



Ministry of Economy and
Sustainable Development of Georgia

Hydrogen In Georgia

Soso Mindiashvili

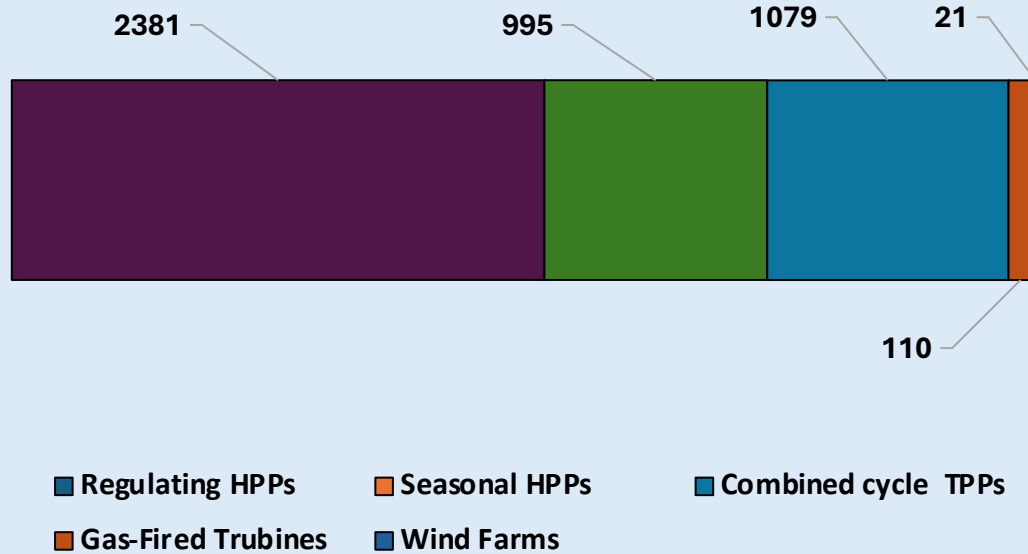
Energy Efficiency,
Renewable Energy Policy
and SDG's Department



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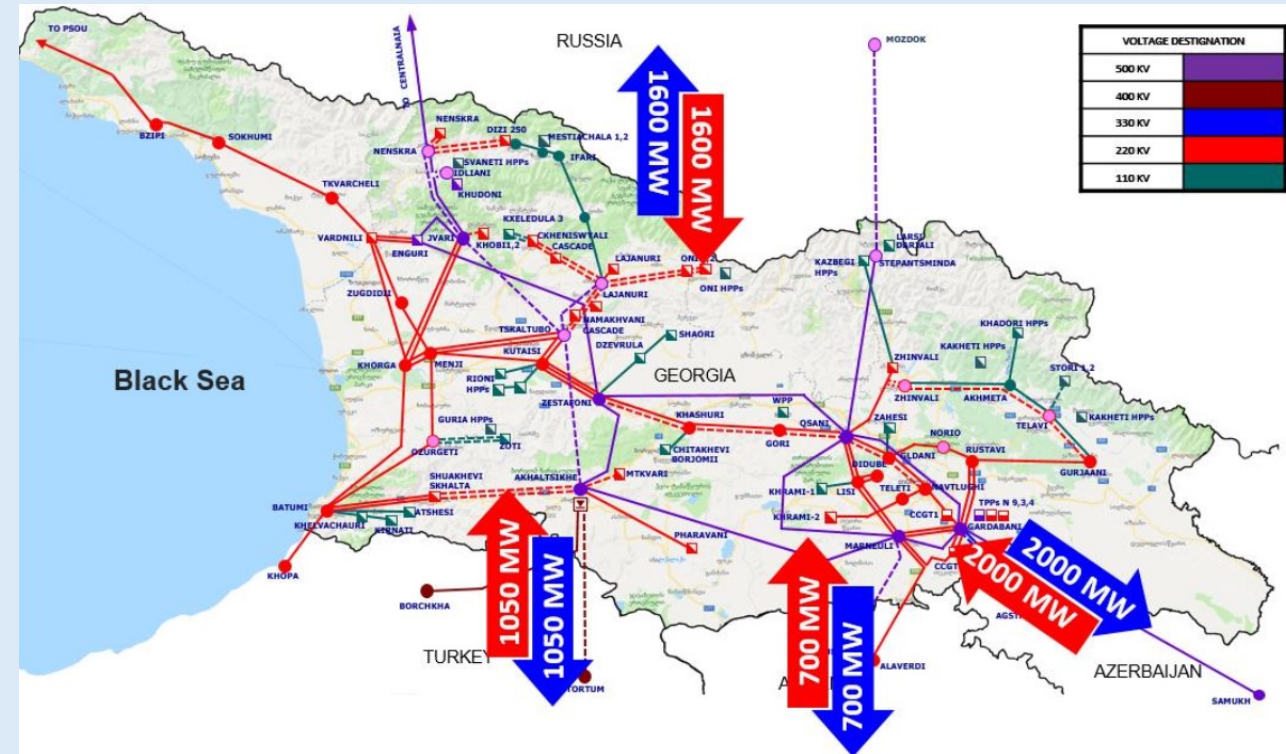


