



Number **1**

Iran Methanol Magazine

April & May . 2022

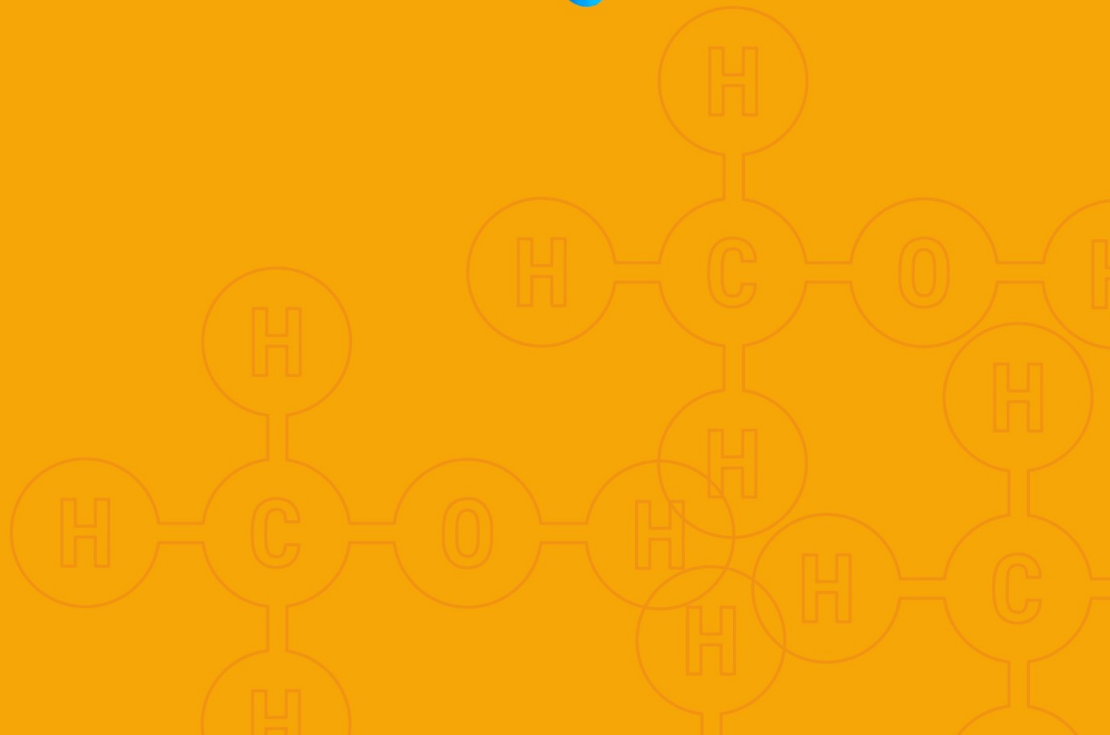


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Foreword

Matin Didari

Nowadays, in the country's petrochemical industry, the more we move towards convergence, undoubtedly, the more significant contribution we would make to the development of this leading and active industry. Currently, in this large industry in the field of methanol production, we will be proceeding in a certain and clear direction by holding continuous meetings and intensive seminars. By having a specialized approach toward production and global markets of methanol and, above that, with empathy and convergence, we would be able to lead the position of the Iranian methanol industry to a superior position among our international competitors. In Iran's methanol industry, we are seeking for constant development of target markets and advancing our goals regarding producing a quality product, and presenting it to global markets, while developing and completing the downstream value chain of the methanol industry. Methanol is used as a value-creating substance across various industries throughout the world. With the rapid development of petrochemical industry and related industries in the country and the world, in order to have a lasting and powerful presence in the field, we must move towards convergence and also supply of Iran's methanol



as an international brand through devising short and long-term strategies with the consensus of methanol producing industries in Iran. Considering the significant increase in the nominal capacity during recent years, Iran is now considered as one of the most dominant countries in the Middle East and the world regarding production and export of methanol. Hence, this creates a marvellous opportunity for us to make the best of this capacity through helping, communicating, and consulting with one another with the aim of exporting Iran's methanol in an integrated manner. The publication in hand is the result and output of the Iranian Methanol Seminar, in which we made an effort to share technical information as well as those pertaining to production and export fields. Furthermore, we would be providing weekly information to stabilize methanol pricing with the help of managers and experts active in Iran's methanol industry. We are optimistic that in this direction we can take solid steps with the help of all those in charge to develop and progress Iran's methanol industry internationally and achieve the deserved position of this industry in the world.



The Market and Beyond ;



An Overview ;

Once a creature enters an arena, its most basic need is acquiring insight into its surrounding environment and world. Each methanol market has its own story and behavioral patterns that vary by region to stabilize the interaction between the supply and demand of the given system, and this trade-off, or the constant conflict between these two sectors, is usually carefully investigated by the market players. An understanding of the market is not solely limited to the concern for regional changes. The characteristics, history, dimensions, and variables determining the market of each region must be assessed while each market has to be examined in relation to the methanol world as a whole because the evolutions in the methanol market are always influenced by global changes and evolutions in the global upstream and downstream markets. Therefore, the Market and Beyond sector seeks to change the conventional approach to the market and introduce those factors that can trigger surface changes from the lower layers.

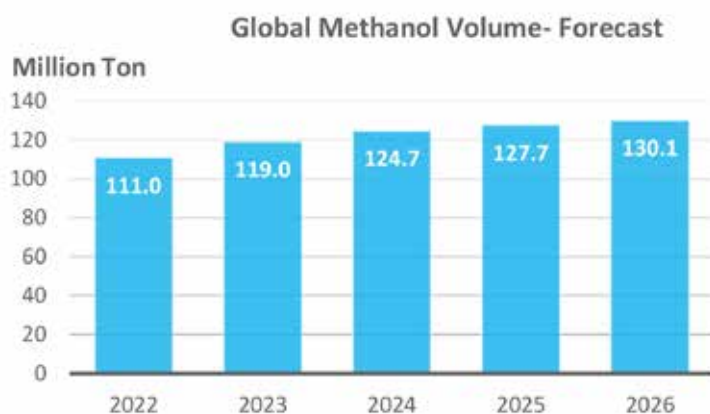


Diagram 1 - Analysis of the dimensions of the methanol market - prediction and history

Hence, this issue presents an overview of the methanol market. Diagram 1 illustrates the rising market trend.



