In what follows, the salient results of written exchanges between members are presented. Annex 1 overviews the different issues discussed by GFSEC members during the review exercise in 2021.
60. With systematic reviews and discussion of the capacity and policy developments, the information sharing and review processes remain the main pillars of GFSEC work contributing to a greater transparency of the policy setting, which is something crucial in the context of excess capacity and the need to encourage markets and fair trade in steel products. Thus, continued participation of all G20 and interested OECD economies in this process in a spirit of constructive exchange and cooperation is crucial for bringing more transparency to steelmaking capacity developments, as well as policy developments and support measures affecting the steel industry.

Results of the information sharing²¹

61. During the two rounds of information sharing in 2021, members provided updated information on their measures and practices associated with the facilitation of closures, maintenance or support of the domestic production base, corporate restructuring and industry upgrading and innovation. Members also provided updated information on existing measures and practices in the following policy areas: framework conditions, fostering a level-playing field in the steel sector, fostering industry restructuring by assisting displaced workers, government targets, issues related to mergers and acquisitions, and officially supported export credits for goods and services associated with crude steelmaking projects. A high-level summary of the information shared in the context of the two rounds of information sharing in 2021 is provided in Annex 1, while the detailed information is available through the GFSEC members' online portal. The following paragraphs will focus on certain underlying trends in policy-making in the steel sector as to identify potential areas of future work. As with information on capacity developments, two GFSEC Members unfortunately did not participate in the GFSEC's information sharing on government policies and measures in 2021.
62. A majority of GFSEC members provided updates to part 2 and 3 of the information questionnaire, while others indicated that no updates were required. Some members elaborated on the establishment of horizontal structural funds to smoothen the economic and social impact of corporate restructurings. These

²¹ India did not take part in the information sharing exercise in 2020/21. Indonesia recently decided to withdraw from the GFSEC.

examples may feed in to the more general proposal by Russia aimed at examining which lessons one may draw from previous restructurings. More concretely, the Russian proposal intended to provide insights, notably for developing nations, on mistakes and best practices regarding previous corporate restructurings in order to anticipate future restructurings and the negative impact that may result from them. The inclusion of the private sector in these discussions was equally recommended in the proposal. Gaining more insights on the impact of restructurings may be helpful to reduce the number of ‘zombie firms’ or other consistently loss-making firms, to let environmentally unsustainable steel mills exit the market, as well as to prevent the emergence of new capacity.

63. Despite the need for inefficient companies to leave the market and to prevent the emergence of unnecessary new capacity, some members equally mentioned the importance of leaving a sufficient degree of policy space to the members to satisfy domestic economic and policy objectives. In such a case, the harmful or distortive impact on third nations would, however, have to be taken into account.
64. Subsequently, multiple members shared information about their innovation policies. In practice, many of these innovation policies seemed to be linked with many members’ policy objective to manufacture greener forms of steel. Therefore, it was suggested that the Forum could focus more on R&D, carbon neutrality and industrial transformations. For some members innovation policies were horizontal in nature, while other members drafted steel specific innovation policies. In addition, many innovation policies intended to increase the competitiveness and productivity of a member’s steel industry, which appears to tap into other important areas of the GFSEC’s work. Creating a new category for the Forum’s information sharing exercise specifically devoted to government support for climate change/decarbonisation goals could be explored. Additionally, a related issue is the role government’s procurement rules may play to provide market-based incentives to the private sector. At present, the GFSEC members’ responses on government’s procurement support have been fairly limited. Next, the reporting of several mergers and acquisitions by numerous members reaffirms the need for effective competition policies, so that the level playing field between different company types (e.g. private and SOE, or SMEs and global players) is respected and innovation is stimulated.
65. Furthermore, various policies taken to cushion the impact of the Covid-19 pandemic on the steel sector were reported. Some of these initiatives temporarily tended to provide support to domestic workers (e.g. through labour policies). Others were directed to a revamping of the legislative framework on non-performing loans to limit the impact of the pandemic on the banking sector and, more in general, on the economy as a whole. It will be quintessential to assess Covid-19 related measures in line with their initial objective, i.e. limiting the pandemic’s impact. This implies that Covid-19 related policies would need to be phased out once the pandemic’s impact starts to diminish.
66. Finally, there was no information provided on export credits further to that reported during earlier information sharing rounds by Japan and the European Union.
67. While several GFSEC members endorsed the information sharing exercise as a key pillar of the Forum to increase transparency on government policies affecting the steel sector, proposals were made to update the procedure and substance of the information sharing questionnaire. Some of the suggestions touched upon avoiding duplication of questions, to better target issues relevant

for tackling excess capacity, as well as to expand the scope of the questions to include other forms of support that are not yet covered by the Berlin principles. Additionally, members called for stimulating the transparency and consistency in reporting government support in line with the Berlin principles.

Enhanced cooperation with steel industry stakeholders

68. The GFSEC has been engaging regularly with steel industry stakeholders since 2016, to hear the voice of steel associations, trade unions, business, private and public think tanks, and academia on issues directly or indirectly relevant for the excess capacity issue. Steel industry associations and other industry stakeholders have shared their experiences and expertise on issues including restructuring and structural adjustment in the steel industry, the Covid-19 crisis and its impact on international steel markets, new sources of steel demand, the circular economy and developments taking place in regions with growing steel activity such as Southeast Asia and the Middle East.
69. The focus of the two stakeholder events in 2021 were on issues linked closely to excess capacity: i) Dealing with excess capacity and the steel sector's transition towards decarbonisation and ii) Smarter steel for a healthier steel industry: How cutting-edge technologies can help tackle the steel sector crisis and contribute to a smarter society. The individual presentations made by the large number of stakeholders can be consulted on the GFSEC website.²² Key points made by industry stakeholders are summarised below.

The transition towards decarbonisation

70. The steel industry has made significant progress to reduce its carbon emissions in steel production. With carbon intensity still relatively high, the industry is committed to taking further steps towards carbon neutrality. There is no single solution to address the challenge, but instead various pathways which include carbon capture, utilisation and storage, hydrogen-based ironmaking, expanded use of steel scrap, recovery of low- to medium-temperature waste heat, and the use of biomass. Steel being a 'hard-to-abate' sector, carbon emission reductions depend closely on innovation in steelmaking technologies that still need to be developed on an industrial scale, along with the related clean energy infrastructure. The process towards decarbonisation is very costly, however, entailing significant capital expenses to replace the coal-intensive production units and increased operational costs resulting from higher costs of low-carbon production inputs such as green hydrogen. These costs are all the more challenging for companies to bear in the absence of international green steel standards, and given the burden of costs on the final consumer. Some concerns have also been raised about the risks of carbon leakage as well as carbon pricing particularly for sectors with few alternative low-carbon technologies.
71. Industry representatives have stated clearly that global excess capacity is a barrier to the transition towards carbon neutrality, as it creates business and competitiveness challenges, and reduces the financial capability of steel companies to invest in the new technologies needed in order to drastically reduce carbon emissions. Efforts by the GFSEC to reduce global overcapacity in the steel sector would help foster more stability in steel markets, and improved business conditions that would help accelerate the industry's adoption of low-carbon steelmaking technologies. While helping to address the civilizational challenge of climate change, replacement of the industry's carbon-

²² The presentations are available at <https://www.steelforum.org/stakeholders/>.

intensive operations by cleaner production processes also means that steel production facilities in the future will be more flexible and easier to adapt to demand fluctuations.

