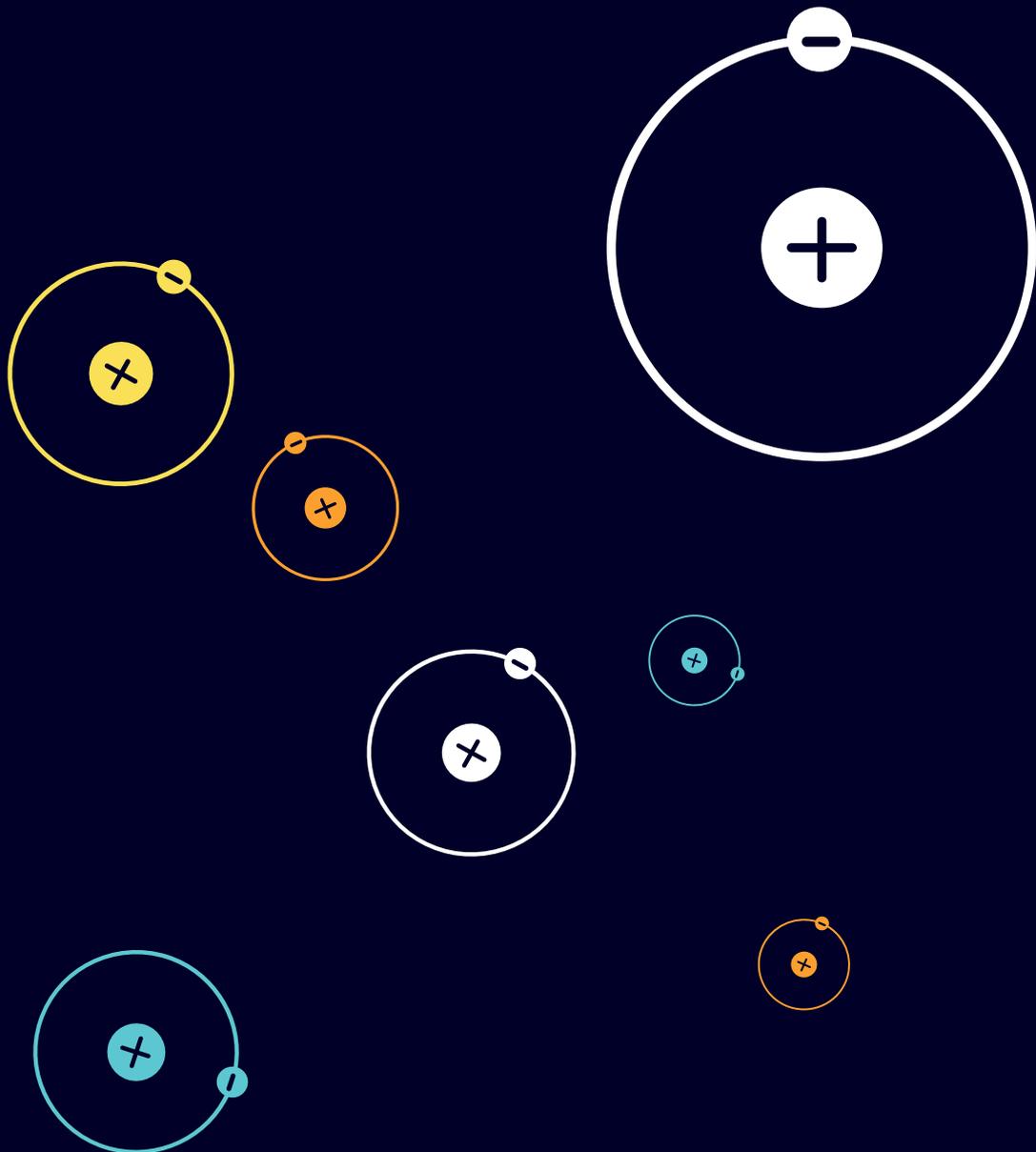




# Hydrogen Strategy

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August 2021



## Foreword

**The government has now published its long-awaited and much-anticipated Hydrogen Strategy, marking the start of the “UK’s hydrogen revolution”, according to Business Secretary Kwasi Kwarteng.**



**Sam Cranston**  
Director, Energy  
Copper Consultancy

The strategy, which promises to create 100,000 new jobs and generate £13 billion of investment, has been largely welcomed by industry. The government has set out a twin-track approach to support the use of blue and green hydrogen technologies. Blue hydrogen is made from natural gas with carbon capture and underground storage technology removing emissions, whereas green hydrogen is made using water and renewable energy. The former has raised concerns from some, suggesting it will be harder to reach our net zero targets using this method.

