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Argus Insight: Hydrogen



Red light to Bluwashing

Policymakers, journalists and consumers are grappling with unfamiliar production modes for commodities. For a short while definitions will be up in the air, offering a “Wild West” for product marketers.

Corporations should strenuously resist the temptation to overstate reductions in carbon intensity, tempting as it may be. Brand equity is based on durable long-term connotations and short-term limelight can sour quickly. This isn’t the first “marketing frontier”, as since 2015 brands have increasingly embraced touting environmental themes in marketing — the so-called “green rush”.

But “Greenwashing”, or overstating or misleading consumers into believing processes are environmentally friendly or having a beneficial impact, is no longer a free marketing lunch. Instead, it is gaining attention from a lengthening list of advertising watchdogs, non-profits, news agencies and even the courts.

This is a positive development. There should be downsides to inflation or exaggeration.

But decarbonised hydrogen and its derivatives have opened a new frontier in partial decarbonisation — the “blue space” where carbon dioxide (CO₂) emitted from fossil fuels is captured and stored.

Thankfully, the conversation is finally wrenching away from colours — we made this point in 2021 — with the latest example being a thoughtful paper released by the IEA. Nevertheless, it is hard to beat the shorthand of colours for a pithy press release.

What is blue?

Colour shorthands are unlikely to disappear. But it would be helpful for a common definition to exist for what constitutes a “blue” cargo of any commodity.

Production Mode		Is this 'blue'?
Unabated	A	No
Unabated, paid for carbon taxes	B	No
Unabated, paid for carbon taxes and/or voluntary carbon offsets	C	No
Carbon captured, but released into atmosphere	D	No
Carbon captured, but used in enhanced oil recovery	E	No
Carbon captured, but used in urea production	F	No
Carbon captured, put into long-term storage	H	Yes, but...

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It seems self-evident but any process needing both carbon capture and storage to reduce its carbon intensity should: a) capture carbon, b) store it. Yet apparently it is not self-evident, based on a number of press releases.

Only one of these examples above can lay a claim to being “true blue”, in the accepted definition. Yet most have been used. A-D clearly don’t meet the criteria, although C has been put forward multiple times as “blue” or “clean”.

Example E, where carbon is injected into depleted formations to recover previously irrecoverable oil, does not qualify. Enhanced oil recovery is used in the production of around one in five barrels of oil. The carbon may not remain in the ground. The CO₂ contained in the liberated oil is also pretty much equal to the amount of CO₂ that has to be injected to access it. More a carbon swap than storage.

Example F does not hold water, or CO₂, as where urea is applied to fields as a fertiliser it converts to ammonia and CO₂ once in contact with water. This makes the storage element temporary, as the amount of CO₂ bound up during its production is released into the atmosphere.

Despite that both of these examples have been used in “blue” labelled commodities.

Yes, but...

Of the examples given, only H is viable as “blue”. Companies may self-report a cargo any way they wish but definition-bending descriptions invite call outs.

Abatement claims should clear a high bar of executive rigour, as they represent the highest current technical level of decarbonisation available to fossil fuels. It is in the sector’s own self-interest to take a hard line on policing itself, if the industry expects its claims relating to the efficacy of carbon capture storage abatement to be believed by the public.

As with many things, transparency is the answer.

Where CO₂ has been captured, the capture rate should be listed. If the CO₂ is to be stored, or used, that information should be released too.

Nor should transparency stop there. There is a big difference in combusting hydrogen or ammonia in a facility optimised for controlling nitrous oxide (NOx) emissions. If it is not, NOx is a greenhouse gas 300 times more potent than CO₂, which also harms the ozone layer. Where used in combustion, the facility type should also be mentioned.

Burden of proof

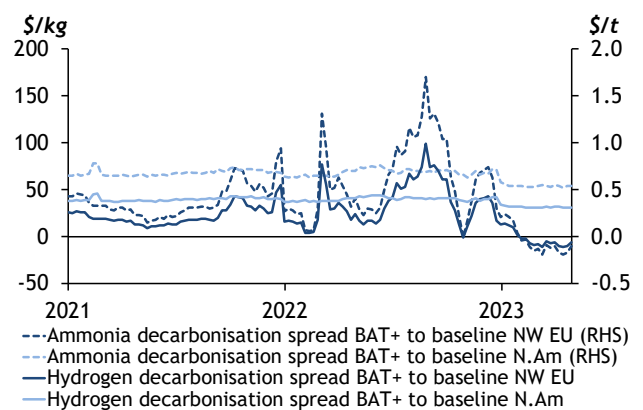
This is not solely an issue with “future commodities” such as decarbonised hydrogen or ammonia. The LNG market has seen cargoes sold as “carbon neutral” or even “CO₂-

free” where a voluntary carbon offset has been bought to accompany the shipment. That hat may not be described as blue but it is the same shape.

These are early days in decarbonised commodities. That means there is not a sufficient breadth of companies involved for distinctions to be drawn by different teams. That does not mean that its too early for good norms to be established.

The burden of proof should rest on industry participants to report in good faith on these topics. As additional companies begin shipping decarbonised products, a high degree of transparency should be a priority.

‘True Blue’ decarbonisation spreads



Decarbonisation spreads are available via the [Argus Hydrogen and Future Fuels](#) service. “True Blue” cargoes can offer significant near-term decarbonisation at relatively minor cost — -11c in Europe to +31c in the US per kg for 74-90pc CO₂ emission reductions.

If that moniker is discredited, it will be to everyone’s detriment.

For more information:

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