

GME NEWSLETTER – The new issue has been published

Rome 17 January 2022 – The new issue of the Gestore dei Mercati Energetici (GME) newsletter is online, downloadable from the website <https://www.mercatoelettrico.org>.

The newsletter opens with a comment by Agata Gugliotta and Gian Paolo Repetto of the RIE on the state of the green and low carbon gas sector and the proposals of the new EU package. *"For some years now, renewable and low carbon dioxide gases have played an important role in the EU political-energy agenda. There are several reasons that drive the European Commission to focus attention on these sources - explained the two RIE researchers -: the contribution they can make to the achievement of the ambitious decarbonisation objectives that the EU has set itself, also due to the possibility of using them in transport and in so-called 'hard to abate' sectors", "the opportunity to allow existing natural gas infrastructures to continue to play a central role in a more decarbonised energy system", "the modularity and programmability of their production process and the possibility of being stored" and "with regard to biogas and biomethane, the positive effects that they can provide in terms of circular economy for the agricultural and livestock sector, for the agri-food industry and for the treatment of sewage sludge and urban organic waste".*

From the point of view of production, based on the latest data available, *"global biogas amounts to approximately 32 mil. of toe, equal to 400 TWh or approximately 40 billion cubic meters of gas, corresponding to just 1% of the world production of fossil gas" with "Europe, China and the United States accounting for around 90% of world production",* underlined Gugliotta and Repetto, adding that the biomethane industry worldwide still remains a niche business: *"In 2018, production stood at 3.5 mil. toe (approximately 4.3 billion cubic meters), just 0.1% of natural gas consumption. Much of the production is concentrated in Europe, but significant volumes are also recorded in Brazil, China and India which have tripled their plants since 2015".*

Hydrogen, instead, *"has been used globally for many years and consumption levels are now around three times as high as they were in 1975. Around 90 million tons were used in 2020, of which 70 were used in pure form, while less than 20 were mixed with carbon-containing gases for the production of methanol and in the steel industry.",* highlighted the two RIE analysts.



This is the framework for the EU's "Fit for 55" initiative on biogas and biomethane, renewable and low-carbon hydrogen and synthetic fuels (E-gas) which will have to gradually replace fossil natural gas, covering very significant shares of gaseous fuels in the energy mix towards 2050. *"Specifically, the scenario taken as reference (the so-called 'Mix55') for the preparation of the proposals and impact assessments of the December gas package sees a share of gaseous fuels by 2050 of around 260 Mtoe, substantially in line with that expected by 2030, which instead shows a significant decrease compared to the 310 Mtoe of 2020 - Gugliotta and Repetto specified -. What substantially changes between 2030 and 2050 is the composition of the gas mix, which at the earliest date still sees a clear prevalence of fossil methane (around 240 Mtoe), but which by 2050 would drop to approximately one fifth of the total, with the remainder of around 75% covered half by hydrogen and the rest by biogas (30%) and synthetic methane (20%). According to the intentions of the Commission, the new package (Regulation and Directive) should lay the foundations to allow the market to decarbonise gas consumption by proposing the necessary political measures to support the creation of optimal and dedicated infrastructures, as well as efficient markets."*

From these figures what is therefore evident is that to date *"the European energy system still appears far from a significant level of development of green and low-emission gases. Despite the theoretical potential and ambitious programs, initiatives and projects, albeit growing, are still limited with some way to go to be able to assess the EU's objectives as realistically achievable - admitted the RIE analysts -. Nowhere in the world are there still developed and regulated internal markets for renewable and low-carbon gases, so the regulation undertaken by the EU, in order to establish the first conditions for the growth or creation of new supply chains, is a new and never travelled road"*.

For this reason *"it is not easy to predict with a sufficient degree of confidence and credibility the times in which a full transition to green gases can realistically take place, remaining within the boundaries of economic sustainability, of available resources and of the constraints imposed by technological development - stated Gugliotta and Repetto in their final comments -. Faced with a greater interest of policy-makers towards hydrogen given its theoretical potential as an energy vector, biomethane, although still very modest in size, seems to have greater technological/industrial maturity and fewer unknowns. The*



IEA estimates that the potential of sustainable biomethane is 20 times the current production levels, equivalent to nearly 20% of the global demand for natural gas. Beyond the optimistic assessments, a decisive scale-up of projects and initiatives with a medium-long term horizon will still be necessary - the conclusions reached by the two RIE researchers -. Furthermore, it has been underlined by some European sector associations that the future development of gas networks should consider the necessary adaptations to accommodate higher quotas of biomethane and other renewable gases. The strengthening of the networks will also involve the distribution networks, also requiring further investments to reach the rural production sites. Operators will therefore have to adapt infrastructures to be able to adequately manage a system with varying types of gas and multiple injection points."

The new issue also includes the usual technical comments relating to the national and European electricity and environmental markets and exchanges, the section dedicated to the analysis of the trends in the Italian gas market and the analysis section on the trends in Europe, which explores the trends on the main European commodities markets.

The new GME publication also reports, as is now customary in January, **the annual data on electricity market negotiations for the year 2021**.

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