

## Assessing Iran's Role in China's Energy Market

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### ABSTRACT

*Although Iran's overall role in China's energy supply has been negligible, but by examining various data on Iran's imports and exports in various other fields, it is clear that Iran has a high production capacity in many of these sectors, so in this study we examine Iran's role in meeting the needs of the Chinese market, which is a major economic power and the most populous country in the world to address a general understanding of Iran's capacity in this area. This is important because if Iran has a higher position in China's energy supply, China will become more dependent on Iran. This, in turn, makes it possible to gain points from Iran in various fields. Therefore, the main question of the research is based on what role does Iran play in the Chinese energy market? In answer to this question, it can be said that Iran, given its ability to produce petroleum products, can play a significant role in the Chinese energy market. Also, the method used in this research is qualitative-analytical and the use of statistics to analyze the exports and imports of Iran and China. In this study, we first express the position of China in Iran's exports and then provide tables and statistics to express Exports and imports of both sides in the field of petroleum products.*

*Keywords: Iran, China, energy, export, import*

## **Introduction**

We are living in an era filled with global developments and the expansion of economic globalization, in this epoch, interdependence of countries is recognized as one of the criteria for maintaining world peace; one also should note that interdependence in the first step increase the welfare of countries. (Si-Yuan, 2020: 1779)

Therefore, in addition to increasing welfare and reducing production costs (comparative advantage), countries are trying to drastically reduce the likelihood of war; because in such a situation, all countries will suffer the consequences of war. (spglobal, 2019: 24)

In this regard, exports play a more important role than imports regarding increasing the national power of countries and expanding their bargaining power. That is, in terms of exports and imports, there is an interdependence, but a country that exports more to a country or a group of countries, can gain more points (asiapacificenergy, 2016: 466)

Accordingly, in this study, an attempt is made to examine Iran's position in China's energy supply. This is important because if Iran has a higher position in China's energy supply, China will become more dependent on Iran. This, in turn, makes it possible to gain points from Iran in various fields. (thediplomat, 2016: 43))

For example, in the early years of the Islamic Revolution, Iran solely supplied about 25 percent of the world's oil. This would make it impossible for any country, not even the United States, to impose any policy on Iran, domestically, regionally or even internationally. But over time, countries have reduced their dependence on Iranian oil, and this was one of the main reasons for imposing various sanctions on Iran.

Although China and Iran have similarities in various fields, China is much more interdependent with other rival and hostile countries of Iran, and as a result, China even agrees to impose sanctions on Iran in some cases (sungoldsolar, 2021)

For example, China's dependence on Arab countries in the region for energy has jeopardized Iran's position on the China Silk Road project and we can see that the United Arab Emirates is replacing Iran. In other words, in the Middle East, the UAE will be the center of gravity regarding the Silk Road. (nuoenergy, 2021: 12)

Given this issue, we try to first determine Iran's position among other countries in China's energy supply. This makes the policymakers of the Islamic Republic to have a more realistic view towards China. The section then tries to provide solutions at various micro, medium and macro levels, as well as in various economic, political and security dimensions in the short, medium and long term to increase Iran's position in China's energy supply. It is important to note that although China is reducing its consumption of coal and renewable energy in general, China's growing needs will make the position of non-renewable energy, especially oil, more or less stable for at least the next two decades ( the decrease is not that much noticeable ) (scio.gov, 2020)

The Middle East and its subsystem The Persian Gulf, have vast reserves of oil and gas and have not yet used all of its production capacity. Unlike other countries, which now produce energy at full capacity, this region of the world still has the potential to increase production to keep pace with rising global oil demand. Iran, as one of the countries bordering the Persian Gulf, has a special geopolitical and geostrategic position, which in principle is an international phenomenon and is located on a highway of international interactions and cannot be neglected within such interactions, so the country plays one decisive role in the political, economic, cultural and security equations in the region. It is important to note that the issue of energy and how to develop it for the Islamic Republic of Iran is both a tool of power and a foreign policy goal. In the current situation of the country, one of the most important areas that have the ability and capacity to be turned into opportunities are interaction and cooperation with the world in the field of energy; Because the

East needs to increase energy and the West needs to diversify energy ; these facts add to the Iran's ability in the field of energy, thus we will have a condition in which the country's energy position and geopolitical position play an important role in ensuring energy security in the Persian Gulf region. Therefore, Iran cannot be ignored in energy exchanges and no country in the international arena, geopolitically and in terms of geostrategic, can replace and fill the gap of Iran's presence in the international energy market (Ajili, Hadi and Rahmatipour, Leila, 2016)

### China's position in Iran's total exports

In this section, Iran's position in supplying China's various energy sectors is being examined. The studied sectors are: crude oil, refined petroleum oils, petroleum gases, petroleum jellies, petroleum coke, bitumen and natural asphalt, and bituminous mixtures. Each of the different sectors of energy has different types that will be addressed according to the needs of research.

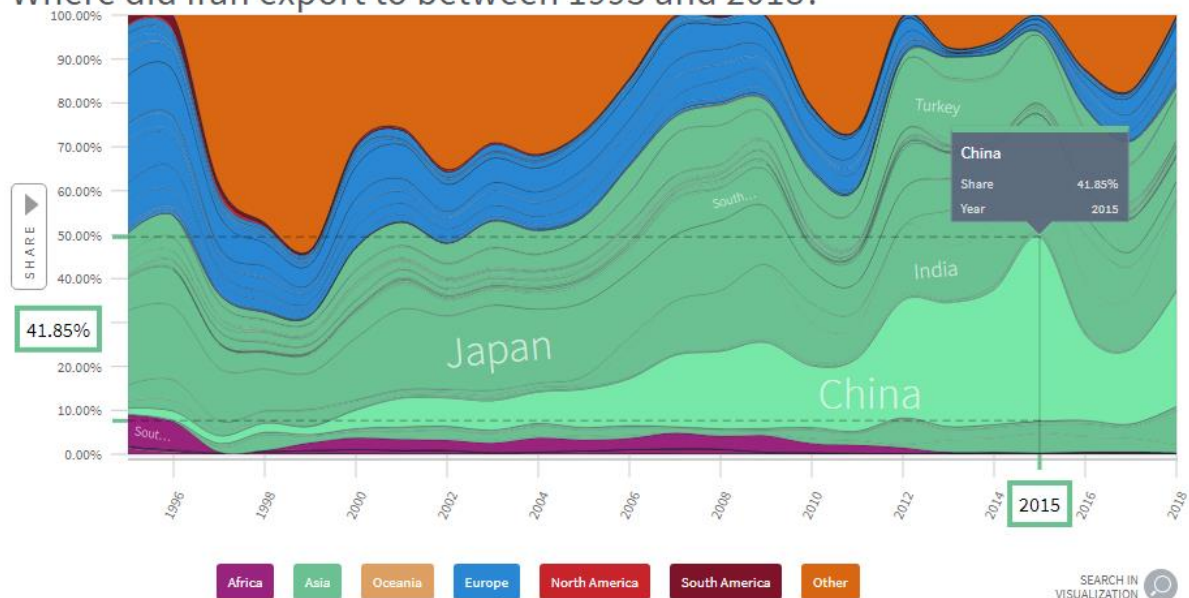
Prior to 2000, China had a very low position in Iranian exports. This is mainly due to China's lack of economic development. But after this year, with the increase of China's industrialization, China's exchanges and relations with other countries, including Iran, have increased. (riped, 2021: 76)

After 2000, China's position in Iran's exports increased year by year. One of the most important reasons for this is the sanctions imposed on Iran by the United States and European countries. (spglobal, 2020: 11 2)

As a result, Iran was somewhat forced to turn the tip of its export arrow to China, which was in dire need of oil. This situation increased so much that in 2015, almost half of Iran's total exports was to China.

The following chart shows the total situation of Iran's exports to the world countries:

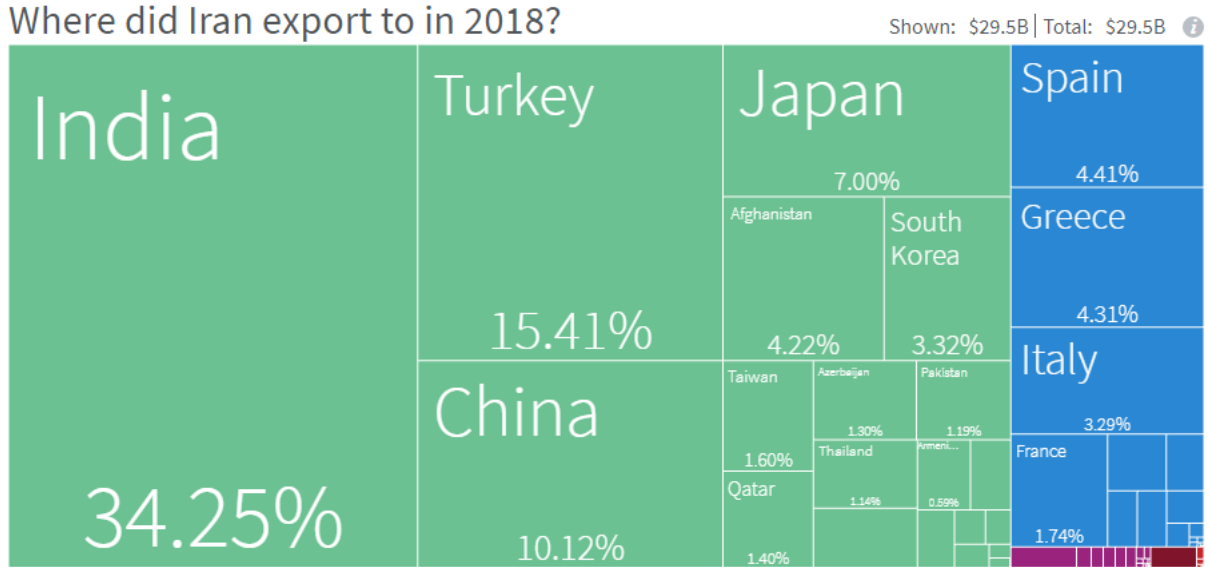
Where did Iran export to between 1995 and 2018?



