



**United Workers Union**  
**Response to P2025 Market Design**  
**Consultation Paper**  
*October 2020*

## Executive Summary

This submission is predicated on the basis that any coherent market regulatory design for energy security needs to consider fuel security. As such it is the United Workers Union's ("UWU") primary contention that fuel security should come under the jurisdiction of the Energy Security Board.

Given the increasing trends for the electrification of energy for heating and transportation purposes, electricity security cannot and should not be considered in isolation to liquid fuel security.

From the general proposition that energy security should be considered comprehensively, this submission then outlines a number of recommendations to drive up Australia's liquid fuel security, meet the country's obligations under the *Paris Agreement*, ensure income security and continuity for refinery workers, and build the next generation of secure refining jobs.

The present conjuncture provides an historic opportunity to build both quality jobs for tomorrow and for Australia to provide real leadership in helping the world to avoid the worst of the climate emergency.

State regulation of and intervention in the renewable hydrogen space not only secures refinery work for the future but is critical to a renaissance of Australian manufacturing more generally in green steel, green aluminium and next generation passenger vehicles.<sup>1</sup> We can only grasp this historic opportunity through decisive acts of leadership. We cannot give up our fates to the impersonal machine of the market but *decide* to bring the future into our own hands. It requires courage, a commitment to planning and a preparedness to act in the public good. Such decisive acts of leadership rely not just on what happens on the floor of parliament, but in the corridors of the public service, corporate boardrooms, on shop floors around the country and in the streets.

Australia generally, and refinery workers specifically, can have a bright future.

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<sup>1</sup> Dan Nahum, *Powering Onwards: Australia's Opportunity to Reinvigorate Manufacturing through Renewable Energy* (May 2020).

## List of Recommendations

### Recommendation 1

The Energy Security Board should recommend to the COAG Energy Council that it be given the responsibility to design and implement regulations with respect to energy security that include not only electricity but also transportation, including oil refining.

### Recommendation 2

The maintenance of the existing skills necessary to support the development of new energy technologies should be a key regulatory objective of any energy market and public policy design process.

### Recommendation 3

The ESB, COAG Energy Council and the Australian Industry and Skills Committee should consult with AROC on the development of hydrogen training packages, particularly in relation to developing a comprehensive pre-qualification and skills recognition program.

### Recommendation 4

Inclusive in any production payments that Australian governments give to companies who own domestic refineries should be an obligation to get refinery workers signed off on prior learning, skills and experience from their hydrocarbon workplace experience for any hydrogen and related industry qualifications.

### Recommendation 5

That the COAG Energy Council agree to institute a target or quota for the domestic refining of petroleum, diesel and aviation fuel to ensure continuity of capacity and work through changing energy technologies. Such targets should be reviewed periodically to ensure maintenance of the existing domestic infrastructure while such products remain socially necessary but subject to lowered demand over time caused by both changing energy technologies and the need to meet Australia's international obligations.

#### Recommendation 6

That the COAG Energy Council should institute a guarantee that 100% of domestic demand for hydrogen is produced locally from renewable sources and refined here.

#### Recommendation 7

The COAG Energy Council should outline what public consideration comes in return for ongoing publicly funded production payments over and above maintaining the operation of the existing refineries. Such consideration should take the form of:

- Funding for comprehensive on the jobs skills training for refinery workers at no cost to them to assist them to be ready to take up roles in hydrogen refining, this should include systematic recognition of prior learning and on the job experience.
- Capital investment to drive up the fuel quality standards that the domestic refineries produce.
- The creation of an Australian Refinery Corporation as the investment vehicle for the production payments which progressively takes ownership stakes in the refineries in return for such payments. The ARC should also:
  - Practice co-determination by including worker representatives from AROC as one-third of its board; and
  - Have a mandate (including with necessary capital backing) to build the next generation of renewable hydrogen infrastructure, including refineries.

## **Who We Are**

United Workers Union is a powerful new union with 150,000 workers across the country from more than 45 industries and all walks of life, standing together to make a difference. Our work reaches millions of people every single day of their lives. We feed you, educate you, provide care for you, keep your communities safe and get you the goods you need. Our paramedic members work around the clock to save lives; early childhood educators are shaping the future of the nation; supermarket logistics members pack food for your local supermarket and farms workers put food on Australian dinner tables; hospitality members serve you a drink on your night off; aged care members provide quality care for our elderly and cleaning and security members ensure the spaces you work, travel and learn in are safe and clean.

