

EXCLUSIVE INSIGHTS /// ACTIONABLE INTELLIGENCE /// EXCLUSIVE SURVEY ANALYSIS

# ENERGY TRANSITION DIALOGUES

# INTELLIGENCE BRIEFING

ISSUE 27, MONDAY, OCTOBER 18<sup>th</sup>

**GI** Consultancy  
Intelligence  
Publishing

**SCROLL DOWN!**

**HYDROGEN VALLEYS**

**GREEN SHIPPING**

**H2 INVESTMENTS**

**THIS WEEK'S EVENTS**

## HYDROGEN

### HYDROGEN VALLEYS: KEY TO CUSHION BUSINESS RISKS

Tim Karlsson, Executive Director

The International Partnership for Hydrogen and Fuel Cells (IPHE)

**R**egulatory certainty is important to help cushion risk for early mover in the hydrogen market. The concept of hydrogen valleys – consisting of entire value chains, from production, storage, distribution, and final use – will be critical to managing business risk. This important first step has proven successful in Europe and other parts of the world. Off-take contracts are another key aspect that can help get hydrogen projects off the ground. Several countries across the GCC are highlighting opportunities around hydrogen production – but identifying off-takers builds the business case. Today, the biggest challenge with hydrogen is scaling up projects. There have been many demonstrations, which are important. But now it is time to move from moderate to large-scale production and consumption of hydrogen.

#### Quantifying GHG emissions?

At the IPHE, one of the key issues we work on is market transparency and the greenhouse gas (GHG) emissions associated with hydrogen production. The IPHE, along with its members, wants to develop a methodology or approach to quantify the GHG emissions associated with the production of a single unit of hydrogen.



**FULL INTERVIEW HERE**

**65%**

of hydrogen valleys are currently in Europe, with 13% in the Americas, and 22% in Asia-Pacific.<sup>1</sup>

### TOP 5 HYDROGEN NEWS STORIES

Uniper, Partners Start H2 Feasibility Study

Equinor's Multibillion-Dollar H2 Plan

A Blend of Green, Blue H2 to Power the World

Indian Oil to Use Gray H2 to Make SAFs

Fortescue to Build World's Biggest H2 Manufacturing Hub

Series Supported By:



# GREEN SHIPPING: THE FUTURE?

Mohamed Zaitoun, Founder & CEO, Zaitoun Green Shipping

**T**he Covid-19 pandemic kicked in a few months after IMO 2020 came into play. The dual effect was an eye-opener for everyone in the industry to upscale investments in green shipping. Looking ahead, zero carbon shipping will not be achieved by LNG or ammonia. These fuels are valuable for a transition period of 15-20 years until hydrogen is developed and available at scale.

## The dual challenge

Shipowners are facing many challenges – from volatile oil prices to increasingly stringent environmental pressures. This means they can no longer afford to follow the traditional thinking of operating a ship from point A to point B. Think how the industry has struggled with the oil price, IMO 2020 rules, plus the Covid-19 pandemic. Mitigating these many challenges and the associated risks requires intelligent leadership and strategic visions. An integrated decision must be considered before signing contracts with shipyards.



[FULL INTERVIEW HERE](#)

## TOP TAKEAWAYS

- Zero carbon shipping will not be achieved by LNG or ammonia. These fuels are valuable for a transition period of 15-20 years until clean hydrogen is available at scale.
- The Covid-19 pandemic kicked in a few months after IMO 2020 came into play. The dual effect was an eye-opener for everyone in the industry to upscale their investments in green shipping.
- Beyond efficiency, green shipping is about long-term visions and proactively pursuing sustainability.

### 39,700KM

of the EU's natural gas pipelines could be devoted to hydrogen by 2040, once production and imports of the alternative fuel take off. <sup>2</sup>

### 4-8

times the price of very low sulfur fuel oil (VLSFO) is currently the estimated price of green hydrogen fuel. <sup>3</sup>

### 2 GtCO<sub>2</sub>/yr

is the combined emissions from shipping and aviation, split evenly between the two. <sup>4</sup>

### 71%

of the CO<sub>2</sub> emissions from shipping are generated by international transport, which means they are not included in the national totals reported to the UNFCCC. <sup>5</sup>

2/TSO2020/ 3/DNV GL/4-5/ Emissions Gap Report 2020

Series Supported By:



## PODCAST

## THIS WEEK

## HYDROGEN: NEW INVESTMENT OPPORTUNITIES?


 Consultancy  
Intelligence  
Publishing

[FULL PODCAST HERE](#)


