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An Overview of Monitoring the country's steel comprehensive Project, 1401

As a strategic industry, the steel industry plays a significant role in the country's economic development. Studies of the the country's steel comprehensive Project, considering the imbalance in the steel chain from mine to product, for the purpose of strategic planning and optimal use of facilities, capabilities and national capital, in order to develop this industry and achieve the goal of the country's vision document (Increasing the crude steel production capacity to 55 million tons in 1404), was compiled in 1393, it has been monitored annually with the aim of examining the steel market and evaluating the realization of the specified goals.

- The current state of the Iran's steel industry

- According to the latest results, at the end of 1401, the nominal capacity of crude steel was 44.32 million tons and the production was 30.43 million tons (with a growth of about 9% compared to 1400). Therefore, for the fourth consecutive year, Iran ranked 10th in steel production in the world.
- The process of building capacity in the country's steel industry has caused the country's steel chain to become balanced.
- Iran's crude steel export in 1401 was 7.37 million tons. Iran, as one of the top exporters of crude steel in the world, was able to achieve a significant export of crude steel in the last few years. Also, the export of steel products this year was 3.58 million tons.
- Crude steel consumption (apparent consumption of steel products equivalent to crude steel) in 1401 is estimated at 19.67 million tons.

-The future state of the country's steel industry in 1404 and after

- Based on the country's vision document, it is planned to increase the crude steel capacity to 55 million tons in 1404. Taking into consideration the plans-achived (the plans that provide the achievement of the mentioned capacity and balance in the steel chain), the crude steel capacity will increase to 55 million tons in 1404.
- What is important about the balance of the chain in 1404 is the need to increase the country's iron ore exploration and extraction programs, Because realizing the country's nominal crude steel capacity and creating a balance in the steel chain requires the production of around 170 million tons of iron ore.

		
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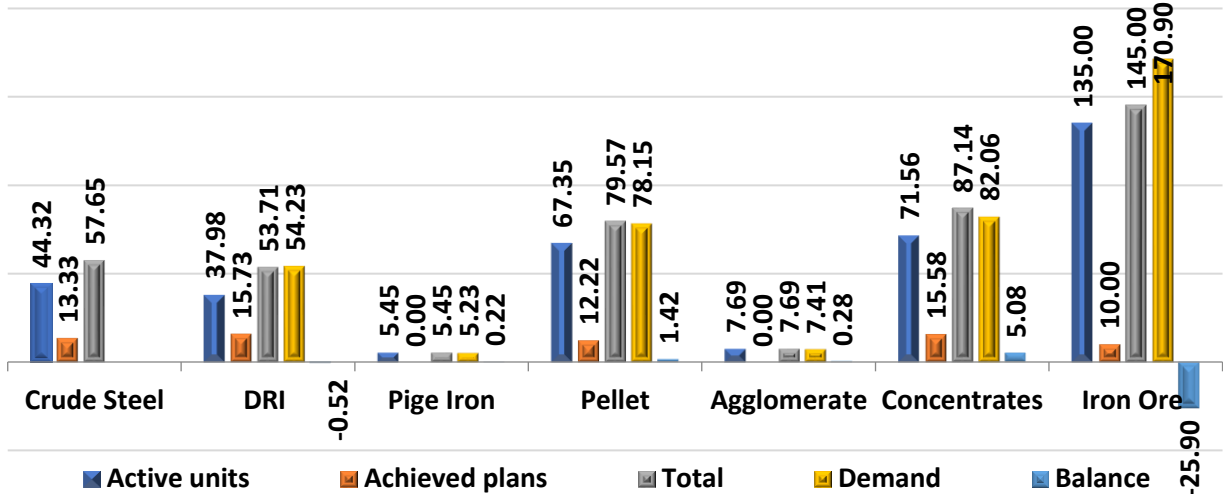


Chart (1): The balance of the steel chain based on achieving the nominal capacity of crude steel in 1404 (million tons)

- The review of steel industry plans shows that the desire for investment is increasing and therefore it is predicted that there will be a possibility of increasing the nominal capacity of crude steel to 65 million tons in the perspective of 1410. Also, supply of raw material of iron ore requires attention and investment. The amount of iron ore required in 1410 will be about 183 million tons.
- Iran's steel export potential calculations show that there will be an opportunity for Iran to export about 8 million tons of crude steel in 1404, which has already reached the expected volume. This amount is estimated to be around 10 million tons until 1410. In steel products, the export potential is estimated at 6 million tons in 1404 and 15 million tons in 1410.
- It is predicted that Iran's steel consumption will be around 22 million tons in 1404. The future trend of steel consumption will show its very mild growth in the coming years. In 1410, it is predicted that the apparent consumption of crude steel will increase to about 26.8 million tons.
- The investment required to achieve the crude steel capacity to 55 million tons in 1404 and to complete the plans will be about 2,751 million euros, which will increase to about 2,834 million euros due to the investment in the required infrastructure. Also, based on the forecast of the increase in the nominal capacity of crude steel and other links of the steel chain until 1410, the total investment in plans and required infrastructure will be around 7,402 million euros.

