



Mobarakeh Steel Complex; a Frontrunner in Self-Supply of Green Electricity

The demand for electricity in Iran is on a constant rise. With an increase in population, a rise in the number of buildings, the addition of household electrical appliances and a growth in global temperatures; the demand for electricity has surpassed its supply during the past decade. However, there are other issues which need to be addressed including; low efficiency in power plants, inefficient and old electrical transmission lines, lack of high-grade building insulation, electricity prices that cannot inject sufficient investment to the sector and the low rate of development in the renewable energy industry. The height of this imbalance is seen in the hot summer months where electricity repeatedly goes off in the factories. As a result, many of the manufacturing plants have incurred major financial damages; over \$6 BLN in 2022-2023; and have repeatedly called for the government to come up with a long-term solution. Interestingly, electricity deficit for the current Iranian year has been estimated at 10,000 MW; a figure that will continually increase if the status quo continues.

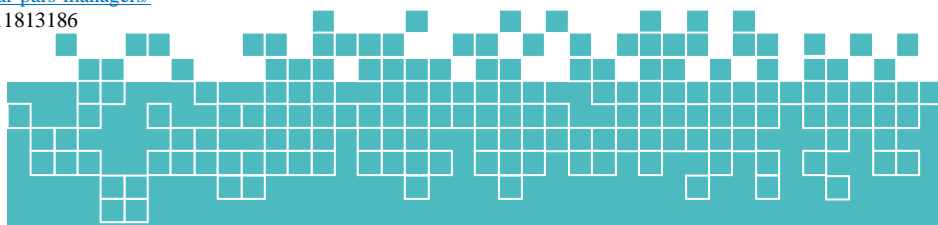
In 2021, the Minister of Energy; Mr. Aliakbar Mehrabian, announced plans for the addition of 30,000 MW of electricity to the grid by March 2026 which have been elaborated on below:

- The addition of 10,000 MW of power plants to the national grid carried out by the Ministry of Energy (MOE)
 - Over 7,000 MW has been connected to the grid by September 2023
- The addition of 10,000 MW of green power plants
 - Over 6,000 MW are being constructed by September 2023
- The addition of 10,000 MW of power plants by the industrial sector
 - This is related to Article 4 of the law on the self-supply of electricity for large-scale electricity consumers in the industrial sector
 - 9,000 MW of fossil fuel power plants with efficiency of at least 55%
 - 1,000 MW of green power plants
 - MoU's for a total of 14,000 MW of renewable energy power plants of the industrial sector have been signed with the Ministry of Industry, Mines and Trade (MIMT) up to September 2023

The move towards on-site electricity generation in industries was initiated in the 2000's but was ground to a halt due to the lack of laws and regulations as well as very low electricity prices. However, the President Raisi government set out to implement this plan which led to the signature of an MoU between the MOE and MIMT for the construction of 10,000 MW solar power plants by large industrial consumers in 2022. In 2023, the plan was turned into a law, leading to a frenzy of activity in the industrial sector to construct their own power plants. According to this plan, industrial complexes that have electricity demand of over 1 MW per day must cover up to 5% of their demand through renewable energy sources by 2028.



By September 2023, a total of 18 power plants of the industrial sector were being constructed with physical progress of 5% to 97%. Interestingly, MOE stated that by March 2024 the industrial sector





will add some 1,295 MW of power plants and by March 2025 and March 2026; an additional 2,754 MW and 5,585 MW will be added to the national grid respectively.

Some large industrial complexes have announced their plans for the construction of green power plants. In total their plans amount to over 1,910 MW of solar power plants as well as 600 MW of wind power plants. Please refer to the below table for further information.

Table 1: Green Power Plant Construction Announcements by Large Industrial Companies

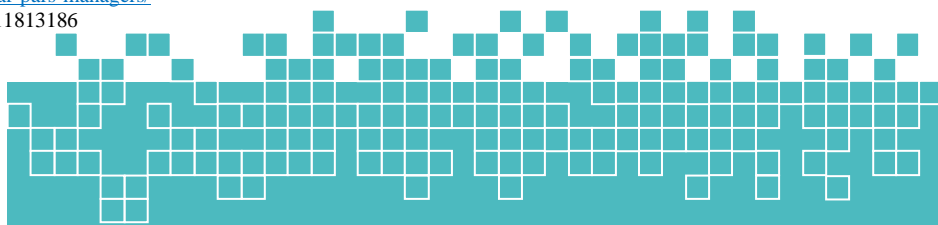
Name of Company	Type of Power Plant	Capacity (MW)	Location (Province)
Isfahan Mobarakeh Steel Complex	Solar	600	Isfahan
Sangan Steel Complex	Wind	200	Khorasan Razavi
Iran National Copper Industries Company	Solar	500	Kerman
	Wind	150	East Azerbaijan
	Solar	275	
	Wind	50	
Sirjan Gol-e Gohar Complex	Solar	40	Kerman
Bootia Iranian Steel Complex	Solar	400	Kerman
Araz Industries Company	Wind	200	Khorasan Razavi
Iran Aluminum Company	Solar	100	Markazi

Source: SATBA

One of the companies that is actively pursuing the construction of green power plants is Isfahan Mobarakeh Steel Complex; the largest steel producer in the Middle East and North Africa (MENA). The electricity cuts have had a negative impact on the company and according to the Managing Director, Mr. Tayebnia, while production in May 2023 stood at 800,000 tons; the figure for August 2023 when the company was faced with electricity cuts reduced to less than half; which means 362,000 tons.



The company signed the EPC contract for the construction of a 600 MW centralized solar plant located in Isfahan Province in June 2023 with MAPNA Group. Through this solar plant, 25% of the complex's electricity requirement will be met and a total of 820,000 tons of carbon emissions and the consumption of 350 million cubic meters of gas will be reduced per annum. The panels used in this project will be 660 watts and will be equipped with solar tracker technology. In addition, Mobarakeh Steel Complex started the construction of a 914 MW combined cycle F class power plant. The plant will





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procure 70% of its required equipment from local sources. The plant is set to be built in less than 18 months with an investment of over \$400 MLN. There are also plans for the construction of a 200 MW wind plant in Sangan, Khorasan Razavi Province.

According to Mr. Tayebnia, the company has invested \$800 MLN in electricity efficiency and environment related projects so far and has plans for a number of water, wastewater and environmental management projects amounting to \$2.3 BLN.

With regards to the number of energy reduction and environmental related projects the Mobarakeh Steel Complex is investing in, it is evident that the company is seeking to comply with future carbon footprint standards and remain the largest steel producing company in the MENA region. Mobarakeh Steel Complex has applied for climate finance mitigation tools for its energy transition projects. However, according to the company, two elements prevented the flow of international climate change funding: Iran's failure to sign the Paris Climate Agreement in 2015 and the country's failure to sign the international anti-money laundering FATF agreement.

***Sources:** Donyaye- Eghtesad, Irasin, ISNA, MAPNA, Mobarakeh Steel Complex, Mehr News, SATBA, SGPM, Shargh Daily*

