Hydrogen energy storage bulgaria

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As a member of Hydrogen Europe, we at BGH2A actively participate in the shaping of the European Hydrogen policy. Our current members represent all the major parties from the Bulgarian hydrogen environment united around the idea of the hydrogen economy. We are one of the first members of Clean Hydrogen Alliance elected to take part in the Round Table of Clean Hydrogen production where we advocate for even distribution of hydrogen production between the regions and countries, which is missing in today"s European hydrogen map.

Hydrogen, the lightest and most abundant element in the universe, can be used on planet Earth as a storehouse for renewable energy. This will make our economy clean, circular and sector-integrated through the deployment of hydrogen technologies. If in the beginning of the twenty-first century this was still a strategic goal, now it is already a realistic opportunity with the main advantage to ensure large scale decarbonization, which we need to save our planet.

Hydrogen can be obtained by electrolysis, i.e. by splitting water to hydrogen and oxygen using renewable energy and to regenerate electricity through fuel cells when and where needed – in industry, household, transport. The waste product from this conversion is again water, i.e. the energy cycle is circular: “from water to water”, as it is in the natural water cycle. But hydrogen is also a valuable raw material for a number of industries – steel production, ammonia, refineries.

Replacing hydrogen production from natural gas with electrolysis will automatically bring to a significant decarbonization of the economy. The analysis of hydrogen application zones shows that, like fossil fuels (coal, oil), hydrogen is a universal energy carrier and raw material and can be the backbone of the hydrogen economy, providing it with full sector integration.

BGH2A promotes the hydrogen and fuel cell technologies in Bulgaria and in the region and provides a network for hydrogen and fuel cell research, development and demonstration projects. Contact us to get in the loop.

Bulgaria"s National Hydrogen Roadmap, directed by the Ministry of Innovation and Growth, aims to stimulate hydrogen technologies across industry, energy, and transportation sectors. Aligned with broader European decarbonization objectives, it outlines a green hydrogen production plan and emphasizes regulatory, financial, stakeholder, and public engagement components. Petar Murginski"s analysis offers valuable insights into these strategic shifts and their transformative potential.

The European Union recognizes the importance of hydrogen technologies in achieving its environmental objectives, as highlighted in the European Green Deal and the Hydrogen Strategy for a Climate Neutral Europe. Hydrogen, with its multifunctionality as a feedstock, fuel, energy carrier, and storage medium, holds

significant potential for reducing carbon emissions in challenging sectors. However, hydrogen technologies and decarbonization measures currently have a minor position in Bulgaria"s strategy documents.

To address this gap, Bulgaria"s National Hydrogen Roadmap, part of the National Recovery and Sustainability Plan, is pivotal for achieving the Green Deal"s targets and decarbonizing the economy. This roadmap sets the foundation for advancing the hydrogen economy over the next decade, with activities planned from 2023 to 2026.

Bulgaria"s National Hydrogen Roadmap aligns with international and national strategies, including the UN Sustainable Development Goals, the European Green Deal, and the Paris Agreement. By aligning with the EU"s goal for climate neutrality by 2050, Bulgaria reinforces its commitment to cut greenhouse gas emissions. The roadmap also corresponds with national strategies such as the National Development Program Bulgaria 2030 and the Innovation Strategy for Smart Specialization 2021-2027.