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Senate Standing Committees on Rural and Regional Affairs and Transport

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Inquiry into the project known as the Iron Boomerang

Dear Senators,

The Australian Citizens Party has supported Project Iron Boomerang since 2016, as a nation-building project to increase Australia's steel production and international trade.

The Australian Citizens Party welcomes this Inquiry into Project Iron Boomerang. We start our submission by thanking Shane Condon, in particular, for his tireless spirit and determination in driving this idea since 2006, despite all the political obstacles he and his team have encountered so far. We also welcome the remarks from Senators Malcolm Roberts and Glenn Sterle made in the Senate on 5 September 2022,¹ when this Inquiry was agreed to.

The Albanese Government needs to break from the inertia of previous federal governments and give this project its full support, and assist in pushing it all the way to construction phase. It will take the support of this Government, together with the governments of Western Australia, the Northern Territory and Queensland, to ensure Project Iron Boomerang is realised.

To say the scale of Project Iron Boomerang is large is actually a gross underestimation, but not nearly as much as underestimation of the international demand for steel. This project not only will satisfy and secure Australia's long-term demand for steel but will help meet the needs of our neighbours.

Had this project been launched ten years ago, we would have had the supply chain benefits from this infrastructure and its spin-off industries during the COVID-19 pandemic. We would be reaping the economic benefits from a booming Asia market with a high demand for steel. Iron Boomerang, once fully established in phase one, with ten steel mills, would be exporting 44 million tonnes of first stage steel. That is just 3 per cent of the world demand for steel.²

¹https://parlinfo.aph.gov.au/parlInfo/download/chamber/hansards/25573/toc_pdf/Senate_2022_09_05.pdf;fileType=application%2Fpdf (Page 100)

² <https://worldsteel.org/publications/bookshop/world-steel-in-figures-2022>



Within this submission we address the broader implications of Project Iron Boomerang and how they will meet the economic, environmental, and social objectives to uplift Australia. It will boost our manufacturing sector and increase Australia's international trade.

In essence Project Iron Boomerang is a transcontinental railway, going from the Pilbara to the Bowen Basin, where iron ore will be transformed into steel. Currently the iron ore is mined in Australia, shipped to China, Japan and South Korea for processing, then Australia purchases some of that steel back to use in infrastructure. Project Iron Boomerang will mean that the iron ore will be mined and turned into steel in Australia.

Project Iron Boomerang will be our east-west transcontinental railway in the north. It is worth reflecting on the transformation brought about by the United States' construction of its Transcontinental Railroad in 1869. Not only did it lead to an explosive industrial advancement at home, it also inspired similar development of rail in Japan, Russia, Germany, Australia and many other places. Today, the United States has four major east-west rail corridors. Without them, its national economy would cease to function.

In our view, it would be almost impossible to fully articulate all of the long-term benefits of this project, simply because the rail line and the connected industry it will foster will lead to a dynamic transformation of Australia, just as America's 1869 transcontinental rail line transformed the world.

Every day that we delay building this excellent project, we are losing—losing the economic benefits, losing the environmental benefits, and depriving ourselves of the opportunities to upskill our labour force and generate new employment. Let us prepare for our first journey on this rail line together, and let's make it sooner rather than later.

Signed,

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A. The employment likely to result from the project during construction and once completed;

Our answer here is mostly to the second part of this question, “once completed”. The number of expected jobs in the steel mills themselves, during construction and once completed, can be best answered by East West Line Parks (EWLP), drawing upon their extensive preliminary research.

According to EWLP, Iron Boomerang will employ up to 75,000 people at the peak phase of construction. Once established, there will be 35,000 permanent skilled high paying jobs in the daily operations of the steel parks, rail, ports and shipping. To support this new workforce, and related industry that springs from the steel parks, new towns (and eventually cities) will be built that support populations of 42,000 in Queensland and 15,000 in WA. This will require a lot of additional jobs to support the communities and town infrastructure. Then there is the major hub for maintenance and servicing of the trains at Ti Tree, Northern Territory, which will see an additional 400 permanent jobs established.

The steel mills are modular in their design, so as Iron Boomerang gets up and running in phase one, there will be scope for increasing the number of mills in operation beyond the initial ten. There is open-ended potential for expansion.

