PRIMARY INDUSTRIES AND RESOURCES COMMITTEE

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Mr RI Katter MP
Mr GR Kelly MP
Mr JR Martin MP
Mr TJ Smith MP

Staff present:
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PUBLIC BRIEFING—DEPARTMENTS AND INDUSTRY STAKEHOLDERS REGARDING THE USE OF SUGARCANE AS A RENEWABLE ENERGY SOURCE

TRANSCRIPT OF PROCEEDINGS

Wednesday, 30 April 2025

Brisbane

WEDNESDAY, 30 APRIL 2025

The committee met at 9.30 am.

CHAIR: I declare this public briefing open. My name is Steve Bennett; I am the member for Burnett and I have the privilege of chairing the committee. With me today are: Mr James Martin, the member for Stretton and deputy chair; Mr Nigel Dalton, the member for Mackay; Mr Robbie Katter, the member for Traeger; Mr Glen Kelly, the member for Mirani; and Mr Tom Smith, the member for Bundaberg.

Today we will receive briefings on the use of sugar cane as a renewable energy source. These briefings aim to further the committee's understanding of this portfolio and key initiatives in the sector. I would like to begin by thanking the departments and representatives from the sugarcane industry for making themselves and their leadership teams available today. We will receive briefings from: the Department of Primary Industries; the Department of State Development, Infrastructure and Planning; Queensland Treasury; Australian sugar manufacturers; Bioenergy Australia; and Canegrowers. We are very happy to have all of those representatives here.

This briefing is a proceeding of the Queensland parliament and is subject to the parliament's standing rules and orders. Only the committee and invited witnesses may participate in the proceedings. Witnesses are not required to give evidence under oath or affirmation, but I remind witnesses that intentionally misleading the committee is a serious offence. I also remind members of the public that they may be excluded from the briefing at the discretion of the committee. I remind committee members that officers are here to provide factual or technical information. Any questions seeking an opinion about policy should be directed to the minister or left to debate on the floor of the House.

Media may be present and are subject to the committee's media rules and the chair's direction at all times. You may be filmed or photographed during the proceedings and images may also appear on parliament's website or social media pages. Please turn your mobile phones off or to silent mode.

BOLTON, Mr Graeme, Director-General, Department of Primary Industries

GARDINER, Ms Tara, Executive Director, Energy Supply and Storage, Queensland Treasury

MILLER, Mr Elton, Executive Director, Agribusiness and Policy, Department of Primary Industries

STONE, Mr Mark, Executive Director, Gas and Sustainable Fuels, Queensland Treasury

TIERNEY, Mr Mark, Acting Deputy Director-General, State Development, Department of State Development, Infrastructure and Planning

CHAIR: I now welcome our panel of officials from the Department of Primary Industries, the Department of State Development, Infrastructure and Planning and Queensland Treasury. Should you wish, you may make a brief introductory statement, after which committee members will have some questions for you.

Mr Bolton: I would like to start today by acknowledging the traditional owners of the lands where we gather today, the Turrbal and Yagara people, and pay my respects to elders past and present. I also extend those respects to any Aboriginal and Torres Strait Islander people joining us here today.

On behalf of Queensland Treasury, the Department of State Development, Infrastructure and Planning and the Department of Primary Industries, I would like to thank the Primary Industries and Resources Committee for this opportunity to provide a briefing on the sugarcane industry and our efforts to drive up renewable energy production in Queensland.

Last week the Queensland government commenced consultation on a 25-year blueprint for the future of Queensland's primary industries. The draft Primary Industries Prosper 2050 was co-designed with nearly 280 representatives from across the portfolio. That includes AgForce, and I would like to acknowledge Mike Guerin, CEO of AgForce, who joins us today in the gallery. The blueprint represents a fresh start for primary industries in our state and supports the Queensland government's ambitious target to boost Queensland primary industries' output to $30 billion by 2030. The blueprint will be supported by a series of rolling five-year action plans that will focus on sector, regional or specific issues and opportunities. A large component of this future growth will come from value-add through the supply chain, new technologies and new opportunities, including biofuels and renewable energies. Today we have representatives from three government departments to present our collaborative efforts to develop a renewable energy industry based on agriculture feedstock.

The Department of Primary Industries has responsibility for agriculture industry development, including diversification and opportunities to value-add to agricultural products, and is the lead agency to co-design and co-deliver our ambitious goal of $30 billion by 2030. The primary role of the Department of State Development, Infrastructure and Planning is developing the supply side of the biofuels industry. This touches on all aspects of the supply and value-add chain from feedstock production through to the end purchaser. Queensland Treasury is responsible for energy policy in Queensland, including electricity, gas and biofuels, along with policy and regulation. It has responsibility for planning and securing Queensland's energy mix. The energy road map is set to be delivered by the end of this year. I will provide a brief overview on behalf of all three departments and then open to any questions the panel may have.

Australia is one of the top 10 producers of sugar globally. Notably, Queensland produces 95 per cent of Australia's sugar. Over 80 per cent of Queensland's raw sugar is exported. The Queensland sugarcane industry includes around 3,300 farm enterprises and employs approximately 4,500 people in the milling sector across 18 sugar mills along Queensland's east coast. In the 2024-25 season, over 27 million tonnes of cane was harvested from about 330,000 hectares. The cane was processed into sugar worth about $2.472 billion. Not only is the sugarcane industry vitally important to Queensland's regional economy; it also underpins the social and cultural fabric of many of our coastal communities. While a major player on the world market, the domestic industry is vulnerable to volatile global sugar prices and competes against other major cane-producing nations.

The development of biofuels projects presents opportunities for the sugarcane industry and regional communities that benefit by contributing to the production supply chain. Sugarcane by-products such as bagasse, molasses and cane trash can be used to produce renewable energy products, including electricity and liquid and gaseous fuels. I seek leave to table a diagram to assist with discussions and understanding.

CHAIR: Can we just have a quick look at it, if you would be so kind? Leave is granted.

Mr Bolton: On that diagram you will see that sugarcane and electricity cogeneration is the burning of bagasse to generate steam and electricity with some surplus energy exported to the power grid. Sugar cane is used to produce ethanol, which is a first-generation biofuel. Sugar cane can also be used to produce sustainable aviation fuel, also known as SAF, and renewable diesel using the next generation of biofuels technology. Finally, sugar cane can be used as a feedstock for biomethane, a drop-in alternative to natural gas.

There are currently 22 bagasse cogeneration facilities in Queensland with a total installed capacity of 448 megawatts. These facilities are generally small in size, ranging from five megawatts to 49 megawatts. They are principally for the purpose of generating heat and electricity for sugar mills. Around 82 per cent of electricity generation occurs during the cane crushing season between July and December. This cogeneration currently produces about 1.6 per cent of the total electricity generated in Queensland. Bagasse cogeneration may have the potential to supply more electricity; however, this requires significant investment and would be subject to the commercial decisions of individual businesses. The Sarina distillery produces about 60 million litres of bioethanol per year from sugarcane molasses. About two-thirds of this is used in Australian E10 and E85 fuels. Queensland biofuels mandates, managed by Queensland Treasury, require some fuel retailers to sell ethanol blended fuels, mostly E10, for fuel wholesalers to sell some bio-based diesel—these mandates have seen the number of service stations selling E10 in Queensland increase from 343 to around 900—and for new bio-based diesel blending equipment to be installed in major fuel terminals in South-East Queensland.

The Queensland government has committed to broaden consideration of biofuels in the energy sector. This includes working towards the sugarcane industry's goal of leveraging existing sugarcane supply chains to build a new low-emissions fuel industry. There is growing international and domestic

demand for biofuels. CSIRO's 2023 Sustainable Aviation Fuel Roadmap estimates that by 2050 Australia's domestic SAF industry could be worth $19 billion per year. Queensland's strengths in primary industries, manufacturing and R and D mean that the development of a biofuels industry could be a significant economic opportunity, particularly in our regional areas, and help create high-value jobs. It could also support key industries such as agriculture and resources to remain globally competitive and would be important for fuel security, which is especially important in the current uncertain global geopolitical environment.

We have a range of levers to develop this opportunity, including project facilitation and supply chain development. For example, State Development is currently facilitating a small number of high-potential biorefinery projects which combined would be equivalent to more than 715 million litres of SAF and renewable diesel per year, a $2.4 billion capex and approximately 300 direct ongoing FTEs. Importantly, these projects are in different regions across Queensland and use different feedstock, supply chains and technologies.

To assist with developing biofuel supply chains, State Development has commissioned a biofuels feedstock expansion study, which is currently being conducted in partnership between Deloitte, CSIRO and the Rural Economies Centre of Excellence and supported by an industry reference group. This study will help deliver on an election commitment to investigate biofuels industry development opportunities that benefit regional Queensland. As a potential significant economic diversification opportunity, the study also intersects with the government's commitment to grow the primary industries sector to $30 billion by 2030.