Smarter steel for a healthier steel industry

72. Smart steel and new technologies are both contributing to a deep transformation of the steel industry, offering new market, process and labour opportunities. Driving these structural changes while leveraging the benefits will require a revolution in innovation, as well as increased cooperation between stakeholders, from business to policymakers and academia. While these changes will inevitably be accompanied by challenges, they may also pave the way to more flexible, competitive and sustainable steel firms.
73. First, the evolving usage of steel calls for product innovation. High-performance steel grades might lead to a reduced amount of steel required by downstream industries, contributing to lower carbon emissions through the supply chain. In this way, green steel takes centre stage with leading consumer markets, such as the automotive and many other downstream sectors, committed to reducing their emissions. Despite cost challenges, green steel stands as a value-added opportunity for which steel companies must prepare. This includes developing an appropriate regulatory framework, market and pricing strategy.
74. At the same time, new technologies such as artificial intelligence and blockchain can be coupled with real-time big data analytics to predict trends in steel demand, to optimise manufacturing processes, or to reduce a steel mills' environmental footprint. By improving the response of steel production to changes in demand, they can contribute to greater market balance and stability in steel markets. Moreover, by improving the accuracy of steel demand forecasts, these technologies can result in more timely monitoring of excess capacity.
75. As data science is increasingly integrated in the production process, smart steel production will expand demand for high-skilled labour in these fields. Therefore, the skill-set of the current workforce will need to be upgraded, with an extensive focus on training. Combined with policies aimed at ensuring social protection of workers, this would also underpin sustainable and inclusive economic growth in the face of a rapidly evolving technological landscape.

V. Recommendations, commitments and next steps

Recommendations

76. 2021 has been a crucial year: we are struggling to leave the pandemic behind, and are currently finding ourselves in the process of rebuilding our economies and societies to make them more resilient. This can only be achieved through a multilateral action: the pandemic, in fact, has demonstrated that local problems can swiftly become global challenges, and that global challenges need global actions and solutions.
77. In this context, firstly, it is important that all the members of the Forum participate in the upcoming GFSEC activities, and continue to cooperate and contribute in a transparent way to the process of information sharing on steel capacity and policy developments.

78. Secondly, all G20 Members and OECD interested economies should be encouraged to follow the GFSEC Berlin guiding principles and recommendations in order to avoid misperceptions of post-crisis recovery signs from the market (such as the current growth in demand and price peaks), which could lead to over-investments worsening the condition of excess capacity.
79. In support of these efforts, experts from the WTO industrial subsidies exercise/trilateral industrial subsidies negotiations could be invited for a future Global Forum session or stakeholder event.
80. In addition, with the aim to prevent further crises in the steel sector, best practices and lessons learned should be shared with GFSEC non-participating jurisdictions, private stakeholders and other interested parties. Engaging with them or reengaging with those that decided to withdraw from the Forum, is of the utmost importance, particularly to ensure a stronger impact of the current and future OECD and G20 activities.
81. Against this background, GFSEC membership could consider a potential expansion of the number of the current members of the Forum in order to increase the effectiveness of its recommendations, particularly in view of the significant growth in capacity taking place in many economies that are currently not members of the GFSEC.
82. Finally, governments are called to implement measures aimed at addressing challenges such as the green and digital transformation of the steel sector. In this regard, the GFSEC activity, through the reduction of overcapacity, can provide support in the transition. Particularly, its expertise can be leveraged to disseminate know-how of new carbon-footprint lowering mechanisms, thus facilitating the continuous development and usage of climate-friendly technologies in the global steel industry.

Commitments

- **Adhering to the Berlin principles and policy recommendations.** GFSEC members reiterate their common commitment to uphold the six principles agreed at the Berlin Ministerial Report and agree to maintain their individual commitments made on a voluntary basis.
- In this regard, in response to the Covid-19 pandemic, governments introduced a series of social and economic measures to ease the impact on their countries. The recovery from the impacts of the pandemic should prompt governments to review regularly and promptly **phase out unnecessary Covid-related support measures**, fully in line with the Berlin principles.
- **Expanding outreach to non-GFSEC economies.** The steel industry's excess capacity problem is global in nature; addressing it successfully will require the engagement of all the players, including smaller players that are investing heavily in the industry. Currently a number of the major players are not active in the process, for a variety of reasons. Members are committed to finding ways to involve these players, and the emerging steel producers, in its work, even if they are not formal participants. One way to do so will be to organize thematic workshops in areas of mutual interest, perhaps on a regional basis, or in partnership with the private sector.
- **Reaffirming efforts to reduce global excess capacity.** Recalling the mandate from the G20 Leaders' Declarations, the GFSEC reaffirms that global excess capacity must be eliminated and its re-emergence avoided. GFSEC countries

reaffirm their commitment to support market-driven restructuring in their steel industries. The policies that they pursue will be designed in ways that do not contribute to excess capacity. Members also look forward to furthering the GFSEC's work beyond December 2021, following the 2017 Berlin and 2018 Paris Ministerial Reports, the 2019 Tokyo Chair's report, the 2020 Paris Ministerial Report and the present Ministerial Report.

- **Enhancing the competitiveness of the steel industry.** GFSEC Members are committed to ensuring the viability of their steel industries. In this context, members will explore policy approaches to encourage the steel industry's shift towards decarbonized steel production and support its adaptation to digitalization and other ongoing technological advances, in ways that respect the Berlin principles and policy recommendations and do not create subsequent trade tensions amongst members. Such measures could help to enhance the competitiveness of the steel industry in GFSEC economies and halt a persistent trend, whereby competitive producers have lost market share due to global excess capacity generated by market-distorting measures in some countries.

Next steps

83. Under the leadership of the 2022 Chairmanship and Steering Group, the GFSEC will carry out the work described above, focusing on the long-term goal of reducing excess capacity and phasing out any remaining policies that contribute to excess capacity. Engagement and re-engagement of other key producing countries that are not actively participating in the Forum will also need to be prioritized.
84. The GFSEC will share the outcomes of its work with the WTO closely. The GFSEC will report to the WTO in a timely manner for discussions on excess capacity, and seek cooperation at stakeholder events.
85. GFSEC members will finalize an initial round of edits to the information-sharing questionnaire.

List of annexes:

Annex 1. The results of the GFSEC information sharing and review process in 2021

Annex 2. Details of the review process

Annex 3. Extracts from G20 Communiqués (G20 Leaders (Riyadh), G20 Leaders (Osaka), G20 Leaders (Buenos Aires), G20 Leaders (Hamburg), G20 Leaders (Hangzhou), G20 Trade Ministers (Shanghai), G20 Finance Ministers (Chengdu))

Annex 4. Terms of Reference of the GFSEC

Annex 1. The results of the GFSEC information sharing and review

1. The GFSEC completed two rounds of information sharing and review between mid-December 2020 and September 2021. During this process, GFSEC members shared new capacity and policy information available for 2020 and the first semester of 2021. Members also updated the capacity and policy information they had submitted for earlier years. As before, the information sharing was conducted by completing and updating three parts of the GFSEC questionnaire that forms the basis of this exercise: Part 1 on nominal steelmaking capacity developments, Part 2 that covers government policies, measures and practices which potentially influence crude steel capacity and market developments, and Part 3 that addresses the Berlin policy recommendations.
2. Detailed information on the data and measures exchanged between members during the two rounds of information sharing that took place in 2021, including plant-level capacity data and information on specific measures, is available to GFSEC members through the GFSEC's members' portal. This Annex provides only a high-level summary of this information. It also provides a high-level summary of the review process, i.e. the exchanges that members had regarding the subsidies and other types of support provided by government and government-related entities between April and September 2021. Members of the GFSEC are invited to consult the detailed information available to them through the members' portal.
3. The first section of the summary examines capacity developments in GFSEC economies, and highlights trends at the aggregate level. The second section provides an overview of the updates made by members in Part 2 of the questionnaire. It is followed by an overview of the information reported by GFSEC members in Part 3 of the questionnaire in the following policy areas: i) framework conditions; ii) market distorting subsidies and other support measures; iii) fostering a level-playing field in the steel sector; iv) fostering industry restructuring by assisting displaced workers; v) government targets; vi) issues related to mergers and acquisitions; and vii) officially supported export credits for goods and services associated with crude steelmaking projects. The last section provides an overview of the discussions between GFSEC members in the context of the new rounds of the GFSEC review process with respect to subsidies and other types of support by government and government-related entities.

