

Coal to 'clean' hydrogen plan falters

Bianca Hall and Nick Toscano

A multibillion-dollar plan to create "clean" hydrogen from Australian brown coal and ship it to Japan is on the brink of collapse.

Japanese media have reported Kawasaki Heavy Industries has withdrawn from the trial, blaming procurement delays.

The controversial plan was billed as a lifeline for the Latrobe Valley's ageing brown coal industry. Under the plan, hydrogen would be extracted from coal, creating the world's first liquefied hydrogen supply chain.

Proponents said the joint venture, led by one of Japan's largest industrial conglomerates, would use commercially unproven CO2 capture and storage technology to sequester carbon in Bass Strait.

It was also to send the super-cooled hydrogen extracted from

coal in purpose-built bulk carriers out of Hastings to Kawasaki in Japan's industrial heartland.

The Hydrogen Energy Supply Chain (HESC) project was a partnership between international fossil energy companies, including Kawasaki Heavy Industries Ltd, Royal Dutch Shell and AGL.

It was supported by a \$2.35 billion investment from the Japanese government and \$50 million in start-up investment from the Victorian government in 2018.

Japanese outlet Nikkei reported Kawasaki Heavy Industries had ditched its bid to establish an international supply chain to buy Australian hydrogen because it had become "difficult to procure hydrogen in Australia within the deadline".

"With the completion of the demonstration test by fiscal year 2030, as originally scheduled, being

an absolute requirement for ensuring competitiveness, the company has changed hydrogen procurement to domestic," Nikkei reported. "It has also downsized its hydrogen carriers and is now steering toward a more 'realistic' solution."

'This disastrous coal project has never stacked up environmentally or economically.'

Ellen Sandell, Victorian Greens leader

The development comes amid growing doubts about Australia's ambitious push to become a major producer and exporter of clean-burning "green" hydrogen, which

is a promising future energy source that emits only water vapour and could substitute fossil fuels to help clean up heavy-polluting industries.

The Albanese government plans to invest billions of dollars to turn Australia into a leading supplier of zero-emissions hydrogen, but the technology remains prohibitively expensive and is not yet viable at scale.

Origin Energy pulled out of a hydrogen production venture in Newcastle in October, Woodside recently withdrew an application for a project in Tasmania, and Andrew Forrest, a big hydrogen advocate, paused Fortescue's 2030 production targets blaming high costs and the vast amount of renewable energy needed to split hydrogen from water.

The HESC project was "blue" hydrogen, which is made from coal

or gas in conjunction with carbon capture and storage technology.

Friends of the Earth gas campaigner Freja Leonard said Kawasaki Heavy Industries' decision to withdraw indicated the project wasn't feasible.

"It's just an absolute nonsense to use brown coal in a climate crisis to produce hydrogen," she said.

Victorian Greens leader Ellen Sandell said it was time for the project to be scrapped altogether.

"This disastrous coal project has never stacked up environmentally or economically."

A spokeswoman for Energy Minister Chris Bowen stopped short of backing the project.

"The government honoured the previous government's commitment to our Japanese partners on the HESC project," she said. "This is a commercial decision by the Japanese consortium."

HIGH-PERFORMING NAPLAN SCHOOLS IN METROPOLITAN MELBOURNE

Schools on the list are displayed here in alphabetical order for each region. The list is not ranked in order of achievement.