		
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- Supply of raw material and infrastructure in Iran's steel industry

- **Currently, Iran's geological reserve of iron ore is about 5 billion tons, of which the measured reserve is estimated at 2.9 billion tons, and of this amount, 2.1 billion tons have been identified inferred reserves.**
- **Currently, the total cargo transported by railway is equal to 44.4 million tons, of which 27.5 million tons are related to the steel industry. According to the vision document, it is necessary to add about 1,000 km annually to the country's railway lines, which has been achieved only in about 12% of this goal.**
- **Currently, the total cargo transported by road is equal to 546 million tons, of which 140 million tons are related to the steel industry. It is predicted that road transportation in the steel industry will increase to 150 million tons in 1404 (in order to achieve a crude steel capacity to 55 million tons).**
- **Currently, the total cargo transported by Ship is equal to 151.76 million tons, of which about 20 million tons are related to the steel industry. Sea transportation in the steel industry will increase to 30 million tons in 1404 (in order to achieve a crude steel capacity to 55 million tons).**
- **The total water consumption in the crude steel chain in 1401 was about 170 million m³, and in order to produce 55 million tons of crude steel in 1404, 258 million m³ of water is needed annually (this amount is about 19% more than the amount of water needed for capacity is available). The amount of water needed in 1410 is also estimated at 284 Mm³ per year.**
- **Currently, the consumption of natural gas in the steel industry is equal to 5.3% of the total gas consumption in the country. It is estimated that gas consumption in the steel industry in 1404 is about 18.9 billion m³. This amount will increase to about 24.2 billion cubic meters per year in 1410.**
- **Currently, the share of electricity consumption in the steel industry is about 11.5% of the country's total electricity consumption. It is predicted that in 1404, for the crude steel production to 55 million tons, about 48,191 million kilowatt hours (equivalent to 9,562 megawatts) of electricity will be needed annually, which is about 32% more than the current electricity consumption. This amount will reach about 55,479 million kilowatt hours (equivalent to 11,008 megawatts) per year in 1410.**

		
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- Challenges of Iran's steel industry

- Continuation of the process of capacity building more than needed in the country (especially in rebar product)
- Scattering and improper placement of steel producing units.
- Issuance of excessive licenses in the steel industry: the total licenses issued in 1401 for the crude steel product was about 126 million tons (about 71 million tons more than the 55 million tons target of the country's vision document).
- The low per capita consumption (due to the consecutive economic recessions of the country) and the huge difference with the amount of targeting in the 1404.
- Low variety of export destinations and low retention rate in export markets
- Government intervention in the market in order to regulate the market and the multiplicity of rules and regulations and instructions in all market sectors.
- Problems related to rail and road transportation and port infrastructure.
- Crises related to energy shortages (water shortages, electricity shortages, especially in the hot seasons and gas shortages especially in the cold seasons)
- Imbalance of supply and demand in future market: forecast domestic consumption of about 27 million tons in 1410, against crude steel capacity of 65 million tons.
- Lack of iron ore needed in the future
- Lack of sufficient foreign financing, exchange rate fluctuations and the imposition of sanctions for foreign financing of new projects.
- Lack of sewage collection infrastructure and use of treated sewage
- Exhaustion of power plants and the loss of the country's electricity network is more than the global average.
- Lack of gas distribution network coverage for some steel units and the need for heavy investment for gas transmission.
- The development of gas lines in the country is not synchronized with the development plans of the steel industry.
- Non-optimal use of the output gas of the blast furnace as one of the consumed fuels and reducing the consumption of natural gas and polluting gases.
- Non-optimal use of renewable energies to supply electricity to steel industry projects and desalination plants (to supply water to steel industries).
- Not using hydrogen produced by renewable energies instead of fossil fuels.
- Insufficient attention to the fourth industrial revolution.
- Insufficient attention to green steel production.