Iran export destination between 1995-2018

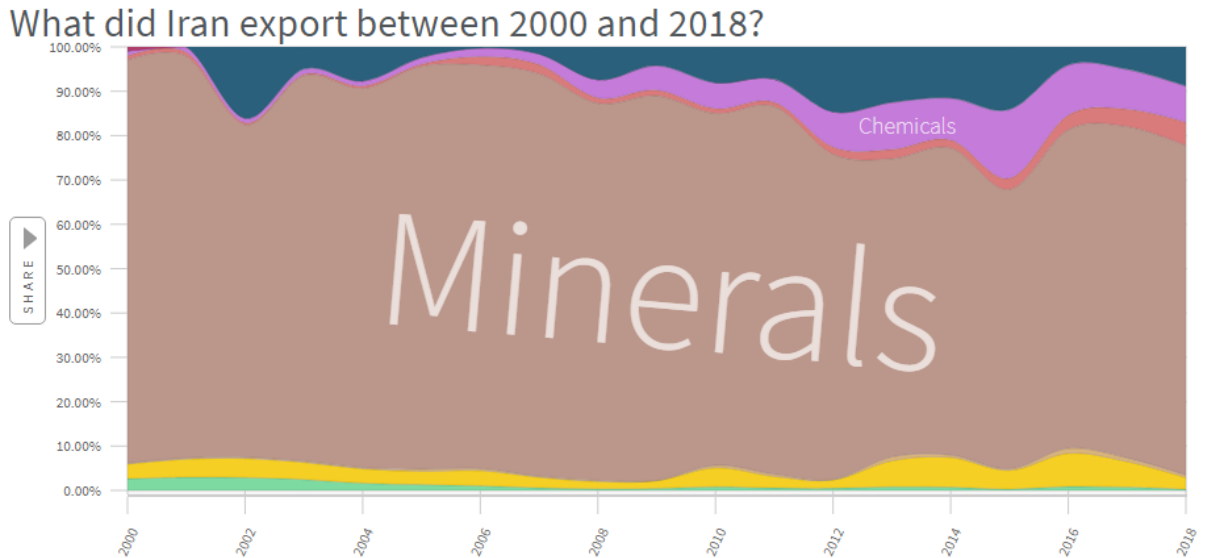
However, with the imposition of sanctions and to some extent the increase in Iran's relations with other countries in the post-conflict period, China's position in Iran's exports has significantly decreased. This

situation has decreased to 10.12% in 2018. The following chart shows the position of China and other countries in Iran's exports:



Iran export destination in 2108

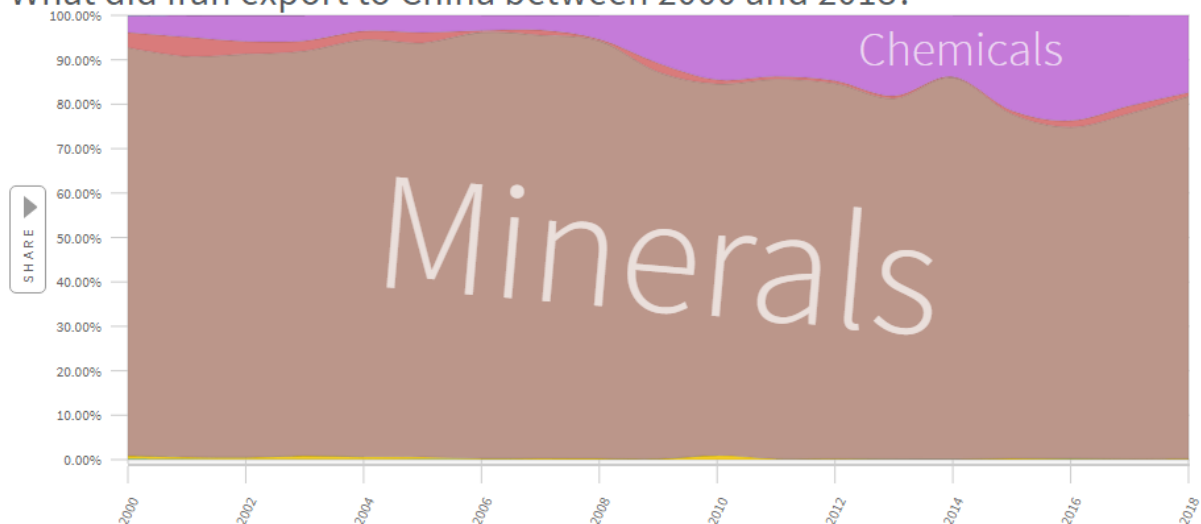
In this regard, Iran's total exports have been minerals; although it has declined slightly in size over the past five years, it still accounts for almost 90 percent of Iran's mineral exports. The following chart shows Iran's exports in various fields:



Iran Minerals export between 2000-2018

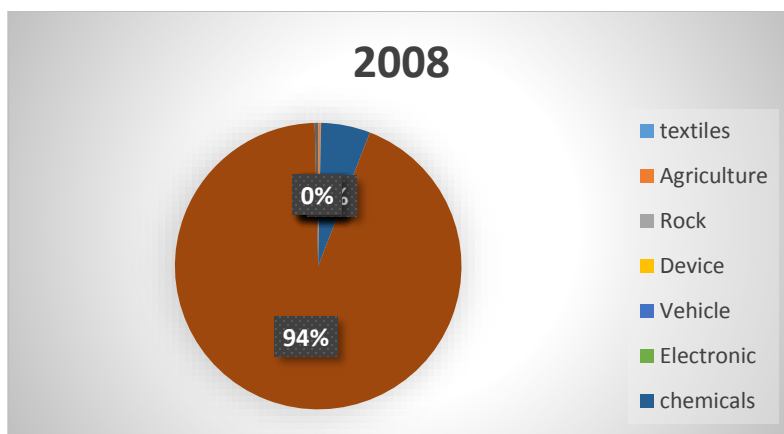
Iran has exported various goods to China in different fields. In the meantime, the position of minerals has been very high, and of all these products, oil has the largest volume of exports:

### What did Iran export to China between 2000 and 2018?



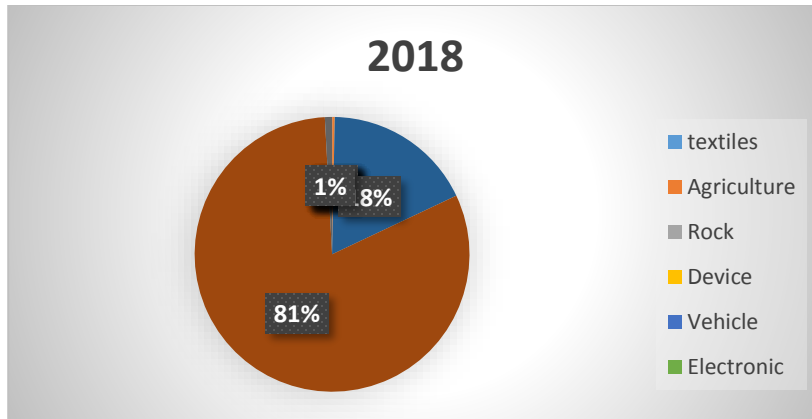
Nature of the Products that Iran exported to China between 2000-2018

The important point is that the amount of mineral exports to China has decreased over the last decade and other goods have been replaced. As shown in the chart below, in 2008, 98% of Iran's exports to China were minerals:



**In 2008, 98% of Iran's exports to China were minerals**

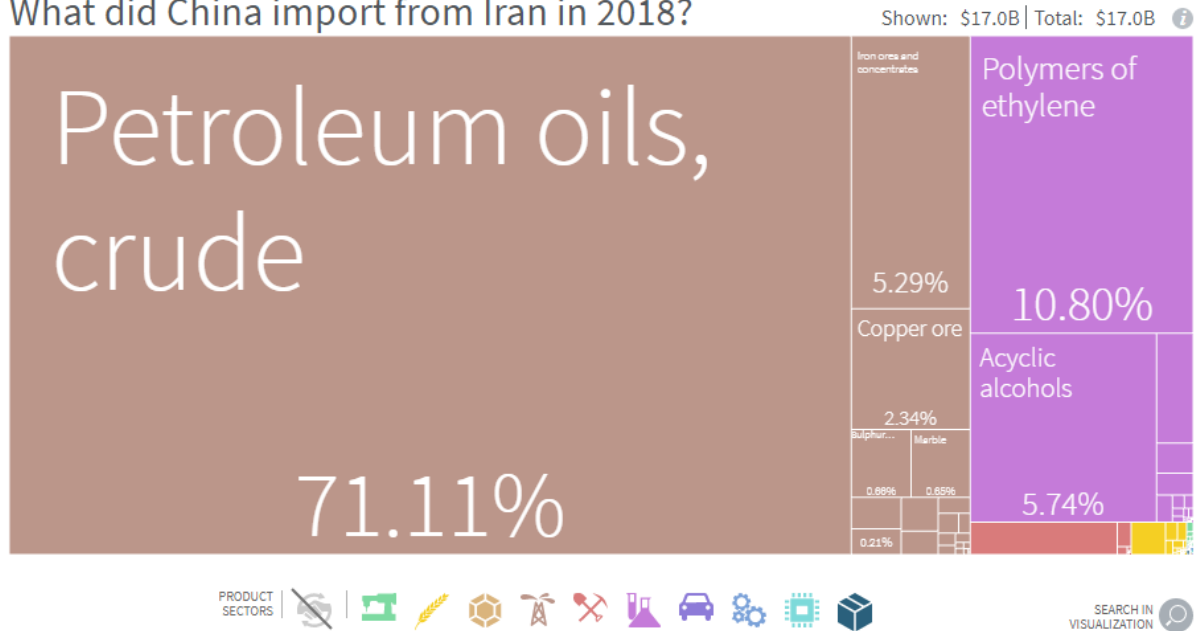
Meanwhile, in 2018, Iran's mineral exports to China have decreased and other sectors, especially chemicals, have replaced it. The following chart shows the status of Iranian goods and products exported to China in 2018:



Status of Iranian goods and products exported to China in 2018

The important point is that in 2018, 71.11% of the total minerals that Iran has exported to China were only crude petroleum oils. In other words, of Iran's \$ 17 billion in exports to China, 12.1 billion\$ was crude oil. The following figure shows the percentage of various export sectors of Iran to China in 2018:

### What did China import from Iran in 2018?

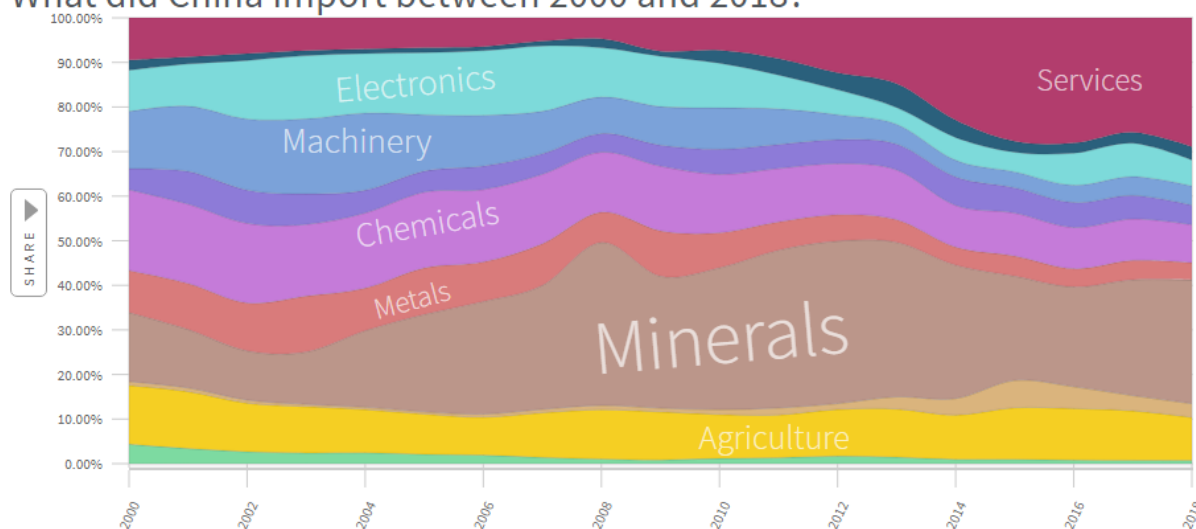


China's import from Iran- Nature of the Products

### China imports between years (2000 - 2018)

Minerals occupy a very prominent position in China's total imports. In 2008, almost 50 percent of China's imports were mined. Although the position of minerals has declined over the past decade to almost 40 percent, it still ranks high in China's needs. In contrast, imports of Chinese services have increased. The chart below shows China's imports over the past two decades:

### What did China import between 2000 and 2018?

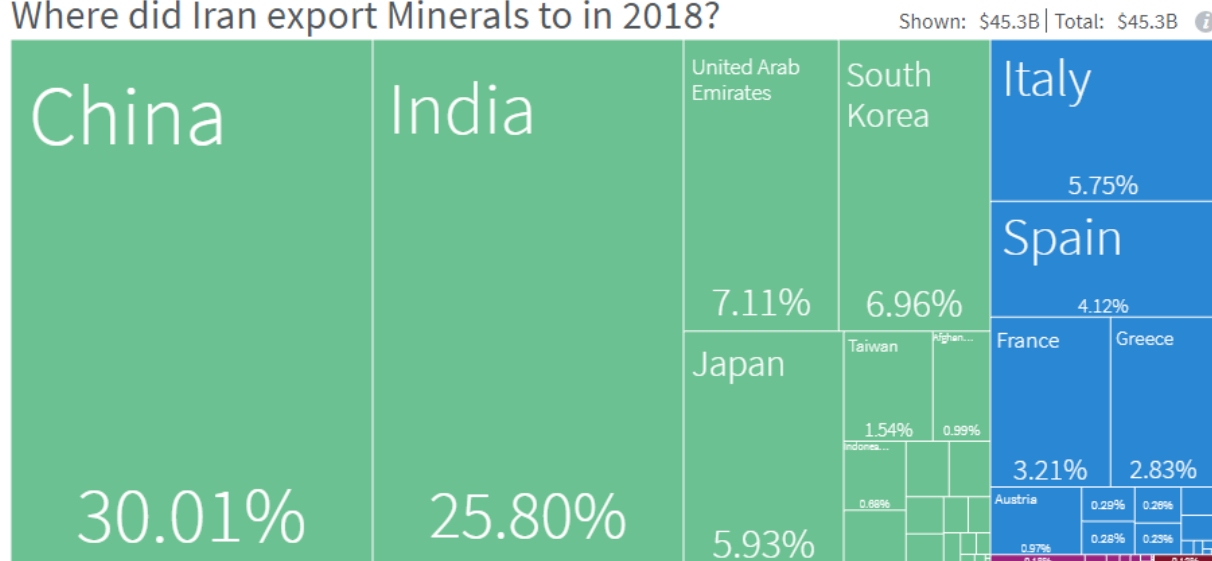


### China’s import from Iran between 2000-2018

#### Iran Minerals Exports (2000 - 2018)

In terms of minerals, Iran has exported to various destinations, most of which have been the Asian countries. China, meanwhile, accounts for almost a third of Iran's total mineral exports. The following chart shows Iran's mineral export destinations and China's position:

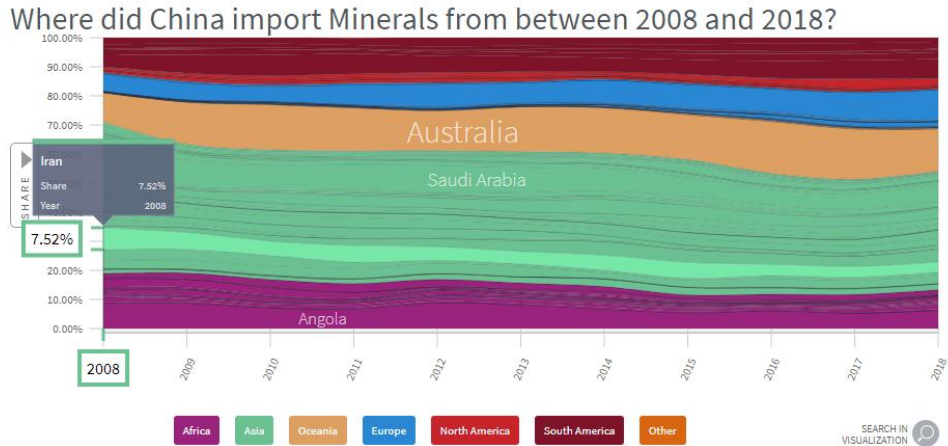
### Where did Iran export Minerals to in 2018?



### Iran’s export status in 2018-destinations

#### Iran's position in China's mineral imports (2008-2018)

Over the past decade, Iran's position in China's mineral imports has been steadily declining. In 2008, Iran accounted for almost 8% of China's total imports in this area, but this amount fell to less than 5% in 2018. The following chart shows Iran's position in China's mineral imports over the past decade:



**China's importing points between 2008-2018**

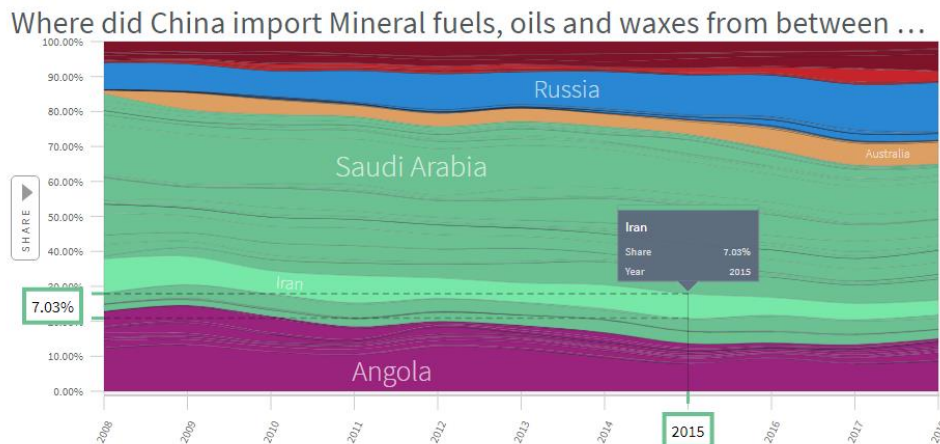
**Strategies to increase Iran's position in China's energy supply**

In the previous section, it was discussed that a large volume of Iran's exports to China were in the field of minerals, especially crude oil and its derivatives. But the bottom line was that over the past decade, Iran's position in China's energy supply has been declining every year. Today, it supplies an average of less than 4 percent of China's energy needs.

With regard to this issue, in the following, an eye catching effort has been done to examine Iran's position individually and based on different Chinese import sectors in the field of energy, and then, based on Iran's exports in that field, the possibility of Iran's increasing role in China's energy supply has been explained.