Despite the government’s strong statement of support for hydrogen, and a welcoming of the strategy from the energy industry, there remains much to do to convince the public of its benefits, including how individual elements of required infrastructure will be rolled out.

Copper Consultancy recently published its public attitudes to low carbon energy generation report, which showed a widespread lack of awareness towards hydrogen within the British public, with 58% of respondents having little to no awareness of the technology.



However, although awareness around the benefits and use of hydrogen is low, our research found that just 15% of people view it as dangerous. That suggests that misconceptions about safety, bred from historic incidents, including the 1937 Hindenburg disaster, haven’t stuck - and, crucially there is opportunity for gaining public support if awareness is increased.

As the transition to net zero begins, hydrogen will increasingly be used to heat homes and power transport – something that government’s opposition is calling for urgently.

Unsurprisingly, public attitudes towards net zero technologies and green energy show widespread support, but what is key is that this support requires context. People have heard about the need for low carbon and the essential switch to net zero, but as it comes to fruition in the form of physical infrastructure, there needs to be clear understanding of the benefits, the risks and how this change will affect society and the people in it.

Around 62% of people think that the UK should be a world leader in low carbon innovation and 62% support investment in homegrown technology.

What’s clear is that the public don’t just want a cleaner, greener future – they want this to come hand in hand with a boost to homegrown jobs, technologies and our historic manufacturing sector.

This demand from the UK public combined with better education on hydrogen energy creates a recipe for net zero success.

Whilst hydrogen and other low carbon energy generation are critical components in the road to net zero, we need to make sure that we are taking the public with us.

[Click here to download the report, Public attitudes to low carbon energy generation.](#)



## What does the government's Hydrogen Strategy mean for industry?

 **9,000**  
new jobs

 **100k**  
new jobs by 2050

 Up to **35%**  
of the UK's energy use could be hydrogen based by 2050

 **700**  
trees  
Carbon emissions could be cut by the equivalent of 700m trees by 2032

 **£4bn**  
investment in hydrogen technologies

 **£13bn**  
from the hydrogen economy by 2050

 **£105**  
million  
funding to support polluting industries in cutting emissions

“Today marks the start of the UK’s hydrogen revolution. This home-grown clean energy source has the potential to transform the way we power our lives and will be essential to tackling climate change and reaching Net Zero.

With the potential to provide a third of the UK’s energy in the future, our strategy positions the UK as first in the global race to ramp up hydrogen technology and seize the thousands of jobs and private investment that come with it.”

**Kwasi Kwarteng**  
Business & Energy Secretary

“With hydrogen key to unlocking decarbonisation across carbon-intensive sectors, as well as stimulating high levels of skilled green jobs, the Government’s Hydrogen Strategy is a key milestone in the delivery of the UK’s 10 Point Plan.