As you can see from these examples and from our collaborative briefing this morning, we are working closely across the whole of government to deliver on these opportunities and priorities. I would like to thank you for your ongoing interest in the status and future of Queensland's sugarcane industry and renewable energy. The panel will be happy to take any questions the committee may have.

Mr MARTIN: This may be a question for Treasury. Can you provide an outline as to how Queensland's sugar mills export electricity to the grid?

Ms Gardiner: As noted in the opening remarks, there are currently 22 bagasse cogeneration facilities in Queensland with a total installed capacity of 448 megawatts. Those are relatively small facilities ranging from five megawatts to around 49 megawatts capacity. The largest is the Pioneer sugar mill west of Mackay. Those account for around 1.6 per cent of total electricity generation in Queensland. That generation principally occurs during the sugar-milling season from July to December. That is around 88 per cent of generation over that period. The facilities are obviously located in sugar-growing regions and are principally owned by overseas companies, including: Wilmar International, which is one of the largest, at 204 megawatts; MSF Sugar, at 67.5 megawatts; and Nordzucker AG, which has the majority ownership of 90 megawatts at 20 per cent of total capacity.

Mr MARTIN: Could you explain to the committee how the contracts work?

Ms Gardiner: Those are private contracts and the department does not have access to that information.

Mr DALTON: Am I right that Wilmar is the only certified producer of bioethanol in Queensland? What work is being done to encourage other entrants into the market?

Mr Stone: I should be able to get confirmation during this hearing as to whether Wilmar is the only certified biorefinery. I can confirm it is the only biorefinery operational in Queensland currently, running at capacity of 60 million litres per year. As the director-general stated in the opening remarks, about two-thirds of that 60 million litres goes into the ethanol blending for E10 for sale in Queensland and probably other states and territories. Any balance would be picked up by the Manildra biorefinery in New South Wales, which I understand has additional capacity. I will confirm whether it is certified hopefully before the end of this hearing.

CHAIR: We will not place the question on notice. We will let that run its course.

Mr SMITH: Can I clarify something that I think Mr Bolton and Ms Gardiner said? Did one say 21 mills were doing bagasse cogeneration in 2022?

Mr Bolton: No. My opening address spoke to 22 mills currently doing cogeneration. It is just with Ms Gardiner's response—

Mr SMITH: Apologies, I thought I heard 21. Mr Stone, what was your previous title with the department?

Mr Stone: I joined Queensland Treasury late last year as the executive director for hydrogen and sustainable fuels. Since that time my role and the work of the division have pivoted. It is still with sustainable fuels, liquid and gaseous but with less emphasis on hydrogen. I should say that I actually have several further years of service with the Queensland government. I was the CEO of Resources Safety & Health Queensland.

Mr SMITH: With that, has your remit changed at all in terms of how you give greater direction to increase the share of sugarcane-based biofuels in the energy road map?

Mr Stone: The role is really agnostic to feedstock and technology. It is really looking to support industry's lead on the best available technologies. We work closely with other agencies to understand where those industry proponents are interested in developing biofuels.

Mr SMITH: There are no specific targets like there were with hydrogen?

Mr Stone: There are no specific targets; that is correct.

Mr G KELLY: With the transition to renewables, how is the reliability of Queensland sugar mills going at this stage in the state and going into the future with the renewable race?

Mr Bolton: As I mentioned in my opening statement, the domestic sugar market, or the commodity market, is quite volatile; it is subject to international competition. Part of the work we are doing through the 25-year blueprint and the subsequent action plans that we will be rolling out underneath will be to look at each region and, as Mr Stone mentioned, see what potentially is available for that entire region. In some of our regions we know that sugar cane for the production of sugar is going to be challenging moving forward. I look to Mossman in particular, where we are working closely with the growers as to what their future might be. Rather than waiting for the next mill to come to a close, we are starting to do that work now. We are working with growers and millers to understand what those future opportunities might be and how we work together to transition to that so it is not happening at the eleventh hour when it has all gone pear-shaped.

Mr KATTER: You used the word 'agnostic'. There seems to be a passive sort of agnostic attitude towards biofuels. The optics I have on the industry are that it has gone backwards. We did not mention the Dalby ethanol plant that closed in recent years, which was the second owner and had every right to go ahead. We are talking about the mandate, but the mandate really has not increased the usage and has not increased the number of fuel stations applying for things. However, you do not have to put up to 10 per cent into your fuel; you can have three per cent in your E10. As I understand it, no fines have been issued to date to any fuel stations, so no-one is complying with the mandate. If you talk to Ian O'Hara next door at QUT, the industry is not going forward. It needs a big offtake agreement or someone needs to be incentivised to go into it. Does the department just see itself as staying in that passive position or trying to activate some investment here to get something going?

Mr Stone: I am happy to take the question in two parts. I can only assure the member that the Queensland Treasury—and I think I can speak broadly for the other panel members but, of course, I will let them speak for themselves—does not have a passive stance.

Mr KATTER: I just said that to—

Mr Stone: I would try to evidence that by the fact that we continue to meet with a lot of proponents to understand their projects. We run market intelligence to see where the market dynamics are heading for the use of ethanol for fossil, petrol and diesel. We represent Queensland at the state level within the energy and climate ministers portfolio to essentially advocate for a greater focus on low-carbon liquid fuels and gases.

Mr KATTER: For many years RACQ were a big counterpoint; they were running around telling everyone that it would damage your fuel engines when the IAME, who are the foremost authority on engines in Australia, was saying that is not really a valid point, but no-one was pulling them up. You would not exactly say they were a handbrake. They even advocate a little bit now. What about conditioning, because they spent 10 to 20 years telling everyone it was bad for your engine? I do not see much countering that now.

Mr Stone: I would not mind coming back to the specific point of mandates in a second, just to give some context, if you would like me to do that. I see two sides of the coin with renewable diesel and with biofuels as a drop-in replacement. The first is that renewable diesel is chemically pretty much identical, and a good demonstration of this is—and I think I am right in saying this—that new Volvo heavy equipment entering the market, such as prime movers, is coming with a fuel tank of renewable diesel. That company is making a very specific point that out of the showroom that kit is running with something that will not damage the engine and will not invalidate the warranty.

I absolutely acknowledge that there is a hesitance across the broader industry where diesel is used in agriculture and in mining around performance concerns. I think the trend is shifting positively, although it might be slow. We can certainly point to trials by major construction companies in Queensland where currently they have to bring in renewable diesel but they have been using larger volumes to essentially prove to themselves and their investors that there is no difference and that there is a carbon benefit to running the fleet on renewable diesel, albeit at the moment there is a price premium on that.

The very last thing I would say is that Treasury, with its responsibility for energy policy, is advocating that there should be no differentiation in the information provided to industry on using bio versus fossil fuels where none needs to be made. If they are chemically identical, there should be no warning stickers or anything to—a lot of this I think is perception. If an original equipment manufacturer is holding the warranty invalidation on one hand, it will need some impetus to dismiss that.

Mr Bolton: I may ask Mr Tierney to add some input to this, particularly around what we are doing in focusing on renewable energy and what that means.

Mr Tierney: I have a couple of points. If I draw your attention to the diagram, we are really talking about a difference between first-generation and second-generation fuels. There were certainly industry-wide concerns in relation to some of those first-generation fuels that Mr Stone has talked to. The second-generation fuels, which includes renewable diesel, are a better quality of fuel. That just speaks to the way the whole industry globally has matured along with the processing technology that supports it.

What we have been doing from a State Development perspective is then working with refinery proponents. We have worked with dozens that have come through the door in the last several years. It is very difficult for these proponents to create a viable project that investors will want to invest in. Some of it has to do with some of those fuel issues that have been outlined here today but also just the size of the investment proposition that these refineries are looking for. It could be in the order of a billion dollar refinery. It could be a first of its kind in Australia. Just from an investment perspective, there is risk associated with that and companies have struggled at times to work through all of that.

Mr KATTER: The feedback I have certainly had over the last 10 years is that it was around offtake; they want a guaranteed offtake and a government backing them to say, 'We're going to make sure there's an offtake by enforcing the mandate.' They were priorities 1, 2 and 3, as was explained to me, but you are saying something different.

Mr Tierney: It is similar. Part of that risk perspective is the offtake part of that. They were looking for long-term offtakes, which have sometimes been really difficult to secure. Many offtakers will offer a three-year contract, but really what is needed is a 10-year-plus type of contract to be able to de-risk a project sufficiently for investors to come in and fund it.

CHAIR: Mr Bolton, can I come back to your introduction. We talked about the Deloitte study that was done in conjunction with State Development. Are you able to talk a little bit more about that? It got me interested when you mentioned it. I noticed it on the webpage of the department. Are you able to talk more about what that study is all about?