**Iran's position in supplying Chinese waxes, oils and mineral fuels (2008-2018)**

Iran's position in importing waxes, oils and mineral fuels has been very good. However, this situation has been declining over the last decade. In 2008, Iran accounted for about 10 percent of China's total imports. But this trend has decreased by 4.13% in 2018. The following chart shows Iran's position in the import of waxes, oils and mineral fuels (2018-2018):



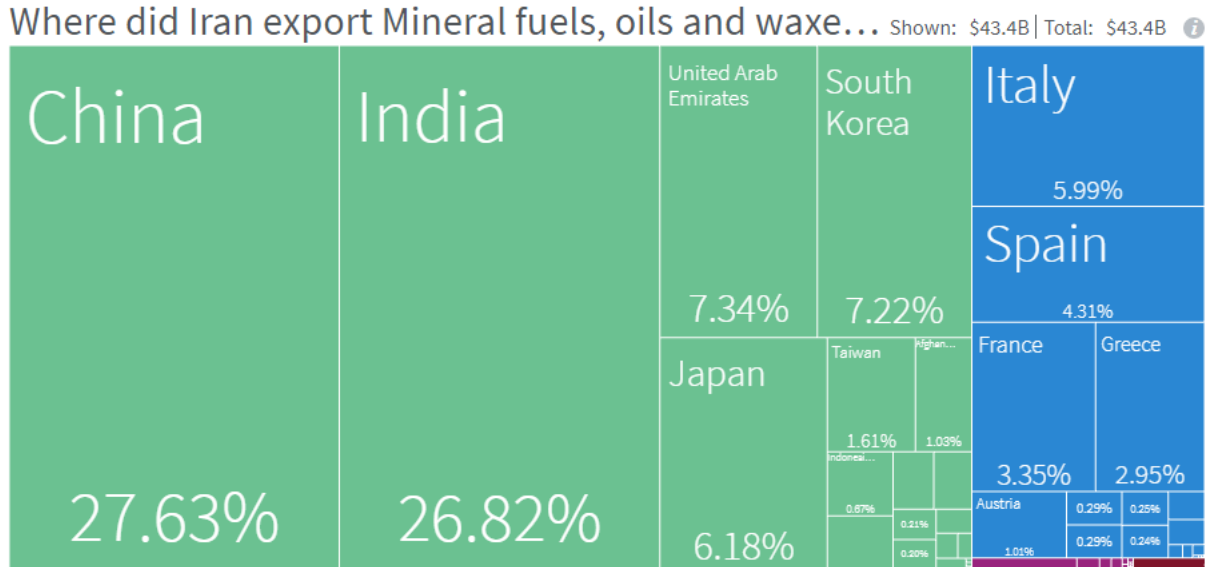
**Iran's position in the import of waxes, oils and mineral fuels (2018-2018)**

Although China's overall imports of wax, oils and mineral fuels have been very low, Iran's exports in this area, as shown in the table below, show that Iran accounts for 28% of its exports to China; In other words, Iran has done most of its exports to China in this area.



**Iran's position in China's crude oil supply (2008-2018)**

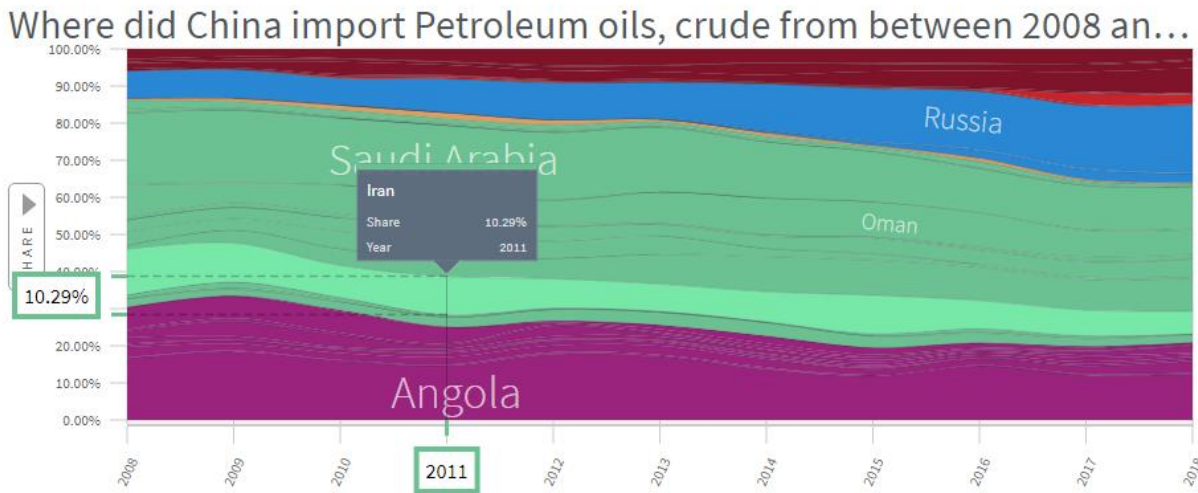
As can be seen in the chart below, Iran's position in China's crude oil supply has almost halved over the past decade. In 2008, Iran accounted for about 13 percent of China's total imports; but this trend has decreased to 6% in 2018 with a downward trend.



**Iran's position in the import of waxes, oils and mineral fuels (2018-2018)**

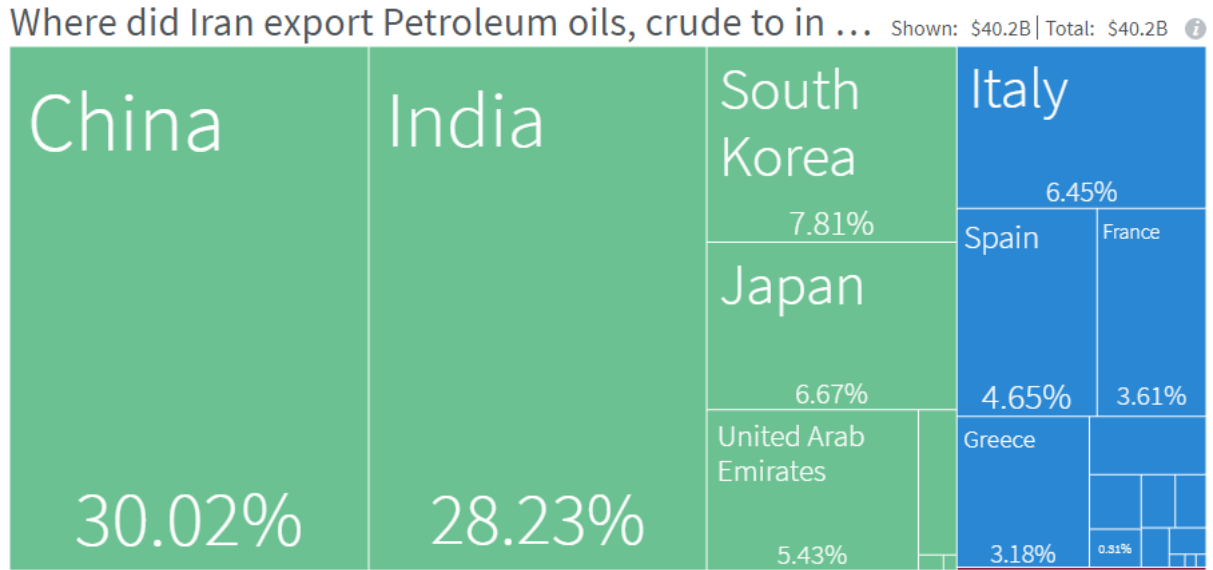
Although Iran has a very low position in China's crude oil imports, Iran accounts for almost a third of its crude oil exports to China. The following table shows the situation of Iran's crude oil exports in 2018 to different countries:

situation of Iran's crude oil exports in 2018 to different countries

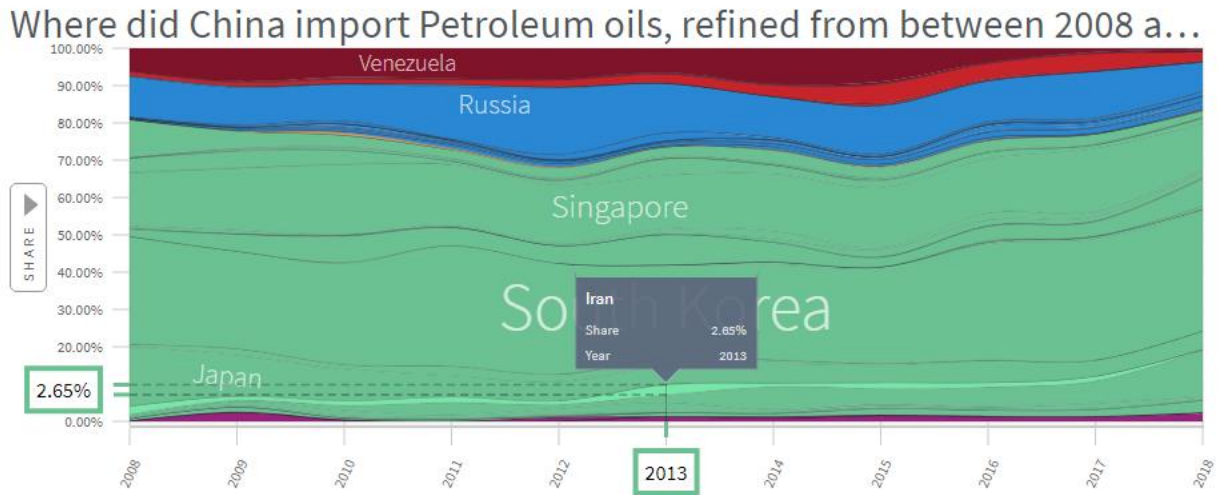


**Situation of Iran's crude oil exports in 2018 to different countries**

Iran's position in supplying China's refined petroleum oils has been very low. In 2013, the highest value recorded was almost 3%. But this amount, as can be seen in the chart below, has dropped to around one percent in 2018.



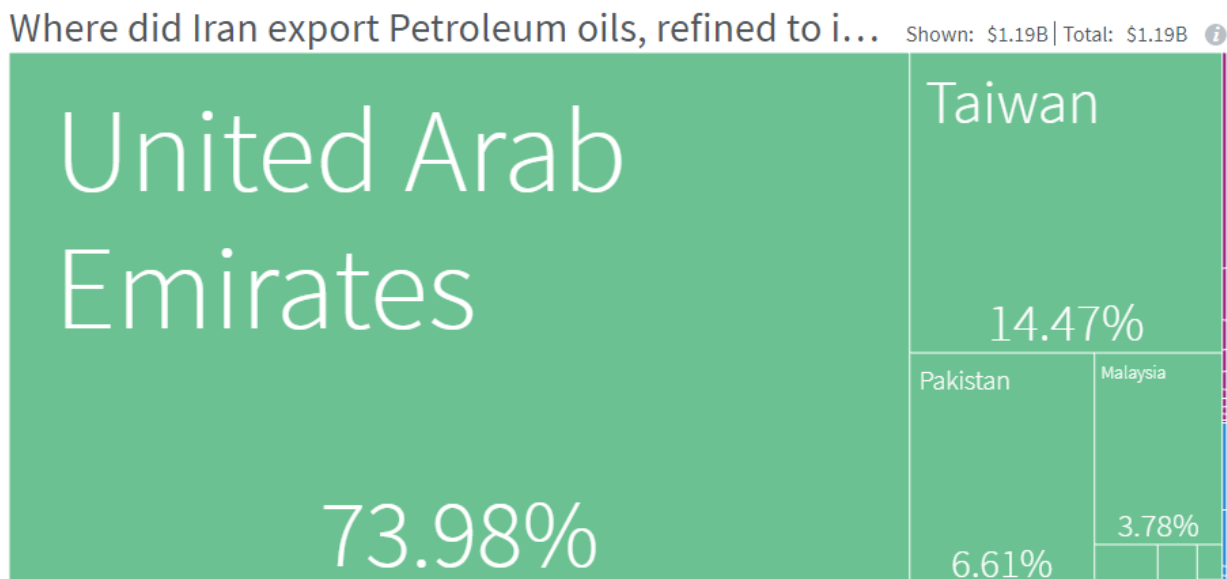
In this regard, when we look at Iran's exports in this area, as shown in the table below, approximately 74% of exports are aimed towards the UAE. This shows that China is in great need in this area, but Iran, in addition to low production, has not done proper marketing.