NORTH-WEST

Penleigh & Essendon Grammar School	Independent
Braemar College	Independent
Alice Miller School	Independent
Hume Anglican Grammar	Independent
Sirius College	Independent

NORTH-EAST

Ivanhoe Grammar School	Independent
Viewbank College	Government
Strathewen Primary School	Government
Thomastown East Primary School	Government
Preston West Primary School	Government



Students at Oakleigh South Primary School. Photo: Eddie Jim

WEST

Suzanne Cory High School	Government
Bacchus Marsh Grammar - Maddingley	Independent
Westbourne Grammar School	Independent
Heathdale Christian College	Independent

INNER MELBOURNE

Melbourne High School	Government
MacRobertson Girls High School	Government
Lauriston Girls' School	Independent
Victorian College Of The Arts Secondary	Government
Fitzroy Community School	Independent

INNER SOUTH

Korowa Anglican Girls' School	Independent
Kilvington Grammar School	Independent
Mentone Girls' Grammar School	Independent
Mckinnon Secondary College	Government
Glen Huntly Primary School	Government

INNER EAST

Presbyterian Ladies' College	Independent
Fintona Girls' School	Independent
Camberwell Grammar School	Independent
Camberwell Girls Grammar School	Independent
Serpell Primary School	Government

OUTER EAST

Melbourne Rudolf Steiner School	Independent
St Andrews Christian College	Independent
The Knox School	Independent
Yarra Valley Grammar	Independent
Vermont Primary School	Government

SOUTH-EAST

Nossal High School	Government
Lighthouse Christian College Cranbourne	Independent
Huntingtower School	Independent
Haileybury College - Keysborough Boys	Independent
Oakleigh South Primary School	Government



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The high-performing NAPLAN schools near you

Alex Crowe
Education reporter

Oakleigh South Primary School has transformed from a school at risk of closure to performing better than most others across the state - and it's got the NAPLAN results to prove it.

Three decades ago, the school was earmarked for closure and listed among the worst performing in Victoria.

But principal Ron Cantlon was determined to turn things around and over 32 years at the helm has watched the school thrive. "He has spent his life building this school to what it is today," acting principal Nikki Virtuoso said.

The Age analysed the average NAPLAN scores across all five disciplines for schools across the state which showed Oakleigh

South outperformed all government primary schools in Melbourne's south-east and performed in the top 15 primary schools in government and non-government schools in Victoria.

"We are very proud of our literacy and numeracy results, of course, they're very strong," Virtuoso said. "However, linking children to school is our proudest achievement."

The NAPLAN test, taken in March by all students in years 3, 5, 7 and 9, assesses students' reading, writing, spelling, grammar and numeracy.

The top-performing schools for each region highlighted the achievement of selective-entry government schools, including Melbourne High and MacRobertson Girls' High, Suzanne Cory High and Nossal High. Schools are listed in alphabetic-

al order and not ranked in order of achievement. The scores reflect raw test results and are not weighted for schools' socioeconomic status.

Camberwell Grammar School in Melbourne's inner east, Korowa

'Linking children to school is our proudest achievement.'

Nikki Virtuoso, acting principal, Oakleigh South Primary

Anglican Girls' School in the inner south, Melbourne Rudolf Steiner School in the outer east and Lighthouse Christian College Cranbourne in the south-east were among the top-ranked independ-

ent schools for their regions.

Along with Oakleigh South, other government primary schools to make the grade included Preston West Primary School, Vermont Primary School and Glen Huntly Primary School.

Ballarat Clarendon College, which has topped the state's VCE results for consecutive years, was one of the top-ranked regional schools for NAPLAN once again.

At Oakleigh South, school leadership has prioritised investment in extracurricular activities, including its sports programs, theatre productions, robotics and code clubs. Students can learn a language, or care for chooks in the "sustainable village" at the property which "is basically a mini farm".

"We connect kids to school by giving them something that they're passionate about at school

and that is what we are most proud of," Virtuoso said.

She said Oakleigh South had "exceptionally high behaviour expectations" of students and was blessed with good kids.

Students were taught what behaviour was expected of them early on and rules were linked back to school values. "You would not be able to achieve those results unless you have exemplary behaviour," Virtuoso said.

And as for principal Cantlon, 71, his transformational work is in safe hands.

"He's very welcome to stay in the chair for as long as he would like to, but he's not going to be here forever," Virtuoso said.

"But he has a really amazing staff... that are very committed to continuing his legacy, and keeping this place in the top-performing schools in Victoria."