



Status-quo of Hydrogen Utilisation in NG COM Member Countries

Roundtable input by ***TÜRKİYE***
ENERGY MARKET REGULATORY AUTHORITY



ERRA Natural Gas Markets and Economic Regulation Committee

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- ***Does your country/organization have a strategy regarding hydrogen? If the strategy is in place please outline its main elements.***
- Our country has a hydrogen strategy document published by the Ministry of Energy and Natural Resources called "Türkiye Hydrogen Technologies Strategy and Road Map", published on January 19, 2023.
- The main elements of the strategy are; The aim is to develop domestic and national electrolyzer and fuel cell technologies by using existing advantages, to produce green hydrogen, and finally to develop storage, distribution and usage technologies in order to make hydrogen usable in different sectors.

- ***What are the main incentives and what sectors do they address?***

- In general, no concretely determined incentive mechanism is mentioned in the strategic plan. However, before the strategic plan, a regulation was issued by the Ministry of Transport and Infrastructure that included hydrogen among the clean energy fuels that would be encouraged as an alternative to fossil energy sources in projects.

- In addition, in 2023, incentives were given by Turkish Energy, Nuclear and Mineral Research Agency for hydrogen technologies and fuel cell R&D programs within the scope of the "Technology and Product Development Projects Support Program".
- These incentives can be given to public institutions/organizations, universities and private sector organizations.

▪ ***Are there any targets set to achieve in the nearest future?***

➤ Goals set in the near future; Firstly, it is aimed to reduce the green hydrogen production cost to 2.4 USD/kgH₂ in 2035 and below 1.2 USD/kgH₂ by 2053, and the installed power capacity of the electrolyzer will reach 2 GW in 2030, 5 GW in 2035 and 70 GW in 2053.

▪ ***Please list the responsible institutions***

➤ The institution responsible for executing the hydrogen strategy in our country is the Ministry of Energy and Natural Resources and its relevant, related and affiliated organizations.

- ***Are there any plans to develop the Hydrogen Market and/or the Regulatory Framework?***
 - Hydrogen is not included in both the law and secondary regulations. However, meetings are held at the ministerial level with multiple participation, including our Institution.
 - However, it should be noted that a separate hydrogen market law can be created for the establishment of a hydrogen ecosystem, and provisions that may be the basis for establishing the regulatory framework for hydrogen can be included in the Natural Gas Market Law, the Electricity Market Law or the Law on the Use of Renewable Energy Resources for the Purpose of Electrical Energy Production.

- ***What has been the level of exposure of the regulator towards hydrogen?***
 - There is a group called "Alternative Fuels" working in the field of hydrogen within the Department of Energy Conversion, which essentially operates under the umbrella of our Regulatory Authority.
 - As the Natural Gas Market Department, hydrogen is not among our priority duties. However, in the coming period, the importance of hydrogen for our Institution will increase even more in terms of injecting green hydrogen into natural gas transmission and distribution networks and also storage. In addition, our Institution may have future-oriented studies due to its natural monopoly feature such as the storage and transportation of hydrogen. In this context, it is possible that some changes can be made in the Natural Gas Market Law regarding the mixing, storage and transportation of hydrogen to natural gas networks in the coming period.

- ***Are there any completed or ongoing tasks/milestones?***

- If we need to evaluate the completed or ongoing tasks or milestones, there are ongoing R&D projects that our Institution is involved in, the budget of which is taken from the tariffs department. However, the fact that hydrogen is a very new subject both in the world and in our country still requires many studies.

▪ ***Are there any Pilot Projects developed or in development?***

- Within the scope of the R&D project given by our institution within the scope of Gazbir-Gazmer (a non-governmental organization formed by natural gas distribution companies) Konya Clean Energy Technologies Project, tests are continuing to mix the hydrogen mixture with natural gas and use it in domestic devices, and to mix the hydrogen mixture into the network without the need for infrastructure changes. In addition, a similar project under the name of energy efficiency is being projected by another private company.
- The second project is; "HYSouthMarmara Hydrogen Valley Project and South Marmara Hydrogen Coast Platform Guided Project". With this project, it is aimed to create an area where hydrogen is produced, stored and consumed, and where companies both produce and use hydrogen.

▪ ***What is the general interest in developing hydrogen networks/markets in your country from the supply side and how many companies have been involved (in rough terms)?***

- Our country's general interests on hydrogen can be summarized as follows.
1. To play a leading role in the world in the production and use of green hydrogen by developing domestic and national advanced technologies.
 2. To establish an effective value chain for green hydrogen from production to end use, based on domestic and national technologies, and contribute to the 2053 net-zero target.
 3. Producing green hydrogen from our domestic resources will not only meet our country's needs but also generate significant foreign exchange earnings through exports.

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- In our country, hydrogen studies are carried out by both the public and private sectors. Although the fact that hydrogen is a new field in terms of opportunities and risks affects the number of participants, this number is considerable in our country.



**THANK YOU
FOR YOUR ATTENTION!**

Havva ÇOLAK
hcolak@epdk.gov.tr