Speech By

Jim Madden

MEMBER FOR IPSWICH WEST

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GAS SUPPLY AND OTHER LEGISLATION (HYDROGEN INDUSTRY DEVELOPMENT) AMENDMENT BILL

Mr MADDEN (Ipswich West—ALP) (3.57 pm): I rise to speak in support of the Gas Supply and Other Legislation (Hydrogen Industry Development) Amendment Bill 2023. The bill proposes to amend the Gas Supply Act 2003 and the Petroleum and Gas (Production and Safety) Act 2004 to provide a clear approvals pathway for hydrogen and other prescribed pipelines to complement changes approved nationally by state and territory energy ministers. The reason our government is so focused on a future hydrogen industry is that it is estimated that by 2040 our green hydrogen industry could support up to 10,000 jobs and generate economic activity comparable to Queensland's current liquefied natural gas industry. As well, as detailed in the explanatory notes, the growing global interest in renewable hydrogen highlights an increasing potential for its use as a future energy and fuel source to support decarbonisation and climate commitments.

Renewable hydrogen is also called green hydrogen and is created by the electrolysis of water. Depending on the process of how the hydrogen is produced, it is provided with nine colour codes, but the three most common colour codes are grey, blue and green hydrogen. Grey hydrogen is currently the most common and cheapest form of hydrogen production. It is used as a fuel and does not generate greenhouse gas emissions itself, but its production process does. Grey hydrogen is created from natural gas using steam reforming, which separates the hydrogen from the natural gas. However, the technologies used do not capture carbon emissions created during the process, which are instead released into the atmosphere. Blue hydrogen is also extracted using the steam-reforming process, but it differs from grey as the carbon emissions released are captured and stored, which reduces emissions into the atmosphere but not does not eliminate them. Blue hydrogen is sometimes called low-carbon hydrogen as the production process does not avoid the creation of greenhouse gases; it just stores them away.

Green hydrogen does not generate any emissions in its entire life cycle as it uses renewable energy in the production process, making it a true source of clean energy. It is made by electrolysing water using clean electricity created from surplus renewable energy from wind and solar power. The process causes a reaction that splits water into its hydrogen and oxygen components—the H and O in H_2O. This results in no carbon emissions being released in the process. Green hydrogen is a great alternative to grey or blue hydrogen, but for now the main challenge is in reducing the production costs of green hydrogen to make it a truly obtainable, renewable and environmentally friendly alternative. Green hydrogen provides a possibility to completely redesign the process of steelmaking. The magic of hydrogen is that it can make the entire process almost carbon free. By reacting hydrogen directly with iron ore, iron and water are produced in place of iron and CO_2.

Many of Queensland's major trading partners, such as Japan, South Korea and Singapore, have made commitments to net zero emissions and are looking for renewable hydrogen to meet their ambitious decarbonisation targets. Queensland has the opportunity to build on its long history as a

major energy exporter and position itself as a global supplier of choice for renewable or green hydrogen. Independent modelling that informed the Queensland Energy and Jobs Plan estimates that Queensland's renewable hydrogen industry could be worth over $33 billion by 2040. Queensland's renewable energy industry also has the potential to play a key role in providing Queenslanders with clean, reliable and affordable power in line with the government's commitment in Queensland's Energy and Jobs Plan. With over 50 projects underway within the state and several with major international proponents, Queensland is well positioned to secure opportunities from the emerging industry to provide benefits to all Queenslanders.

Queensland's green hydrogen industry has the potential to be the greatest jobs, climate and export opportunity in a generation. The Gas Supply and Other Legislation (Hydrogen Industry Development) Amendment Bill helps to deliver this future for Queenslanders. Queensland is set to deliver the biggest hydrogen production project in the nation by way of the publicly owned CQ-H2 located between Gladstone and Rockhampton delivered by a government owned corporation, the Stanwell Corporation. With investment from right across the globe, it is expected to deliver almost 9,000 jobs and over $17.2 billion in exports.

Recently I had the opportunity to visit the state owned Kogan Creek Power Station located at Brigalow near Chinchilla where we are currently building a 200-megawatt Tesla megapack, a pilot hydrogen plant and a new 2,000-megawatt hydrogen-ready gas peaking power station. The project at Kogan Creek Power Station is an important insurance policy for our state to make sure that Queenslanders can always meet our electricity demand during peak times in the future, delivered with 100 per cent green hydrogen gas.

The Gas Supply and Other Legislation (Hydrogen Industry Development) Amendment Bill will also amend the Gas Supply Act 2003 and the Petroleum and Gas (Production and Safety) Act 2004. The industry has told the government that pipeline licensing is a critical area of reform that the government needs to prioritise. It is essential that renewable hydrogen can be transported safely and properly from production sites in regional Queensland to Queensland's export terminals. Ensuring regulatory settings are right to enable a world-leading industry will also require a considered and phased approach to regulatory reform. The Petroleum and Gas (Production and Safety) Act 2004 will provide regulatory frameworks for proponents seeking to transport petroleum and gas through pipelines. This bill represents the first phase in these reforms.

As the minister said in his introductory speech, this bill creates a clear regulatory pathway for the transportation and use of hydrogen and associated hydrogen carriers such as ammonia, methanol, methylcyclohexane, dimethyl ether and toluene, all providing consistency with broader national reforms. In closing, I thank the members of the Transport and Resources Committee, the committee secretariat, the submitters and Hansard. I commend the bill to the House.