Steelmaking capacity developments

4. Under Part 1 of the information sharing exercise, GFSEC members shared information on existing capacities, new additions and closures of capacity from 2014 to 2020 at the aggregate and at the disaggregated level. Part 1 of the questionnaire also asks for details about the number of plants that make up the aggregate capacity figures, and a breakdown

of aggregate capacity by production process. In addition, members have also agreed to share details on steelmaking capacity at the disaggregated level (up to the level of individual plants) with other members that provide the same level of information. The disaggregated data provide rich information on existing crude steelmaking plants and sites, as well as new capacity additions and closures by plants across economies.

5. During the two rounds of information sharing that took place in 2021, 29 members of the GFSEC shared data on aggregate capacity, additions and closures for 2019, as well as disaggregated (plant or site level) data for 2020. They also updated their capacity data for 2014-19 wherever necessary. The summary below refers to the information exchanged amongst the 29 members.

1.1. Existing capacity

6. The 29 members of the GFSEC that participated in the information sharing exercise in 2021 accounted for 34% of the world's total steelmaking capacity and 64% of global capacity outside of China, the world's largest steel-producing economy, in 2020. The total capacity of the 29 members amounted to 803.1 mmt in 2020, representing a decrease of 0.7 mmt from the level of 2019 (Table 1).
7. With steelmaking capacity of 199.9 mmt in 2020, the European Union accounted for the largest share of the combined capacity of the GFSEC in the year 2020 (24.9%), followed by Japan (16.1%), the United States (15.1%), the Russian Federation (10.9%), Korea (9.8%), Turkey (6.6%), Brazil (6.3%) and Mexico (3.6%).
8. The 29 members that exchanged information in the two rounds of information sharing in 2021 reported capacity changes as follows. In 2020, increases in capacity occurred in Turkey (2.7 mmt), the United States (1.4 mmt), the Russian Federation (0.9 mmt) and Canada (0.3 mmt). In contrast, declines in capacity in 2020 compared to 2019 were reported by the European Union (2.6 mmt), Japan (1.5 mmt), South Africa (1.3 mmt) and Brazil (0.5 mmt). Of the EU Member States participating in the GFSEC, Poland decreased its capacity by 2.6 mmt, while the remaining members did not experience any change in capacity in 2020 relative to 2019. Comparing capacity levels in 2020 with those in 2014, for members who reported capacity in 2020, large capacity decreases were reported by the European Union, where capacity decreased by 14 mmt during the 2014-20 period. Within the European Union, the largest capacity decreases occurred in France (2.6 mmt), Italy and Poland (2.2 mmt), Spain (1.5 mmt), Luxembourg (0.9 mmt), Germany (0.8 mmt), the Slovak Republic (0.7 mmt), Hungary (0.6 mmt), and the Netherlands (0.4 mmt), whereas capacity increases occurred in Belgium (0.3 mmt) during this period.
9. Elsewhere, steelmaking capacity decreases were reported by Japan during the 2014-20 period (by 6.6 mmt), the United Kingdom (by 3.9 mmt), South Africa (by 1.7 mmt), Korea (by 1.3 mmt) and the United States (by 0.4 mmt).

10. Capacity increases over the 2014-20 period were registered by Brazil (3.5 mmt), Turkey (3.1 mmt), Russia (3.0 mmt), Mexico (2.6 mmt), Argentina (0.8 mmt), and Canada (0.4 mmt).

Table 1. Crude steelmaking capacity reported by GFSEC member economies: 2014-2020

(1000s metric tonnes)

By GFSEC member	2014	2015	2016	2017	2018	2019	2020	Change (volume) 2014-2020	Change (%) 2014-2020	Change (2014-2020) relative to total GFSEC capacity in 2014
European Union*	213,921	210,421	206,789	205,234	205,009	202,509	199,909	-14,012	-6.6%	-1.49%
Germany	50,881	50,881	50,081	49,921	50,041	50,041	50,041	-840	-1.7%	-0.09%
Italy	38,606	36,206	36,206	36,456	36,456	36,456	36,456	-2,150	-5.6%	-0.23%
France	20,946	20,946	21,116	20,641	20,841	18,341	18,341	-2,605	-12.4%	-0.28%
Spain	20,310	20,310	19,610	18,860	18,860	18,860	18,860	-1,450	-7.1%	-0.15%
Poland	12,260	12,260	12,260	12,560	12,560	12,710	10,110	-2,150	-17.5%	-0.23%
Belgium	8,620	8,620	8,900	8,900	8,900	8,900	8,900	280	3.2%	0.03%
Austria	8,595	8,595	8,595	8,595	8,595	8,595	8,595	0	0.0%	0.00%
Netherlands	7,260	7,260	7,000	7,000	6,813	6,813	6,813	-447	-6.2%	-0.05%
Sweden	5,950	5,950	5,950	5,950	5,950	5,950	5,950	0	0.0%	0.00%
Slovak Republic	5,520	5,520	5,520	4,860	4,860	4,860	4,860	-660	-12.0%	-0.07%
Greece	4,760	4,760	4,760	4,760	4,760	4,760	4,760	0	0.0%	0.00%
Finland	4,530	4,530	4,530	4,530	4,530	4,530	4,530	0	0.0%	0.00%
Luxembourg	3,322	3,322	2,400	2,400	2,400	2,400	2,400	-922	-27.8%	-0.10%
Hungary	2,650	2,650	2,050	2,050	2,050	2,050	2,050	-600	-22.6%	-0.06%
India**	109,851	121,971	128,276	137,975	142,236	missing	missing	-	-	-
Japan	136,268	135,631	134,447	132,411	131,055	131,205	129,685	-6,583	-4.8%	-0.70%
Indonesia***	9,941	10,031	10,681	10,681	11,905	11,905	missing	-	-	-
United States	121,749	119,124	120,624	120,624	120,184	119,934	121,374	-375	-0.3%	-0.04%
Russia	84,755	84,755	85,755	85,855	85,395	86,897	87,797	3,042	3.6%	0.32%
Korea	79,675	80,275	80,775	80,775	80,175	78,345	78,345	-1,330	-1.7%	-0.14%
Brazil	47,410	47,960	51,450	51,450	51,450	51,450	50,950	3,540	7.5%	0.38%
Turkey	50,213	50,439	51,506	51,181	51,884	50,698	53,358	3,145	6.3%	0.34%
Mexico	26,555	29,105	29,505	29,505	29,505	29,155	29,155	2,600	9.8%	0.28%
Canada	17,342	17,467	17,467	17,467	17,467	17,467	17,739	397	2.3%	0.04%
United Kingdom	15,097	11,197	11,202	11,202	11,202	11,202	11,202	-3,895	-25.8%	-0.42%
South Africa	10,230	9,350	9,530	9,746	9,906	9,906	8,566	-1,664	-16.3%	-0.18%
Argentina	6,532	6,650	6,650	7,300	7,300	7,300	7,300	768	11.8%	0.08%
Australia	5,570	5,570	5,570	5,570	5,570	5,570	5,570	0	0.0%	0.00%
Switzerland	1,370	1,370	1,370	1,370	1,370	1,370	1,370	0	0.0%	0.00%
Norway	800	800	800	800	800	800	800	0	0.0%	0.00%
Total	937,279	942,116	952,397	959,146	962,413	-	-	-	-%	-