UWU has thousands of members who work in manufacturing, many of who are directly engaged in downstream processes reliant on Australian oil refineries. UWU also has hundreds of members who work in oil refineries. These workers are highly skilled and the community relies upon them to ensure the continuous supply of liquid fuels, and feedstocks for medical equipment, plastics, lubricants, chemicals and fertilisers. The community's welfare is dependent on local refineries operating smoothly and safely.

We are proud of the work we do. Without us, everything stops.

UWU welcomes the opportunity to make a submission to the Energy Security Board's *Post 2025 Electricity Market Design Project* on behalf of our members and calls upon federal and state governments through the COAG Energy Council to support our recommendations. As the people working across this vital sector on a daily basis, our members value the opportunity to have their opinions, concerns and experiences considered as part of this review.

### **Why Electricity Security impacts Fuel Security**

It is UWU's primary contention that fuel security should come under the jurisdiction of the Energy Security Board. Energy security has three pillars that intersect with each other - electricity, transport and heating. Given increasing trends for the electrification of energy on heating and transportation purposes, electricity security cannot and should not be considered in isolation to energy security for transport and heating. This general proposition is nothing new nor radical. The Prime Minister's National Energy Address in Tomago, NSW was based on this framework of outlining the three pillars of energy policy; electricity, heating and transport.<sup>2</sup>

In this moment of technological transition, the design of market principles in one of electricity, heating or transport fuel will inevitably impact the other two which in turn could rebound back into the originating sector with unintended consequences. The most coherent framework to market-design, therefore, is one which takes a systematic and comprehensive approach to Australian energy use.

As a Union with hundreds of members in oil refining and distribution, our particular concern is how electricity-regulation can impact on the incomes of workers in the fuel sector.

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<sup>2</sup> Prime Minister Scott Morrison, "National Energy Address - Tomago, NSW", 15 September 2020 (See <https://www.pm.gov.au/media/national-energy-address-tomago-nsw>).

The COVID-19 crisis has provided a window into how falling demand for some petroleum products can impact the ongoing viability of the sector with the entire sector dependent on government support to continue in Australia.<sup>3</sup> In fact, a recent report for the Australian Refineries Operatives Committee (“AROC”) prepared by BIS Oxford Economics started from the assumption “that the Australian petroleum refining sector does not have the capacity or willingness to provide the necessary funding for the investment needed to improve fuel security.”<sup>4</sup> Even prior to COVID-19, the federal government’s *Liquid Fuel Security Review* (interim report) found that “it is unlikely that new oil refineries in Australia would ever be economical”.<sup>5</sup>

The Federal Budget highlighted the veracity of the above forecasts with the government earmarking \$250.7million to be spent on expanded fuel storage and a production payment for local refineries.<sup>6</sup>

The impact of COVID-19 on petroleum demand will pass in time,<sup>7</sup> however, the rise of technologies allowing for the electrification of transportation will be a persistent and ongoing threat to the overall viability of fuel refining and distribution as it is currently structured. This is separate from and in addition to the underlying need to decarbonise transportation in order for Australia to meet its 2050 obligations under the Paris Agreement to limit global temperature increases to 1.5°C. In other words, the energy transition itself, inclusive but not limited to the electricity sector, impacts on the commercial viability of the existing Australian fuel refineries.

Already, the marginal cost of running an electric vehicle is around one fifth that of running a petrol car in Australia.<sup>8</sup> Meanwhile, the initial purchase price of electric vehicle prices will decrease on the back of increasing global sales and increased competition between manufacturers.<sup>9</sup> The current regulatory environment for fuel, and built-in technological shifts means Australia is facing a valley of uncertainty

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<sup>3</sup> Angela Macdonald-Smith and Mark Ludlow, “Billion-dollar burden weighs on ailing refiners” *Australian Financial Review*, September 12 2020 (<https://www.afr.com/companies/energy/billion-dollar-burden-weighs-on-ailing-refiners-20200910-p55u78>).

<sup>4</sup> BIS Oxford Economics, *Improving Australia’s Fuel Security*, September 2020.