Country Overview



Installed Capacities of the existing power plants

111 HPPs, 7 TPPs and 1 Wind Farm



Cross-border transfer capacities between power systems of Georgia and its neighboring countries as for 2033 according to the Ten year Network Development Plan (TYNDP 2023-2033) of Georgian State Electrosystem

Energy Policy of Georgia

Energy Security	GH2 can substitute natural gas imports, support deployment of VRES (additional flexibility and balancing), longer term storage and minimize hydro spillage or curtailment of VRES.
Decarbonisation	GH2 as RFNBO for RE target in transportation sector under NECP and RED II obligations and used to decarbonize chemical feedstocks.
Economic Development	Generating income from trade and transit of green hydrogen, exports of green products to the EU under CBAM.
International Cooperation	as an energy transit country towards Europe and strengthening the prospects for EU integration.
Technological and scientific advancement	Through research in local institutions and overall technological knowledge accumulation in local enterprises.
Reducing environmental impact	Of the energy sector and related externalities.

Steps of Green Hydrogen Development in Georgia



ON JULY 28, 2022, BY ORDER № 1-1/330 OF THE MINISTER OF ECONOMY AND SUSTAINABLE DEVELOPMENT THE COMMITTEE FOR PROMOTING THE DEVELOPMENT OF HYDROGEN ENERGY WAS ESTABLISHED. THE MAIN GOALS OF THE COMMITTEE ARE:



EVALUATE THE PROSPECTS OF HYDROGEN ENERGY DEVELOPMENT IN GEORGIA AND THE SOCIO-ECONOMIC IMPACT OF HYDROGEN PROJECTS, ACCORDING TO WHICH RECOMMENDATIONS WILL BE MADE FOR THE COUNTRY'S ENERGY DEVELOPMENT.



SUPPORTING A NATIONAL STRATEGY;



DEVELOPING THE ROADMAP FOR HYDROGEN NATIONAL STRATEGY;



DEFINING AN ADDITIONALITY FRAMEWORK;



SUPPORTING AN INCREASE OF RENEWABLE ELECTRICITY CAPACITIES FOR HYDROGEN PRODUCTION.



THE CHAIRMAN OF THE COMMITTEE IS JSC GEORGIAN ENERGY DEVELOPMENT FUND.

Pilot Project

Potential pilot projects for the immediate future include:

- Production of GH2 and injection in “Rustavi Azot” in the Haber-Bosch process to produce green ammonia and green fertilizers as well as the use of green ammonia for export or for maritime transport could be developed.
- Production of GH2 for its use in metallurgy or future oil refining with a further test of market opportunities for green products.
- Hydrogen blending in the gas network to study the effects and the operation of equipment in selected applications.
- Use of hydrogen electrolyzers in conjunction with hydropower plants for balancing of medium or large size variable solar and wind power variations in the power system.