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In the past five years, the increase in methanol production has been approximately 21 percent, and this trend is expected to relatively continue in the next five years. As a result, there will be a sixteen percent increase in methanol production in the market by 2026. Hence, considering this growing market, this trend not only shows an increase in the market demand for methanol but also can partly cause hardship to the current producers. Furthermore, according to this diagram, the methanol production by the end of 2022 will be approximately 111 tons.

More details about the methanol market are presented in diagram 2. The prediction for the upcoming trend for this year is presented in the diagram on the left: the methanol production will be approximately 111 million tons with a nominal capacity of approximately 165 million tons of methanol. Of this production, approximately 70 percent is consumed locally by countries, while 30 percent is traded globally. The prediction for the next five years is presented in the diagram on the right: the methanol production will be approximately 130 million tons with a nominal capacity of approximately 177 million tons. Of this amount, approximately 73 percent will be consumed locally while 27 percent will be distributed among the regions and states. This potential decrease in the share of trade could be attributed to the concentration of the new methanol production units in China, and the total production by these units will be fully consumed in China as today. Subsequently, the domestic consumption will rise with a greater slope as compared to the amount of methanol being traded, while the global demand for methanol trade is still increasing as seen in Diagram 1.

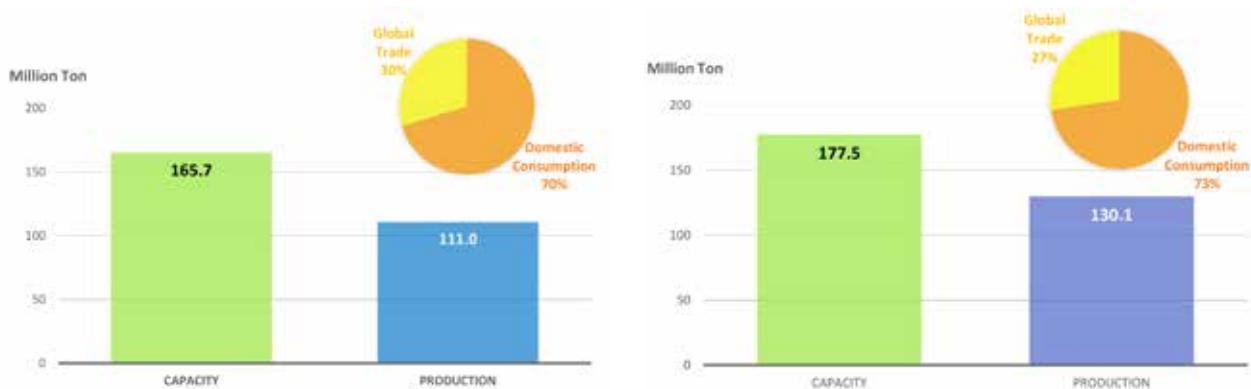


Diagram 2- An analysis of the factors determining the supply and demand in 2022 and 2026

All of the determinants of the world methanol markets are classified in diagram three and are studied during 2022 and 2026. The levels of global trade and methanol consumption in the major downstream industries are also identified in addition to the nominal capacity and production. A promising item in this diagram is that the potential cause of concern for the current producers can be

partly compensated in the methanol consumption sector. Most of the important downstream methanol industries are also growing properly in the coming years, and it can be hoped this prediction will be borne out provided that COVID-19 is controlled effectively. However, it cannot be denied that this disease has a destructive effect on some downstream industries as witnessed in recent years.