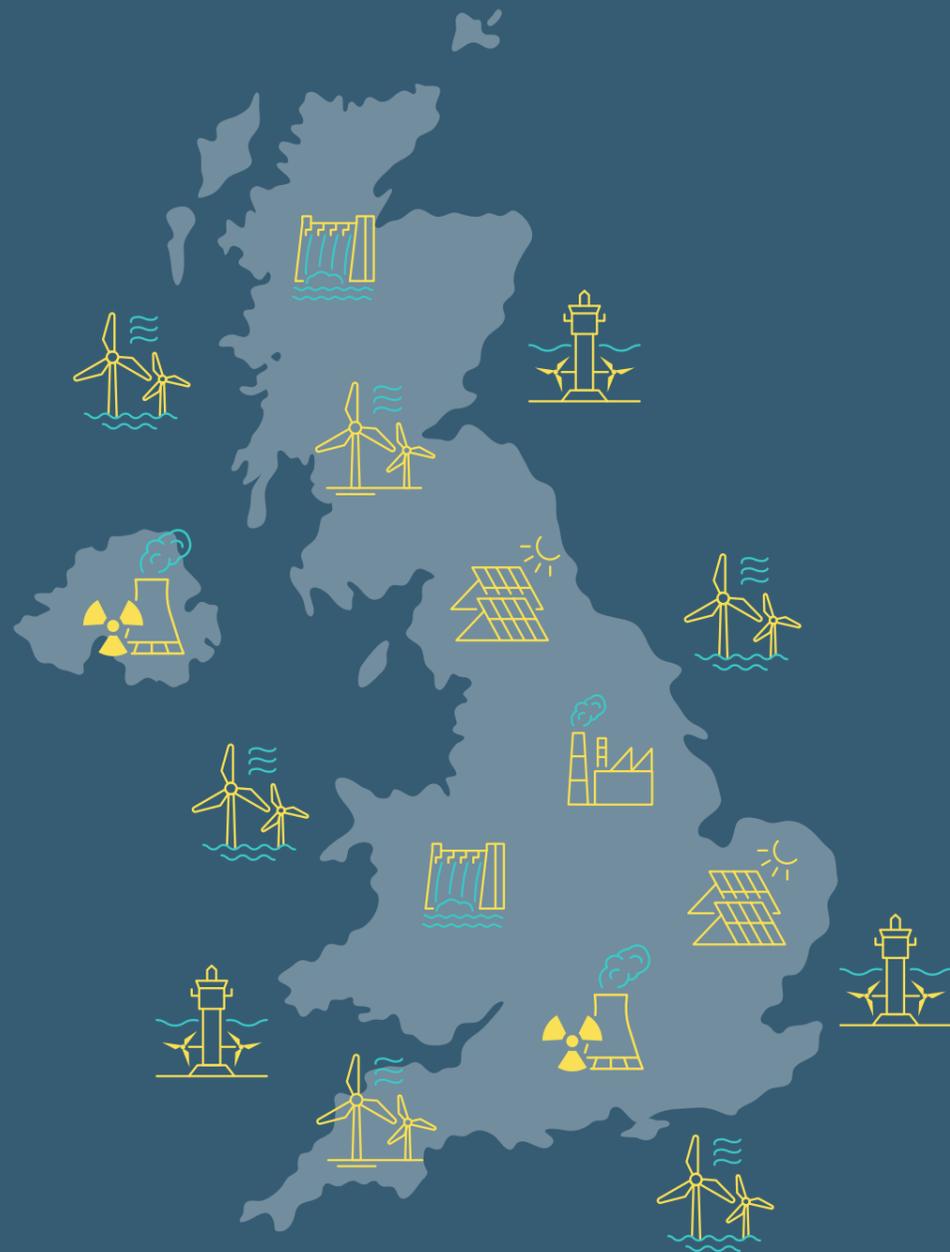
“However, to truly capitalise on those large-scale economic opportunities, and unlock the private sector finance needed, firms will now be looking for the government to provide detailed policies and standards for hydrogen production and application.”

**Matthew Fell**  
Chief Policy Director, CBI

“Hydrogen and CCUS are going to be incredibly valuable for sectors that will be difficult to decarbonise with electricity – and so we welcome that today’s Hydrogen Strategy takes an economy-wide approach to developing these innovative technologies. The UK has real potential for hydrogen and CCUS, both of which can deliver new skilled jobs, particularly in places where the UK already has a proud industrial and energy heritage”

**Emma Pinchbeck**  
CEO, Energy UK

# Key findings from our Public attitudes to low carbon energy generation



## Hydrogen gas

### Apathy about hydrogen, combined with minimal scepticism means gaining public support is achievable

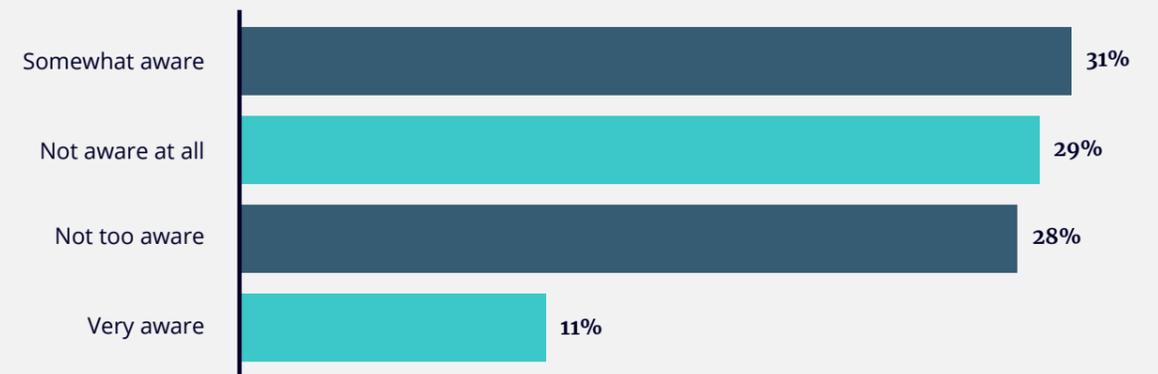
Back in 2020, Prime Minister Boris Johnson said that the UK will place a “big bet” on hydrogen gas as a way of reducing emissions and heating homes.