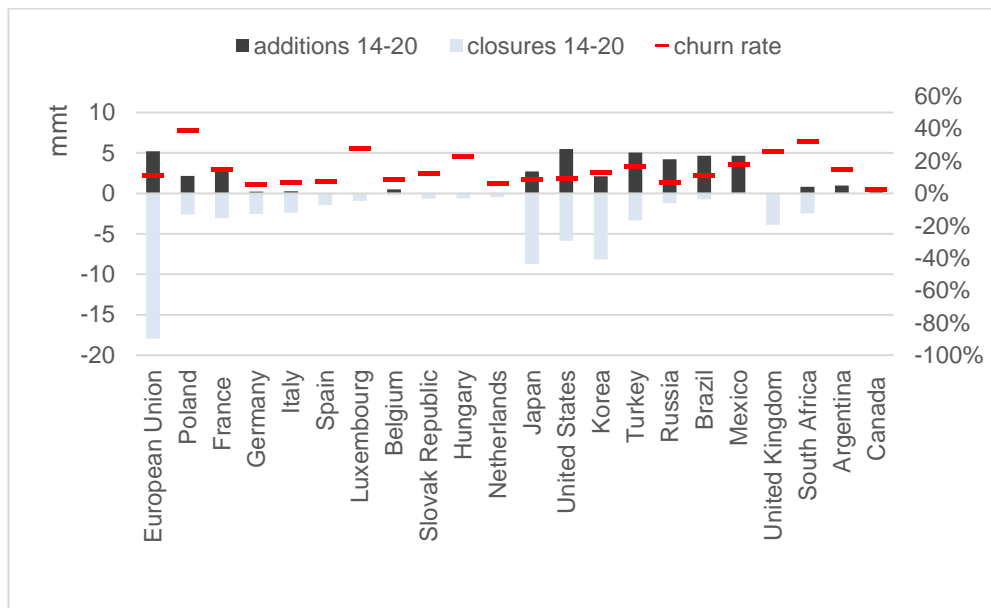
Note: * The European Union's figure refers to the total capacity of all the European Union Member States. ** India did not participate in the information sharing in 2020/21. *** Indonesia recently decided to withdraw from the GFSEC.

11. Over the examined period (2014-2020) the overwhelming majority of GFSEC members (24 in total) witnessed changes in their installed capacity base. Figure 1 presents the churning of capacity, which sums up additions and closures of capacity

observed in GFSEC member economies. Churning of capacity is an indicator of business dynamism in the sector which normally captures how well markets function in that efficient firms grow and less efficient firms shrink.²³ In absolute terms, the changes in volumes were particularly pronounced in the European Union (23.2 mmt), the United States and Japan (11.4 mmt), Korea (10.3 mmt), Turkey (8.4 mmt), Russia (5.4 mmt) and Brazil (5.4 mmt) between 2014 and 2020 (Figure 1).

Figure 1. Capacity additions, closures and net changes in capacity (mmt)

This figure refers to 2014-2020 for the 29 participating GFSEC members



Note: Net changes in capacity in the figure refer to the 2013-2020 period and differ from those reported in Table 1 as they reflect the differences between additions and closures between 2014 and 2020 rather than the difference in capacity levels between 2014 and 2020.

Source: GFSEC information sharing results as of 1 September 2020.

1.2. New additions

12. Regarding new additions of capacity, 29 members of the GFSEC shared data on aggregate capacity additions for 2020 (Table 2). For 2020, new capacity additions were reported by the United States (3.6 mmt), Turkey (1.5), Russia (1.3 mmt), Canada (0.3 mmt), South Africa and Japan (0.1 mmt).

13. New additions of crude steel capacity among GFSEC member economies totalled 99.4 mmt between 2014 and 2018. India

²³ Capacity churn and relative change are two distinct concepts. High capacity churn may result in low relative change when the total additions and closures of capacity balance out over the examined period. High levels of capacity churn should not be misinterpreted with the magnitude of changes in relative capacity (increases or decreases).

accounted for the largest share, with new additions amounting to 76 mmt during this period, i.e. 76.4 % of the total. Between 2014 and 2020, additions were also registered in the United States (5.5 mmt), the European Union (5.2 mmt), Turkey (5.0 mmt), Brazil (4.7 mmt), Mexico (4.7 mmt), Russia (4.6 mmt), Japan (2.7 mmt) as well as Korea (2.1 mmt), with several other GFSEC members reporting total additions below 2 mmt.

Table 2. New capacity additions reported by GFSEC member economies 2014-2020

(1000s metric tonnes)

Economies with new additions	2014	2015	2016	2017	2018	2019	2020	total
India**	12,223	18,593	9,199	21,850	14,118	missing	missing	-
United States	0	0	1500	0	360	0	3640	5500
European Union*	3400	0	505	650	662	0	0	5217
Poland	1,700	0	0	300	150	0	0	2,150
Belgium	0	0	500	0	0	0	0	500
Germany	0	0	0	100	120	0	0	220
Italy	0	0	0	250	0	0	0	250
Turkey	974	298	1,242	83	703	288	1,460	5,048
Brazil	400	550	3,700	0	0	0	0	4,650
Mexico	1,700	2,550	400	0	0	0	0	4,650
Russia	0	0	1,000	100	700	1,532	1310	4,642
Japan	850	564	0	1,058	0	150	80	2,702
Korea	0	1,420	700	0	0	0	0	2,120
Indonesia***	150	90	650	0	1,224	0	missing	2,114
Argentina	192	118	0	650	0	0	0	960
South Africa	0	120	180	216	160	0	130	806
Canada	125	0	0	0	0	0	272	397
United Kingdom	0	0	5	0	0	0	0	5
Total	16,940	20,905	12,739	24,424	16,524	-	-	-

Note: * The European Union's figure includes all the European Union Member States. ** India did not participate in the information sharing in 2020/21. *** Indonesia recently decided to withdraw from the GFSEC.

1.3. Capacity closures

14. In 2020 capacity closures took place in the European Union (2.6 mmt), in the United States (2.2 mmt), South Africa (1.5 mmt) and Brazil (0.5 mmt).
15. Between 2014 and 2018, a total of 72.3 mmt of capacity were closed in GFSEC member economies. In absolute terms, the majority of these closures took place in India (36 mmt).
16. Between 2014 and 2020 substantial closures of capacity took place in the European Union (18 mmt), Japan (8.7 mmt), Korea (8.1 mmt), the United States (5.9 mmt), the United Kingdom (3.9 mmt), Turkey (3.3 mmt), South Africa (2.5 mmt) Russia (2.2 mmt), and Brazil (0.7 mmt).

Table 3. Capacity closures reported by GFSEC member economies 2014- 2020

(1000s metric tonnes)

Economies with closures	2014	2015	2016	2017	2018	2019	2020	total
India**	4,631	6,471	2,895	12,150	9,857	missing	missing	-
European Union*	1,685	3,500	4,382	2,205	1,087	2,500	2,600	17,959
Poland	0	0	0	0	0	0	2,600	2,600
Germany	1500	0	800	260	0	0	0	2,560
Italy	0	2,400	0	0	0	0	0	2,400
Spain	0	0	700	750	0	0	0	1,450
Luxembourg	0	0	922	0	0	0	0	922
Slovak Republic	0	0	0	660	0	0	0	660
Hungary	0	0	600	0	0	0	0	600
Netherlands	0	0	260	0	187	0	0	447
Belgium	0	0	220	0	0	0	0	220
Japan	296	1,201	1,184	3,094	1,356	0	1,600	8,731
Korea	4,700	820	200	0	600	1830	0	8,150
United States	0	2,625	0	0	800	250	2,200	5,875
United Kingdom	0	3,900	0	0	0	0	0	3,900
South Africa	0	1,000	0	0	0	0	1470	2,470
Russia	0	0	0	0	1,161	30	1,000	2,191
Turkey	0	72	175	408	0	1474	0	2,129
Brazil	0	0	210	0	0	0	500	710
Total	11,312	19,589	9,046	17,857	14,861	-	-	-

Note: *The European Union's figure includes all the European Union Member States. ** India did not participate in the information sharing in 2020/21.