An added advantage of operating the steel mills placed together is that the workforce will be able to move across the ten furnaces, leading to the greatest optimisation of efficiency of the labour force. By comparison, if hypothetically the 10 mills were built in 10 separate countries, the workforce equivalent required to produce the same amount of steel would be almost 11,500 people. PIB can achieve the same output with a workforce potentially as low as 4100, because the workforce could be shared across the ten mills (See EWLP analysis with TATA steel consulting).³

This highly trained, highly paid workforce will consist of managers, administration, logistics staff, engineers, technicians, and plant operators. These skilled jobs in a value-adding industry will help reverse the decline in skilled manufacturing we’ve seen in Australia. Manufacturing as a percentage of GDP has been falling since 1960, when it should be rising, alongside the mining sector.

It would be prudent for the Government to begin incentives to train young people to fill these jobs using trade schools and the TAFE system, while the project is undergoing feasibility and design stage. However, given the large skill shortage in Australia today and high demand for workers, it will be necessary to use some skilled workers from abroad with the necessary visas, in order to complete the project in a timely fashion. Whyalla Steel could be brought in to produce the rail track.

On the employment likely to result after completion, speaking broadly, this number is actually not easily quantifiable. This is because the economic dynamics of a transcontinental rail line are transformative on the whole economy, and provide more benefits beyond just the production and export of steel.

Once Project Iron Boomerang is established it will become the logistical backbone of industry and manufacturing for over a century of operation. Properly maintained, the rail line could foreseeably

³ Page 77-80, TATA STEEL CONSULTING – Provision of Technical Assistance to EWLP - PIB Prefeasibility Report, Feb 2012, <https://www.aph.gov.au/DocumentStore.ashx?id=10aff4ee-a5f6-4fb9-bc94-70bb0fd44ebd&subId=206493>



have an indefinite useful lifespan. There is enough latency in the rail line between coal/iron ore delivery to support many other purposes.

It will fulfill the east-west transportation of goods for purposes of supporting the growing population of northern Australia, supporting the growth of new towns and cities, and lowering the costs on goods delivered to towns already there. Currently, tyranny of distance is one of the greatest obstacles to cost of living in Australia. Recent reports in the media have highlighted the cost disparity between urban centres and remote areas. The PIB rail line will improve these dynamics permanently.

The steel parks are estimated to produce surplus heat and surplus electricity, which will provide capacity for industry near to the steel parks. Where there is surplus heat and surplus electricity, there is scope for new industries to establish themselves. A few sectors that will especially benefit are the production of cement, fertilisers including urea, ammonia, and potentially lithium. Many new technology sectors are designing ways of capturing and reusing CO₂ for industrial use in new fuel sources as well. The benefit of the steel park model, and on this scale, is that it provides a concentration of these chemicals to make them industrially useful.

The rail line, with the use of spur lines, will make stranded ore bodies inland economically viable. For example, there are rich deposits of potash (potassium salts) near the WA/NT border right on the projected line; and of potash, uranium, vanadium, and iron ore in the East Pilbara. The proximity to rail will improve efficiencies that lead to the opening of new mines hundreds of kilometres inland. All of this will lead to an incalculable transformation in the potential number of jobs as a result of Iron Boomerang.

B. The effect on Australia's gross domestic product and balance of payments from this significant change in Australia's productive capacity;

Australia's GDP will rise as an effect of Iron Boomerang producing first stage steel for export, reflected in the additional 35,000 direct permanent jobs it will generate. Up to 75,000 jobs in construction and permanent workforce. Then there will also be the increased GDP from the related industries and spin-off in jobs that the rail line and steel park precincts lead to as well, which could bring in the decades to follow up to 500,000 jobs. The tax revenue coming from Iron Boomerang will be able to reduce the government debt, which exploded during the COVID-19 pandemic.

Australia has seen over the course of the last 40 years an increased reliance on foreign investment, and a large degree of foreign acquisition of Australian assets. Without the foreign income from mining, which is currently very high, this reliance on foreign investment would be an extreme vulnerability to our current account and could plunge Australian into financial crisis very quickly.

The advantage of Iron Boomerang and EWLP is that it is an Australian company, registered in Australia. There will be no tax avoidance, unlike with some large multinational firms, where we see a large revenue booked in Australia but not a fair payment of tax.

To help facilitate improvement in Australia's balance of payments, we believe that this project should gain as much domestic investment as possible. Government and relevant bodies should make



it possible for a portion of this project to attract voluntary investment from Australian superannuation funds, which currently hold more than \$2.7 trillion.

This project is primarily “a steel makers’ project”. EWLP have approached it through the lens of what can compete in world trade. It has been designed in consultation with world-leading steel makers, and is intended to be funded by steel makers, in partnership with sovereign funds and private investment.