Georgia has established climate targets and is working on a H2 policy

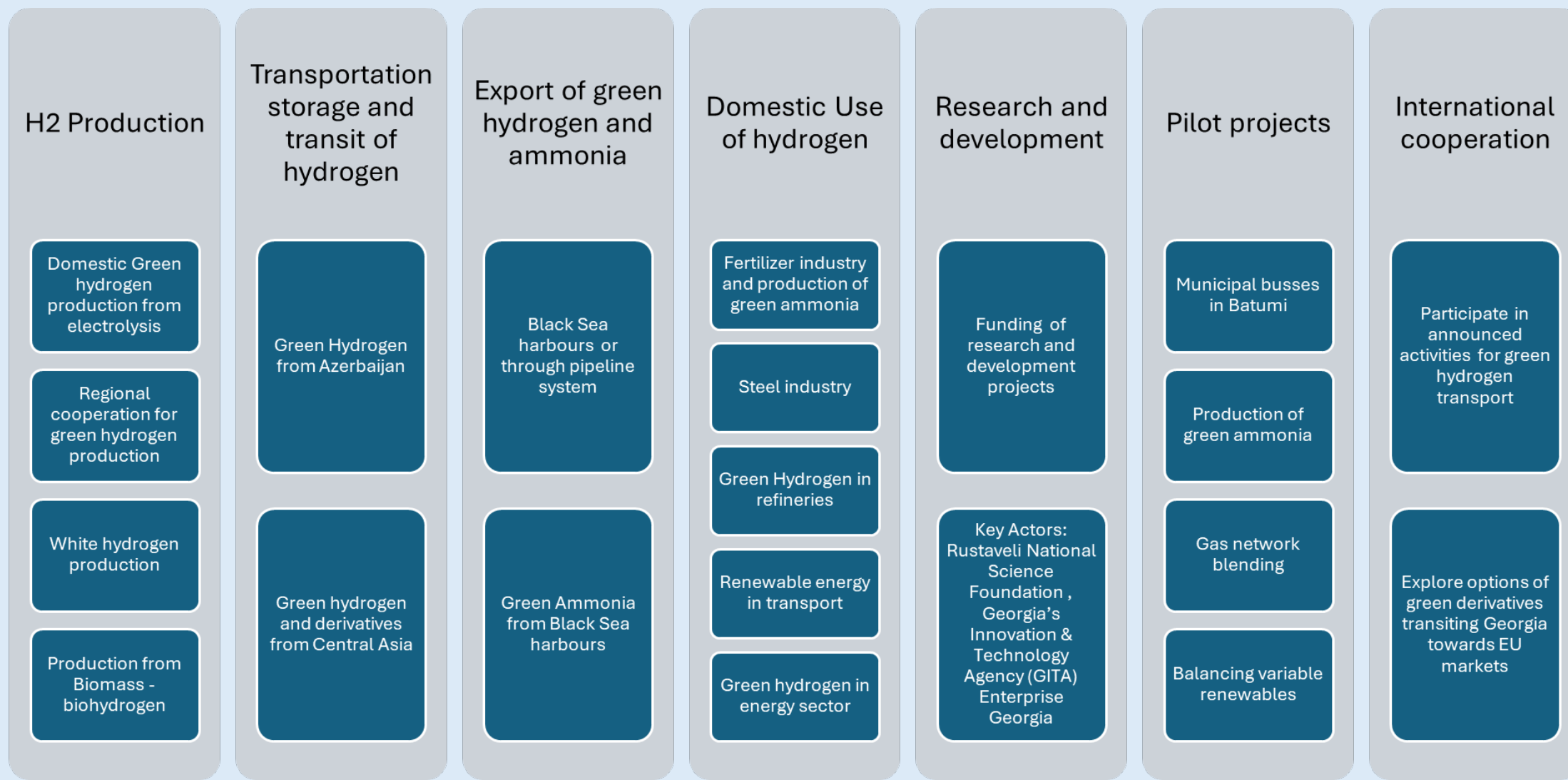
- The Government targets to increase the renewables share in the energy mix to 27.4% by 2030. Georgia's current final energy consumption is dominated by natural gas (39%) and oil (28%).
- Georgia's second NDC commits the country to limiting GHG emissions unconditionally to 47% below 1990 levels by 2030 and conditionally to 50% to 57% by 2030.
- Green H2 would allow the country to reduce emissions in difficult-to-abate industries and areas such as transport, heating, chemical and steel manufacturing and power generation. Georgia has potential to produce green H2 from local renewable energy sources.
- The H2 sector could contribute to the creating of new jobs generated in equipment installation and operation



Green Hydrogen Strategy of Georgia

- The Ministry of Economy and Sustainable Development of Georgia (MoESD) signed a memorandum of understanding in cooperation with the Georgian Oil and Gas Corporation (GOGC), Batumi Municipality Hall and the German Reconstruction Credit Bank (KfW). The purpose of the agreement is to work together on the development of the green hydrogen pilot project and its full value chain. The total cost of this pilot project is 1,3 mln EUR.
- Green hydrogen strategy was developed within the framework of this. The document was developed in consultation with the following organizations: **GOPA-International Energy Consultants GmbH, Center for Renewable Energy Sources and Saving, MRC Consultants and Transaction Advisers, GOPA Infra GmbH.**
- Georgia will take a leading role in the development of a regional green hydrogen economy, by capitalising on its strategic location and the existing industrial experience related to hydrogen derivatives. The significant hydropower potential and reasonable wind and solar potential of the country, can be utilised for hydrogen production, exploiting the seasonal variability of hydro and the flexibility that can be offered to the power system by electrolysers.

Priorities for Georgia



The benefits for Georgia achieving this vision will be

- Energy Security, substituting natural gas imports and supporting further deployment of renewable electricity generation;
- Decarbonisation of the energy sector, in line with the net-zero carbon vision for 2050;
- Reduction of the environmental impact of the energy consumption;
- Economic benefits through income from trade and transit of low-carbon hydrogen, and exports of green products;
- Strengthening of its international role as an energy transit country towards Europe;
- Technological and scientific advancement, through research in local institutions and overall technological knowledge accumulation.

Thank You!

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