**Amir Sharifi, Managing Director**  
Energy Transition Lead, Ardian

**Green hydrogen can be cost-competitive with gray hydrogen within the decade, subject to several conditions. One is the provision of public support in different forms.**

There is already some public support in terms of CapEx grants. But this must be done on a larger scale, so investors can become more comfortable allocating their funds to the system-blended approach. There are already \$500bn of industrial projects being announced globally, of which roughly 30% are at the mature stage. Most recently, TotalEnergies, Air Liquide, Vinci Group, and several other

international companies launched one of the world's largest "clean hydrogen" infrastructure funds. The fund aims to build a \$1.74bn pot to invest in low carbon and renewable hydrogen infrastructure. It will be managed by Hy24, which is a 50:50 joint venture between private investment house Ardian and clean hydrogen infrastructure financier FiveT Hydrogen. We need such support systems to build hydrogen projects at scale. What we also need now are structured projects to try to get those funds invested. We are not there yet, as we need several conditions for projects to be considered sufficiently robust.

[FULL PODCAST HERE](#)

**Yusuf Macun**

**Managing Partner, Cranmore Partners**

**Several building blocks must fall into place. First, we need clarity on the future of regulation concerning any support schemes that are needed.**

We fully understand the reluctance of governments to blindly go into this and open the subsidy taps. Any subsidies should be temporary and support any gaps in competitiveness, or address volatility. If the hydrogen market is to gain greater depths and become a bit more fundable, like the LNG or natural gas market, it needs to have a life of its own – or an index of its own. Of course, it is quite a complex industry, but fundamentally none of these things are insolvable and the intentions are very clearly there. The initial steps to solve them are available and that is probably and rightly what creates all the excitement. But it will take a bit of time for some of those building blocks to fall into place.

**The path forward?**

The challenge is one of regulation. It means looking at the incentives that push end-users to switch to clean hydrogen or other triggers for investors to want to produce here and perhaps sell elsewhere. In that regard, it is worth mentioning the European legislation that forces first the European heavy industry to clean up, and secondly, it protects them to establish carbon equalization at borders. This means that if you want to sell into Europe from the Middle East, you will need to either apply a similarly stringent carbon pricing regime or pay the carbon equalization tax at the borders. This will have an expanding influence on other countries to adopt equally demanding carbon pricing legislation. This sort of incentives will hopefully start triggering significantly more activity.


[FULL PODCAST HERE](#)


**Cornelius Matthes**  
CEO, DII Desert Energy

**The potential to produce local parts of the value chain for solar and wind energy generation is paramount for the region. We looked at existing industries and the possibility to source a quite complex and broad hydrogen value chain.**

The advantage of these green finance economies is that they provide a common classification system to identify specific activities, assets, and project categories that can deliver a positive environmental or social impact. They include thresholds and specific targets. They use common principles and importantly, they tend to be science-based.

We found that in just three GCC countries, 1mn jobs could be created – this is massive. And long term, we found that up to \$200bn of annual

