



FUELLING THE FUTURE:

BUILDING A GREEN HYDROGEN ECONOMY

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ABOUT VOICES OF SUSTAINABILITY

Voices of Sustainability is a thought leadership platform launched by the Zayed Sustainability Prize to explore the challenges and opportunities of the global transition to an inclusive and

prosperous future. Each month, the series hosts some of the top global thought leaders to discuss the latest trends and themes in the sustainability agenda.



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INTRODUCTION

On 31 May 2023, Shigeru ‘Sam’ Muraki and Dr. Enass Abo-Hamed engaged in a Voices of Sustainability virtual fireside chat, hosted by the Zayed Sustainability Prize which was moderated by Eithne Treanor.

The thought-provoking discussion was titled ‘Fuelling the Future: Building a Green Hydrogen Economy.’ The conversation centred around the pressing need to expedite the global transition to renewable energy and explored innovative strategies to accelerate the adoption of hydrogen as a viable solution to the world’s energy challenges.

With a deep dive into the pivotal role of clean hydrogen as a clean energy carrier, the conversation also shed light on the significance of clean ammonia for long-distance transport and explored key aspects such as cost, government support as well as the burgeoning landscape of new business opportunities within the renewable energy economy. The session underscored the critical role of clean hydrogen and ammonia in the global energy transition and instilled a sense of optimism about its potential as a sustainable energy carrier.



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SUMMARY REPORT

On 31 May 2023, Shigeru ‘Sam’ Muraki and Dr. Enass Abo-Hamed took part in a virtual fireside chat called “Fuelling the Future: Building a Green Hydrogen Economy,” as part of the Voices of Sustainability series hosted by the Zayed Sustainability Prize. The focus of the conversation was on the urgent need to expedite the global transition to renewable energy and explore innovative strategies to accelerate the adoption of hydrogen as a viable solution to the world’s energy challenges.

Shigeru Muraki and Dr. Enass Abo-Hamed emphasised the crucial role of clean hydrogen in decarbonising sectors such as power generation, industrial processes, and transportation. They highlighted the various sources of hydrogen production, including green hydrogen from renewable energy and blue hydrogen from natural gas coupled with carbon capture technologies. Their emphasis was on how hydrogen can play an instrumental role in decarbonising these sectors, ensuring a cleaner and more sustainable energy future.

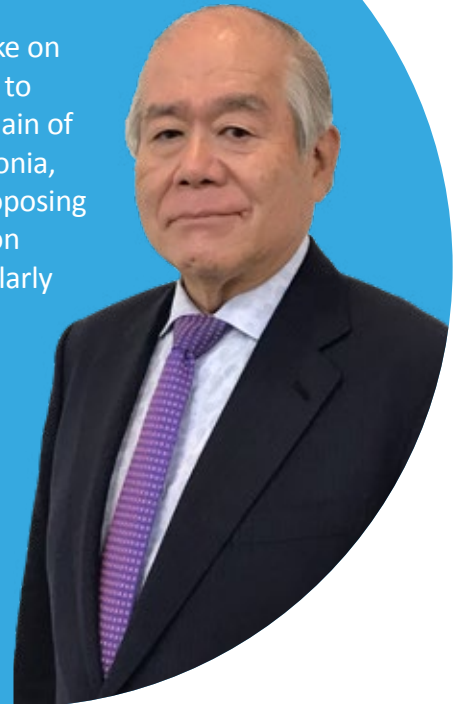
Shigeru Muraki provided insights into Japan’s national hydrogen strategy and collaborative efforts with Southeast Asian partners to accelerate the adoption of clean hydrogen in the Global South, highlighting its pivotal role in decarbonising multiple sectors. They also discussed the significance of ammonia as a hydrogen energy carrier and the emerging

trend of global clean ammonia imports. Despite acknowledging cost and demand challenges, Shigeru expressed optimism about the potential of clean hydrogen and ammonia in achieving carbon neutrality goals, stressing the importance of government support and international collaboration to enhance their competitiveness.



Japan is trying to take on the leading position to create the supply chain of hydrogen and ammonia, and then we are proposing an Asia Zero emission community--particularly Southeast Asian countries, where a large capacity of the coal power plants exist.