Iran's marketing's chart

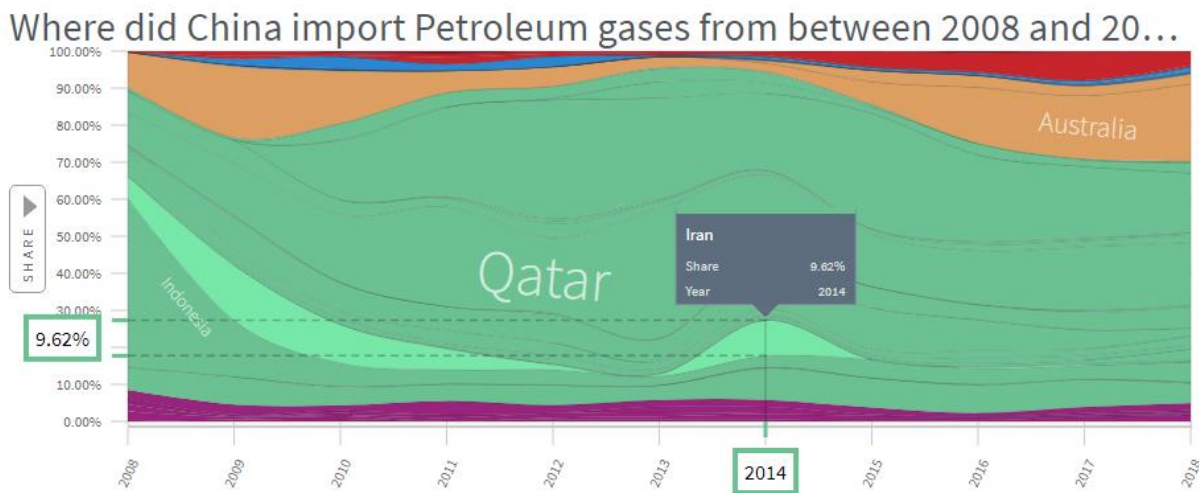
**Iran's position in China's oil gas supply (2008-2018)**

As shown in the chart below, in 2009 Iran accounted for 15 percent of China's total oil gas imports, but this trend has slowed over time, to almost 10 percent in 2014; But since this year, Iran has made almost no exports to China in this area.



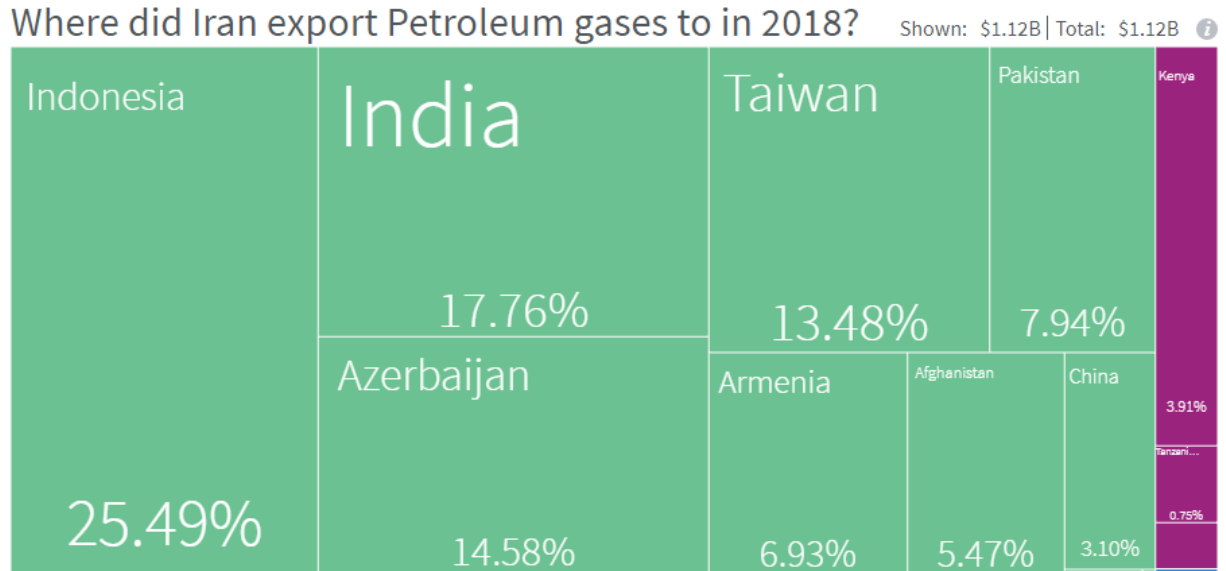
**Iran’s weak exporting status to china**

The chart below shows that Iran also produces oil gas at an acceptable level, but its exports to China have been very small. Almost a quarter of its exports to Indonesia in 2018, and only three percent to China, has left it with no place in China's oil supplies.



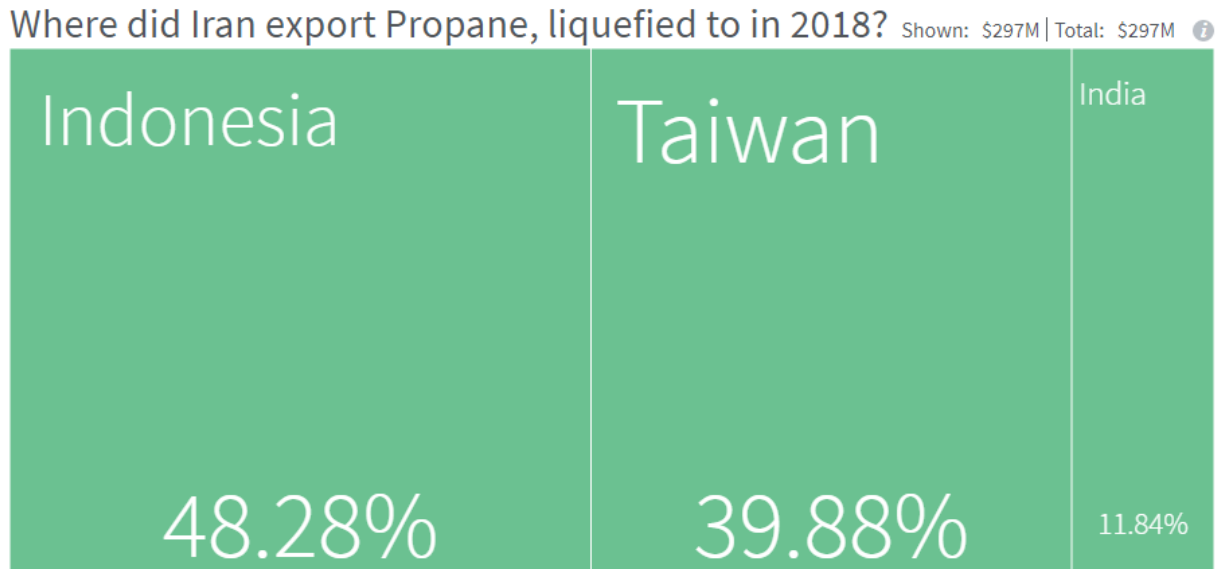
**Iran Gas’ Export Status to China**

The table below shows that in this trend, among petroleum gases, liquefied propane has also been such that Iran had no exports to China in 2018.



**Iran Gas' Export Status to China (petroleum gases)**

Also in relation to liquefied butane gas in 2018, Iran had almost no exports to China. These issues show that Iran has not made proper plans for exports to China. While China has a very good market for these products.