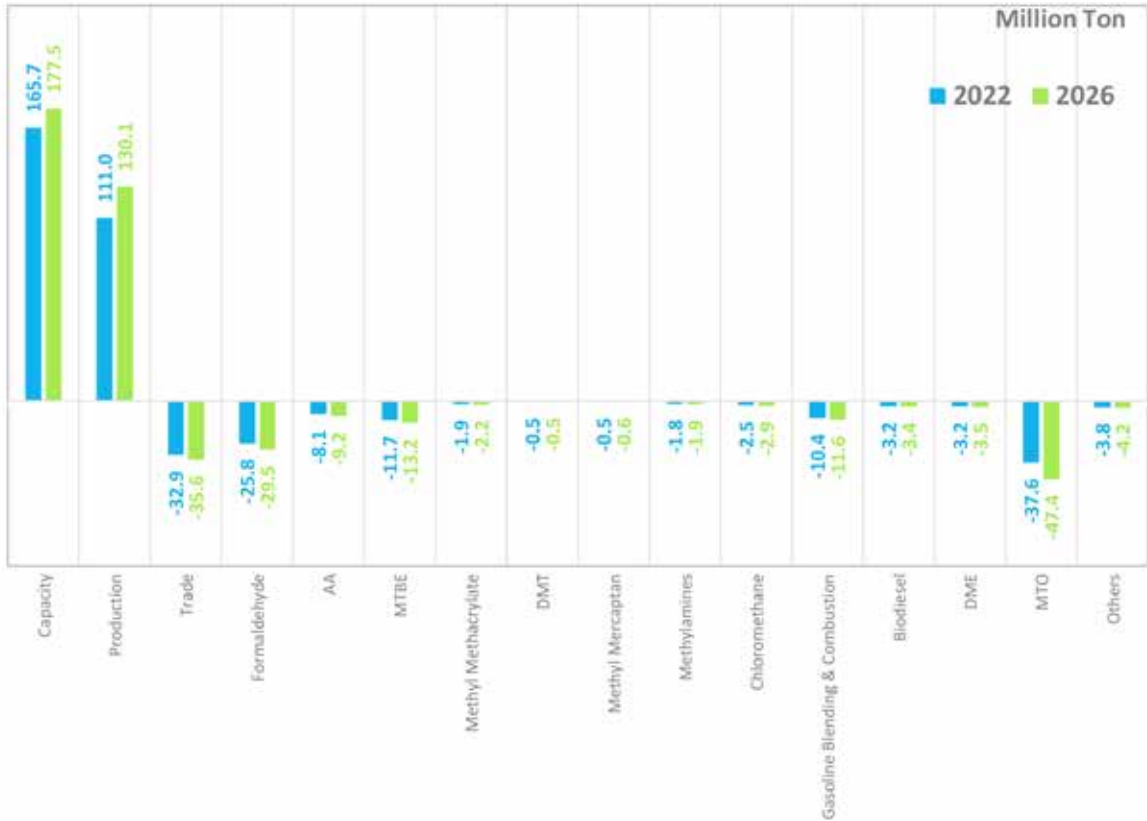


Diagram 3 - The global production and consumption of methanol in 2022 and 2026

To analyze Diagram 4, first, the areas marked with acronyms are introduced below to avoid any possible ambiguity.

NEA: Northeast Asia (including four major countries, namely China, Japan, Taiwan, and South Korea)

SEA: Including Southeast Asia, Australia, and New Zealand

IND: Indian subcontinent including India, Pakistan, Bangladesh, and Nepal

NAM: North America

SAM: South America

EUR: Europe

RUS: Russia and Central Asian countries

ME: Middle East

AFR: Africa

If the issues beyond the market are out of the scope, this diagram can significantly contribute to the acquisition of an overall insight into the world of methanol. This diagram categorizes nominal capacity, production, imports, and exports by region. A brief examination reveals the major role played by Northeast Asia in the methanol market. This fraction of the world is markedly one of the largest producers of methanol as well as one of the most important importers of methanol. It is also one of the great importers of the world import-wise, followed by Southeast Asia, the Indian subcontinent, and North America. Second to the orange column, i.e. Northeast

Asia, the green column (the Middle East) is highlighted in the diagram, which has the highest global production of methanol following Northeast Asia due to the recent increase in Iran's nominal capacity, while it also has the first place in the exports sector. It is the greatest exporter of South America after the Middle East.

Another item evident on the diagram is the almost equal roles of North America and South America in the production sector, while until a few years ago North America was largely dependent on the production by South America. This is also caused by the newly established American units, which will be discussed in the future.

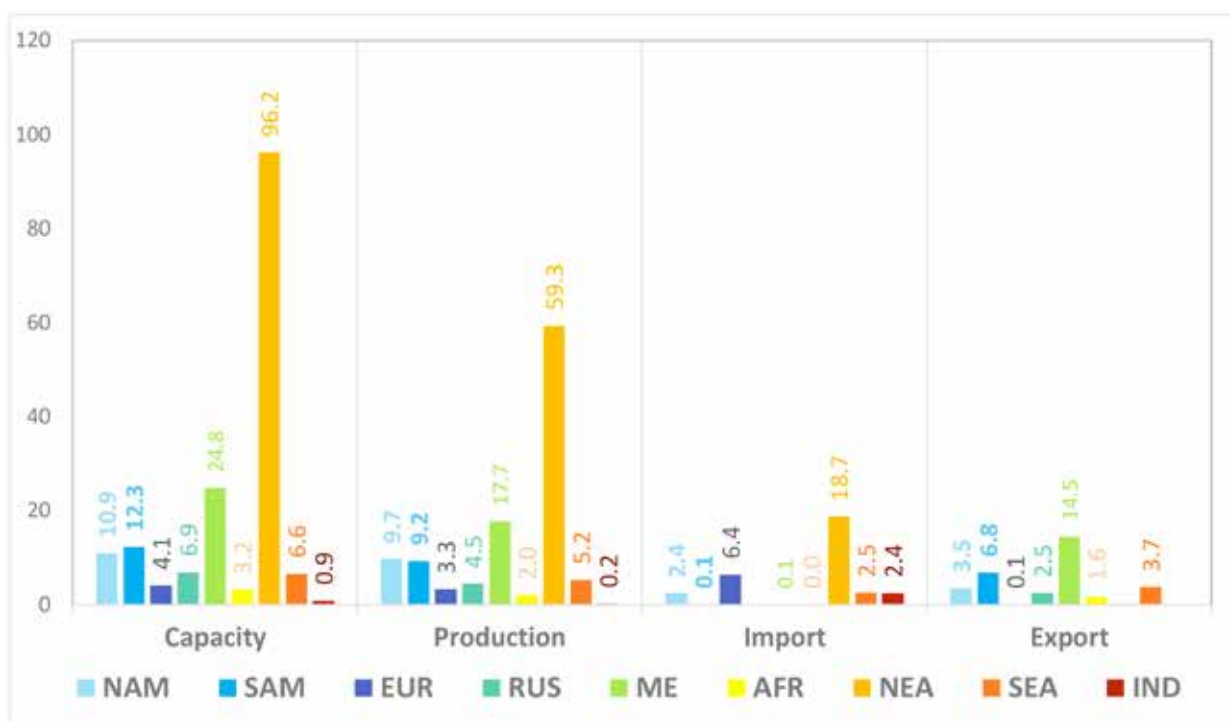


Diagram 4- The role of the regions in the production and trade of methanol - million tons

Once a creature enters an arena, its most basic need is acquiring insight into its surrounding environment and world. Each methanol market has its own story and behavioral patterns that vary by region to stabilize the interaction between the supply and demand of the given system, and this trade-off, or the constant conflict between these two sectors, is usually carefully investigated by the market players. An understanding of the market is not solely limited to the concern for regional changes. The characteristics, history, dimensions, and variables determining the market of each region must be assessed while each market has to be examined in relation to the methanol world as a whole because the evolutions in the methanol market are always influenced by global changes and evolutions in the global upstream and downstream markets. Therefore, the Market and Beyond sector seeks to change the conventional approach to the market and introduce those factors that can trigger surface changes from the lower layers.