Mr Bolton: I might hand this to Mr Tierney, given that they are leading for particular feedstock—

Mr Tierney: We commissioned Deloitte in 2022 to prepare this report. It had a very interesting title about preparing for take-off. We asked Deloitte to do a policy scan internationally of the types of interventions that had been deployed to help create these types of biofuels, low-emission liquid fuel industries globally. We released the scan that they did to industry and to the federal government in order to try to influence policy consideration. It became very clear through that report that the scale of the economy that we are working with is a significant influence on the type of policy that we may deploy, and so we have worked quite closely with the federal government to look at what national policies may be needed to help create this industry.

CHAIR: What is the status of the study?

Mr Tierney: That study was completed and released.

CHAIR: So it is in the public domain? We might seek a copy of that.

Mr SMITH: Mr Stone, you mentioned earlier there are no specific targets for energy generation through biofuels. Are there specific targets for any energy generation through other resources or sources of energy generation?

Mr Stone: I will defer to my colleague Ms Gardiner.

Ms Gardiner: At present there are currently renewable energy targets that are established for Queensland's electricity system. Those targets remain in place at the moment. However, there is a commitment from this government to repeal those targets.

Mr SMITH: We have an energy road map underway but at this point there are no specific targets about what resources will be used for that electricity generation; is that correct?

Ms Gardiner: The road map is currently under development and I cannot comment on the contents of that road map at this time.

Mr SMITH: I will not ask you to reflect on the government's policy but they are looking to repeal. Have there been instructions to the department to continue targets around coal rather than renewable sources?

Ms Gardiner: I cannot comment on that. I have just talked to the commitments that were made through that election campaign and work is underway within Queensland Treasury to undertake that work.

Mr SMITH: What is the current production capacity for biofuels in Queensland?

Mr Stone: It will be one that I do not have right in front of me, but I am pretty confident that I can get that within the course of this hearing.

Mr SMITH: And maybe take it on notice if not by the end of the hearing?

Mr Stone: Yes, thank you.

Mr DALTON: Thank you for some very interesting comments. What improvements or reforms are being considered to improve the reliability in future seasons? In Mackay we have a lot of standover because the mills were not operating. What improvements and reliability reforms are likely in the future?

Mr Bolton: We have seen a lot of variation over the last 12 months and two years of harvesting and some mills have suffered breakdowns. At the end of the day, a lot of those maintenance works and upgrades are a commercial decision of each individual mill. That is not something that the government can or should intervene with.

In terms of future direction, certainly the blueprint or the 25-year vision for our Queensland primary industries is going to set a very clear direction about our future aspirations. The big opportunity that sits in front of us is through the regional base action plans that will be coming out later this year or early next year. They will look at those opportunities for places such as Mackay and the Burdekin where we know we have fairly significant sugarcane and other biomass production to see what those future opportunities are for increases in renewable energy and, potentially, other value-added products through that supply chain.

Mr MARTIN: I have a question about energy reliability, which obviously is something that has been discussed quite a lot in the media recently. Can sugar play a role in improving reliability given the recent Callide Power Station explosion, which left the generator offline until 30 May? How are your departments ensuring reliability? Is something like increasing sugarcane cogeneration capacity part of that?

Ms Gardiner: Sugar cane certainly could play a role in the future energy system. Gas cogeneration is considered a dispatchable energy or electricity source, which means that its output can be raised or lowered when required, as opposed to other variable energy sources like wind and solar. That is a particularly important element in our energy system now and into the future because that dispatchability allows us to meet through evening peak or peak demand events, which we generally see over the evening as our solar output reduces, and particularly through the summer where we see higher demand from air-conditioning use and cooling as well. There is certainly an opportunity there for cogeneration to play a role. However, there would look to be a range of technical and logistical changes that would need to be made in order for the gas cogeneration to capture that opportunity.

Mr MARTIN: Has any modelling been done on that?

Ms Gardiner: There has been no specific modelling into the gas cogeneration from the energy division of Queensland Treasury. At the moment, it plays a very small role in the energy system. As I said, it is kind of 1.6 per cent of generation at the minute so it is quite small. It is hard to see it come up to a really substantial share of the electricity market.

Mr G KELLY: Graeme, what have been the major causes of breakdowns and delays during the recent crush? I know there have been weather issues. Especially up in my patch of Mirani there have been some problems.

Mr Bolton: They vary from mill to mill. Certainly the wet weather has had a very large impact on the crushing season this year and last year. We are hoping for a better year this year but we have already had a very wet start to the year. I think there has been a range of issues, ranging from mechanical breakdowns through to workforce discussions and negotiations.

Mr KATTER: I am of the view that the major oil companies are a big handbrake on this whole industry and until they decide they want to adopt it everyone is pushing back against it here in Australia. Has that been identified or acknowledged? Is it seen as an issue and have any moves been made to address that or engage? I noticed that in the 10 years we have been having these debates around ethanol and mandates they have never participated in the parliamentary hearings, which would suggest to me they see themselves as above all this; they do what they want and they control the market. Certainly that is the feedback from the major players in the national market in ethanol. They seem conspicuous by their absence and we are not talking about them here.

Mr Bolton: The work that we are doing collectively across all three agencies is looking at our various proposed and particularly some of those future potential customers. We know that there is a lot of interest nationally and globally around biodiesels as well as the SAF aviation fuels. Right across the government, we are working with those end customers to see what those opportunities might be. We are working with the advanced manufacturers, the current manufacturers and the future manufacturers and then also with the suppliers and the primary producers within those regions to understand what might be the potential. It is a long gestation period because these negotiations are complex and they take time to play out. I would pass on to Mr Stone and then also ask Mr Tierney to add in on some of the work they are doing.

Mr KATTER: Would there seem to be some urgency around this? One of the discussions I had last year with some of the experts in this field was that we have not exactly missed the window for biofuels but in 10 years time it will be leaning on hydrogen or something else. We are missing all this opportunity to get in there. We are still talking about slowly working through stuff. We lost the Dalby ethanol plant. It was a beautiful plant that employed 100 people.

Mr Stone: I think the member is describing the established model of an incumbent industry, so fossil gas and fossil oil, that exists today. We know very well where our supply chains for diesel come from and where supply chains for petrol come from. On the east coast of Australia we have a domestic gas market of around 500 petajoules a day and we understand where those fossil volumes come from. That is the incumbent industry.

What they have globally, in Australia and in Queensland are the disruptors. Some of the disruptors are actually sitting behind me. They will be providing their updates to this committee after we leave. They can be characterised, both here in Queensland and internationally, as having projects in the feasibility, pre-front-end engineering design and pilot phases. In a moment, my colleague Mr Tierney could probably talk to some of those projects which are occurring across Queensland. They are small in number but they are important in the technology they are trying to proof up. Those are the disruptors.

The disruptors will over time—that is a very broad thing to say—gradually replace market share driven by, as we know, some policy positions around safeguard mechanisms; companies, particularly larger ones, having their internal processes wanting to decarbonise; and Qantas and other air carriers wishing to achieve their internal targets of, say, 10 per cent sustainable aviation fuel by 2030. That can be a frustrating process for many people to look at because it is hard to see where progress is being made and it is harder as well to understand which policy settings are the most effective to support industry without distorting the market. We are deeply involved in all of that and it is essentially the focus of my division.

Mr KATTER: I appreciate that. I know we have time constraints. It is always hard to know what is driving these biofuels, but defence is becoming a big issue.

Mr Stone: Yes.

Mr KATTER: We are in the minority globally as 63 other countries in the world mandate ethanol but our mandate is not effective so I would not say we effectively mandate. Should there be a basis here to approach the Department of the Prime Minister and Cabinet to coordinate fuel security and the state agriculture department as an enabler to precipitate this?

CHAIR: I think that is a policy direction you are looking for, Rob, to be fair.

Mr KATTER: Is there an opportunity, seeing as there is a defence component of this, to help accelerate your initiatives?

Mr Stone: I could say, without talking about government policy, that we do talk to Defence regularly and we have involvement through the national oil security umbrella. I think I am right in saying that Defence recently published their 10-year look-ahead and talked quite specifically around

the role of renewable fuels for that diesel and SAF demand, principally. That is reflective of the fact that, under the IEA, Australia has around, I think, 21—it might be a number a little north of that—supply security, so I think it is absolutely what you are talking about: large consumers of fossil fuels looking at the supply security and looking at how they effectively risk-manage that. Those are conversations at a departmental level. They, of course, need to be informed by policy intent by the government of the day.

CHAIR: Mr Tierney, do you want to add anything? Because of time, we might try to condense this down a bit.

Mr Tierney: There are two things to note. Last year Ampol, which is one of two refiners in Australia, announced a partnership with IFM Investors and also GrainCorp to pursue a sustainable aviation fuel and renewable diesel refinery opportunity down at Lytton, where they are currently based. They are actively on the pathway, but that is going to take quite some time to develop.