<sup>5</sup> Department of Environment and Energy, *Liquid Fuel Security Review* (interim report), April 2019, p.4.

<sup>6</sup> See [https://budget.gov.au/2020-21/content/download/glossy\\_overview.pdf](https://budget.gov.au/2020-21/content/download/glossy_overview.pdf)

<sup>7</sup> There is some research to suggest, however, that a higher prevalence of pandemics is both a direct and indirect outcome of persistent global warming so even this assumption cannot be a given. See <https://www.propublica.org/article/climate-infectious-diseases> as a starting point.

<sup>8</sup> Electric Vehicle Council, <https://electricvehiclecouncil.com.au/>, 2020.

<sup>9</sup> Patrick Hertzke, Nicolai Müller, Patrick Schaufuss, Stephanie Schenk, and Ting Wu, *Expanding-vehicle adoption despite early growing pains*, McKinsey and Company, August 2019.

post-COVID-19 where locally-based fuel refining may no longer be commercially viable but many refined oil products remain a critical input in transportation, agricultural and manufacturing supply-chains.

The maintenance of the existing refining infrastructure as technology changes, as demand for some transportation fuels decreases and decarbonisation measures are introduced, becomes a matter of public policy rather than commercial decision-making. Even if that public policy horizon is limited to structuring the field of the market itself.

It is a generally accepted proposition that the ongoing viability of the four existing fuel refineries (ExxonMobil Altona, Ampol Lytton, Viva Energy Geelong and BP Kwinana) impacts on Australia's overall fuel security. It is not necessary to engage in geopolitical threat assessments (or even just allude to them) to show the value to Australia's overall security in having the ability to refine petrochemicals locally. Natural disasters, pandemics and social disruptions around the world could play havoc with supply-chains at any point in time. Separate from the commercial profits to be made (or not) in oil refining, there is a need to have facilities locally to refine such products until they are no longer socially necessary. The refining production payments announced in the 2020/21 Federal Budget are an implicit recognition of this reality.

#### *Recommendation 1*

*The Energy Security Board should recommend to the COAG Energy Council that it be given the responsibility to design and implement regulations with respect to energy security that include not only electricity but also transportation, including oil refining.*

#### **Using the Skills Base in Refining**

The skills of existing refinery workers are critical to creating a new energy infrastructure. Disruptions, closures and uncertainty in domestic fuel refining is prejudicial to building a secure energy transition in the electricity sector. As stated earlier, through this time of technological change, regulatory and public policy settings in electricity can both disrupt transport fuel and cause unintended consequences in the electricity sector itself.

This is because the skills-base of existing refinery workers can be used for developing, expanding and maintaining this infrastructure. The refining sector currently “contains a high proportion of highly skilled professionals and specific trades workers, many with specialist skills who have unique skills sets which can be harnessed for the emerging energy technologies”.<sup>10</sup>

To put it bluntly, refinery workers losing their existing jobs will degrade the skills base required to build new energy technologies such as hydrogen refining. The best available data indicates that there are currently around 5,000 workers directly engaged in the Australian refinery sector.<sup>11</sup> *Australia’s National Hydrogen Strategy*, from the COAG Energy Council, estimates that there will be 7,600 jobs in the hydrogen industry by 2050.<sup>12</sup>

Many of the existing workers in refineries today, and the workers who they will help train on the job, will be central to making the hydrogen industry work tomorrow. As UWU members and refinery workers say in their own words:

*“The thing to understand about the workers at the refinery is they have a unique combination of traditional trade skills typically associated with electricians and the like, but also really high level technical skills, as they’re dealing with complex machinery in a high-tech and high-risk environment”*

*“There’s only so much that a qualification or trades school can teach you, the types of analysers and systems used at the refinery require specialised skill sets that can only really be learnt on the job. It’s a transferable heavy industrial skill set that can’t really be learned anywhere else.”*

The skilled workers who support the existing refining infrastructure are, therefore, “a key part of the requisite skill base necessary to transition from petroleum-fuels energy to hydrogen-based (or other alternative) fuels as the basis for transport and similar uses in the agriculture and mining sectors”.<sup>13</sup>

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<sup>10</sup> As above n 4, p. 27.

<sup>11</sup> As above n 4, p. 5.

<sup>12</sup> COAG Energy Council, *Australia’s National Hydrogen Strategy*, 2019.