Nominal Capacity

In this section, the nominal capacity is studied by region in 2022 and 2026 in Diagram 5. As mentioned in the previous section, Northeast Asia has the largest nominal capacity for methanol production. This will bring about a considerable increase in China's nominal capacity in the future years, China's share of the world's nominal capacity of methanol production will rise to approximately 60 percent as seen (the supply and demand of China will be discussed in the future issues). The share of the Middle East and percentage will decrease slightly with a significant increase in the nominal capacity of China.

What role does Iran perform in this ever-lasting development? Seemingly, there has been less than a one percent decrease in Iran's share regarding its nominal capacity given that the methanol projects have been fruitful in recent years. Iran's global nominal capacity share is approximately 8% and this figure seems to remain constant in the five coming years. Iran's position among the world's units that have gone into production is depicted in Diagram 6.

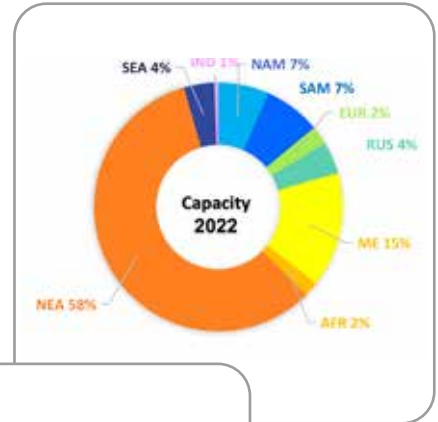


Diagram 5- The global nominal capacity in 2022 and 2026 classified by region

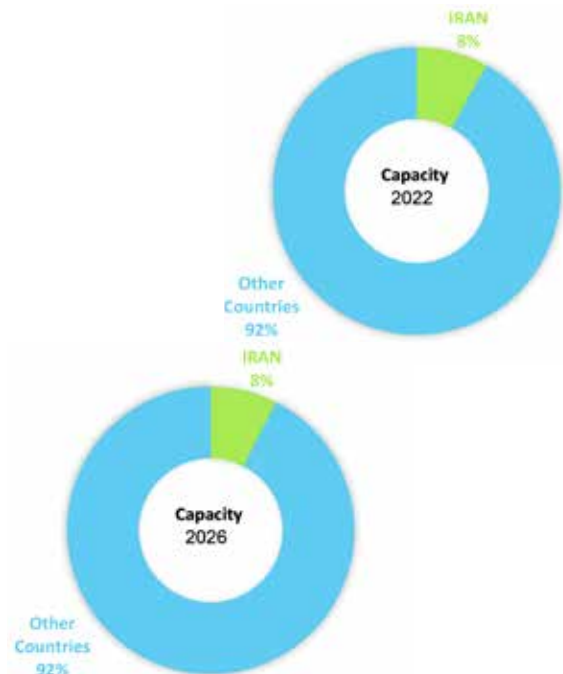


Diagram 6- Iran's share of global nominal methanol capacity

Production

The global situation is in line with the nominal capacity sector production-wise. The average global production rate in 2022 is approximately 67 percent while it is anticipated to be about 73 percent in 2026. As for Iran, given the likelihood of launching several new units this year, the gas outage in winter, and the recent years' trend, the production rate is considered to be approximately 65 percent. However, we can be positive that the newly-launched units would have achieved a stable production rate by 2026 and the gas outage problems caused by the rising domestic consumption during winter would have been solved and Iran will have achieved a production rate of approximately 80 percent. If this is the case, our country can proudly cover about 11 percent of the global methanol production provided that Iran's methanol production units maintain production at their typical production rate.

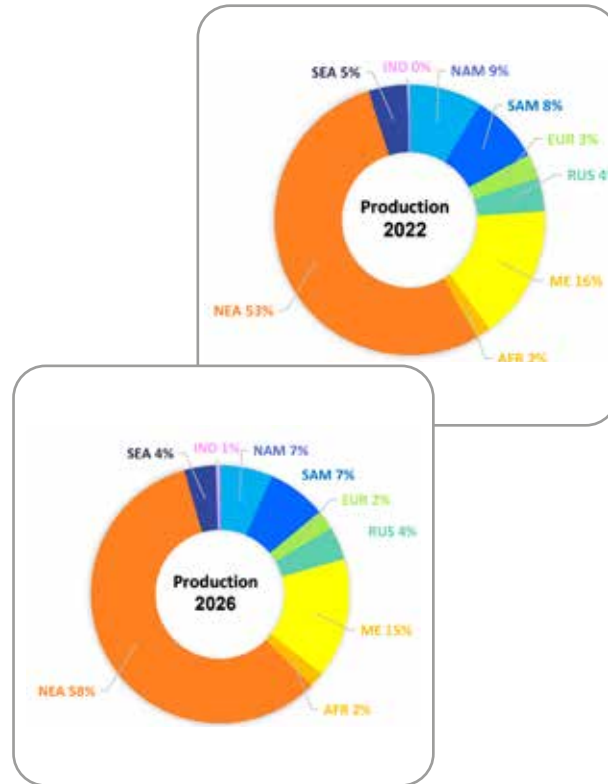


Diagram 7- Share of the regions of the global methanol production in 2022 and 2026