The other thing is that I will echo those sentiments about Defence. They do have interest in the sustainable aviation fuels and renewable diesel for all of their different fleets. They need access to it in order to be able to participate.

CHAIR: Ms Gardiner, you mentioned 1.6 per cent generation into the grid. Is that because the mills are all self-generating for their own generation? Could you expand on the capacity of those mills to pump some more into the grid?

Ms Gardiner: My understanding is that the cogeneration at the sugar mill is principally for the purpose of providing heat and electricity for the mill's operations. Where there is excess electricity generated, that is provided into the grid. My understanding—again. the industry participants can best talk to this—is that is the principal purpose for those cogeneration operations. That capacity is obviously a limiter to how much they can provide into the grid at any given time.

There are also limitations in terms of the connection agreements that they might have with the network service provider. Those limitations or agreements may be informed by the quality of the power—the electricity—that is provided from the facility into the grid. I understand that the network service providers put in place a range of standards and limitations to ensure the safe and reliable operation of the electricity network, so those limitations may go to that.

Mr SMITH: Ms Gardiner, I notice your title refers to energy supply and storage and, Mr Stone, your title refers to gas and sustainable fuels. When were you both aware of the 4 April explosion at Callide?

CHAIR: Member, do not push it. We have had this discussion. Please ask another question or I will move on.

Mr SMITH: It is about energy generation. We have asked about other forms of energy generation or targets being set and we specifically asked about coal and it was not ruled out of order. I would just like to know from the two members of the department: when did you become aware of the 4 April explosion at Callide?

CHAIR: You do not have to go there. It is clearly out of order.

Mr SMITH: I think if you are running a protection racket here for the department then that is quite scary as to the transparency of this government.

CHAIR: Moving on. Thank you, member. We are going to call to a close this particular inquiry. Does anyone want to close out with anything that is pressing? Mr Stone had a couple of questions on notice.

Mr Stone: I think the member asked around certification of the Wilmar Sarina refinery. I just wanted to clarify that the government does not certify, but we are trying to run down any certification that Sarina holds. If it is okay, we can come back afterwards on that.

Mr DALTON: We are very grateful for the inquiries that you have made and we will look forward to your answer.

Mr Stone: The second part was around biofuels capacity. I have a partial answer, which is that around 56 million litres of ethanol is sold as fuel each year under the Queensland mandate, which is close to the capacity of the Wilmar refinery. I think that is only a partial answer—I know that industry colleagues behind me will talk to the projects they have, particularly around biogas generation and renewable electricity—so, again, I would like to come back, if that is okay.

CHAIR: We are placing that on notice, thank you. If you could, please have that back by 14 May.

FORZISI, Mr Sam, Cane Policy Director, AgForce

GUERIN, Mr Michael, Chief Executive Officer, AgForce

CHAIR: Thank you for presenting.

Mr Guerin: Thank you to the committee for the chance to say a few words at short notice. It is enormously appreciated by us. There will be a couple of words from me and then you will hear from our cane policy director, who leads a lot of our work here. Very quickly, AgForce represents a number of commodities across Queensland. It is a state farming organisation and is a Queensland delegate to the National Farmers' Federation for federal issues. Cane is one of the commodities we look after and we welcome the chance to make a few statements today before this committee. I will ask Sam to do that, but thank you again for the chance to do so.

Mr Forzisi: I am AgForce's cane policy director and also represent trade market access on the economics committee at the National Farmers' Federation level. We have for quite a few years, whilst I have been at AgForce, been working on behalf of producers to represent them in the renewable fuels liquid market and provided quite a few policy submissions at the national and state levels. What our producers are telling us is that they really want to be part of the conversation, and that is why we are here today. It is very important for them to be part of the supply and demand network in a market that will potentially be for Queensland and the government when it comes to food and fuel security. I cannot stress enough the importance for them to be part of the conversation but also to be the beneficiaries of what might be a market. They are looking to ensure the longevity of their farms in an environment where ongoing pressure is being applied to them with red tape, green tape, reporting, environmental credentials et cetera. What they are looking for in the sugar industry, for example, is to utilise the whole of crop and, a lot like mining, maximise the benefit that is potentially there so that they can then reinvest into their communities and into their farming families for the future. It is a simple request, just to be part of the market and to be considered in the conversation so that investment can then flow back through to the communities.

We are part of the feedstock study and we were one of the people who raised the request to have a feedstock study and strategy for the nation. We identified that there was a shortfall in the feedstock in this country to provide a liquid fuel market for not only Australia but also globally. There lies the challenge. Having said that, we are keen to be part of that renewable fuels market. We have also noted that in the sugar industry we would require to use up at least 15 million tonnes just to provide approximately 10 per cent of the SAF required for just domestic use. One would have to ask the question whether we are able to create an export market. What we have identified at AgForce is that we can, because of the way we are structured in our production systems, but our farming production systems would need to grow exponentially to provide that market certainty.

The last thing I will leave in my comments is a policy position that the AgForce Cane board have developed. I will only mention the call to action, which is that AgForce Cane calls on the government to lead policy development for a liquid fuel market and commit to market-based mechanisms of regulation through embedded long-term, tax-based production incentives and price rebates. We believe that without an end-to-end market it will be very difficult for our sector to ensure supply and for the manufacturers to commit to long-term demand, so we need to create a full market economy where the very producers who are supplying product can then purchase the biodiesel or transfer to SAF and be able to switch in the markets and make sure that we can quantify what that feedstock supply will be in this country. We need to quantify the feedstock in this country into real, convertible liquid fuel stocks.

CHAIR: Can I ask for clarity: what did you read off your phone?

Mr Forzisi: It is our AgForce Cane policy statement around renewable liquid fuel.

CHAIR: Needing price rebates and—

Mr Forzisi: Long-term, tax-based production incentives and price rebates.

CHAIR: What do they look like? Are they like a floor price for generation or per litre?

Mr Forzisi: It is a very good question and thank you. At this stage AgForce does not have the resources to create market-based pricing mechanisms. We would be very much open to having a conversation about what that might look like. Ultimately, there would have to be a supply and demand balance in the equation.

Mr MARTIN: I had a question about your producers and how they get paid for their crops that go towards biofuel. Is it just the case that they sell to the manufacturers and the manufacturers sell it on? Do they have a stake in it after it is processed?

Mr Forzisi: That is actually a really good question and one of the concerns for our producers. At the moment they are not necessarily the beneficiaries. In most cases, they do not receive anything at all. Even though there is a sugar formula that is a one-third/two-thirds, that only applies to crystal sugar. What it means is: if we end up going down the path of cogeneration, which producers would be happy about, in some cases they would have to change their production system. That would be difficult for them to do without investment in their current processes. We would like to see some money coming back to the producer or being paid for that additional crop, whether it is tops and trash. More so, we would also like to see an allocation or a portion of the revenue generated to go back into the mills for investment into the very production system that is failing us at the moment, especially over the last five years.

CHAIR: I thank you for your time and your cooperation with the tight timeframes. Do you want to close out?

Mr Guerin: I just thank the committee again for the opportunity.

CHAIR: I encourage you to continue. You are on our list of key stakeholders in this space.

YIM, Mr Simon, Sky Renewables

CHAIR: Over to you, sir.

Mr Yim: Thank you and good morning, committee members. Thank you for the opportunity to make a brief presentation here this morning. My name is Simon Yim. I am CEO and founder of Sky Renewables, a company I founded in Queensland in 2019. We have been working on sugar cane as a feedstock since 2018. That was long before serious discussion of net zero. That was long before the energy crisis resulting from the Ukraine war. What we saw was an opportunity to turn tops and trash, which are being burned in the field today—and have been for a long time—into a very valuable biofuel.

We are coming from the demand side. We bring the demand to Queensland. I was not an Australian when I started but I am now a permanent resident of this great country, thanks to the Australian government. What we do is we match the demand and supply between resource-rich and mildly populated Australia with the resource-poor and hugely populated affluent Asia. For example, let's focus on the market of Singapore. Queensland is 2,000 times the size of Singapore and has 300,000 fewer people. Singapore has the highest GDP per capita in Asia and, together with Australia, is the only other AAA-rated country in the Asia-Pacific. They are crying out loud for energy. Singapore has about 14,000 megawatts of installed capacity, of which 95 per cent is LNG fired. It is good news and bad news. The good news is it is not as polluting as the other fossil fuel. It is bad news because it is very hard to decarbonise LNG. The only two ways are blending it with green hydrogen or biomethane. The Singapore government has made the decision not to pursue green hydrogen in the foreseeable future, which means biomethane is the only option.