Overview of government policies and support measures in place in GFSEC economies

17. Twenty-nine members participated in the two rounds of information sharing in 2021 and updated their answers with respect to government policies and support measures in place in their economies.
18. This section provides a brief overview of the information and updates provided by these GFSEC members in Part 2 of the questionnaire, which is focussed on government policies, measures and practices that potentially influence crude steelmaking capacity and market developments. It is followed by an overview of the information reported in Part 3 of the questionnaire that addresses the policy recommendations agreed to in the Berlin Ministerial Report. The detailed information on the reported government policies, measures and practices is available to GFSEC members through the GFSEC's members online portal.

1.4. Overview of the latest updates to Part 2 of the questionnaire

19. A majority of GFSEC members updated their answers to Part 2 of the questionnaire. Nine members (Argentina, Brazil, Korea, Mexico, Norway, Russia, Switzerland, Turkey and the United States) indicated that no updates were necessary at this stage, as the information they provided during the previous rounds of information sharing was up to date. Many members (Australia, Canada, the European Union and its Member States, Japan, South Africa, and the United Kingdom) either updated or completed this part of the questionnaire.

Government policies, measures and practices

Measures to facilitate the closure of plants

20. In the context of the two rounds of information sharing in 2021, Australia and the European Union and its Member States provided new or updated information on relevant initiatives and measures to facilitate the closure of steel plants:
- *Australia* provided updated information on initiatives to promote re-employment as well as on the corresponding budget and fiscal incentives.
 - *The European Union and its Member States* informed the membership about its general framework to anticipate the economic and social impact of corporate restructurings as well as about a specific fund that aims to provide reactive assistance to an unexpected major restructuring event. Concrete examples to cushion the social impact of permanent steel mill closures were provided about the Belgian situation.

Measures to maintain or support the domestic production base

21. Two members provided updated or new information on their measures aimed at maintaining or supporting the domestic production base:
- *Japan* elaborated on its measures that were put in place to help businesses cope with the impacts of Covid-19.
 - *The United Kingdom* submitted information on a specific loan that was provided to a British steel company, reported a specific deed of forfeiture and provided more details on its steel safeguard measures.

Measures related to industry upgrading and innovation

22. Several members provided additional or new information on the measures related to industry upgrading and innovation:
- *Australia* announced a potential support measure for new steelworks at an Australian steel company, although no funding had been provided yet.
 - *Canada* expanded on its national plan to achieve net-zero emissions by 2050 and on the budget that was allocated to reach this goal. Also, it

provided three concrete examples of innovative projects in its steel sector and included the details on the amount of funding involved.

- *The European Union and its Member States* elaborated on a European project aiming to decarbonise the process industry and to move to climate neutrality as well as to establish a circular economy. It also provided more details on horizontal governmental research programmes in Belgium, Poland, Germany and the Netherlands.

- *Japan* briefly mentioned continued support for the government programme on environmental technologies in 2020 and 2021.

- *South Africa* referred to a steel-related fund that aims to promote product innovation.

- *The United Kingdom* informed the members about a variety of funds that aim to promote innovation and carbon reductions. In addition, it provided more detailed figures on the amount of support that was offered to a number of Welsh steel companies.

Establishing and ensuring compliance of steel-producing facilities with environmental standards

23. Only the European Union and its Member States reported substantive changes under this heading:

- *The European Union and its Member States* referred to several initiatives installed in its member states to promote compliance with environmental standards. It provided more information on environmental legislation in Germany, a CO₂ tax for industrial companies in the Netherlands and reported that specific rules for the German steel industry are under review. It also added information on a horizontal German programme supporting energy efficient measures, a project to promote energy savings in Belgium and a loan provided to a French steelmaker.

Operations of state-owned enterprises in the economy

24. Russia and Mexico provided clarifications on SOEs operating in their respective steel markets:

- *Russia* reinforced that there were no SOEs in Russia which produced steel.

- *Mexico* referred to the definition of an SOE in the CPTPP and the USMCA.

National approaches to the steel sector and views on effective ways to address excess capacity

25. Several members provided additional inputs under section C of Part 2 of the questionnaire dealing with national approaches to the steel sector and views on effective ways to address excess capacity.

National strategies or development plans for the steel industry

26. During the two rounds of information sharing in 2021, the European Union and its Member States, Russia, South Africa, Turkey and the United Kingdom provided new or additional information under this heading:
- The *European Union and its Member States* included information on a German steel plan, which intends to complement environmental and trade objectives, and provided more details on a staff-working document discussing how the steel industry could contribute to achieving climate neutrality by 2050.
 - *Russia* inserted a link with more information about its development strategy for the metallurgical sector.
 - *South Africa* referred to its national masterplan for the steel sector.
 - *Turkey* elaborated on some of its environmental initiatives, including an environmental permit, and flagged that a sectoral plan for the steel sector encompassing environmental objectives and a subsequent transition period was under review.
 - *The United Kingdom* expanded on a report that included a forecast of future UK steel demand across products and consuming sectors, as well as information on historic trends in the UK's steel supply and demand.

Views on possible effective steps to address challenges related to steel excess capacity and to encourage adjustment

27. Three members (Russia, Turkey and South Africa) provided additional inputs on possible effective steps to address challenges related to steel excess capacity and to encourage adjustment:
- *Russia* presented several concrete initiatives to address the challenges related to steel excess capacity and to encourage adjustment. Secondly, Russia proposed three initiatives, notably to be conducted in cooperation with the private sector, to engage the international community in preventing the emergency of new capacity developments that are not supported by the market.
 - *South Africa* emphasised the need to recognise African countries' policy space, so the region's consumption preferences could be satisfied.
 - *Turkey* flagged that the Covid-19 pandemic posed a risk that more protectionist measures would be taken in the steel sector.

1.5. Overview of the latest updates to Part 3 of the questionnaire

28. This section provides a high-level overview of policies and measures reported by members in Part 3 of the questionnaire, which addresses the policy recommendations approved at the GFSEC Ministerial Meeting in Berlin in November 2017. This section briefly discusses existing measures and practices reported by GFSEC members in the following policy areas: framework conditions; market-distorting subsidies and other support measures; fostering a level-playing field in the steel sector; fostering industry restructuring by assisting displaced workers; government targets; issues related to mergers and acquisitions; and officially supported export credits for goods and services associated with crude steelmaking projects. It also includes an overview of members' best practices for steel industry adjustment and experiences with new sources of steel demand.

Section A. Framework conditions

i). Framework conditions and institutional settings that ensure proper market functioning and competitive conditions in their steel market

29. During the two rounds of information sharing in 2021, several members (Australia, Korea, and the United Kingdom) provided updated or new information under this heading. Only the substantial changes are reflected below:

- Following its decision to leave the European Union, the *United Kingdom* informed the members about a new subsidy bill, which is expected to be released soon.

ii). Trade and investment policies that contribute to the removal of barriers to trade and foreign direct investment (FDI)

30. During the two rounds of information sharing in 2021, several members (Australia, Canada, and Korea) provided updated or new information under this heading. Substantive changes are the following:

- *Korea* elaborated on its trade and investment rules and explained that import duties had been eliminated on 35 steel products.

iii). Aspects of competition law that ensure that all companies compete on a level playing field, irrespective of ownership, domestically or internationally

31. Korea and the United Kingdom provided updated or new information under this heading. Substantive changes are the following:

- *Korea* highlighted that its competition laws intend to provide a level-playing field between companies.

iv). Companies in the steel sector in a state of bankruptcy

32. During the two rounds of information sharing in 2021, only Turkey provided information under the heading of companies in the steel sector that are in a state of bankruptcy.

- *Turkey* added Sivas Demir Celik to the list of steel companies in a state of bankruptcy and highlighted that market conditions had been respected.

v). Financial market regulations in place to address non-performing loans (NPLs)

33. During the two rounds of information sharing in 2021, only the European Union and its Member States provided information on measures to address non-performing loans.

