

30 July 2021

Department of Industry,
Science, Energy and Resources
GPO Box 2013, Canberra, ACT, 2601

Submitted via consultation hub

GEA RESPONSE TO THE HYDROGEN GUARANTEE OF ORIGIN SCHEME: DISCUSSION PAPER

Gas Energy Australia (GEA) welcomes the opportunity to respond to Hydrogen Guarantee of Origin scheme: discussion paper.

By way of background, GEA is the national peak body which represents the bulk of the downstream gas fuels industry which covers Liquefied Petroleum Gas (LPG), Liquefied Natural Gas (LNG) and Compressed Natural Gas (CNG). The industry comprises major companies and small to medium businesses in the gas fuels supply chain: refiners, fuel marketers, equipment manufacturers, LPG vehicle converters, consultants and other providers of services to the industry.

GEA members and associates support the establishment of a hydrogen Guarantee of Origin (GO), or certification scheme as a priority action under Australia's National Hydrogen Strategy. The development of a hydrogen GO scheme is essential to facilitate the greater take up of hydrogen for a number of applications which will significantly contribute to reducing Australia's emissions in line with international commitments.

GEA considers that the GO scheme should be designed in such a way as not to be limited to hydrogen and should be broader to accommodate the inclusion of other net zero emission gas fuels such as biomethane and bioLPG. Biomethane and bioLPG have significant ability to contribute to emissions reductions while maintaining the use of current downstream gas fuels infrastructure. In the case of the LPG industry's depots, transport and storage facilities and cylinders, this infrastructure is estimated to be worth roughly \$4.3 billion. The inclusion of

other net zero emission gases in a GO scheme would drive industry investment and make them more readily available to Australian homes and businesses. As such, it is critical that the GO's framework accommodates the granting of certificates for the production and injection of biomethane and bioLPG.

As noted in the discussion paper, a GO or certification scheme for hydrogen will provide a consistent and accurate approach to track the key attributes associated with hydrogen production, in particular its carbon footprint. But this could also be used to track key attributes associated with production of other net zero emission gases such as renewable gases.

Biogas in Australia

There is an estimated biogas potential in Australia of 371 petajoules, capturing and processing just 20% of the total estimated potential would offer large scale abatement potential of 42Mt of CO₂ which would reduce Australia's emissions by 6.9%¹.

Biogas covering gaseous fuels such as biomethane or bioLPG recovered from renewable sources have an important role to play in decarbonising Australian energy applications, as biomethane and biopropane sourced from biological sources have the same chemical composition as fossil fuel based methane and propane respectively. The use of these renewable gases will enable the continuing use of existing gas infrastructure, worker training and safety standards etc.

Other benefits from increased use of biomethane and bioLPG would include maintaining energy security and affordability for remote and regional areas through the continued use of gas infrastructure, decarbonisation of hard to decarbonise applications such as heavy transport and cumulative emissions reductions over the course of the next 20 years while on the journey to net zero through fuel switching and blending.

¹ Biogas opportunities for Australia, ENEA Consulting, March 2019 <https://arena.gov.au/assets/2019/06/biogas-opportunities-for-australia.pdf>

- **Biomethane**

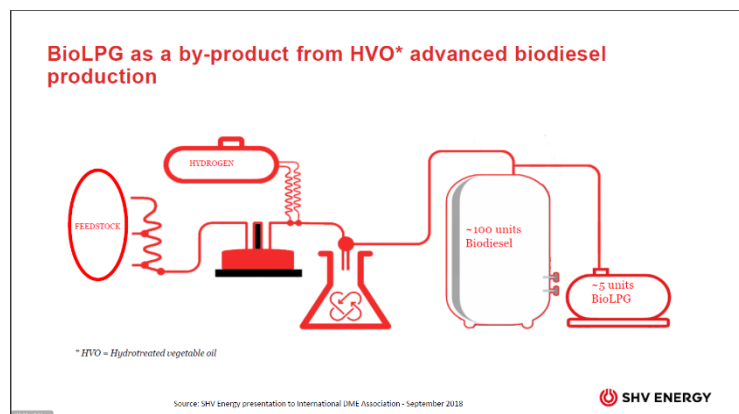
The production of biomethane, which is the same as natural gas, is a well-established process using currently available commercial technologies. The increased use of net zero emission gas fuels such as biogas and hydrogen would ensure that major infrastructure investments such as Australia’s vast network of actual pipelines and virtual pipelines can keep supplying energy to households and businesses.

Biomethane can also be compressed and liquified to produce bioCNG and bioLNG which have the same chemical properties as conventional CNG and LNG. Applications which utilise CNG and LNG can also seek to transition to the use of biologically sourced gas and significantly reduce their emissions.

BioCNG and BioLNG from biomethane represent a significant opportunity to replace CNG and LNG. The use of these gases is cost-effective and available now using existing infrastructure and is already well established, especially in Europe and North America and do not require any modification of existing gas powered transport engines and power generators.