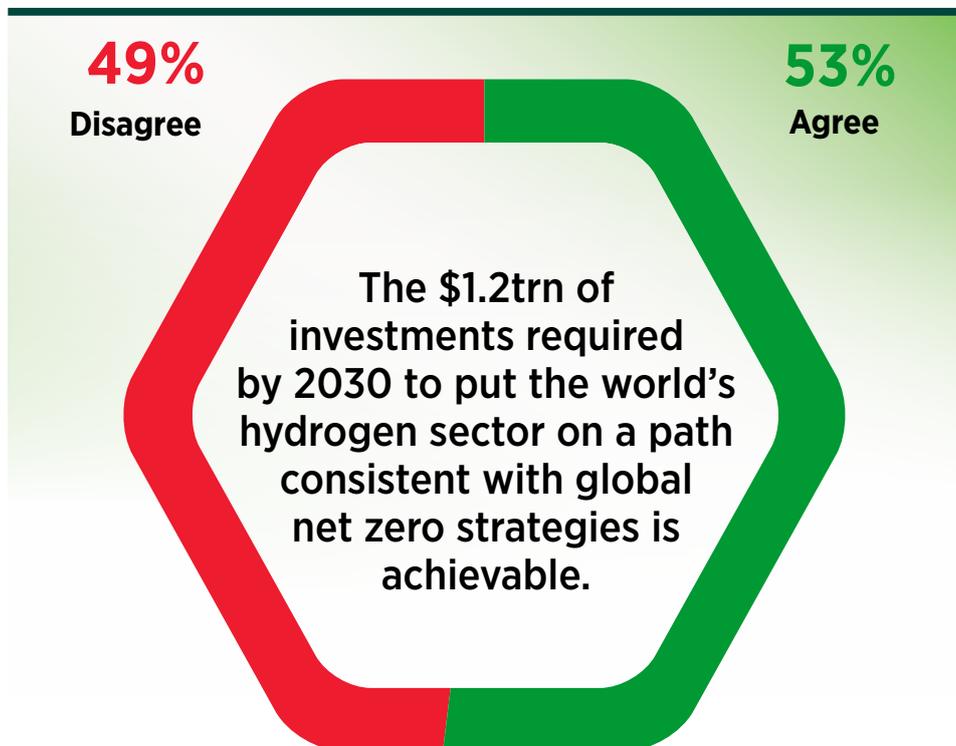
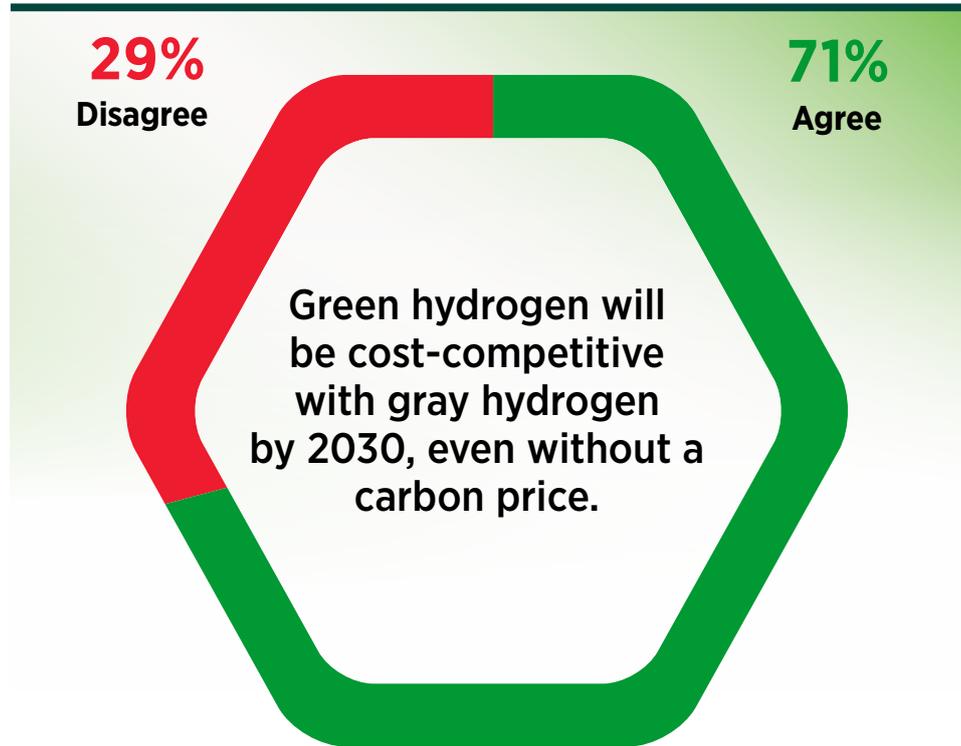
**Without a doubt, a global CO<sub>2</sub> price would be the single most important factor to speed up the energy transition across the board. However, we need to be realistic about what is possible.**

revenue could be created. This has the potential to rival the revenues generated by oil and gas exports. This aspect of localization and the development of future-proof industries is important. The development of the first hydrogen valleys in the Middle East – a factor of Europe's success so far – is also key.

Series Supported By:



# SURVEYS



Series Supported By:



## INSIGHTS

GI Consultancy  
Intelligence  
Publishing

# King Coal is Dead. Long Live the King?

## Not really. Coal is still done for...Just not fast enough.



**Bill Spindle**

Council on Foreign Relations, International Affairs Fellow, India

**C**oal was once King. No longer. The fuel that ruled since the industrial revolution has been dethroned in the developed world, the former heart of its realm. Remaining strongholds, mostly in the developing world, are now crumbling.