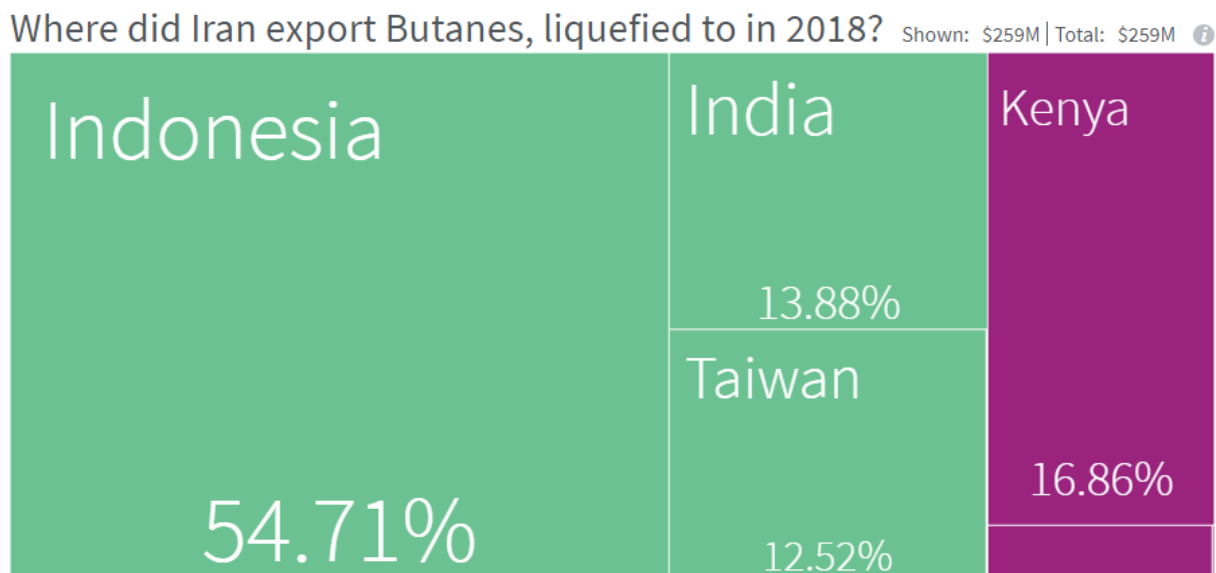


**Liquefied butane gas export's status: in 2018, Iran had almost no exports to China**

**Iran's position in supplying Chinese oil jellies (2008-2018)**

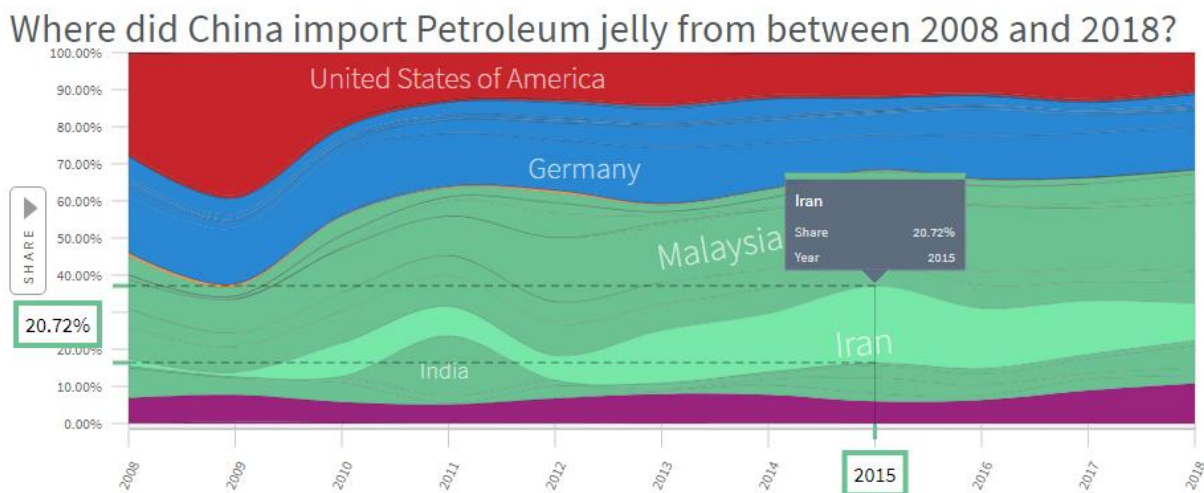
Iran's position in Chinese oil jelly imports has increased over the past decade. This amount has increased from 2% in 2008 to 21% in 2015. However, this amount has decreased to almost 10% in 2018. This shows that Iran has great potential in this field and can meet a large volume of China's needs in this field. (Statistics, 2021: 344)

However, its declining trend indicates that Iran has not adopted a proper strategy to increase or maintain its exports. Iran's position in China's oil jelly imports (2008-2018) can be seen:



**Iran's position in China's oil jelly imports (2008-2018)**

The table below shows the amount of Iranian oil jelly exports in 2018, based on the following data, it can be analyzed that the amount of Iranian oil jelly exports to China was approximately 17%. Therefore, considering that China imports a lot in this field, Iran can increase its exports to this country.

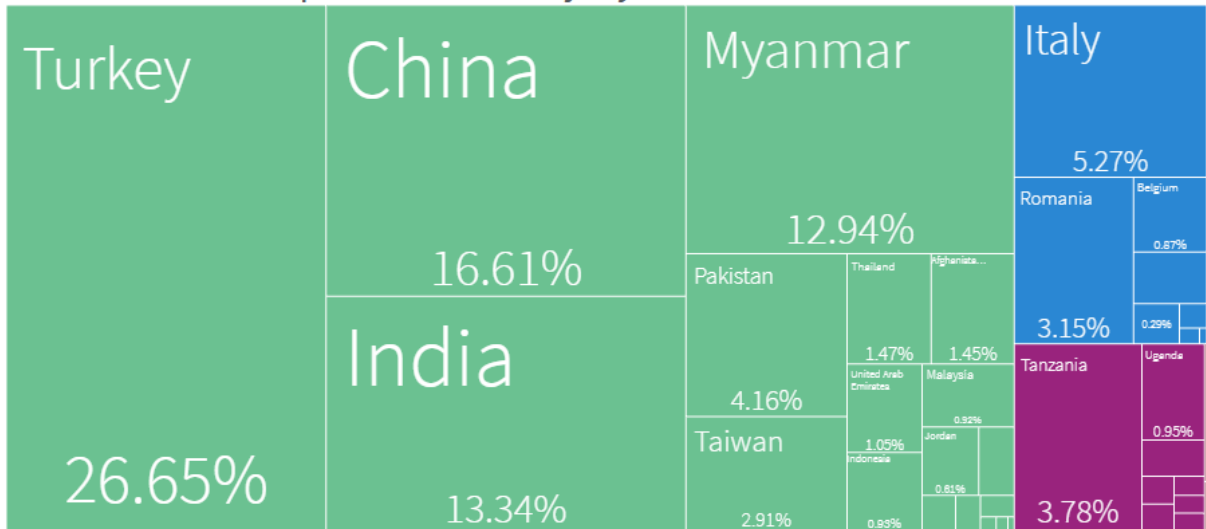


**Iranian oil jelly exports to China**

As shown in the table above, the amount of Iranian paraffin wax exports to China in 2018 was less than one percent of total exports:

### Where did Iran export Petroleum jelly to in 2018?

Shown: \$67.1M | Total: \$67.1M



#### The amount of Iranian paraffin wax exports to China in 2018

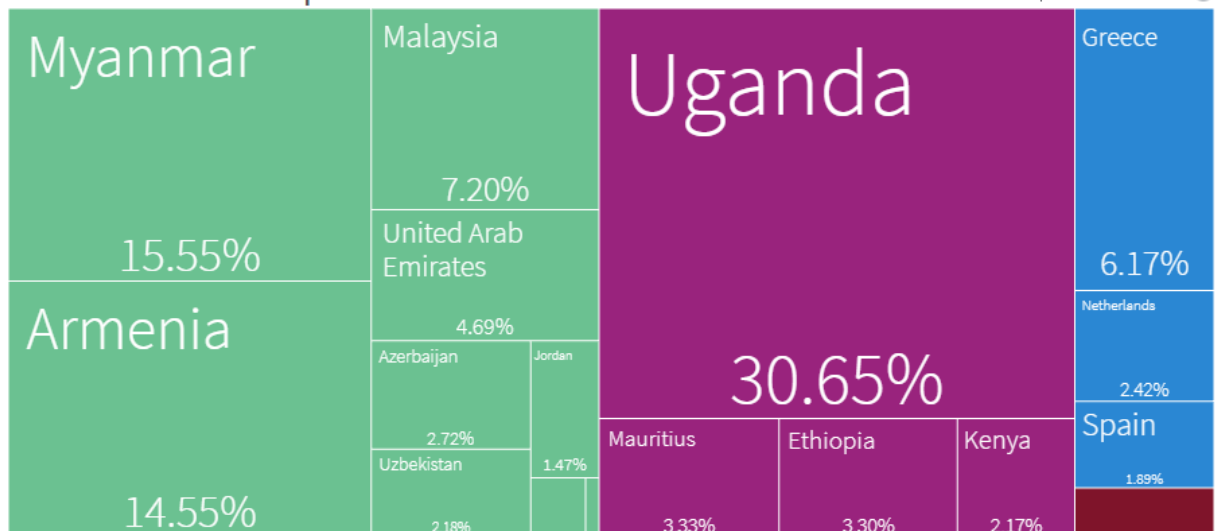
However, unlike paraffin wax, in 2018, Iran has somewhat maintained its exports of mineral waxes. In other words, Iran has exported 18% of its exports to China in this field.

#### Iran's position in supplying Chinese oil coke (2008-2018)

As shown in the chart below, Iran's position in supplying Chinese oil coke has been very low. Although China has imported a lot in this area, Iran has played almost no role in supplying them. It has had almost no exports to China since 2014, although in 2012 it met almost one percent of China's needs.

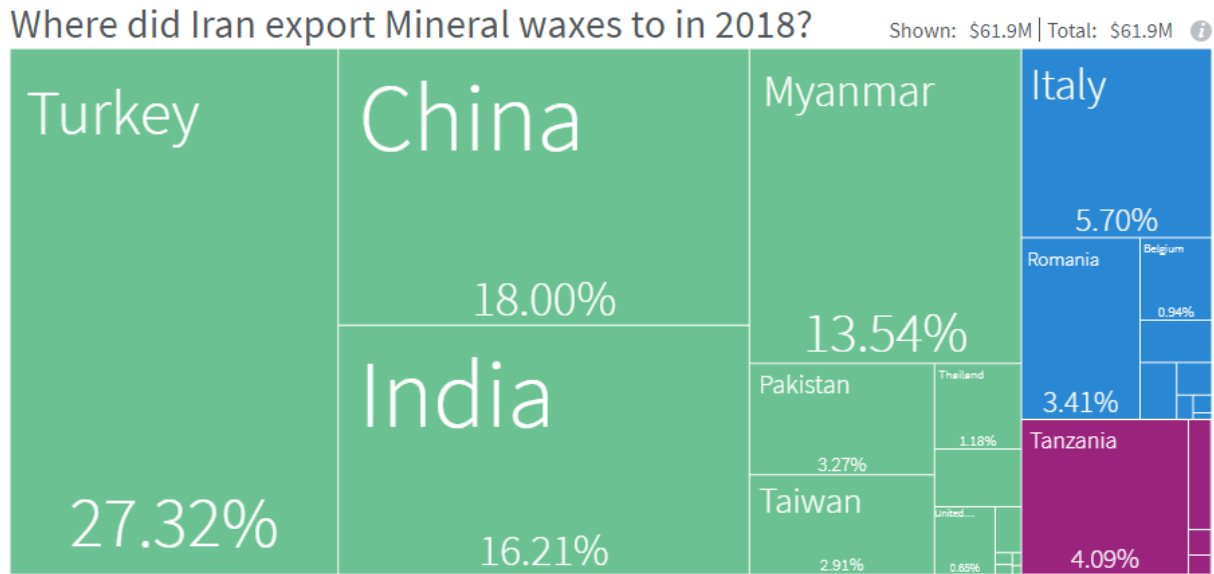
### Where did Iran export Paraffin wax to in 2018?