- *The European Union and its Member States* provided an update on the regulatory treatment of exposures incurred by banks, including non-performing loans (NPLs). It explained two particular legislative initiatives taken by the European Commission. Additionally, the European Union and its Member States provided more information about the impact of Covid-19 on the economy and the banking sector.

vi). Labour market regulations, social security and pension systems that support adjustment in a way which does not contribute to excess capacity, while ensuring the sustainability of the social welfare systems

34. Brazil was the only member which reported a measure under this heading.

- *Brazil* reported supplementary information about the labour schemes that are in place to mitigate the impact of the Covid-19 pandemic.

vii). Ensuring that different levels of government do not have conflicting policy objectives in terms of addressing excess capacity

35. Korea and the United Kingdom both provided slight modifications and clarifications under this heading.

viii). Procurement rules and legal basis related to the steel sector

36. Australia, Canada, the European Union and its Member States, and the United Kingdom provided updated or new information under this heading. Substantive changes are the following:

- *Canada* provided information on regional government procurement procedures in Ontario.

- For the sake of transparency, the *EU and its Member States* provided an overview of the activities undertaken by the European Investment Bank (EIB) as well as a list of examples whereby loans were provided by the EIB to the steel sector.

- The *United Kingdom* provided information on its regional procurement rules and steel specific projects applicable in Scotland and Wales.

Section B. Market distorting subsidies and other support measures by government or government-related entities

Preferential financing inconsistent with market-based conditions

37. In the context of the previous rounds of information sharing, the vast majority of members noted they do not provide preferential financing inconsistent with market-based conditions. *Canada* and the *United States* provided more information on the measures in place.

- *Canada* updated its list of beneficiaries in order to reflect project information that was provided in previous reporting periods.

- The *United States* added one beneficiary to its list of beneficiaries and clarified that this measure was taken in the wake of the Covid-19 pandemic.

Equity infusions and conversions (including debt-for-equity swaps) inconsistent with market-based conditions

38. No member reported these types of support measures during the two rounds of information sharing in 2021.

Direct transfers

39. *The United States* shared information on a grant by the State of Pennsylvania.

Tax benefits

40. The *United States* mentioned one measure concerning a tax credit which was provided by the state of Pennsylvania.

Assumption of liabilities, administrative fees and other charges by governments or government-related entities inconsistent with market considerations

41. No member reported these types of support measures during the two rounds of information sharing in 2021.

Provision of goods and services by government and input support

42. No member reported this type of support measure during the two rounds of information sharing in 2021.

Distortive discretionary policy measures or non-application of market based policy measures

43. During the two rounds of information sharing in 2021, only the *United Kingdom* reported information under this heading.

44. The *United Kingdom* elaborated on its cross-sectoral support for strategic firms in response to the Covid-19 pandemic as well as to the establishment of two resilience funds that aim to mitigate the negative impact of the pandemic. It emphasised that so far only one steel company had benefited from these measures.

Section C. Fostering a level-playing field in the steel sector

45. During the two rounds of information sharing in 2021 two members (*Korea and the European Union and its Member States*) provided updated or new information under this section:
- *The EU and its Member States* reaffirmed that there were no SOEs operating in the European steel market. In addition, the EU and its Member States mentioned an acquisition of joint control in Italy by a public investment body and a private entity.
 - *Korea* reiterated that all companies are subject to the same transparency and disclosure requirements and that all companies need to comply with the same competition laws. Korea also added one case wherein seven companies were fined in 2021 for violations of competition laws.

Section D. Fostering industry restructuring by assisting displaced workers

46. Australia, Brazil, Canada, Japan, Mexico and the United States provided updated or new information under this section during the first round of information sharing in 2021. Substantive changes are the following:
- *Canada* provided details about the introduction of a new federal emergency wage subsidy, available to firms in all sectors, that was launched to mitigate the impact of the Covid-19 pandemic.
 - *Japan* equally provided details about general employment adjustment measures that were expanded to support businesses that were significantly impacted by the Covid-19 pandemic.
 - *Mexico* elaborated on the value of its steel sector as a relative share of GDP and in terms of employment that it generates. Mexico furthermore stated that the anticompetitive practices in the global steel market negatively affected further development opportunities of the Mexican steel sector.
 - *The United States* updated its figures on a programme which intends to provide assistance to workers who were negatively affected by foreign trade. The United States clarified that iron and steel mills as well as ferroalloy manufacturing were envisaged as among the top five sectors in 2019 in which workers were eligible to be covered by the programme.

Section E. Government targets

47. Under this heading, members are asked to provide information on any specific targets for reducing crude steel capacity, limitations set on crude steel capacity additions and any targets for increasing crude steel capacity.
48. During the two rounds of information sharing in 2021, there were no significant changes reported under this section.

F. Issues related to mergers and acquisitions

49. In the context of the two rounds of information sharing in 2021, several members (*Australia, Canada, the European Union and its Member States, Russia, Turkey and the United States*) provided new or additional information regarding mergers and acquisitions (M&As) that had taken place in their steel sectors during the period 2014-2020. Significant changes are the following:
- *Canada* included one additional M&A transaction. Canada explained that the transaction was reviewed by the competition authorities and emphasised that the transaction did not have an impact on the company's production or capacity levels.
 - The *EU and its Member States* included a list of 19 merger control procedures related to crude steel production that were conducted in Germany (i.e. *Bundeskartellamt*) between 2014 and December 2020. It specified that only one case was turned down.
 - *Turkey* included an acquisition of a Turkish company in December 2020.
 - In its update, *Russia* added two cases to the list of individual M&A transactions, which took place in March and April 2020. Russia added that both transactions were not reviewed or investigated by the competition authorities.
 - *The United States* referred to three M&A transactions, taking place in February 2020, December 2020 and January 2021.

G. Ensuring export credits do not contribute to excess capacity

50. No member provided information on export credits for goods and services associated with crude steelmaking projects during the latest two rounds of information sharing in 2021.

Section I. Steps to eliminate market-distorting subsidies and other types of support, best practices for steel industry adjustment, and new sources of steel demand

51. During the two rounds of information sharing in 2021, three members (*Canada, Korea and Turkey*) provided additional information under this heading.

Members' experiences on new sources of steel demand and information about the process in the Global Forum

52. Canada, Korea and Turkey provided updated or new information under this section during the information sharing rounds in 2021.
- *Canada* provided more detailed figures on steel demand in North America and elaborated on the impact of the Covid-19 pandemic on the Canadian steel market.
 - *Korea* suggested to approach the situation of excess capacity from an environmentally sustainable point of view.

- *Turkey* noted that the Forum can best serve its purpose if all major actors participate in its work. Turkey invited the membership to cooperate more comprehensively on unfair trading practices. Against this backdrop, Turkey also proposed to take the distortive impact of raw material restrictions on steel markets into account.

Overview of the exchanges among GFSEC members on subsidies and other types of support by government and government-related entities

53. The GFSEC review process, which was established in 2018 pursuant to principle VI of the Berlin Ministerial Report, allows members to provide necessary clarifications and to respond to questions raised by other members regarding steelmaking capacity developments, government policies as well as subsidies and other types of support by government and government-related entities. Full information on the questions posed by members to one another, as well as details in members' responses to these questions, is available in the GFSEC members' online portal.
54. This section provides a high-level summary, only noting the different issues discussed by GFSEC members related to subsidies and other types of support by government and government-related entities (i.e. parts 2 and 3 of the information sharing exercise) during the review exercise that took place between March and August 2020. The categories in which this section is divided follow the GFSEC questionnaire for information sharing, based on the text of the Berlin Ministerial Report.
55. Inclusion of any individual measure below does not as such imply an assessment of the measures discussed.