<sup>13</sup> As above n 4, p. 27.



This means that losing domestic refining capacity prior to the hydrogen infrastructure and jobs coming online will hamper the efficient and orderly transition away from fossil fuels.

### Recommendation 2

*The maintenance of the existing skills necessary to support the development of new energy technologies should be a key regulatory objective of any energy market and public policy design process.*

The COAG Energy Council has agreed to “develop nationally consistent training materials and guidelines for procedures to do with the production, handling, transport and use of hydrogen”.<sup>14</sup> While skills training is one of the few policy areas of consistent tripartite cooperation between governments, industry and unions, we are unaware of any effort to systematically involve existing refinery workers in the development of training materials and qualification processes.

If there is no consistent effort to work through the recognition of prior learning and workplace experience that existing hydrocarbon refining workers can take across to hydrogen refining (and other new energy infrastructure) then this increases costs and unnecessarily delays any transition *even if* the existing refining infrastructure is maintained. This is because workers will be forced to pay training providers to undertake training in skills and modules with tasks and areas of knowledge where they already have accumulated on the job experience. Without the systematic and orderly recognition of prior learning and workplace experience, therefore, time and money (likely that of workers who could be doing essential work) will be wasted.

Skilled workers should not be infantilised by having their workplace experience erased. There is a pressing need for a comprehensive pre-qualification and skills recognition program to take place to set up a secure transition. This consultation should take place with the people who actually do the work and have the skills to run a refinery. Meaningful consultation with AROC will be critical in this regard.

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<sup>14</sup> As above n 12, p. 83.

### Recommendation 3

*The ESB, COAG Energy Council and the Australian Industry and Skills Committee should consult with AROC on the development of hydrogen training packages, particularly in relation to developing a comprehensive pre-qualification and skills recognition program.*

### Recommendation 4

*Inclusive in any production payments that Australian governments give to companies who own domestic refineries should be an obligation to get refinery workers signed off on prior learning, skills and experience from their hydrocarbon workplace experience for any hydrogen and related industry qualifications.*

## **Non-financial regulatory interventions**

While there has been much public discussion with respect to subsidising the operations of domestic refineries, structuring the regulatory environment to encourage the continued operation of existing refineries within a coherent energy framework is a necessary policy step.

Currently Australia imports around 60% of refined product used for domestic consumption.<sup>15</sup> This means that it is physically possible to maintain domestic refining infrastructure and jobs even with substantial and significant drops in demand for petroleum products. After all, pre-COVID-19 Australian demand for oil was projected to peak sometime in the mid-2030s, roughly about 5 years subsequent to peak global demand.<sup>16</sup>

There is an historic opportunity to divorce the ongoing security of existing refining jobs and infrastructure from the fluctuation in demand as a response to major shocks in technological changes. Such a decoupling should be considered as a bridging measure to ensure social continuity and security at a time of great change.

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<sup>15</sup> As above n 5, p. 4.

<sup>16</sup> Ibid, p.56.

A way to achieve this would be setting a target or quota for a set percentage of national demand for petroleum, diesel and aviation fuel to be refined domestically. The specific target or quota could be reviewed on a quarterly or annual basis. As demand for certain products decreases over time in response to technological or decarbonisation drivers then the percentage demand target for domestic refining can be correspondingly increased such that it increases to levels not achieved today. For instance, the target/quota domestic production could increase from 40% to 75% as overall domestic demand drops.

In this way, setting a target or quota for domestic demand decouples the viability of the existing Australian infrastructure from decreased overall demand for petrochemical products. This is a regulatory measure that will assist the country to move safely through the valley of technological uncertainty. Covering this period of time where demand for petrochemical products is highly variable but where such products remain socially necessary is vital for maintaining overall social security.

A domestic quota system for oil refining would have to have regard to Australia's international trade obligations. While an analysis of every single bilateral trade agreement is beyond the scope and expertise of the Union, it is generally accepted that nation states have the ability to take action with respect to their security.

Paragraph (b) of Article XXI of the *General Agreement on Tariffs and Trade* provides a specific exemption from WTO rules for countries in order to take "any action which it considers necessary for the protection of its essential security interests". Potentially measures for the maintenance of domestic oil refineries would be covered by sub-paragraph (b) (ii) as "relating to... goods and materials as is carried on directly or indirectly for the purpose of supplying a military establishment". The issue here, however, is that the entirety of the existing oil infrastructure could be deemed as overreaching the present or foreseeable future need of the Australian military.