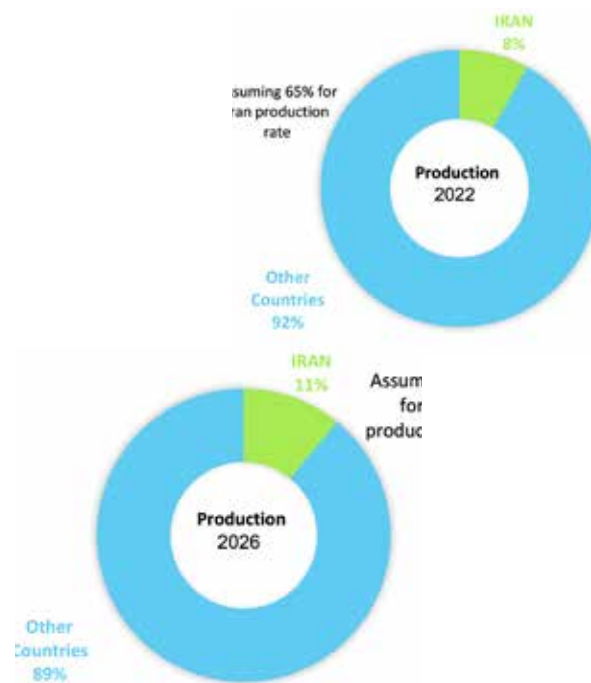


Diagram 8- Iran's share of the global methanol production in 2022 and 2026



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Trade

Diagram 9 is among the most important diagrams for the world's producers. This diagram and the resulting diagrams, which depict the amounts of imports of each country from these regions, can identify the potential target markets. As seen in this diagram, the regions' shares of allocating imports to themselves will not change significantly in the next five years. A large fraction of vessels carrying methanol will be dispatched to Northeast Asia and subsequently to the Mediterranean Sea and the eastern shores of the Atlantic Ocean. Other potential target markets can be sought in Southeast Asia, North America, and India.



Diagram 9 - The share of the regions of the global methanol imports in 2022 and 2026



Diagram 10- The regions' share of methanol exports in 2022 and 2026

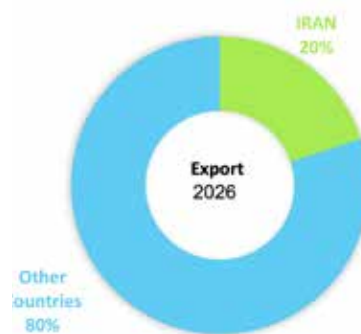
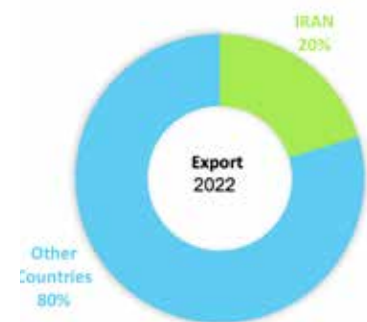


Diagram 11 - Iran's share of the export flows in 2022 and 2026

Market Analysis ;



Methanol and Crude Oil Prices

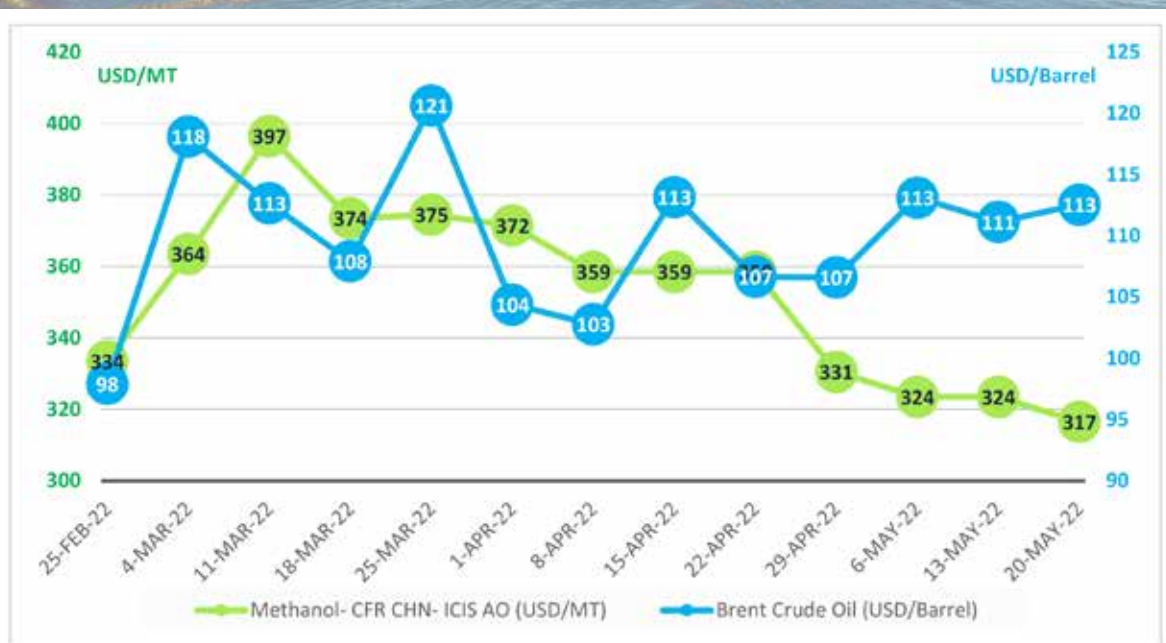


Diagram 12- Comparison of the variations of crude oil and methanol prices in the past 3 months

Average Prices in Ordibehesht (21st of April to 21st of May)

	ICIS SO	ICIS AO	Platts	IHS	ZPC	Marjan
CFR CHN (USD / MT)	350.5	330.5	350	329.5	360.1	350

India's Market in Ordibehesht (21st of April to 21st of May)

