

# Hydrogen revolutionises commercial glass production: **HRASTNIK1860** breakthrough



Setting current industry trends in sustainability, HRASTNIK1860 has become a leader in green glass. With packaging that includes premium bottles fueled by 60 percent hydrogen – which reduces the carbon footprint by over 30 percent – the company now plans to expand low-carbon glass production – cementing its commitment to environmental responsibility as it continues to shape the industry’s future.

In a groundbreaking achievement for the glass packaging industry, Hrastrnik1860, a member of Vaider Group, recently accomplished the successful industrial production of premium glass bottles – all while using hydrogen as a primary energy source. A truly historic milestone, not only does this mark a pioneering integration of hydrogen into the glass manufacturing process. It also positions Hrastrnik1860 as a leading European producer of top-tier glass packaging – thereby spearheading a green transformation within the industry.

### **BREAKING RECORDS**

With its impressive 60 percent hydrogen content employed in the glass melting process, Hrastrnik1860 has succeeded in reducing the direct carbon footprint of the melting procedure by over 30 percent – a feat that significantly surpasses standard industry practices. Such a triumph not only solidifies the company’s standing as a trailblazer in high-quality glass production. It further underscores its commitment to environmental sustainability.

Addressing previous reservations about the feasibility and economic viability of producing premium glass with a substantial proportion of hydrogen,



Hrastrnik1860 has unequivocally dispelled these concerns through its groundbreaking development. Indeed the company’s success here affirms that the replacement of natural gas, the conventional energy source in glass production, is not only possible but entirely in alignment with existing quality requirements.

### **WORDS FROM THE LEADERSHIP TEAM**

Said Tilen Sever, Director of Development, Technology and Innovation: ‘Tilting the hydrogen content in the mixture with natural gas beyond 50 percent significantly affects the combustion characteristics of the mixture. However, we have success-

fully used hydrogen on individual burners up to 100 percent, with an average usage of 62 percent for melting.’ Crucially, too, Sever emphasised that ‘the combustion efficiency when using hydrogen was similar to that of natural gas. Indeed hydrogen had no significant impact on the clarification and discolouration of the glass, thus allowing us to maintain product quality within existing technological limits.’

Said Matevž Fazarinc, Executive Director of Steklarna Hrastrnik: ‘Reducing the carbon footprint has been one of our central strategic goals for a long time. Prior to the use of hydrogen, other steps were taken, such as reducing the proportion of natural gas consumption

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in favour of electricity produced from renewable sources (photo-voltaics), including a significant portion from our own production. Now, we are adding hydrogen to demonstrate that we can truly introduce alternatives in production processes to reduce the use of fossil fuels.'

The strategic move towards sustainable practices aligns seamlessly with the evolving preferences of end consumers, who increasingly seek environmentally conscious products. This trend has not gone unnoticed by Steklarna Hrastnik's strategic partners and prestigious brand owners, reinforcing the notion that continuous innovation towards decarbonizing production is becoming a pivotal competitive advantage in the glass industry.

Peter Čas, CEO of Steklarna Hrastnik and Vaider Group, expressed confidence in the company's trajectory by asserting 'its rightful place among the leading producers of premium glass packaging, which is not only of exceptionally high-quality and aesthetically refined but also the most sustainable.' Čas went on to say that 'this market position is by no means given to us;



we earned it through strategically-planned and successfully-executed transformation of the glassworks years ago, targeted and extensive investment cycles, hard team work, and continuous innovation. All of this has led to proudly presenting the best practices of sustainable production, pushing boundaries in the entire industry, and thereby setting new trends. These are excellent foundations for the continued successful development of

the Vaider Group and Steklarna Hrastnik.'

## LOOKING AHEAD

Steklarna Hrastnik plans to build upon this success by initiating new production series for strategic partners in 2024. Initial estimates project that the share of low-carbon glass packaging, produced with hydrogen and other sustainable technologies, could constitute up to 15 percent of the company's total production in the coming years. This ambition not only solidifies the company's commitment to sustainability but also expresses the joint ambition of Vaider Group and Steklarna Hrastnik to shape the future of environmentally-responsible glass production.

## ABOUT HRASTNIK1860

A member of Vaider Group with two production units located in Hrastnik, Slovenia, and more than 160 years of tradition, Hrastnik1860 is a renowned global partner in the development and manufacturing of world-class engineered glass products. The company is famous for creating technically-demanding bottles, primarily in the spirits segment, and offers an extensive range as a full-service solution partner - from R&D and consulting to innovative design, prototyping, manufacturing, decoration and reliable delivery.

Being made of top-quality glass, HRASTNIK1860's products are acclaimed for their perfect crystal shine and are entirely free of heavy metals. These products are distinguished by a combination of style and quality, ranging from traditional designs to innovative, award-winning solutions that have received recognition and won prestigious awards such as the Red Dot Design Award, German Innovation Award and other design-related honours. Hrastnik has also been honoured with the EcoVadis Gold Medal and Platinum Certificate for its sustainability efforts.

HRASTNIK1860

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