- **BioLPG**

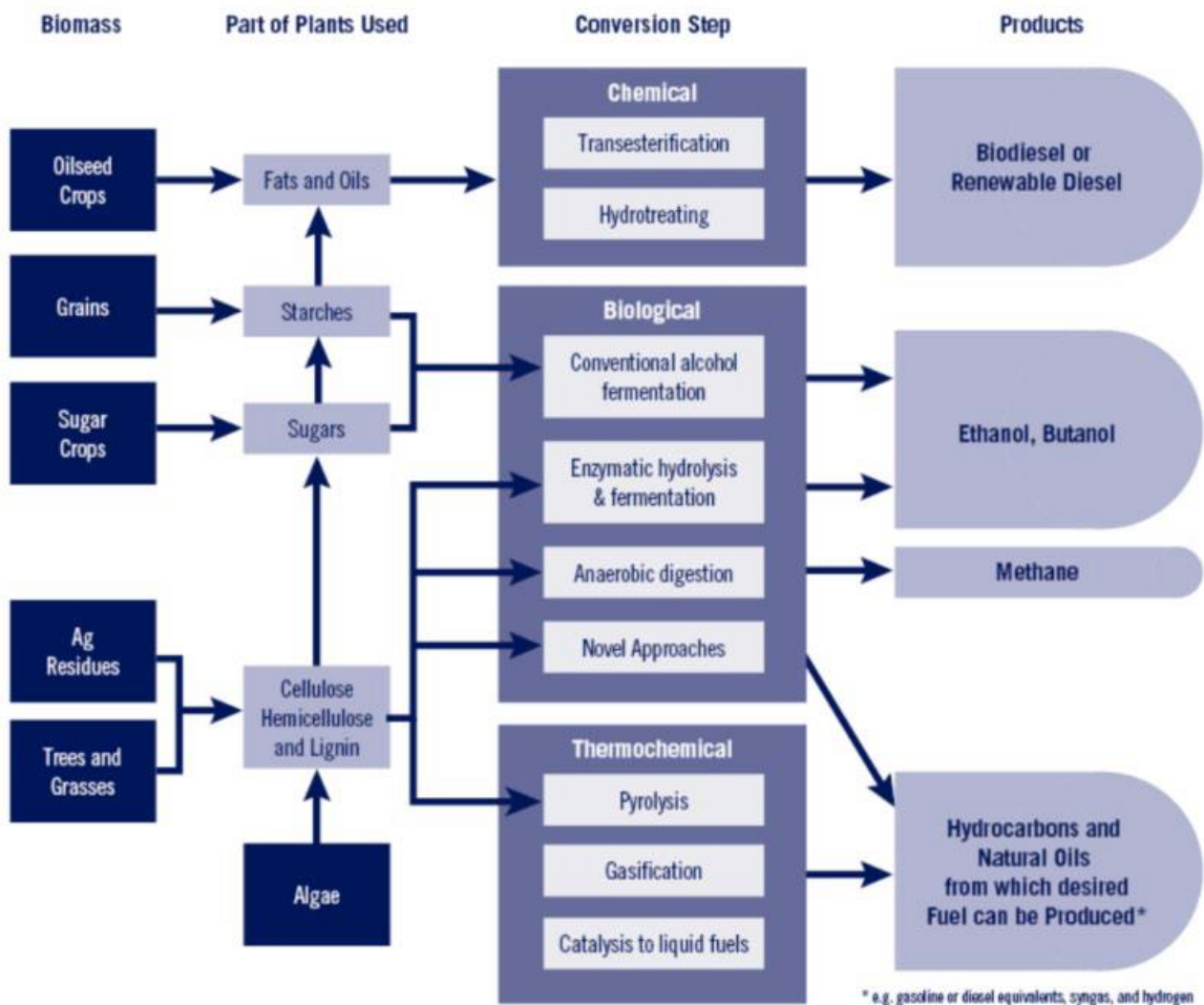
Fossil fuel LPG is an extremely versatile fuel which has a variety of applications in the heating, transport and industrial sectors. LPG consists of mostly propane and/or butane, which are typically produced as a by-product of crude oil refining or natural gas processing. Because biopropane (or bioLPG) is chemically identical to fossil propane, it can be used as a drop-in fuel in the same applications.



The use of bioLPG is steadily growing internationally. Companies such as SHV Energy, based in the Netherlands offer customers the ability to switch from traditional energy sources to LPG, LNG or bioLPG. As

the supply of bioLPG increases to meet demand and move towards renewable energy, bioLPG users are able to reduce their carbon footprint while continuing to utilise current gas infrastructure.

The diagram below from a 2021 World LPG Association report shows available pathways for the production of bioLPG. The full report can be found [here](#).



GEA would welcome the opportunity to discuss these issues in greater detail. If you have any questions regarding this submission, please do not hesitate to contact GEA's Policy Adviser Melissa Dimovski at mdimovski@gasenergyaustralia.asn.au.

For your consideration

A handwritten signature in black ink, appearing to read "John Griffiths", with a horizontal line drawn through the bottom of the signature.

John Griffiths
Chief Executive Officer
Gas Energy Australia