We can use the tops and trash in Queensland—we are starting at the Burdekin—to make enough biomethane to fire up 1,000 megawatts of combined-cycle gas turbines at 90 per cent capacity factor, meaning it works all year. If we were to do that—and we have already been given price indications by two of the largest gencos in Singapore—they would be willing to pay us a tariff under a long-term take-or-pay contract that would equate to $1.5 billion net profit per year before tax to Queensland. We are also looking at using tops and trash for pellets. We were looking at the Japan market before. Now we are looking at the Singapore market. The price they indicated to us was about US$170 FOB Port of Townsville pre tax. These are all real, actual and solid opportunities and we come from the optic side. There were members who were asking questions about offtake. This is obviously not signed, but it is where we are coming from.

I have been working with the growers for the last seven years—this is my eighth harvest. We see the fact that they are not getting enough return for things they burn today. If they stop burning we are offering, in principle, $15 per tonne of green trash. Added to that, I have offered growers to use their tops and trash supplied to us as contribution in kind for equity in the project. What we are offering is a platform for growers to not just increase their revenue but also have skin in the game in the long-term wellbeing of this project. We are already talking to the local community. We have growers on our side. We are actually having a big town hall meeting in Ayr on 7 May to have them sign up to this potential supply agreement. We are looking at using tops and trash, processing them into briquettes and using them at the Port of Gladstone, maybe Abbot Point, maybe Hay Point, maybe Mackay, to do the gasification and liquefy it bound for export to Singapore and/or Japan.

CHAIR: Mr Yim, thank you for your presentation. We encourage you to continue to engage with the committee and look forward to your future endeavours.

SALARDINI, Mr Ash, Chief Executive Officer, Australian Sugar Manufacturers

WREN, Dr Christopher, Head of Policy, Australian Sugar Manufacturers

Mr Salardini: ASM is the peak body representing manufacturers across Queensland. As an industry, we export about $2 billion to $2.5 billion worth of sugar and we support more than 20,000 jobs. Today we are focusing on the amazing bioenergy opportunities we have. I will be guided by the committee as to the specifics, the opportunities or the challenges.

The first question for us is: why this specific opportunity? The bioenergy opportunity is a diversification opportunity, first and foremost. It will ensure our energy is viable when global markets for sugar are depressed and provide long-term investment certainty for growers and manufacturers alike. De-risking our manufacturers and growers for the long term is basically worth its weight in gold.

What is the specific opportunity? We have access to 30 million tonnes of cane per annum. From this we can make about four million to five million tonnes of sugar from cane juice, one million tonnes of molasses and about nine million tonnes of bagasse, which is the fibrous by-product from our sugar production. Whether we make sugar, biofuels or electricity, these are the building blocks we have to work with.

Let's start with the renewable electricity opportunity. Through cogeneration, which is using our nine million tonnes of bagasse, we can establish over 800 megawatts of renewable base load capacity while still producing sugar, and that is very important. This is equivalent to powering 500,000 Queensland homes. We have done some modelling which suggests it would reduce projected wholesale generation in Queensland by 10 to 15 per cent. To do this we need a significant investment in advanced boilers, turbines and the electrification of our factories that cannot be run on steam. These investments would make our factories some of the most efficient and reliable in the world, providing a more certain and reliable supply chain for our growers. That has been one of their main concerns since I have been around. It is both an energy solution and, more importantly, an economic development opportunity. I do not know many power plants that can provide 800 megawatts of electricity and also support 20,000 jobs.

The second part is biofuels. Again, from bagasse we can make about 1,000 to 2,000 million litres of bioethanol. From the juice and molasses we could probably make another 3,000 million; however, that would mean sacrificing sugar production, so there is an opportunity cost, particularly with the cane juice. To put a ballpark figure on it, that would probably be enough to support 30 per cent of our domestic aviation fuel needs. It is a big opportunity, but, again, there is an opportunity cost there. The more interesting opportunity is probably around the Australian Defence Force, which needs about 400 million litres of liquid fuel every year. They happen to be co-located where the sugar is—and where most of your seats are, actually—so securing our national security through fuel security may be the more strategically astute way forward on biofuels.

The final question is: where to next? The government is a very important partner. We can make a combination of sugar, biofuels or renewable electricity. Whatever the combination or permutation, we can do that. The biggest questions we need to answer are: what combination creates the biggest economic outcome for Queensland, regional Queensland and the sugar industry, and how can we work together to make that happen? Noting the cross-portfolio nature of this opportunity and the cross-government nature of this opportunity, a full parliamentary inquiry into charting a pathway forward may be a logical way forward. We thank the committee for establishing this hearing; it is very important and timely.

Mr MARTIN: We heard earlier today that cogeneration from sugar is currently a relatively small part of the energy market, mostly produced during the crush. In your opinion, what is needed for cogeneration to scale up to provide power year-round, what investment is needed from the mills and where would that investment come from?

Mr Salardini: You are exactly right. When we first had bagasse it was a waste product, so our boilers are not there to be efficient and create electricity; it was to get rid of something we did not want. That, in essence, is the problem. From that nine million tonnes of bagasse we get about 300 to 350 megawatts of capacity. If we get new boilers in probably 10 to 11 of our mills, new turbines and electrify our mills so they are more energy efficient, that is how we get it to over 800 megawatts of capacity. Again I will state that is 500,000 homes worth of electricity. That investment is not going to have a million at the end of it; it is going to have a billion. We have done some high-level study. We cannot tell you the on-the-ground figures, but it will be in the low billions to do all of that. Again, that is 800 megawatts of base load capacity, so when the sun does not shine or when the wind does not blow we are still pumping out electricity. We are cheaper than grid-scale battery and we are cheaper than gas peaking plants for the kilowatt hour of output we make during those peak times.

Mr DALTON: How much capacity does the sugarcane industry have to increase cogeneration? What is the capacity in Queensland?

Mr Salardini: The best way to put it is what 800 megawatts is, and that is the Callide B power plant we just recently heard about in terms of extending its life. That has about a 700-megawatt capacity limit and that has become a solution to extend generation in the 2030s. We have 800 megawatts we can potentially get to, so it is equivalent to having another Callide B power plant online.

Mr DALTON: That would be spread all the way across Queensland?

Mr Salardini: Yes, that is the huge benefit that cogeneration provides. It is decentralised, so it would be up and down the coast using existing transmission lines and the benefits are obviously spread across the region.

Mr DALTON: Providing employment all the way through.

Mr Salardini: That is the biggest part of the equation. If my members were getting out of bed just to do cogeneration they probably would not do it, but it actually underpins the sugar business. It provides certainty. It actually gives us a reason to invest in new boilers and electrify our mills, and that certainty will create reliability. Let's be frank: the manufacturing sector has not been particularly reliable. I am sure my growing colleagues have already mentioned that. Reliability in our industry has been one of the main issues over the last two or three years. Giving growers reliability that your cane will be crushed, crushed at exactly the right time and at the right place, is worth it is weight in gold. That will provide certainty for everyone, growers and manufacturers alike.

Mr SMITH: Were either of you present at the Treasurer's 8 April Queensland Energy Club speech when he announced the energy road map?

Mr Salardini: I have seen some transcripts from it but I have not heard the full account.

Mr SMITH: Have you been engaged at all by the government or the department in terms of engaging with that road map and being part of that?

Mr Salardini: I will give you a bit of background. The numbers we are talking about have come from a prefeasibility study we got co-funded by State Development, but it has not been published yet so we cannot refer to it as yet. It is with State Development to finalise. Government has been involved. We are meeting with the Treasurer's office this month. There are opportunities there and I think the government is aware of this opportunity as well.

Mr SMITH: Is that report finalised and just not published yet?

Mr Salardini: The draft has been finalised and I can speak generically to it, but I cannot give you specifics of it.

Mr SMITH: It might be one that we should write to the department about. I have a final question and maybe the chair might let me come back later. Does it concern you to know that in a previous question the department said there is no specific target for biofuels in Queensland?

Mr Salardini: I think it might be too early in the piece to say whether we need a target or not. As I said, we can do any combination. If, for example, the government said, 'Biofuels are a joke; we can't do it,' that is fine. If you tell us that electricity is the way forward and sugar, we can calibrate. What we need is certainty. As I mentioned in my opening address, it could be a really good task for the committee to put this pathway forward. I have told you what the building blocks are. How can we get the most economic benefit for Queensland, regional Queensland and the sugar industry out of the component products? There is bagasse, there is cane juice and there is molasses. We can make electricity, we can make biofuels and we can make sugar. We are agnostic. We can do whatever it is; we just need to work together to come to that outcome.

Mr G KELLY: Eight hundred megawatts of energy plus producing sugar is a win-win for me. As a farmer, I really believe this is something the future holds. A billion dollars at the moment in renewable energy such as wind or solar is a common number. It is a billion for this, a billion for that. A billion for turbines at the moment gives you possibly about 375 megawatts of energy with an energy factor of about 40 per cent. It depends on where it is built. What you are saying here is 800 megawatts of energy with cane getting grown for sugar. The energy factor of this is right up there as base load power like we have with a coal-fired power station. Can it be run at 90 per cent? Can it be run at 80 per cent consistently?