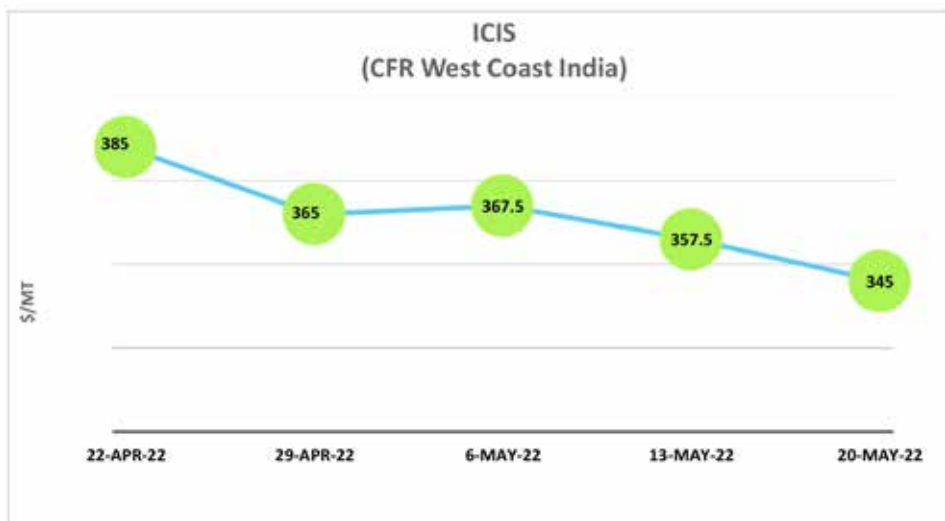


Diagram 13- Price changes in India in May 2022

April 22nd:

The price of methanol in the Indian market was descending during this week, which was caused by the low price of Russian shipments imported into this country. Another determining factor that led to the descending methanol prices in India was the relapsed outbreak of COVID in China. The decrease in the netback between China and India discouraged the Middle Eastern sellers from engaging in trades in the Indian market, thereby reducing the prices. During this week, due to the resurgence of the epidemic in China, demands declined in this country, which led to the flow of supply, especially from Iranian producers, to the Indian market and the decline in prices in this country.

April 29th:

The descending trend in prices continued in the week ending April 29, while the considerable decrease in demands and the effect of low-price Russian shipments resulted in a decrease in methanol prices to \$10 to \$35 per ton. This decrease in prices was also reflected in the local prices. In other words, at the end of this week, methanol was traded at the rate of 30 rupees per kilogram. The following diagram, which is obtained from the Argus Journal, depicts the trend of changes in methanol prices in the Indian domestic market. In diagram 14, the local price is

calculated based on rupees and CFR prices in dollars. To compare these two diagrams an index named Equivalent CFR India is shown, wherein the costs of clearance including the customs duties and profits are subtracted from the domestic price and the resulting figure is expressed in dollars. As seen, the descending trend of methanol prices in the local market, which began from late November last year and lasted until April 2022, shows an approximately 16-rupee decrease per ton. Based on the diagram 14, the price of methanol in the local market reached its lowest level in the past year during this week.



Diagram 14- Price changes in India in May 2022

May 6th:

Some of the distributors in the Indian market increased their proposed prices in the week ending May 6th, which increased the assessments by the specialized methanol publications and a subsequent increase in the methanol prices. Given the large price gap between the Indian and Southeast Asian markets, this group of market actors partly lost their interest in the Indian market, hence the decision about increasing the prices. Another factor that can be considered a cause of the increase in methanol prices in the Indian market during this week was the continued increase in crude oil prices for the second consecutive week.

May 13th:

In the week ending May 13th, there were insignificant numbers of trades in the Indian market. The production units' demand for methanol declined, leading to a considerable decrease in the price of methanol. The decrease in the production of pharmaceutical units can be attributed to the disruption in the transportation of other raw materials for this sector from China.

The increase in inventories of the buyers and the increasing decrease in the value of the rupee against the US dollar were two other factors that led to a relative decline in prices during this period. Moreover, given that methanol distributors, especially from Middle Eastern states, had previously purchased their cargos at higher prices, they rejected sales at lower prices. This group of market ac-



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tors also argues that the fixed-price sales market was not interesting, and they were willing to trade solely through formula sales with a 1-2.5-percent decrease.

May 20th:

The decline in numbers in the Indian market increased in the week ending May 20th. Due to the large volume of supply from the Middle Eastern states and Venezuela, the reserves of the country increased, hence the descending price of methanol similar to previous weeks. As suggested by ICIS, since 2020 this is the first time the price of imported methanol in India has become lower than its rate in China.

However, there has been a decrease in the imports of methanol from Russia. With the increase in the tensions between Finland and Russia following Finland's request for joining NATO, market actors are predicting a delay in the transportation of Russian cargos through the Finnish water border, which can adversely affect the transfer of Russia from methanol through the waterway of the Baltic Sea to the other parts of the world, including India. However, the increase in supply due to the large volume of cargos that would arrive in the coming weeks in the Indian market from the Middle East states, America, and Venezuela, has hindered the optimistic approach of the market actors to the repeated surge in the prices in the coming days in this country.

To wit, the Indian Oil Company (IOCL) has just launched a pilot plan to produce and sell M15 gasoline, which is a combination of 15% methanol and gasoline. As reported by IHS, this project has been implemented at the Tinsukia Assam gas stations in collaboration with the Indian Automobile Research Association (ARAI) and after conducting vast experiments on the compatibility of this fuel with various automobile engines. The implementation of this pilot plan calls for 30 tons of methanol per day, and thus the project is located in the Tinsukia area adjacent to the Digboi refinery so that methanol produced by the Assam unit is easily accessible.