Shown: \$1.72M | Total: \$1.72M



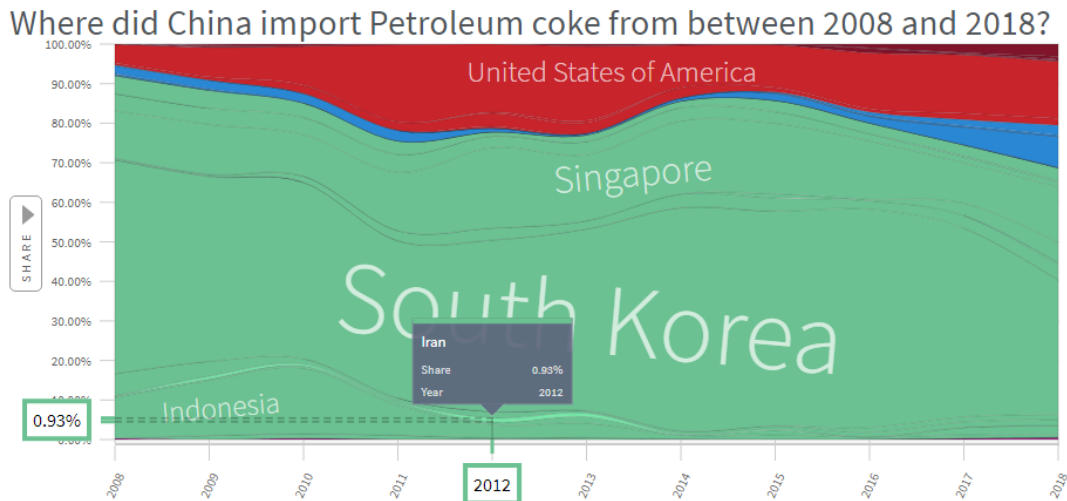
#### Iran's position in supplying Chinese oil coke

The table above shows that in 2018, although the amount of oil coke production in Iran is significant, but Iran's export destinations have not been China and other countries have been targeted by the Iranian policymakers.



#### Iran's position in supplying Chinese oil coke

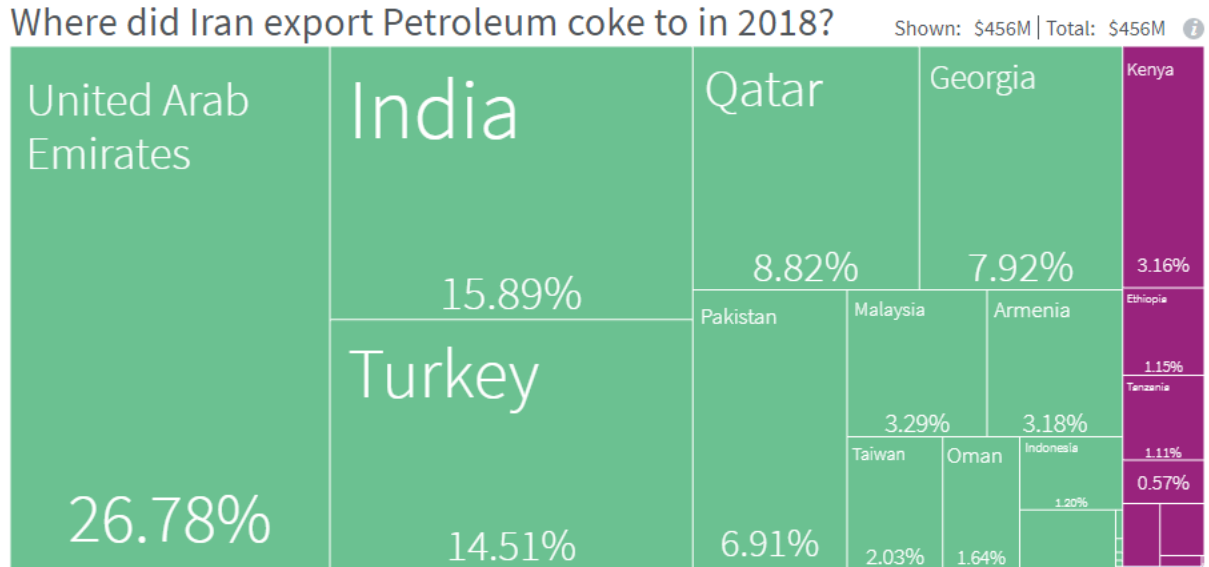
However, in the context, uncalcified oil coke accounted for 100% of Iran's exports to China in 2018. But in previous years, for example, 2017, 100% of Iran's exports were to Pakistan and the previous year to India. This has shown an excess in exports. This means that if China wants, it can put pressure on Iran to buy this product. Therefore, diversity in export destinations should be on the agenda; or other conditions can be designed for this purpose, for instance, China buys Iranian products in other areas as well. Another example of this kind can be witnessed in the field of oil coke, china might increase its imports from Iran so that the process of exporting uncalcified oil coke to them can continue.



#### Iran's position in supplying Chinese oil coke 2



The chart above shows that in 2018, Iran had almost no place in the field of oil bitumen exports to China. In other words, Iran has no place in this field in supplying energy needed by China.

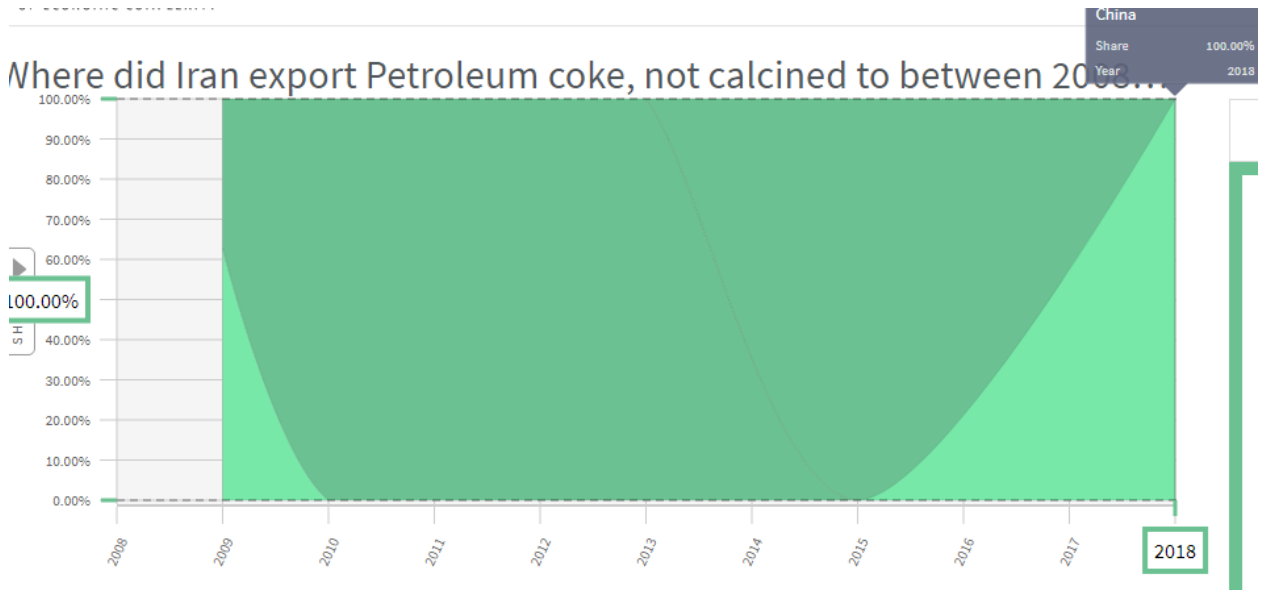


**Oil residues exported by Iran to China**

However, as shown in the table above, very little oil residues have been exported by Iran to China. In other words, 13.24% of Iran's exports in this field have been made to China.

**Iran's position in supplying bitumen and (natural) asphalt to China (2008-2018)**

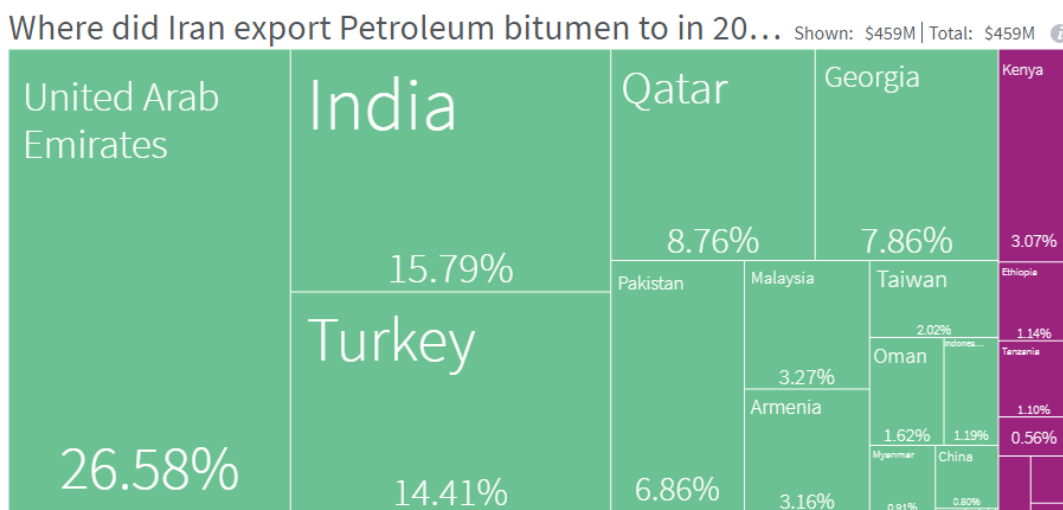
Iran's position in providing natural bitumen and asphalt has been very high. In 2010, Iran supplied one percent of China's product needs, but this trend has increased to almost 44 percent in 2015. However, this amount has decreased over time after this year. So that in 2018 it has decreased to 19%. The following chart shows Iran's position in China's import of bitumen and natural asphalt:



**Iran's position in China's import of bitumen and natural asphalt**



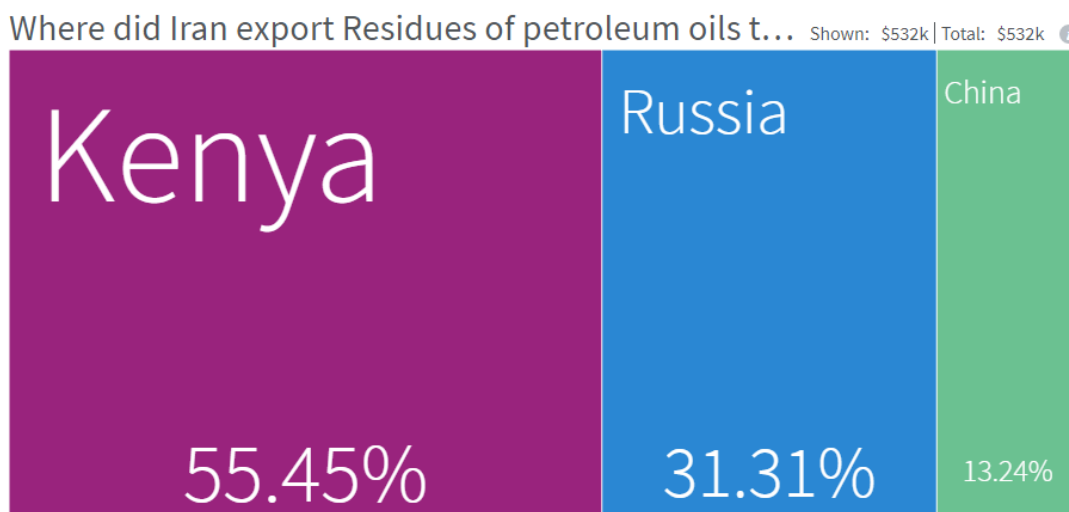
Although in 2018 Iran supplied more than 19% of China's natural bitumen and asphalt, however, as shown in the table below, Iran has issued more than 70% of its product to Oman in the same year. This shows that Iran has the ability to export more to China in this area.



**Iran's position in China's import of bitumen and natural asphalt**

**Iran's position in supplying Chinese bituminous mixtures (2008-2018)**

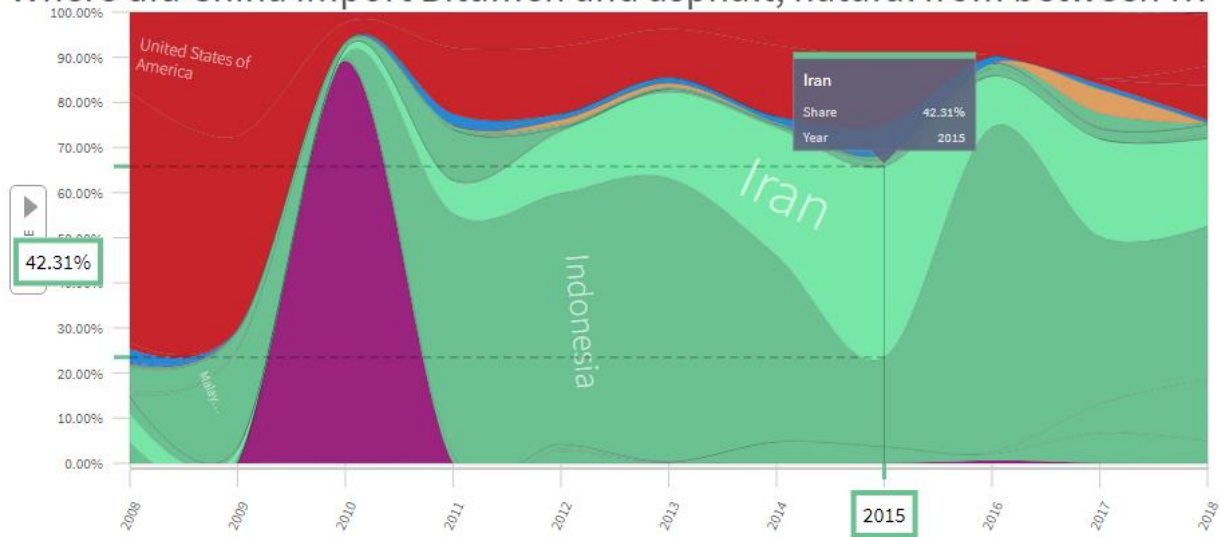
In the field of bituminous mixtures, Iran has no position to supply the energy required by China. Although China has had a small amount of imports, China also feels the need to further diversify its imports. Because a large part of its need, as shown in the chart below, has been met by Malaysia, especially over the last decade.



**Iran's position in supplying Chinese bituminous mixtures (2008-2018)**

Iran has also restricted the export of its bituminous mixtures to several countries, and China has no place in this. So that Kenya has imported almost 78% of Iran's desired product. The following table shows the export destinations of Iranian bitumen mixtures in 2018:

Where did China import Bitumen and asphalt, natural from between ...

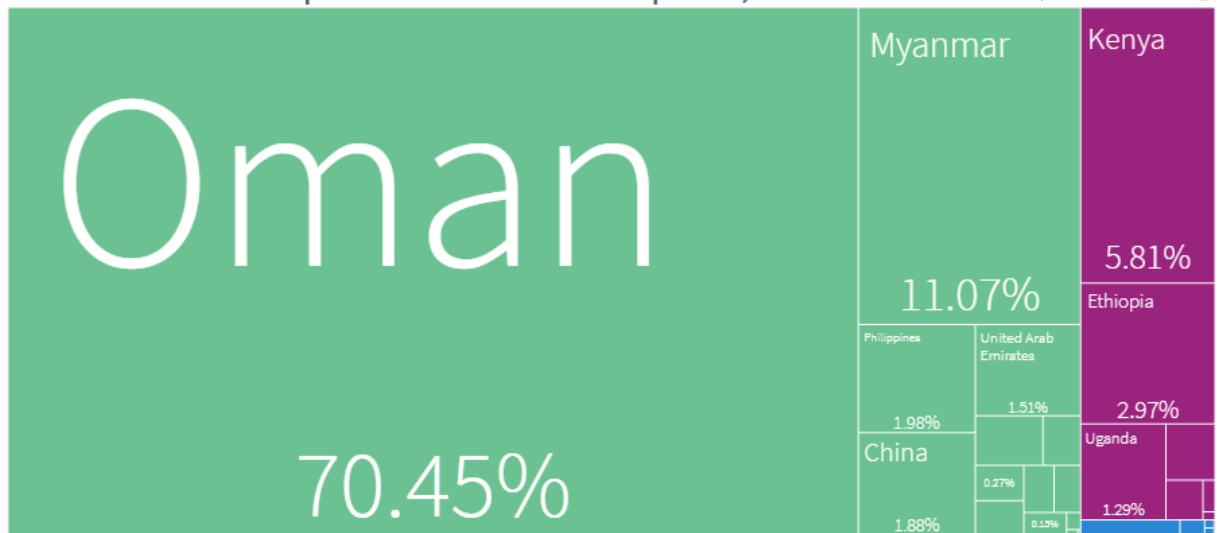


Export destinations of Iranian bitumen mixtures in 2018

Iran's position in China's coal supply

As shown in the chart below, Iran has no coal exports to China. Coal accounts for more than half of China's primary energy consumption. Although China is one of the largest producers of coal in the world, it has also imported it from other countries due to its comparative advantage or needs.

Where did Iran export Bitumen and asphalt, natu... Shown: \$74.9M | Total: \$74.9M



Iran's position in China's coal supply-1

Meanwhile, Iran produces an acceptable amount of coal and can export it to China. This means that if constructive marketing and negotiations take place, Iran can prepare a good market for itself in China (the world's largest consumer of coal).

In 2012, almost 99% of Iran's coal was exported to China, but this trend has slowed down over time and in 2018 has decreased to almost 34%. Although Iran exports a large portion of its coal to China, Iran

supplies about one percent of China's coal, as seen in China's coal imports. This shows that China is in great need in this area and Iran must increase the amount of coal mined and produced using new technologies in order to be able to open a place in the large Chinese market.

## Conclusion

Energy has different renewable and non-renewable domains, each having different types. In principle, Iran can play a role in supplying non-renewable resources, especially oil, gas, condensate and their various types. And it does not yet have the technologies to produce renewable energy. Therefore, in this study, we examined Iran's role in supplying non-renewable energy to gain a general understanding of Iran's exports and imports to China in this area. In this regard, various sectors were probed: crude oil, refined petroleum oils, petroleum gases (liquid butane and propane), petroleum jellies (mineral wax and paraffin wax), petroleum coke (petroleum coke) Uncalcified petroleum coke, petroleum bitumen and petroleum residues), bitumen and natural asphalt and bituminous mixtures. In other sectors, such as calcined petroleum coke, and in some other sectors, Iran has not had any production in that field. Therefore, the data were analyzed based on the status of the verb.

Although Iran's overall position in China's energy supply has been negligible, but by examining various data on Iran's imports and exports in various other fields, it was found that Iran has a high production capacity in many sectors, according to this issue and based on studies, it is said that in the areas under study, China feels a great need and has always sought to diversify its imports, but Iran has no plans in this regard to increase trade with China. In general, in the studied sectors, on the one hand, by doubling the production capacity and proper marketing, Iran's position in China's energy supply can be improved. Another final point is that Iran must increase its production capacity and capability by using new technologies and world-class knowledge; because if Iran exports 100 percent of its production such as coal to China, it will still not be able to supply even one percent of China's energy needs in this area since China, as the most populous and one of the most powerful industrialized countries, needs a lot of energy. Therefore, for increasing Iran's role in China's energy supply and the formation of interdependence, Iran must first increase its production capacity, and then secondary obstacles such as sanctions must be wiped off.

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