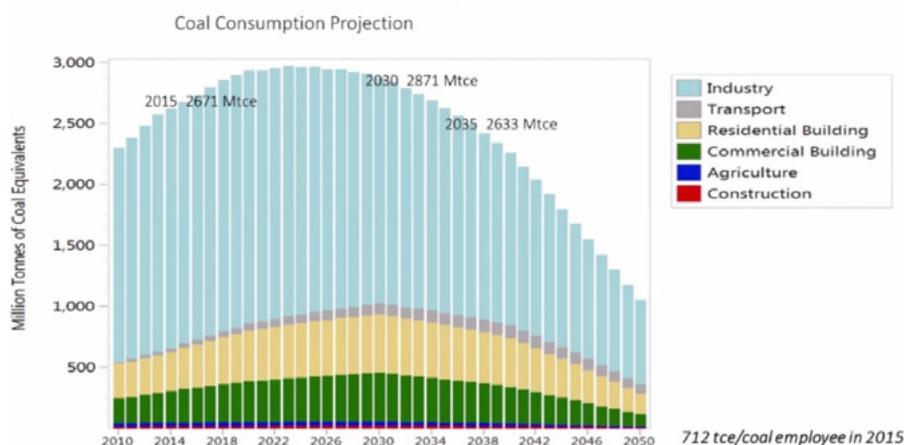
That reality may be hard to see at this particular moment, when coal prices, and even coal use, is spiking amidst a worsening energy crisis in Asia and Europe. In the first half of the year, for example, coal consumption surged in Germany as its economy revved up from covid and growth in renewable energy sources slowed. China is doing everything it can to boost coal production as winter sets in with energy stockpiles at the lowest levels in decades.

Yet the short-term rush doesn't change the truth of the matter: getting coal out of the global energy system, not someday but as soon as possible, is absolutely essential to meeting international climate goals. It's happening, but not fast enough.

As energy consumption collapsed with Why is it happening? The alternatives have become increasingly cost-competitive, for the most part, even cheaper than existing coal-fired generation. This is true in spite of ongoing subsidies for fossil fuels, including coal, to the tune of \$3.3trn in G20 countries since the Paris Agreement was sealed in 2015.

And why is it happening too slowly? Profound challenges, of course, remain. Coal is deeply entrenched in the economy and politics in many parts of the world, including China and India. So,

### China Coal Demand likely to decline after 2025



the trajectory is not one of rapid decline: global demand for coal is expected to “plateau” through 2025 before shrinking by 8% globally in 2030. But political sway and societal pull will not be enough to keep coal burning forever.

Just as coal once lost out in transportation (when was the last time you rode a train with a steam locomotive?), its place in global electricity production is inexorably slipping. The questions are now simply: when will coal's long run as a fuel-staple end? And what will become of communities that depend on it?

Coal wasn't expected to face this reckoning so soon. As recently as a decade ago, the industry and even some coal skeptics talked of an expansive future in emerging markets and a long, slow decline in the US and Europe. While on the campaign trail in 2008, even soon-to-be elected President Barack Obama touted “clean coal” as a path to energy independence for the US.

“We figured out how to put a man on the moon in ten years. You can't tell me we can't figure out how to burn coal that we mine right here in the United States of America and make it work,” Obama said at the time.

The focus shifted, though, with a boom in the unconventional drilling method known as “fracking.” Large supplies of inexpensive gas convinced utilities to switch from coal whenever possible. Then came an onslaught from solar power, which turns out to be cheaper even than gas in many cases. Now energy storage technologies are piling on, addressing the problem of wind and solar being unable to produce energy on demand.

That combination of renewables and storage — whether stockpiling energy via pumped hydro or accumulating in chemical form in batteries — is the death knell for coal.

**FULL ARTICLE HERE**

Series Supported By:



# THIS WEEK'S EVENTS

## ENERGY TRANSITION DIALOGUES



Consultancy  
Intelligence  
Publishing

### TWO MINUTE WARNING INTERVIEW SERIES

Tuesday /// Oct. 19<sup>th</sup> /// 12:00 (UAE)

## Tim Gould

Chief Energy Economist  
International Energy Agency (IEA)



Series Supported By:



## ENERGY TRANSITION DIALOGUES



Consultancy  
Intelligence  
Publishing

### H<sub>2</sub> HYDROGEN FULL COURT PRESS

## Timo Bollerhey

Managing Director  
H2Global Advisory GmbH

Wednesday /// Oct. 20<sup>th</sup> /// 11:00 (UAE)



Series Supported By:





Consultancy  
Intelligence  
Publishing