China's Market in Ordibehesht (21st of April to 21st of May)

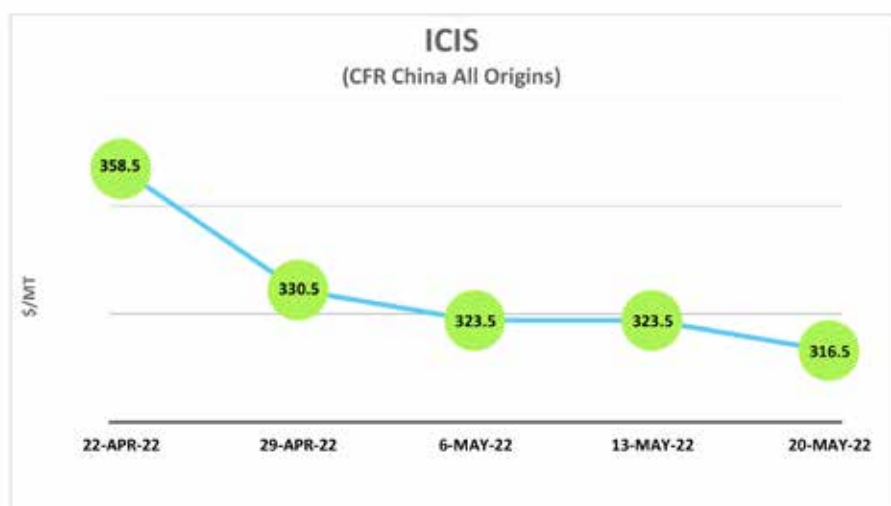


Diagram 15- Price changes in China in May 2022

April 22nd:

As a result of the repeated outbreak of COVID and the zero-COVID policies of the Chinese government, in many cities including Shanghai, China's largest city and trade hub, strict quarantine rules have been enforced. Most market analysts argue that if the quarantines continue longer, the Chinese economy will lose its power while the global economy will also suffer a tremendous shock. The decreased speed of unloading in the coastal regions in China, due to the high sensitivity of health officials to the control the health of all ship crew and the prohibition of intercity traffic, impaired marine and road transport, causing numerous shipment problems.

The decreased speed of unloading cargoes in China's coastal areas disrupted marine and road transportation due to the high sensitivity of the health officials to the health control of all ship crew and the prohibition of intercity traffic, which led to numerous problems in the transport of cargoes.

April 29th:

A significant decline in the value of methanol and some downstream derivatives including propylene in the Futures market in the last week of April 2022 was affected by factors such as the implementation of quarantine in most Chinese cities, the decreased value of the Yuan, and the recession in the downstream sectors. The considerable decrease in the exchange rate of the Chinese national currency (Yuan) versus the dollar was another negative

effect of the COVID quarantines on China's macroeconomics, which intensified during the week ending April 29th. Following the decrease in the value of the Yuan, the attractiveness of imported cargo decreased significantly and traders lost their motivation to import goods. The 25-percent decrease in the average methanol production rate in the east and south only within one week was also caused by the imposed on traffic and the operation of production units by the health officials to control the spread of COVID. Some MTO companies minimized the production of their units to the possible extent due to the recession in the market for olefin derivatives as an attempt to manage the costs and avoid financial loss.

May 6th:

The market hope for the restoration of prosperity to the Chinese economy partly resulted from a decrease in the COVID cases, and its effect was evident in the methanol prices published during the first week of the month. Based on the publications, the methanol market had the adequate potential for further increase in the domestic and import prices yet the continuation of quarantines prevented further improvements in the market conditions. In the week ending May 6, it was predicted that the decrease in production of the MTO and some downstream derivatives along with the news of the return to production of one of the Zagros petrochemical units and the increase in Iran's production would adversely affect the prices in the coming weeks.

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May 13th:

As predicted, in the second week of May, the methanol market entered the recession phase again, and all publications reported the decline in the local and imported methanol prices. The decreased value of crude oil, the recession of the Futures market, and the decline of the methanol index in the stock market were among the factors undermining the market in the week leading to the thirteenth. Despite the lack of any accurate published data on the end date of quarantine in the Chinese cities, including Shanghai and Beijing, sources are reporting on the elimination of COVID restrictions until June this year. If this prediction is fulfilled, the restoration of prosperity to the methanol market and other downstream derivatives will be probable. Traders do not find the short-term outlook of the Chinese market highly promising, as it is expected that by the end of May, with the increase in production and the growth of imports of products by major suppliers (especially Iran), and the increase in supply, the pressure on the demand and prices will be doubled. The statistics published by the ICIS publication signal an almost 3-percent decrease in the output of the industrial sector in April as compared to the same period in 2021, and the strict quarantines imposed by China have been the sole cause of this recession. According to Argus, the shock resulting from the closure of factories and exhibitions following the outbreak of COVID in the automotive sector has been tremendous, and the statistics suggest that the car sales decreased by 48 percent in April from as compared to last year, jeopardizing the survival of

many automotive manufactures.

This week, in addition to a 1-percent increase in the production of MTO, the olefin companies witnessed an increase in the profit margins with a decrease in the cost of feed.

May 20th:

According to previous forecasts, positive changes were observed in the week leading to the 20th of May in the methanol market, which were largely caused by the increase in the value of crude oil and the increase in the price of methanol in the Futures market. Except for the above-mentioned factors, the decreased supply from Southeast Asia due to the shutdown of the great Petronas unit as a result of major repairs that will last for about two months also increased the thirst for purchase in the market. The continuation of strict COVID quarantines has prevented any improvements in the purchasing power in the methanol sector and other downstream industries, while the increase in China's offshore reserves and the rise in the domestic product have increased supply. The increased supply in China has imposed double pressure on demand due to the fragility of this market. The total reserve of offshore methanol in China has reached its highest level since November 2021, which can be mainly attributed to the slow loading process of ships. The downstream derivatives market, especially olefin is still dominated by recession and unlike the week leading to May 13th, the MTO producers' profit margin had a descending trend. Traders still hope that with the elimination of restrictions by the Chinese government by mid-June, the former prosperity returns to the methanol and methanol derivatives market.