Preferential financing

56. The *European Union and its Member States* were asked to clarify a number of loans and other types of potential incentives that were provided by European and/or national institutions to the steel sector in Belgium, Germany, Spain, and Sweden. *Japan* was invited to comment on a loan provided by the Japan Bank for International Co-operation (JBIC) to acquire an equity stake in a joint venture with a foreign entity. In addition, the question was raised whether Japanese public financial institutions provided financing to steelmaking firms to expand capacity in or to facilitate capacity relocation to other jurisdictions. The *United Kingdom* was asked whether a specific loan type hindered companies from exiting the market and if this type of loan was limited to the Covid-19 context. *The United States* was requested to provide more information about the nature and size of potential incentives that were granted by one of its states for the expansion of a steel mill, as well as on a number of guarantees that were provided by the Export-Import Bank of the United States (EXIM) to certain steel companies.

57. The evidence at hand and the balance of the collective exchanges do not indicate that these would fall under paragraph 57 of the Berlin Ministerial Report.

Equity infusions and conversions

58. *Canada* was asked to provide more information about a fund that was established to foster innovation, notably about some of its eligibility requirements. In addition, the question was raised to provide more details about support to a Canadian steel company to decarbonise part of its operations. *The European Union and its Member States* were requested to provide more information on support granted by a French public investment fund. Next, more information was requested on a joint investment decision by a private and public entity in Italy. More specifically, the question polled to the background and context of the investment decision as well as the estimated time-frame in which the public entity will be involved in the project.
59. The evidence at hand and the balance of the collective exchanges do not indicate that these would fall under paragraph 57 of the Berlin Ministerial Report.

Assumptions of liabilities, administrative fees or other charges

60. The *United Kingdom* was solicited to provide more information on a contribution to the payment of electricity costs, which was provided in the context of the acquisition of a British steel company by a foreign player.
61. The evidence at hand and the balance of the collective exchanges do not indicate that these would fall under paragraph 57 of the Berlin Ministerial Report.

Tax benefits

62. *The United States* was asked about a possible tax credit that was provided in the context of a steel expansion project. This question relates to the question asked to the United States under the heading of "preferential financing".
63. The evidence at hand and the balance of the collective exchanges do not indicate that these would fall under paragraph 57 of the Berlin Ministerial Report.

Discretionary policy measures or non-application of market based policy measures

64. *Russia* was requested to provide more information about the content, the reasons and the objectives of installing export duties on ferrous and non-ferrous metals, notably on ferrous scrap. The *United Kingdom* was requested to elaborate on its public procurement guidelines in the context of the acquisition of a British steel company by a foreign player.
65. The evidence at hand and the balance of the collective exchanges do not indicate that these would fall under paragraph 57 of the Berlin Ministerial Report.

Annex 2. Details of the review process

1. Building on the work done up to the 2020 GFSEC Paris Ministerial meeting, two new rounds of the GFSEC review process took place between December 2020 and September 2021. The key outcomes of this year's collective review process with respect to the subsidies and other types of support by government and government-related entities on whether or not they fall under paragraph 57 of the Berlin Ministerial Report²⁴ are presented in this Annex. The categories in which the Annex is divided follow the language used in the GFSEC questionnaire for information sharing, based on the text of the Berlin Ministerial Report, and is not intended to imply an assessment of the measures discussed.
2. Further details on the measures of GFSEC members highlighted in the table below can be found in Annex 1 of this report.

²⁴ Paragraph 57 of the 2017 Berlin Ministerial Report: In line with the G20 Leaders' mandates at the Hangzhou and Hamburg Summits, the Global Forum provides the following recommendations for concrete policy solutions to reduce excess capacity and enhance market function in steel sectors. Governments should remove and refrain from market distorting subsidies and other types of support measures by governments or government-related entities that contribute to excess capacity. This is irrespective of the vehicles used for such measures, whether direct or indirect, or whether they are or are not subject to WTO agreements, and covers the value chain from inputs to the final steel product. In cases in which they distort competition and contribute to excess capacity, such measures include, inter alia:

- Preferential financing inconsistent with market-based conditions, including debt forgiveness, guarantees and other transfers of liabilities, provision of guarantees or support given to an insolvent or ailing enterprise without a credible restructuring plan that enables the enterprise to return to long-term viability within a reasonable time, and/or without the enterprise significantly contributing to the restructuring costs. It also includes policy loans inconsistent with market consideration, whether through formal bank lending, bond market, asset sales to government, or other financial channels.
- Equity infusions and conversions (including debt-for-equity swaps) inconsistent with market based conditions.
- Grants, awards and cost refunds.
- Tax exemptions, reductions, and credits.
- Assumptions of liabilities, administrative fees or other charges by governments or government-related entities, inconsistent with market considerations.
- Provision of goods and services by a government (for less than adequate remuneration) and input support throughout the value chain from inputs to the final steel product preferentially or at non-market rates, which have economic implications. This includes provision of land, energy, raw materials, utilities, services, quotas to export and other inputs. It also includes support through raw materials such as preferential access, dual pricing, and distortive financial practices.
- Distortive discretionary policy measures or non-application of market based policy measures. This includes export subsidies, tax rebates, quotas to import, local content support including to consumers or downstream industries, local content requirements, restrictions to inward investment or support to outward investment, misappropriation of intellectual property, price fixing and other anti-competitive practices, mergers and acquisitions at non-market conditions, isolation of domestic trading from international price arbitrage or separation of domestic from external price setting, lax enforcement of regulations affecting production or sale, and non-enforcement of bankruptcy regulations.

1) Measures discussed during the working year 2021**Preferential financing***European Union*

Type of Measure	Collective review process
Loan (Belgium)	Not under paragraph 57 of the Berlin Ministerial Report

European Union

Type of Measure	Collective review process
Loan (Germany)	Not under paragraph 57 of the Berlin Ministerial Report

European Union

Type of Measure	Collective review process
Loan (Spain)	Not under paragraph 57 of the Berlin Ministerial Report

European Union

Type of Measure	Collective review process
Loan (Sweden)	Not under paragraph 57 of the Berlin Ministerial Report

Japan

Type of Measure	Collective review process
Loan (JBIC)	Not under paragraph 57 of the Berlin Ministerial Report

United Kingdom

Type of Measure	Collective review process
Loan	Not under paragraph 57 of the Berlin Ministerial Report

United States

Type of Measure	Collective review process
Guarantee (EXIM)	Not under paragraph 57 of the Berlin Ministerial Report

Equity infusions and conversions*Canada*

Type of Measure	Collective review process
Investment²⁵	Not under paragraph 57 of the Berlin Ministerial Report

²⁵ The type of government-backed investment is unknown.

European Union

Type of Measure	Collective review process
Equity infusion (France)	Not under paragraph 57 of the Berlin Ministerial Report

European Union

Type of Measure	Collective review process
Equity infusion (Italy)	Not under paragraph 57 of the Berlin Ministerial Report

Assumptions of liabilities, administrative fees or other charges*United Kingdom*

Type of Measure	Collective review process
Debt relief	Not under paragraph 57 of the Berlin Ministerial Report

Tax benefits*United States*

Type of Measure	Collective review process
Tax	Not under paragraph 57 of the Berlin Ministerial Report

Discretionary policy measures or non-application of market based policy measures*Russia*

Type of Measure	Collective review process
Export duties	Not under paragraph 57 of the Berlin Ministerial Report

United Kingdom

Type of Measure	Collective review process
Local content support through public procurement	Not under paragraph 57 of the Berlin Ministerial Report

2) Measures discussed during the working year 2020 and still under ongoing discussion

Preferential financing

Indonesia

Type of Measure	Collective review process
Provision of guarantees	Under ongoing discussion

Tax benefit

Indonesia

Type of Measure	Collective review process
Tax allowances	Under ongoing discussion
Tax holidays	Under ongoing discussion

Provision of goods and services by a government

Indonesia

Type of Measure	Collective review process
Export restrictions on nickel ores and metal waste and scrap	Under ongoing discussion
Raw materials support	Under ongoing discussion