The introduction of a domestic target or quota system on national security grounds would have a much stronger basis rooted in a response to the climate emergency as compared with conventional military threats.

Article XXI has two anchor points in which to fix the domestic target as a climate policy measure. First, subparagraph (b)(iii) provides a trade exemption for any action "taken in time of war or other emergency in international relations". Arguably, global warming qualifies as an "other emergency" for the purpose of this treaty.

Second, paragraph (c) also allows a state to take “any action in pursuance of its obligations under the United Nations Charter for the maintenance of international peace and security”. This means that the domestic production target could be lawful under international trade law as part of a plan for Australia to meet its international obligations under the *Paris Agreement to the United Nations Framework Convention on Climate Change* (2015).

The key here, then, is that the domestic target/quota would need to be part of a broader and more comprehensive plan for meeting Australia’s obligations under the *Paris Agreement*; a bridging mechanism made necessary by the overarching need to both build a new energy future and meet Australia’s international obligations.

#### *Recommendation 5*

*That the COAG Energy Council agree to institute a target or quota for the domestic refining of petroleum, diesel and aviation fuel to ensure continuity of capacity and work through changing energy technologies. Such targets should be reviewed periodically to ensure maintenance of the existing domestic infrastructure while such products remain socially necessary but subject to lowered demand over time caused by both changing energy technologies and the need to meet Australia’s international obligations.*

### **Fuel security issues upstream from refining and storage**

A proper regulatory framework for fuel security must consider supply-chains issues upstream from the refining and storage phases of production. Currently, around 90% of the fuel used domestically is from imported oil.<sup>17</sup> Moreover, while Australian demand makes up only 1.2% of overall global demand, the country only has 0.3% of global oil production and 0.2% of the planet’s proven oil reserves.<sup>18</sup> Australia, therefore, will never produce enough crude oil to meet its own domestic demand prior to an expected shift to alternative fuels and/or electrification.

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<sup>17</sup> Ibid, p.3.

<sup>18</sup> Ibid, p.4

Some of this risk can be mitigated through a diversification of where oil is imported from globally, which has indeed been the case over the last five years.<sup>19</sup> This risk can and should be further reduced through investing in locally-owned, operated and crewed merchant shipping to transport liquid fuel both within and to Australia.<sup>20</sup>

The insecurity from being predominantly reliant on importing crude oil and refined products, however, comes from events and processes that could disrupt the supply more generally than heightened antagonisms with one or two other trading partners. Natural disasters, pandemics and social disruptions around the world could play havoc with supply-chains at any point in time, and in ways that cut across multiple supply-lines at once.

Moreover, if Australia does not at least keep pace with technological changes with respect to transport fuel then the country runs the risk of not being able to “maintain reliable energy supply”.<sup>21</sup> Oil demand is projected to peak earlier globally than in Australia, which may mean the economic viability of oil reserves disrupts production prior to Australia’s need for such supply is resolved. In other words, Australia’s overall fuel security is dependent on being able to “keep pace with global trends, otherwise we risk being left behind with ageing infrastructure and potentially more limited supply of oil.”<sup>22</sup> This is a multifactor risk that goes beyond potential disruption at any one site of oil supply.

Overall fuel security, therefore, comes from keeping pace with technological advancements and developing new domestic supply and refining infrastructure based on such advancements. This means that in order to achieve relative fuel security, Australia will need to both radically reduce its own demand for crude oil and transition to new energy technologies such as expanded renewable energy and hydrogen fuels. This can and should be done in an orderly and planned manner that provides continuity of income and work for Australia’s oil industry workforce.

Fortunately, Australia has abundant energy resources. As Professor Ross Garnaut outlines in *Superpower: Australia’s low-carbon opportunity*, “Per person, Australia has natural resources for renewable energy superior to any other developed country and far superior to our important economic partners in

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<sup>19</sup> Ibid, p.3.

<sup>20</sup> John Francis, *Australia’s Fuel Security: Running on Empty* (prepared for the Maritime Union of Australia), November 2018.