Shigeru Muraki



The conversation further emphasised the significance of ammonia as a key hydrogen energy carrier, especially for long-distance transport such as shipping. Japan's hydrogen strategy was referenced as a benchmark, including plans to import other energy carriers, specifically ammonia. Clean ammonia, encompassing both blue and green variations, emerged as a leading option for hydrogen transport on a global scale. Other countries, such as South Korea, Germany and the Netherlands, actively pursue importing clean ammonia and establishing distribution supply chains.

While cost remains a prominent topic, both Shigeru and Enass agreed that scaling and technological advancements can significantly reduce the expenses associated with clean hydrogen and ammonia. They stressed the need for government support and collaboration between producing and consuming nations to bridge the cost gap and enhance the competitiveness of clean hydrogen against conventional fuels. Subsidies, investment agreements, and off-taker commitments were identified as vital drivers for the hydrogen and ammonia market.

The conversation also touched upon the potential for new business opportunities and job creation in the clean hydrogen economy. H2GO Power, a company co-founded and led by Dr. Enass Abo-Hamed which specialises in hydrogen storage, was referenced as an illustrative example. Dr. Enass and Shigeru highlighted the significance of cost-effective storage infrastructure and technological advancements in efficiently managing and predicting hydrogen demand and supply chains.



You don't necessarily need to understand the technical depth behind the technology to be able to use it. So that that was the turning point for me, to direct the growth of the business towards making technologies affordable in Africa and the developing world.

Dr. Enass Abo-Hamed

They emphasised the need to stimulate demand and secure offtake agreements to attract private sector investments.

Overall, the discussion shed light on the paramount importance of integrating renewable energy sources as a cornerstone of the global energy transition. While challenges related to cost and demand creation exist, there was a prevailing sense of optimism regarding the potential of clean hydrogen and clean ammonia as sustainable energy carriers and their role in achieving carbon neutrality goals.

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PARTICIPANTS



Shigeru 'Sam' Muraki

President
Clean Fuel Ammonia Association

Mr. Shigeru 'Sam' Muraki is a distinguished figure in the energy industry, renowned for his expertise and leadership. As the former Vice Chairman of Toyo Gas, he played a pivotal role in shaping the company's growth and sustainability initiatives. Today, Mr. Muraki serves as the President of the Clean Fuel Ammonia Association, where he champions the development and promotion of clean energy solutions. With a deep commitment to environmental stewardship, he has been instrumental in advancing the use of clean fuel ammonia as a sustainable alternative in various industries. Mr. Muraki's visionary approach continues to inspire and drive positive change in the energy sector.



Dr. Enass Abo-Hamed

Co-founder & CEO
H2GO Power

Enass Abo-Hamed is a pioneering entrepreneur and the Co-founder and CEO of H2GO Power, a ground breaking company in the field of energy storage. With a Ph.D. in Chemistry from the University of Cambridge, Enass possesses a deep understanding of materials science and a passion for developing sustainable solutions. Enass's visionary leadership has led H2GO Power to create innovative hydrogen-based energy storage systems that have the potential to revolutionise the renewable energy industry. Her commitment to addressing global challenges, such as energy storage and climate change, has earned her recognition as a leading figure in the clean energy sector. Through her work, Enass continues to drive advancements in clean energy technologies and inspire future generations.

The conversation was moderated by:



Eithne Treanor

Founder & CEO
E Treanor Media

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OUTCOMES



Increased awareness about the significance of clean hydrogen as a sustainable energy carrier for decarbonising various sectors.



Highlighting ammonia as an important energy source for long-distance transport and the plans of multiple countries to import clean ammonia and develop distribution supply chains.



Acknowledgment of the current high cost of clean hydrogen and ammonia, with optimism for cost reduction through scaling, government partnerships and technological advancements.



Emphasis on the importance of government support and collaboration between producing and consuming nations to bridge the cost gap and create a favourable environment for clean hydrogen and ammonia.



Recognition of the potential for new business opportunities and job creation in the clean hydrogen economy, focusing on cost-efficient storage infrastructure, technological advancements and the need to stimulate demand and secure offtake agreements.



Germany, Japan, the Netherlands, South Korea and the UAE are investing in clean hydrogen infrastructure to lead in hydrogen technology and reduce CO2 emissions.

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