At present there is little or no awareness of hydrogen amongst 58 per cent of the public.

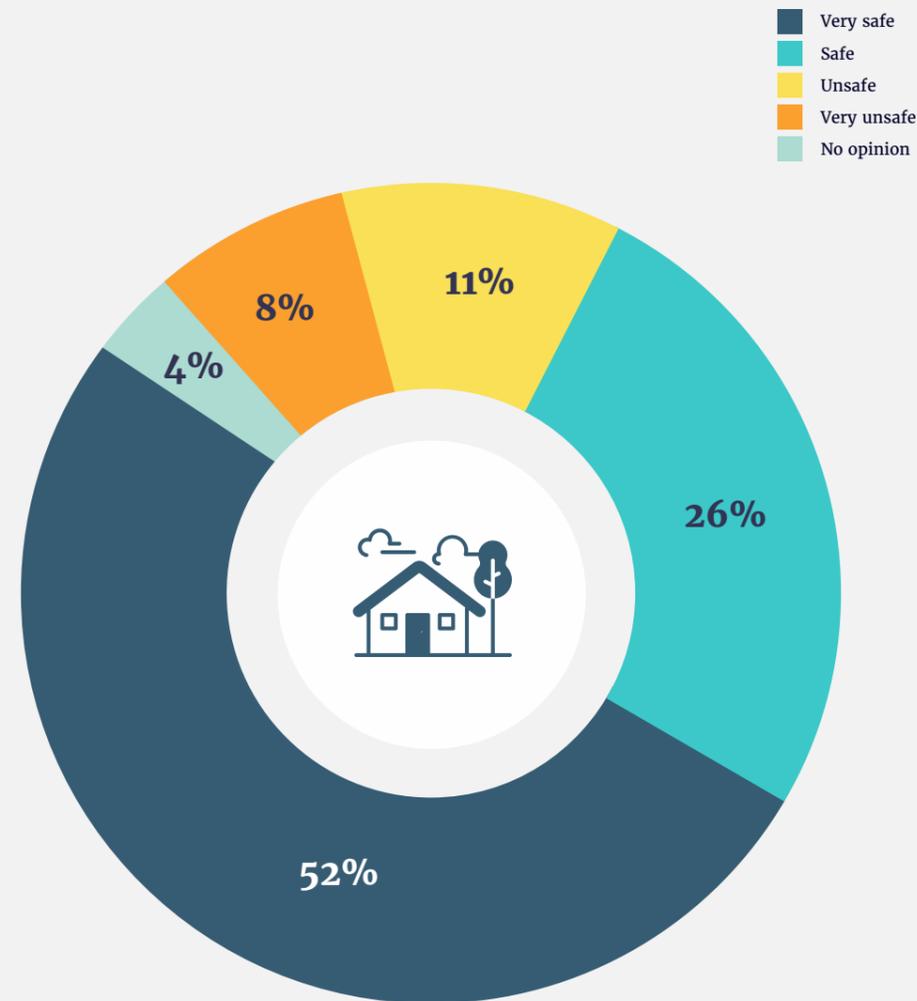
As a result of this lack of understanding, apathy towards hydrogen stands at 51 per cent.

However, despite this, only 15 per cent thinks it is unsafe.

### Hydrogen has been touted as a future key player in the UK’s energy mix. How aware are you of the role hydrogen can play in the UK’s energy mix?



Hydrogen gas may increasingly be used to fuel homes, or to power transport such as buses. How safe or unsafe do you think this technology currently is?