<sup>21</sup> As above n 5, p.4.

<sup>22</sup> Ibid, p.4.

northeast Asia".<sup>23</sup> The Australian Energy Market Operator forecasts that in just the area covered by the National Energy Market, the potential for renewable supply is about 500 times greater than current electricity demand.<sup>24</sup>

Clearly, Australia has abundant supplies of both renewable energy and gas. Both of which could power the electrification of transportation and hydrogen fuels. Strong state intervention, however, to build a hydrogen production and refining industry with good jobs that provides cheap energy domestically and makes a significant contribution to manufacturing exports for Australia would have a much stronger scientific, economic and legal basis if it was powered by renewable energy instead of gas.

Strong state measures that encourage the building of renewable hydrogen infrastructure, where such measures are part of a broader plan to meet Australia's obligations to meet its climate targets under the *Paris Agreement*, provide for a much sounder footing in international trade law. Renewable energy and renewable hydrogen infrastructure is likely to have a longer economic shelf-life beyond 2050 and into the 22nd century. In addition, renewable energy is already cheaper to produce than new-build gas fired plants.<sup>25</sup> Finally, global warming due to human's emissions of greenhouse gases is an objective scientific reality, and this is one way to build common prosperity within the recognition of that reality.

Replicating the domestic quota or production target for refined products with renewable hydrogen is one such instance of a strong state intervention. The COAG Energy Council, therefore, should institute a guarantee that 100% of domestic demand for hydrogen is produced locally from renewable sources and refined here.

Fuel security, therefore, comes from the planned maintenance of the existing infrastructure while its products remain socially necessary along with the simultaneous building of the new infrastructure. This avoids workers losing their incomes and working conditions due to a gap between the former going offline and the latter coming online.

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<sup>23</sup> Ross Garnaut, *Superpower: Australia's low-carbon opportunity* (2019), pp.8-9.

<sup>24</sup> See above n 1, p. 12; and Australian Energy Market Operator, *100 per cent renewables study— Modelling outcomes* (2013).

<sup>25</sup> AEMO and CSIRO, *GenCost 2019-2020: preliminary results for stakeholder review*.

### Recommendation 6

*That the COAG Energy Council should institute a guarantee that 100% of domestic demand for hydrogen is produced locally from renewable sources and refined here.*

### **Structuring refining production payments**

Given the technological transition in transport underway globally (both in electrification and hydrogen-fuels), global efforts at decarbonisation and the need to build new energy skills, it is clear that providing production payments from the federal government to refinery companies in a way that just preserves the status quo forestalling disruption today but doing nothing to ensure a smooth transition tomorrow. A local refinery production payment on its own is like building one end of a bridge; it's a necessary step but without further policy work we will still run out of road eventually.

Overall, production payments to local refinery operators have a role to play but only within the context of an overall plan for Australia to meet its obligations under the *Paris Agreement*. This means that the public money going to refinery operators should come with responsibilities that the companies will meet for their workforce and the wider community. Strong public interest conditionalities need to apply to any ongoing production payments. There should, in other words, a return for the public for such public investment.

1. Recognition of prior learning and new qualifications: part of the production payments should go to ensure that refinery workers can get their pre-existing skills, workplace experience and prior learning signed off on as part of meeting new industry qualification standards in hydrogen refining. This should be done on paid time for workers.

Furthermore, once new hydrogen industry qualifications have been developed refinery workers should receive funding to complete such courses at no loss of pay and at no cost to them. This way while existing oil refineries are paid to continue in operation, staff are also being funded to learn the new skills required for a new generation of refining.

2. Investing in driving up fuel efficiency standards in the existing refineries: the 2015 review of the Fuel Quality Standards Act 2000 found there was a significant public health benefit in shifting to a new fuel standard of 10ppm sulfur petrol in order to meet Euro 6 emission standards.<sup>26</sup> The Australian Institute of Petroleum in 2017 estimated that the cost of capital works necessary to ensure Australia's four refineries could meet this standard was \$979 million coupled with increased annual running costs of 1.1-1.7 cents per litre.<sup>27</sup>

There is scope to restructure the production payment going forward to fund and mandate the capital works necessary to ensure Australian refineries are producing fuel at 10ppm. While this would likely increase the need for a higher upfront production payment, higher carbon emissions at the refineries and increased fuel costs there are significant public benefits to offset this.