Mr Salardini: Exactly. Yes, it can. That is what that study we were referring to, but cannot publish as yet, looks into. It is a big undertaking. It is not a small thing. I would say it is almost a silver bullet for the industry. If we change our operations, how we use our bagasse, how we do our

maintenance, how we retool our sheds, we can actually provide close to the same outcomes as a coal-fired plant. That is the opportunity. The reason we would do it is that it underpins the reason to invest in the sugar industry as a whole—the crystals part of it as well.

You mentioned renewables. There is an issue with renewables. When they are pumping energy into the grid we are selling our electricity at a negative price. Then they are not around when there is peak demand at night. Battery storage is subsidised and they come in and charge about $600 a kilowatt hour, which is four to five times higher than the average price. They have created a problem and they have solved the problem by creating a lot of revenue for themselves as well and knocking people like ourselves out of the market. I am not against renewables. They have a role to play, but I think the base load nature of our generation is also very important, plus the 20,000 jobs it supports.

CHAIR: Member for Traeger, we have three minutes before we have to close this session down.

Mr KATTER: I will try and choose carefully. I will jump to my second question. I certainly have a concern for the cane farm production area. I think your organisation tendered a photo that shows a big solar farm right in the footprint of the Burdekin cane farm production area. It is not a very nice photo, especially with the enthusiasm there is for renewables in the market. The nearest place to the grid is on all of our prime ag land along the coast. If you extrapolate or project that forward, there is a lot of risk. The Cairns council is pretty open about this. Their urban footprint is expanding all over that Mulgrave mill area to expand the population that way if we do not build a tunnel or alternate up to the Kuranda range. Producers around the Mossman mill area are under huge threat. We are not talking about cane farm production areas here, but I would imagine that is a pretty big part of your aspirations.

Mr Salardini: One hundred per cent. What we should note is that caneland happens to be perfectly suited for solar: it is flat, sunny and close to the grid because the mills use and pump a lot of energy as well. It is almost like a one-for-one race there. Twenty to 30 kilometres in and around a mill is the most profitable caneland in terms of the viability of that industry. If we lose a lot of that land in particular, the viability of the whole industry goes down. Like we have renewable energy zones, we should almost have a renewable sugar and energy zone where you say, 'These 30 kilometres are for biofuels for renewable electricity. The production of sugar is prime land and we need that cane. Then we can talk about the other ones.' In the end, we are not here to trash the renewables industry. There is a role for solar, but that 20- to 30-kilometre radius is probably the bit that is the make or break of our industry. If we lose a lot of that, 10 years from now we will probably be talking about a lot more than just Mossman.

Mr KATTER: You were talking about bagasse. I have always been a bit stuck on ethanol. There is the big conflict with trying to get volume, then you are taking that out of your crystallised sugar and your trade agreements.

Mr Salardini: That is what we make the crystals with at the minute, the cane juice. There is a conflict with sugar. You can either make bioethanol or make sugar. It is an either-or. I think the previous speaker touched on it. At the moment the cane supply formula, how we do contracts with growers, is based on the sugar price at international markets. If we went 100 per cent biofuels, it would have to change how we incentivise each other, because at the moment the assumption is—and for 100 years that assumption has been—that we all have vested interests in the sugar price and we bear the risks and the opportunities together. If we switch to biofuel, particularly, let's say, more than 40 or 50 per cent, there is a big industry discussion and we have to revisit that.

With the bagasse there is no trade-off. Bagasse is a by-product of the juicing process. You get the fibres that are left over, so that is almost like—I am not going to say a free kick, but there is less opportunity cost with bagasse. The tops and trash bit we have very little to do with. We do not aggregate it. It sits on the farm. A lot of farmers use it for ground cover. It someone wants to aggregate it, good luck to them. It is a challenging task to aggregate something that does not have a supply chain. The volume by weight is of low value, but if someone can do it by all means.

CHAIR: We have a lot of other stakeholders in the room, but I am sure we can continue this conversation.

McKENZIE, Ms Shahana, Chief Executive Officer, Bioenergy Australia (via teleconference)

Ms McKenzie: I thank the committee for inviting us. My apologies that I cannot be there in person today, but I am delighted to be able to present. I am going to fly through a little bit of an overview and hopefully there will be some time for questions.

Bioenergy Australia is identified through *Australia's bioenergy roadmap*, released by Angus Taylor in 2021. There are really two priority pathways for bioenergy in Australia, those being renewable gas through biogas and biomethane, and low-carbon liquid fuels, in particular for hard-to-abate sectors. As an overview, we have two key alliances: the Renewable Gas Alliance and the Low Carbon Fuels Alliance of Australia and New Zealand. They have over 600 stakeholders across the entire supply chain. Whilst the name of our organisation is Bioenergy Australia, really we seek to represent the feedstock providers, technology providers, project developers, fuel producers, distributors, infrastructure owners, investors, research organisations, retailers, offtakers and consumers. As has already been discussed today, the key focus for BA is around enabling the opportunity for low-carbon fuels and biogas/biomethane to support hard-to-abate sectors such as aviation, mining, rail, heavy haulage, agriculture, construction, marine and, in gas, decarbonisation, in particular to support manufacturing and industrial use but more widescale decarbonisation of the gas network and increasing energy supply and resilience.

What has been discussed today already is really around that opportunity for drop-in fuels, liquid fuels and drop-in gas. That has really been the significant shift that has taken place in this industry over the past 10 years. There has been a lot of discussion today regarding ethanol. Just to provide reassurance, the investment that has happened in ethanol and those facilities is not going to be lost into the future if that fuel does not make its way to the passenger vehicle market. Ethanol is a key feedstock for the production of SAF and renewable diesel in alcohol-to-jet facilities.

In relation to feedstocks, obviously the purpose of today is around sugar. However, sugar, gas, sorghum, tallow, used cooking oil, municipal solid waste, agriculture residues more generally, sawmill residues, oil mallees and other forestry, canola, cottonseed and other oilseeds as well as hydrogen and carbon dioxide for power to liquids are all feedstocks that are being progressed in Australia for the development of this industry.

I have a couple of statistics, on the renewable gas opportunity in particular. The potential there in relation to cost is really quite competitive. On landfill gas capture you are looking at around $10 a gigajoule—that is from landfill gas. On wastewater treatment plants it is $9.40 a gigajoule, which is pretty competitive in relation to the natural gas product price. Across the Australian Gas Infrastructure Group's network catchment area in Queensland, it has been identified that there is between 44 and 88 petajoule per annum of biomethane which could be diverted and obviously then be able to support decarbonisation of those sectors. Biomethane does not just produce the gas. It also produces digestate, fertiliser, CO_2, heat and electricity, which can really support the economic viability of these projects. The potential in relation to the development of a biogas industry in Australia could generate over 18,000 jobs and those are primarily in regional areas, which is a really significant thing to be considering here.

Around low-carbon liquid fuels, obviously the committee would be aware that five refineries have closed in the past 12 years and that Australia is now reliant for over 90 per cent of our liquid fuel. With additional investment in refining and infrastructure to match Australia's feedstock potential, we could be displacing around 19 per cent of fuel imports in 2040 and up to 47 per cent by 2050. That is across all of the feedstocks so that is not specifically relating to sugar. A SAF industry alone could contribute $13 billion GDP per annum by 2040 and an additional 13,000 jobs. This also comes back to the point of those regional jobs.

Just to give a bit of headline around what the feds are doing here, if there is not a level of visibility, a lot has happened in the past three years. I think it is important for Queensland to play best where Queensland can play and let the feds do the heavy lifting where they should. We are certainly advocating for them to do that. They have stood up the national Jet Zero Council, which is chaired by the minister. They are prioritising low-carbon liquid fuels within a Future Made in Australia. They have allocated $280 million to ARENA to support projects. Amendments have happened to the NGERS to allow those to be location-based for low-carbon liquid fuels, and hopefully from 1 July that will also apply to renewable gas.

They have allocated $20 million to the development of a certificate-of-origin scheme for low-carbon liquid fuels and they have allocated funding and have run consultations to investigate demand- and supply-side levers that should be adopted federally such as mandates, targets,

production incentives et cetera. They have stood up the national fuel council, which is jointly chaired by the head of the department of climate change and the head of Defence, and that is working specifically on a fuel strategy to be able to support domestic fuel security. We represent renewable fuels there and the role that we should play. Defence has also been utilising SAF and renewable diesel across demonstration projects. The federal Labor Party made a commitment, as an election lead-up commitment, to the development of a national feedstock strategy. That is me. Hopefully I did not run too far over.