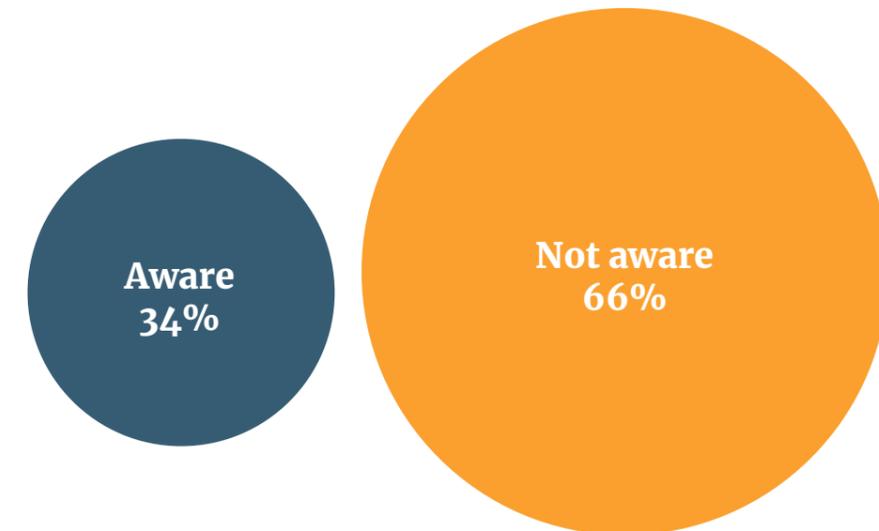


### The opportunity for low carbon technologies to create jobs in the UK is not widely understood

The public's expectations have been raised for a low carbon future along with the promise of high quality green jobs.

At present only 34 per cent of people are aware that industries like carbon capture and storage or hydrogen will preserve jobs.

Developing low carbon technologies would preserve jobs by enabling energy intensive industries to continue to operate and thrive whilst decarbonising. Are you aware of how these technologies can preserve these jobs?



# Carbon capture and storage

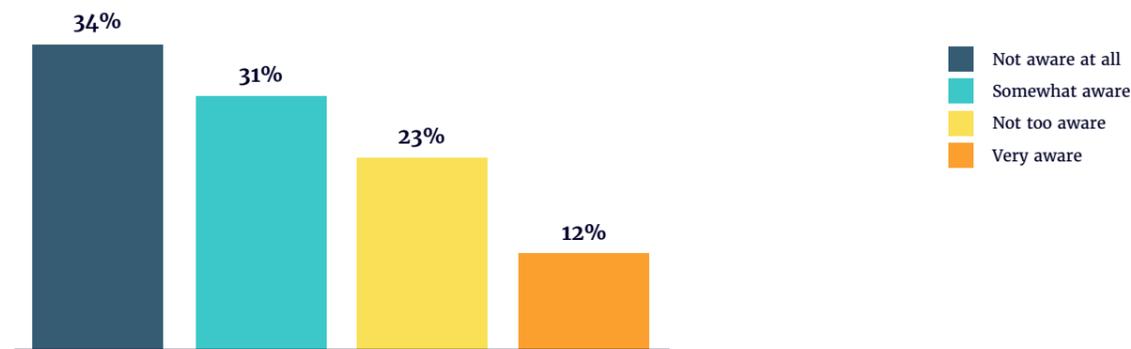
## Carbon capture potential is yet to be understood by the public

Carbon capture presents an opportunity to export British technology and help achieve net zero.

