

1 February 2024

Office of Energy and Climate Change
NSW Treasury

via: renewablefuelscheme@environment.nsw.gov.au

To Whom It May Concern

Renewable Fuel Scheme public consultation

On behalf of the Australian Council of Recycling (ACOR), we welcome the NSW Government's aim to increase the production of renewable fuels, to advance a shift to net zero emissions by 2050. To support this transition, we strongly urge the NSW Government to expand the Renewable Fuel Scheme to include fuel from waste.

ACOR is the peak industry body for the resource recovery, recycling, and remanufacturing sector in Australia. Our membership is represented across the recycling value chain, and includes leading organisations in advanced recycling processes, CDS operations, kerbside recycling, recovered metal, glass, plastic, paper, organic, textile, tyre and e-product reprocessing and remanufacturing, and construction and demolition recovery. Our mission is to lead the transition to a circular economy through the recycling supply chain.

The suite of renewable fuel options that can progress the transition to net zero is much broader than green hydrogen. We encourage the NSW Government to support a range of fuels—including biological-based and waste-derived feedstocks—as part of the sustainable fuels mix. All levers will be required to get to net zero: to achieve this transformed economy and society, the focus should be on achieving a cumulative balance of zero or negative emissions across all activities and products, rather than ensuring that every individual activity or product achieves zero or negative carbon emissions. Waste-derived fuel has a lower emission profile than fossil fuels while also avoiding the pressure on land use that biological-based fuels can create—supporting both resource efficiency and emissions reduction.

Decisions about the eligibility of renewable fuels in the Renewable Fuel Scheme should be made on the basis of complete life-cycle assessments. As yet, the potential for recycling and resource efficiency to contribute to emissions reduction and the path to net zero has not been harnessed in New South Wales. At a federal level, National Greenhouse and Energy Reporting (NGER) Scheme and the safeguard mechanism currently overlook life cycle assessments. As such, only landfill gas capture and organic recycling are regarded as emission reduction activities in waste and recycling, limiting broader recognition of the recycling sector's contribution to a net zero future.

For example, 84% of Australia's waste engine lubricant oil is currently burned in Australia or overseas. If the oil were re-refined instead, 1 million tonnes per annum of greenhouse gas emissions would be avoided, while creating a product with 60 per cent less embodied energy than the virgin equivalent.

Case study: Southern Oil's steam over iron reforming and chemical looping combustion hydrogen process

Southern Oil, through its wholly owned subsidiary SynBio, is working with the CSIRO to produce sustainable hydrogen via a combination of steam over iron reforming and chemical looping combustion technologies. The propriety process uses waste gases (such as those generated by Southern Oil's refineries) to produce cheap and sustainable hydrogen. After five years of research, design, and independent evaluation, Southern Oil has approved the design and build of a ten-kilogram-per-hour pilot plant. If successful, scaling and commercialising this process will result in significant emission reductions that could deliver better life-cycle results than green hydrogen.

Case study: tyre-derived fuel

End-of-life tyres present both a waste management challenge and an opportunity for resource recovery. Tyre-derived fuel provides an alternative energy resource to replace fossil fuels such as gas, coal or oil in industrial applications such as cement kilns, electricity generation or industrial process heat. It is estimated that 150,000 tonnes of tyre-derived fuel avoids 174,000 tonnes of carbon-dioxide emissions compared to brown coal. The greenhouse gas emissions savings from tyre-derived fuel are favourable when compared against several biological fuel sources: like biological-based fuel, there are emissions costs associated with refining and transporting tyre-derived fuel. However, unlike biological sources, there are significant emission savings that come from unlocking the steel and carbon black in tyre stockpiles, rather than sending to landfill and putrefaction.

Policy regarding renewable fuels should also align with international best practice, particularly regarding sustainable aviation fuel. Policy should be consistent with the internationally recognised Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) framework, administered by the International Civil Aviation Organisation, which recognises waste-derived aviation fuel as a sustainable aviation fuel that meets the CORSIA sustainability criteria.

We are very keen to work with the NSW Government to advance our mutual objectives of reducing emissions and maximising resource recovery. These objectives can be met by ensuring that life-cycle assessments and waste-derived fuels are accommodated within the Renewable Fuel Scheme. We would very much welcome a further discussion on this matter.

Yours sincerely



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Chief Executive Officer