Mr MARTIN: I have a question on biomethane production and renewable gas, which you mentioned in your submission. Could you share with the committee the challenges the industry is facing in scaling that up? You mentioned some of the Australian government investment that is being made. What does your organisation say the Queensland government needs to do to assist to scale up biomethane production?

Ms McKenzie: Obviously, if you look at any new renewables projects, cost is a key contributor in the role that government can play in that space. One of the significant barriers in this space has been the inability for the emissions reduction to be allocated through certificates. That is coming into play from 1 July this year and that will be a significant change in this space.

However, where the Queensland government can really support projects and where state governments are usually best placed to support projects is supporting capital investment in those first-stage projects. Firstly, it is around similar sorts of levels of funding to what ARENA would potentially be doing. It is attracting projects to Queensland through grants and the like. Then it is also around different state government jurisdictions. We are already seeing New South Wales and Victoria adopting an approach around embedding a target within their gas infrastructure to ensure there is that demand signal to project investors, which is really de-risking projects. It is all around supply- and demand-side support and the role that governments can play in that space. We can certainly share with you examples of what New South Wales and Victoria are currently doing.

Mr DALTON: What are the energy and fuel security opportunities through the development of the bioenergy sector?

Ms McKenzie: Significant. As discussed earlier, we potentially could be displacing 47 per cent of domestic fuel through the utilisation of domestically produced low-carbon liquid fuels in Australia by 2050. That is based on existing fuel usage. If we look to a scenario where the transition of the passenger vehicle fleet moves to electrification significantly, that will enable low-carbon liquid fuels to really support those hard-to-abate sectors. The federal government is tackling this in relation to the national fuel council and there will be announcements, hopefully by the end of this year, in relation to the role that the federal government is going to play in domestic fuel security and, in particular, low-carbon liquid fuels and the role they should play.

We should not underestimate how important it is that we begin this process now. You cannot expect that we can turn on the fuel tomorrow if governments decide that we want a low-carbon fuels industry. Look at projects that have just been announced going into FEED such as the Jet Zero project in Queensland. That is expected to be putting fuel into the market in 2028 and it is just announced. These are long-term projects. If we want this fuel flowing into the system in the 2030s then the investment needs to happen today.

Mr KATTER: I have two questions. First, we hear so much talk about renewable energy and its funding and there is so much focus on it. Photosynthesis seems to be a pretty good converter of energy, which is why you are there advocating for bioenergy. Experts have given me studies and so on that show lower carbon footprints through, say, biofuel powered cars versus EVs and so on. Could you talk to that? Why is it not included in that space? When we talk about renewable energy, we do not talk about it in the same conversation.

Ms McKenzie: I probably can provide you with a really honest answer in relation to this. Unfortunately, because of the significant negative propaganda that has happened over the last, in particular, two decades regarding biofuels for the passenger vehicle fleet, it would be a really hard sell to convince a consumer base that that is the best pathway forward. As an industry body, what we have sought to do is to say, 'Okay, where are the biggest wins that potentially can be made and where are the least barriers in terms of moving forward?'

For us, that is really why we are focusing on the hard-to-abate sectors, where the offtake agreements for the fuel capacities are significant. In Australia, our domestic aviation fuel market is around 10 billion litres a year. That is a big game to play and that is really where feedstock can go without us having to deal with challenges on mums and dads thinking it is doing this or that to their car and whether that is the best way forward.

Mr KATTER: They did not have as much consideration with the change to unleaded fuel. You partly answered the next question, and it was really good to hear about the anxiety around public perceptions. I would tend to disagree in part with some of that. I understand it, but I am not sure I agree with it as a holistic answer in trying to activate investment, saying it needs out-front capital. I do not disagree and it would be great if it did. In the mining industry they are touting all this new innovation and they are talking about that in Mount Isa at the moment. A lot of people say that the market will go where they see a long-term market. You can help them into the market at the start, but it needs to be sustainable and run under its own steam. The Dalby ethanol plant is probably the perfect example. It was incentivised and subsidised to get it up and running, but here we are.

CHAIR: Can you pose a question?

Mr KATTER: I think there is a question there.

Ms McKenzie: What is missing on that side is that you cannot just do supply-side support without demand-side support unless there is a market somewhere. We have four options. The first is that we keep sending our feedstock overseas, as we currently do to the tune of around $6 billion a year. The second option is that we pre-process Australian feedstock and we make a little bit more domestically but we export it and it is refined somewhere else. The third option is that we build up a domestic refining industry in Australia, we refine our feedstock and it goes to the market where it makes sense. That might be Japan, it might be Singapore or it might be the US, but if there is not a demand-side signal in Australia it will not go here. Then the final option is the sweet option, which is that we have a demand-side lever here which is mandated, or a target or something to that effect, which really ensures that fuel is then able to be used domestically and offtake here.

Mr G KELLY: What support or regulation, financial or technical, would help fast-track buyer energy initiatives?

Ms McKenzie: Coming back to some of the points I made, it is the state government in particular and the role they can play. I think there is a lot of red tape out there at the moment, in particular around digestate and other things—being able to support those additional benefits of projects. The second part is in relation to supply-side support, so anything the state government can be providing, whether it is production tax incentives, other things that are relevant to state jurisdictions and funding allocations or grant funding to get projects moving—just de-risking before these projects are getting to a stage where it is part of the business and how we operate. Then as I said, the third part is really around the demand side—mandates, targets, the role the state government can play across low-carbon liquid fuels but also renewable gas, underwriting getting those fuels into the marketplace and doing it in a way that it is not going to be conflicting with mums and dads and causing issues, really focusing on those hard-to-abate sectors where the contracts for fuel are significant.

CHAIR: Thank you very much. We appreciate your contribution here this morning. We look forward to continuing to work with Bioenergy Australia. Your contribution and your correspondence has been very welcome. Thank you very much for your time this morning.

GALLIGAN, Mr Dan, Chief Executive Officer, Canegrowers Queensland

CHAIR: Welcome. I invite you to make an opening statement. Then there will be questions from the committee.

Mr Galligan: Thank you for your interest in this really important topic. I will try to keep it brief. It is parliamentary inquiry speed dating this morning! You are doing very well. Canegrowers is an industry organisation. Next year we will be celebrating our 100-year anniversary. You will all be invited to a big party. I want to congratulate you on this hearing. It is probably the most significant political intervention on this issue in terms of getting some policy grunt behind the opportunity for sugar cane as a feedstock into biofuels and sustainable aviation fuels, so we thank you for your time.

I will just point out a few issues. Canegrowers is an industry organisation. We represent just over 70 per cent of the cane supply in Queensland. As members we do lots of very traditional things as an industry organisation. We do collective bargaining, chiefly through our 13 district companies and 80-odd farmer elected representatives across the state. Besides the collective bargaining negotiations, at the commercial end of the business we do political advocacy, community advocacy, social licence to operate, lots of stuff in schools with education resources, as well as industry development.

With respect to industry development, we involve ourselves a lot in broader industry issues, principally looking at the development of the sugar and sugarcane industry in Queensland through the eyes of farmers and what it means for growers—and that is our principal interest. We are 100 per cent grower-led and funded. We are a proud founding member and existing member of the Queensland Farmers' Federation and the National Farmers' Federation, acknowledging Mike and his team here from AgForce, who are also part of NFF. We are also part of the World Association of Beet and Canegrowers, an international organisation, and we are also proudly a member of Shahana's organisation, Bioenergy Australia. That is where I will pivot to the topic.

Two years ago we joined Bioenergy Australia. We saw that there was this significant potential for diversification in the industry into bioenergy products and we felt like we needed to spread our wings and see what the potential was for farmers. It was somewhat controversial for some of our members because there was a view from some farmers: 'Do we need to wait for the investment and see what happens or do we need to get to the table?' We decided we needed to be at the table to understand what the potential new sector looked like, and it looks big.

In 2020 and 2021, with the state government and the federal government supporting us and with the Australian Sugar Milling Council as they were known at that time, Sugar Research Australia, we launched the Sugar Plus road map—again, we had assistance; AgForce was involved as well as Australian Cane Farmers Association—a whole-of-industry initiative to bring the industry together around the potential for diversification. What Sugar Plus identified was—going through the industry, working with the leaders of the industry—that potential: providing technical support to say there was huge potential in biofuels, sustainable aviation fuel and bioplastics for the use of sugar cane. Since then we have used the industry initiative largely from growers to adopt Smart Cane BMP to do all they can to reduce the risk to water quality of the Great Barrier Reef. We have reached a point where 44 per cent of Queensland cane production is now certified to BMP. It is now recognised internationally to provide sustainable resourced sugar to certain trade markets and we are now working to have BMP recognised as a sustainable benchmark for producing sustainable feedstock for biofuels.