First and foremost, the public health benefit of improved air quality. Second, the costs to motorists would be offset by overall fuel efficiency which would reduce and negate the budgetary impact of the move for consumers. Third, carbon emissions at the refineries would be offset by reduced carbon emissions from vehicles as Australia would no longer be a "car park for dirty vehicles".<sup>28</sup> Fourth, the increased efficiency of Australian refineries coupled with strong public fuel quality standards that mandate 10ppm sulfur for petrol could potentially negate the need for ongoing production payments as local refineries have the potential to compete with international refineries on the domestic market.

3. Ongoing public funding should be coupled with an ownership stake: given that the private sector does not have the ability to provide the funding required to make the necessary upgrades to the existing refinery infrastructure, and that such upgrades to the existing refinery infrastructure are necessary to provide fuel security, the federal government has assumed responsibility for guaranteeing fuel security. The public is essentially providing the capital to maintain socially

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<sup>26</sup> Marsden Jacob Associates and Pacific Environment Limited, *2015 Review of the Fuel Quality Standards Act 2000* (Final Report), April 2016.

<sup>27</sup> Australian Institute of Petroleum, *Discussion Paper: Better Fuel for Cleaner Air: Ministerial Forum on Vehicle Emissions* (Submission to Department of Environment and Energy) April 2017.

<sup>28</sup> Bo Seo, "Australia turning into a car park for dirty vehicles" *Australian Financial Review*, 15 July 2019 (see <https://www.afr.com/politics/federal/australia-is-turning-into-a-car-park-for-dirty-vehicles-20190709-p525fv>)



necessary infrastructure. Any ongoing production payment, therefore, should come with a public ownership stake in the refinery infrastructure.

UWU recommends that the Australian public should be sold an ownership stake as fair consideration for providing production payments, and that such ownership stake should be held through a statutory corporation (like Australia Post, Airservices Australia or the Australian Rail Track Corporation) known as the Australian Refinery Corporation ("ARC").

The ARC should have a governance model of co-determination. Incorporating the voice of workers onto the management board of an organisation provides for higher productivity workplace relations during a period of significant technological change. There is no doubt that energy workers, including liquid fuel workers, are in a state of great flux. Incorporating co-determination into the governing principles of ARC will involve workers more, and thereby provide for a more efficient, swifter and effective liquid fuel transition.

UWU recommends that one third of the ARC board should be composed of worker representatives from AROC.

Furthermore, the ARC should invest, build and run renewable energy-powered hydrogen refineries. As discussed above, intensive state action in industry can be justified under international trade law if it is part of Australia's plan to meet its decarbonisation obligations under the *Paris Agreement*.

It is clear that hydrogen refining will grow and that hydrogen will form the basis for liquid fuels where electrification of transport is either not possible or economic. Renewable energy-powered hydrogen refineries are, therefore, important to achieving Australian energy security, securing long-term energy exports, and rebuilding manufacturing capacity locally. Hydrogen and hydrocarbon refining have similar and overlapping skills. Given this, during this period of transition the ability to transfer workers back and forth across the two sectors at no loss of pay and conditions at relatively short-notice or for particular assignments will be important. Having ARC involved across both sectors make it easier to achieve this dynamic, and transfer skills and workers between the sectors as needed from time to time.

UWU also recommends that ARC should invest, build and run renewable energy-powered refineries as it takes increasing responsibility for the existing petroleum refineries.

### Recommendation 7

*The COAG Energy Council should outline what public consideration comes in return for ongoing publicly funded production payments over and above maintaining the operation of the existing refineries. Such consideration should take the form of:*

- *Funding for comprehensive on the jobs skills training for refinery workers at no cost to them to assist them to be ready to take up roles in hydrogen refining, this should include systematic recognition of prior learning and on the job experience.*
- *Capital investment to drive up the fuel quality standards that the domestic refineries produce.*
- *The creation of an Australian Refinery Corporation as the investment vehicle for the production payments which progressively takes ownership stakes in the refineries in return for such payments. The ARC should also:*
  - *Practice co-determination by including worker representatives from AROC as one-third of its board; and*
  - *Have a mandate (including with necessary capital backing) to build the next generation of renewable hydrogen infrastructure, including refineries.*