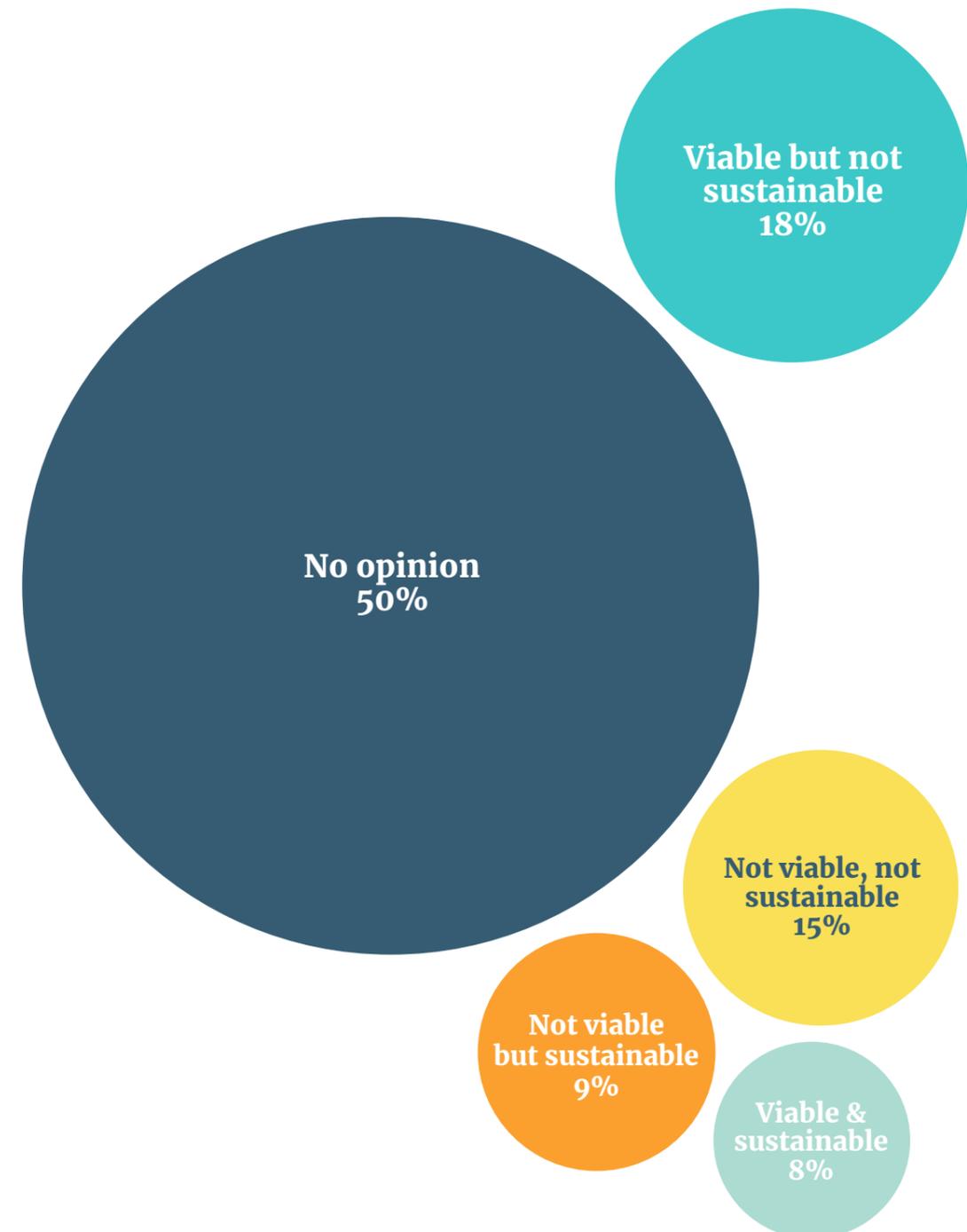
Despite its potential, 57 per cent of people are unaware or not too aware of what this is and only eight per cent see this as viable and sustainable.

It is interesting that 50 per cent don't have a view on the technology. Perhaps this is the most telling response as this demonstrates the opportunity to build support in carbon and capture and storage.

There is an emerging technology which involves capturing carbon produced by industry and then storing these emissions under the sea so they do not enter the earth's atmosphere. How aware are you of carbon capture and storage technology?



Do you believe that storing carbon under the sea is a viable and sustainable option?



## Conclusions

It's becoming clear that hydrogen can truly be the lightweight champion when it comes to powering the drive to net zero, but what's essential for us to focus on, and to work to overcome, is the lack of public understanding of this energy source as it stands. To bolster the support of the country behind it, the renewables sector and the government need to place public perception and understanding at the forefront of this hydrogen strategy.

In the wake of increasingly urgent climate reports and against looming net zero deadlines, it is clear that bold action must be taken. Hydrogen is a fundamental part of that, and public buy-in is the critical mandate for the decisive action that will enable all of us to live in a cleaner, greener way. Any hesitancy risks slowing this process both from a political and planning perspective.

If we are to truly harness the power of hydrogen to drive net zero by 2050, we must include the public now – we cannot allow a conversation to develop without them only to discover too late that when it comes to delivery, the shape of the hydrogen economy does not meet public need. Misunderstanding or missing information can become apathy, and that can become outright opposition.

People want to understand the benefits, risks, and ultimately how the journey to net zero impacts them and society. Public ambition stretches beyond achieving net zero as a goal in itself; jobs, exports and global leadership are expected too. If people understand that, projects can engage, consult and deliver the building blocks of government's strategy without having to retrofit the narrative every time.

As an industry, we have the opportunity to start the public conversation about the benefits of hydrogen in a meaningful way. Through the 10-point plan and this strategy, government has set out the first chapter of the hydrogen story. If we get this right, we can build on that with a narrative that generates widespread understanding, acceptance and support for hydrogen delivery.



**There is support for net zero technologies where they can create jobs**



**Understanding of hydrogen is limited – without this awareness, it is challenging to generate the support that wind power, solar and tidal enjoys**



**Who pays for net zero remains a thorny issue especially as it becomes more personal to peoples lives**

### Continue the conversation

For any questions or to discuss this topic in more detail, please contact Copper's energy director Sam Cranston:

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