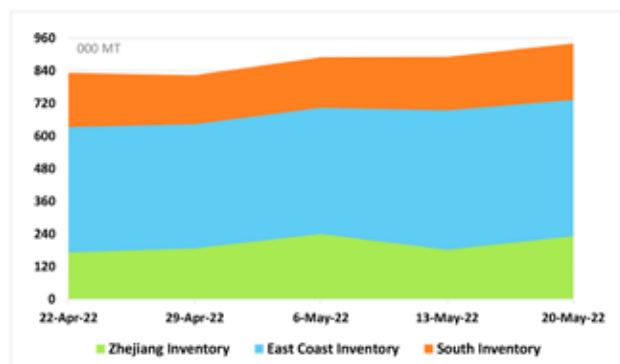


Diagram 16- Chinese offshore methanol reserves - Argus - Metric/Ton



Describing the Status of Methanol Producers

America

Country Name	Company Name	Capacity Thousand tons per (year)	Occurrence
Venezuela	Total production	2,370	The average production rate in May is approximately 96 percent
Chile	Methanex	840 880	The average production rates of a smaller unit and a larger unit in May 2022 are approximately 97 percent and 20 percent, respectively. The larger unit has been out of service since April 29 and it is anticipated that it might return to production in late May or early June
United States	Koch Methanol St. James	1,700	The average production rate of this unit with natural gas feed in May 2022 is about 98 percent
Canada	Medicine Hat Methanex	600	The average production rate of this production unit last month was about 100%
United States	OCI	925	The average production rate of this unit in May was about 100%
Trinidad and Tobago	Total production	6,610	The average production rate of this country in May was about 81%
United States	Fairway Methanol	1500	The average production rate of this producer in May was estimated to be approximately 100%
United States	Lyondell Basell	660 780	The average production rate of both units of this complex in May is approximately 100%
United States	Methanex Geismar	1,100 1,100	The average production rate of both units in May was about 110%
United States	Natgasoline	1,700	The average production rate of this unit with natural gas feed in May was app. 100%
North America	Total production production 12) (units	6,698	The estimated average production rate in May of this year is approximately 95%

Europe

Country	Unit name	Capacity Thou- sand tons (per year)	Occurrence
Russia	Togliatti Azot	500 500	The average production rate of one of the units of this complex, which was out of service in the week leading to April 8th and returned to production in the week ending May 13th, was about 30%, while the other unit's production was about 92% during May
Russia	Shchekino	450 500 500	The average production rate of units in this complex in May varied between 80 and 10 percent
Russia	Gazprom Methanol (Tomsk)	1,000	The average production rate of this producer in May was app. 76%
German	Mider / Helm (Leuna)	600	The average production rate of this producer in May was 100%
German	BASF	330 150	Both units of this complex had an average production rate of app. 100% in May
Azerbaijan	Socar	450	The average production rate of this producer in May was about 70%
Russia	Metafrax (Gubakha)	1,000	The average production rate of this producer in May was app. 82%
Russia	BioMCN	500 500	Both units of the complex were out of service in August 2021 due to a shortage of natural gas, and the time of return to production of neither of them is known
Russia	Equinor	1,000	The average production rate of this producer in May was approximately 100 percent

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Africa & Middle East

Country	Unit name	Capacity Thousand tons) (per year)	Occurrence
Libya	NOC	330 330	The average production rate of one of the units in May was 100% whereas the production of the other unit was .stopped
Guinea	AMPCO	850	.The average production rate in May is about 100%
Egypt	EMethanex	1,260	The average production rate of this producer in May was .approximately 95 percent
Iran	Zagros	1,650 1,650	Plant I had an average rate more than 100% Plant II restarted on 18 th of Ordibehesht (8 th of May) and had an average production rate about 100.5
Iran	Marjan	1,650	The average production rate of this company in May was .100%
Saudi Ara- bia	Al-Razi No. 1	770	This unit has stopped production and the time of its return .to production is not known
Saudi Ara- bia	Al-Razi No. 2	770	The average production rate of this producer in May was .100%
Saudi Ara- bia	Al-Razi No. 3	935	.The average production rate in May is about 100%
Saudi Ara- bia	Razi No. 4	935	.The average production rate in May is about 100%
Saudi Ara- bia	Razi No. 5	1,700	The estimated average production rate in May is approx- imately 100%
Saudi Ara- bia	IMC (Sipchem)	1,050	The average production rate of this producer in May was .approximately 100 percent
Qatar	QAFAC (Muntajat)	1,000	.The average production rate of this unit in May is 100%
Oman	OQ Salalah))	1,300	.The average production rate of this unit in May is 100%
Oman	Oman (Helm)	1,050	The average production rate of this producer was app- .100% in May

Shiraz Petrochemical Company



Asia-Pacific

Country	Unit name	Capacity Thousand) tons per (year	Occurrence
Indonesia	Kaltim	720	The average production rate of last month was about .90%
New Zealand	Methanex	850 850 530	The average production rate of both 850-thousand tons units of this complex in May was app. 91% while the .530-thousand tons unit had zero production
Brunei	Brunei	850	.The average rate of this unit in May is about 90%
Malaysia	Petronas	1,700 720	The average production rate of the larger unit of this complex in May was about 90% and the smaller unit .had an average production rate of approximately 77%
East and South China		7,160	The average monthly production rate varied from 64% .to 89%
Southwest China		3,120	The average monthly production rate was approxi- .mately 64%
Northwest China		20,950	The average monthly production rate varied from 54% .to 57%
Neimenggu		10,190	The average monthly production rate varied between .65% and 85%

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