Annex 3. Extracts from G20 Communiqués

G20 Leaders, Riyadh, 21-22 November 2020, para 12

Trade and Investment: *Supporting the multilateral trading system is now as important as ever. We strive to realize the goal of a free, fair, inclusive, non-discriminatory, transparent, predictable, and stable trade and investment environment, and to keep our markets open. We will continue to work to ensure a level playing field to foster an enabling business environment. We endorse the G20 Actions to Support World Trade and Investment in Response to COVID-19. We recognize the contribution that the Riyadh Initiative on the Future of the World Trade Organization (WTO) has made by providing an additional opportunity to discuss and reaffirm the objectives and foundational principles of the multilateral trading system as well as to demonstrate our ongoing political support for the necessary reform of the WTO, including in the lead up to the 12th WTO Ministerial Conference. We recognize the need to increase the sustainability and resilience of national, regional, and global supply chains that foster the sustainable integration of developing and least developed countries into the trading system, and share the objective of promoting inclusive economic growth including through increased participation of micro-, small-, medium-sized enterprises (MSMEs) in international trade and investment. We note that structural problems in some sectors, such as excess capacities, can cause a negative impact.*

G20 Leaders, Osaka, 28-29 June 2019, para 9

Excess Capacity

While we note the progress made so far by the Global Forum on Steel Excess Capacity (GFSEC), we ask relevant Ministers of the members of the GFSEC to explore and reach a consensus by fall 2019 on ways to further the work of the Forum.

G20 Leaders, Buenos Aires, 30 November-1 December 2018, para 28

Recalling our commitments from Hangzhou and Hamburg, we welcome the concrete policy solutions developed by the Global Forum on Steel Excess Capacity (GFSEC), facilitated by the OECD. We call on all members to implement the Berlin and Paris GFSEC Ministerial recommendations and commitments. We look forward to a substantive report by June 2019.

G20 Leaders, Hamburg, 7-8 July 2017, para 6

Excess Capacities: *Recognising the sustained negative impacts on domestic production, trade and workers due to excess capacity in industrial sectors, we commit to further strengthening our cooperation to find collective solutions to tackle this global challenge. We urgently call for the removal of market-distorting subsidies and other types of support by governments and related entities. Each of us commits to take the necessary actions to deliver the collective solutions that foster a truly level playing field. Therefore, we call on the members of the Global Forum on Steel Excess Capacity, facilitated by the OECD, as mandated by the Hangzhou Summit, to fulfil their commitments on enhancing information sharing and cooperation by August 2017, and to rapidly develop concrete policy solutions that reduce steel excess capacity. We look forward to a substantive report with concrete policy solutions by November 2017, as a basis for tangible and swift policy action, and follow-up progress reporting in 2018.*

G20 Leaders, Hangzhou, 4-5 September 2016, para 31

We recognize that the structural problems, including excess capacity in some industries, exacerbated by a weak global economic recovery and depressed market demand, have caused a negative impact on trade and workers. We recognize that excess capacity in steel and other industries is a global issue which requires collective responses. We also recognize that subsidies and other types of support from government or government-sponsored institutions can cause market distortions and contribute to global excess capacity and therefore require attention. We commit to enhance communication and cooperation, and take effective steps to address the challenges so as to enhance market function and encourage adjustment. To this end, we call for increased information sharing and cooperation through the formation of a Global Forum on steel excess capacity, to be facilitated by the OECD with the active participation of G20 members and interested OECD members. We look forward to a progress report on the efforts of the Global Forum to the relevant G20 ministers in 2017.

G20 Finance Ministers and Central Bank Governors, Chengdu, 23-24 July 2016, para 5

We recognize that the structural problems, including excess capacity in some industries, exacerbated by a weak global economic recovery and depressed market demand, have caused a negative impact on trade and workers. We recognize that excess capacity in steel and other industries is a global issue which requires collective responses. We also recognize that subsidies and other types of support from governments or government-sponsored institutions can cause market distortions and contribute to global excess capacity and therefore require attention. We commit to enhance communication and cooperation, and take effective steps to address the challenges so as to enhance market function and encourage adjustment. The G20 steelmaking economies will participate in the global community's actions to address global excess capacity, including by participating in the OECD Steel Committee meeting scheduled for September 8-9, 2016 and discussing the feasibility of forming a Global Forum as a cooperative platform for dialogue and information sharing on global capacity developments and on policies and support measures taken by governments.

G20 Trade Ministers, Shanghai, 9-10 July, 2016, para 10

We recognize that the structural problems, including excess capacity in some industries, exacerbated by a weak global economic recovery and depressed market demand, have caused a negative impact on trade and workers. We recognize that excess capacity in steel and other industries is a global issue which requires collective responses. We also recognize that subsidies and other types of support from governments or government-sponsored institutions can cause market distortions and contribute to global excess capacity and therefore require attention. We commit to enhance communication and cooperation, and take effective steps to address the challenges so as to enhance market function and encourage adjustment. The G20 steelmaking economies will participate in the global community's actions to address global excess capacity, including by participating in the OECD Steel Committee meeting scheduled for September 8-9, 2016 and discussing the feasibility of forming a Global Forum as a cooperative platform for dialogue and information sharing on global capacity developments and on policies and support measures taken by governments.

Annex 4. Terms of Reference of the GFSEC

TERMS OF REFERENCE OF THE GLOBAL FORUM ON STEEL EXCESS CAPACITY

The terms of reference emanate from the call for a Global Forum on Steel Excess Capacity by G20 Leaders at September 2016 meeting in Hangzhou, China, (paragraph 31 of their Communiqué), from subsequent statements in the Hamburg (paragraph 6), Buenos Aires (paragraph 28) and Osaka (paragraph 9) Summits, as well as from the resulting Berlin Ministerial Report, and Paris Ministerial Report:

Mission

As described in, and based on the foregoing, the Global Forum will:

- Ensure increased and effective communication, information sharing and co-operation between its members.
- Take effective steps to address the challenges of excess capacity so as to enhance market function and encourage adjustment.
- Report on the progress of the Global Forum's work to the relevant G20 ministers in 2020 and yearly thereafter.

Membership

Membership of the Global Forum is open to all G20 members and interested OECD members (see enclosed List for current Members). All Global Forum Members participate on an equal footing.

Structure

Decisions by Global Forum members, who participate on an equal footing, are taken on the basis of consensus.

For its effective functioning, the Global Forum requires a Steering Group. This is composed of no more than nine members, the largest steel-producing economies members of the GF²⁶, plus the incumbent G20 Presidency member. The latter and two members of the Steering Group will serve as the Chairs of the Global Forum, as selected annually by the Global Forum members, taking into account a member's willingness to serve, production and capacity, and the balance between regions and developing and developed members.

To achieve its mandate, the Global Forum will convene at least twice per year, at the senior official and high level, as necessary.

The GF may invite relevant experts, economic operators, academia, and international organisations to provide input, as warranted and on a consensus basis.

²⁶ Including the European Union, Japan, India, the United States of America, Russia, Korea, Brazil and Turkey.

Facilitator

As described by paragraph 31 of the Hangzhou Summit Leaders' Communique, the OECD would facilitate the work of the Global Forum, its Steering Group and Chairmanship. Its functions include technical, analytical, and meeting facilitation, as requested by the Global Forum.

Expenditures

The expenditures of the Global Forum shall be financed by its members. Funding shall take place through:

- Voluntary contributions; and/or
- A scale of contribution to be agreed by the members of the Global Forum.

Duration

The duration of the Global Forum is until end 2022. The duration can be extended based on the consensus of the members.

List of members

1. Argentina
2. Australia
3. Austria
4. Belgium
5. Brazil
6. Canada
7. European Union
8. Finland
9. France
10. Germany
11. Greece
12. Hungary
13. India
14. Indonesia
15. Italy
16. Japan
17. Luxembourg
18. Mexico
19. Netherlands
20. Norway
21. Poland
22. Russia
23. Slovak Republic
24. South Africa
25. South Korea
26. Spain
27. Sweden
28. Switzerland
39. Turkey
30. United Kingdom
31. United States