At the end of that five-or-so-year journey of us saying, 'Why aren't we just involving ourselves in sugar? Why are we looking at sustainable aviation fuels?' we still cannot see the benefit yet. This is the problem. If we look at these issues from a farmer's perspective—a massive potential market. Ash and Shahana, I am sorry I did not see the department's presentation, but I am sure it does not take long to see this huge market for particularly sustainable aviation fuel as the world looks to decarbonise. Frankly, though, since 2021 or 2022 we have done nothing much in Queensland to make it happen. I have to sit here and say that, while there are a number of really promising projects and farmers involved across Queensland, I have largely two groups of camps in my membership: the dead keen and really full of enthusiasm and potential who want it to really work; and the deeply cynical who think we have heard this story before.

Potentially, with India and Brazil leaning heavily into the biofuels market and the world moving ahead of us, if we end up just producing great high-quality, sustainably produced sugar and the rest of the world is diverting their feedstock to biofuels, it is maybe not a bad outcome for farmers anyway, but if we look at it from industry development we are losing an opportunity here. I 100 per cent agree with Ash Salardini: there is a huge potential in cogen. I am really disappointed that Queensland has

just completely been distracted by other alternatives, frankly. It is not that they are bad—renewables are great—but we have had a renewable energy source in 30 million tonnes of cane grown here for over 100 years and for some reason we seem to have just forgotten about it. I am really keen to answer any questions that might actually help us get back on track.

Mr MARTIN: You mentioned briefly what is going in other countries. I wonder if you could expand on that for the committee. I think you also mentioned that, potentially, if other countries are producing lots of biofuel there is a choice for us to just stick with producing sugar here. Could you expand on that?

Mr Galligan: Like much of international agriculture, we are all driven by what happens in Brazil and India. It is certainly the case in the sugar industry. Brazil is 30 times the size of Australia. We are still probably the fourth largest exporter of raw sugar, but Brazil is 30 times larger than us and they can choose on any given day whether they are producing ethanol or sugar. What they do will drive everybody else's motivation in the market. India in 2020 did not have an ethanol industry and now they are punching the lights out in terms of producing ethanol. The more ethanol produced in India the better, because that means they are not putting sugar on the world market. When India puts too much sugar on the world market, the world price of sugar goes down and we all suffer. Particularly with the development of SAF, through the World Association of Beet and Cane Growers we have colleague industry organisations that look remarkably just like us except that they speak other languages, but they still have trouble with government mills and policy and legislation. They are all diversifying and they are all diversifying quicker than us.

Mr MARTIN: That is the biofuels side, but what about cogen?

Mr Galligan: Likewise.

Mr MARTIN: It is the same thing?

Mr Galligan: Yes, absolutely. Ash might have mentioned it, but in Thailand every sugar mill is a diversified circular energy plant of ethanol, cogeneration, biofuels and sugar, all on the one site.

Mr MARTIN: Was that mostly government investment into the private sector?

Mr Galligan: A lot of it certainly—and the world sugar market, we have to acknowledge, is a very distorted market. It is very manipulated by government intervention in policy or subsidy. This is really the difference now. In terms of the world moving to decarbonising their economies, particularly the transport sector, we have an opportunity here in Queensland. It is a commercially viable thing to be doing, but we are not moving quick enough. We are just not moving, whereas those other industry sectors across the world that have had the backing of government traditionally have been able to move quicker because government has been there previously. Certainly other industries are very distorted. We are not. We do not have any government protection at all.

Mr DALTON: You mentioned the Sugar Plus road map. You then basically said that nothing much has changed in Queensland in four years. What needs to change?

Mr Galligan: We need certainty. Ash and I both went out publicly at the beginning of the year to say that we want a national feedstock strategy. I think what we are dealing with is a challenge in logistics in many ways. If you are going to look at moving particularly liberated gas out of sugar mills and move it into a biorefinery, how would we do it? What is the best and most efficient way of doing that? We need certainty in terms of the demand-side pressures that Shahana has talked about. Ideally it would be federal policy, but for today I think the Queensland parliament needs to think of what it can do to incentivise the development of the industry as well. There is no policy certainty.

Mr DALTON: 'Certainty' is basically the key word?

Mr Galligan: Yes.

Mr SMITH: There is a lot of conversation about biofuels and cogeneration, but we are also talking about mills that are closing down because cane is contracting. What are the key regions in Queensland where you believe there is enough volume of cane to be able to make the significant investment into mills around particular areas? Is it Burdekin rather than Bundaberg and so forth?

Mr Galligan: We walk down the same street with our friends in the sugar manufacturing sector. Despite what people might see in the media, we rely entirely on each other. We have had a bad couple of years collectively. We left almost as many tonnes of cane in the paddock last year. It could not be crushed. Mills are not going to be viable or profitable if they do not have enough cane through the rollers, and farmers are not going to invest in a crop unless they think the mill can actually crush the crop. We are all trying to get a better situation out of that and that will be an ongoing tension.

To be frank, though, it is really interesting. The obvious analysis, and by a number of really smart proponents who have come to us about potential for development of projects, and there are obviously ones going on—the amount of biomass available through the Burdekin is obviously where things are attractive, but there is a great project going on with LanzaJet and Licella in Childers. I think that is a really great example where it is not actually the volume; it is about the relationship you can form, the supply arrangements, and sometimes, to my finer point about feedstock strategy, the logistics. If the airlines came in, they would say, 'We need to be able to buy this fuel and it needs to be economically available. It needs to go to the bottom of our aeroplane as quickly as possible.' There is a challenge around logistics of either the feedstock or the fuel, so it is not quite cut and dried as to where the most amount of feedstock is available. I think it is about the partner. It might be the partner in the manufacturing sector that can invest to liberate more of the gas or it might be the partner in the feedstock growers who are looking for opportunities.

The other great example—it is absolutely not the interest of the committee today but is really the challenge around the industry—is Rocky Point. That is a sugar-milling area between Brisbane and the Gold Coast, completely squeezed by urban development has about 300,000 tonnes of cane, but they live off mulch. It is a great story of diversification. If you go into your big-box retailer, you are buying Rocky Point mulch. The same happens out of Childers. It is not quite as cut and dried as contraction in the north and the south. There are opportunities for the industry. That is why I do not want to let go of those ideas.

Mr G KELLY: We know the crush is just around the corner. How does mill downtime affect the growers? How are you getting through that? It happened last year in the Mirani electorate a couple of times.

Mr Galligan: Everybody loses money and the growers lose the most. That is the way things work out. What we are seeing is: the longer the season goes on, the more the growers are losing. The mills are also losing, but the growers lose the most and the earliest. We are working very hard as an industry, firstly at the grower level, through a number of projects, to identify what the limitations are to increasing cane supply and what we can do on their fronts. For growers, we have to do what we can to improve the situation. Then, in our view, we have to sit down, particularly behind closed doors, with each and every individual milling company, and Ash and his team, and say, 'How do we get better performance? What do milling companies'—I do not care where they come from—'need to see and hear, either out of us as a sector or out of the government, to give certainty for them to invest more in their processing facilities to get them to run.' They are just not crushing the crop at the moment.

Mr KATTER: You partially touched on this before. I use the case in point of the Mulgrave mill area. They are chasing funding for the infrastructure to urbanise that. It is not a big part of the state industry, but there is nothing to stop that rolling over for the next 20 years. There is nothing there now. Is your industry group seeking some policy development to have some cohesive alignment with government departments so that that gets addressed and has to align with these goals that you collectively have?

Mr Galligan: It is an excellent question. I will try to be brutally quick in my time, because the spoiler alert for the director-general in the room is that I came into this meeting just having left a meeting with Minister Perrett with MSF Sugar to talk about Far North Queensland and what the strategy is for that whole mill area. As an industry, we want to work with milling companies to say, as an example for the north, 'The north is a sugar-producing area. How do we work with the company that has dominated in terms of their facilities to have a strategy around managing urbanisation, managing the trade-offs, incentivising agriculture over urbanisation and looking at the coexistence challenges around renewables?' We are losing land to that. We are losing land for houses. It is incremental. Every time we lose a farm, we get closer and closer to another mill shutting down. Robbie, you are dead right: the Mulgrave mill is the next one under threat. We have to work firstly as an industry. We want to present a united front to government. What can you do to stop this happening? We were talking to the Minister for Primary Industries this morning about his blueprint process and saying that it has to look at these challenging issues. We have to start to take the opportunity to prioritise agriculture. Agriculture has been there forever and it will have to be there for a lot longer. That will stabilise the economy in those regions.

CHAIR: That concludes this briefing and these proceedings. We thank everyone for the information they have provided here today. Thank you to Hansard, as always, and the secretariat. We wish Kit all the best on his next transition in life. The transcript of these proceedings will be available on the committee's webpage in due course. I declare this briefing closed.

The committee adjourned at 11.17 am.