The idea is that international steel makers from around the world will play a major part in funding Iron Boomerang and purchase a maximum of two blast furnaces each (no company would have greater than a 20 per cent stake in overall ownership). These international steel-making companies will make the steel they require, which will be exported to them. This means that with 5-10 national and/or international steel makers invested, they will produce their steel on location in Australia at the source. We are basically shifting their steel mills to Australia, from their country, right to the mine where it is extracted.

Steel-making nations are strongly protective of national sovereignty and their sovereign capability, and no nation would consider it a wise step to surrender its capability to make steel. Iron Boomerang therefore is an arrangement for global trade whereby the steel parks, located in Australia, provide a location for those steel mills at the best efficiency that can be offered.

The modular nature of Project Iron Boomerang allows for added capability in the future. Not only will it be possible to expand Australian steel production massively, for domestic use, but Australian companies could invest in additional furnaces for purpose of exporting steel to developing nations.

It is relevant to add two matters relating to value-adding which are crucial for consideration of the change in GDP.

Firstly, the potential of value adding has long been identified, and was a priority of previous Governments. In March 1970, Prime Minister John Gorton reiterated the findings of the January 1970 government study into Bauxite production, in the same year the Government created the Australian Industry Development Corporation (AIDC) to fund and develop value-added industries throughout Australia. The multiplier factor in production value is substantial, and bears relevance to Australia’s lack of economic diversity and sophistication today.

At the Australian Mining Industrial Council Dinner in Canberra on 9 March 1970, Prime Minister Gorton stated the Government’s intention to develop value added industries with an eye to export refined and finished products, using the example of bauxite:

“But very largely it is the raw materials, the ore and the pellets that are being exported. But more and more, if we are to make the best use of what has been discovered, of what has been and is being worked, more and more I think we should seek to process the materials that are torn from the land in Australia. I would like to see Australia with a second steel industry....I want to see aluminium smelters in this country. I want to see more and more processing of the materials we produce.

And let me illustrate that by giving you some figures. I have been talking of bauxite. Let's look at what is involved here. One million tons of bauxite from Weipa or from Gove earns \$5 million for export. If it is converted to alumina, the equivalent of its earnings is some \$30 million. If that alumina is converted to aluminium, ingot aluminium, it would be worth \$120 million, and if, finally, that ingot aluminium is fabricated into aluminium products then it would



be worth \$600 million. There really is a premium, gentlemen, on getting \$600 million or \$200 million rather than not only a premium in what can be earned overseas by it, but a premium in the factories that are provided, the smelters that are provided, the jobs that are provided, the centralisation that is provided, if we can more and more get into this field.”⁴

To summarise, in 1970 it was estimated:

- Raw material (bauxite) export earnings: \$5 million
- Processed one step into alumina, export earnings: \$27 million
- Processed second step into aluminium, export earnings: \$120 million
- Processed final step into aluminium products, export earnings: \$600 million

Instead of promoting this idea of value adding, Australia has since lost the manufacturing and industries that achieve this. This is captured in the analysis published in the “*ATLAS of economic complexity*” by Harvard University’s Growth Lab.⁵ The Harvard Growth Lab explain their methodology as follows:

“A rank of countries based on how diversified and complex their export basket is. Countries that are home to a great diversity of productive know-how, particularly complex specialised know-how, are able to produce a great diversity of sophisticated products. The complexity of a country’s exports is found to highly predict current income levels, or where complexity exceed expectations for a country’s income level, the country is predicted to experience more rapid growth in the future. ECI [Economic Complexity Index -ed.] therefore provides a useful measure of economic development.”

Australia ranks 91 out of 133 countries for the diversity of our export products. In 1995, we were ranked 55. We are falling. The export of iron ore and coal from Australia accounts for 34.6 per cent of Australia’s total export revenue.⁶ Due to the enormous demand from China, this revenue stream has given us a false sense of economic security, but we must address the lack of economic complexity. Building Iron Boomerang achieves this.

According to figures published in a July 2020 report by Dr Jim Stanford of the Centre for Future Work,⁷ figures show in 2019 Australia exported \$58.3 billion of simple manufactures and \$37.7 billion of elaborate manufactures, but imported \$62.2 billion of simple manufactures and \$216.7 billion of elaborate manufactures. The majority of Australia’s export income, almost 75 per cent, is primary products, mainly raw materials such as iron ore and coal.

Dr Stanford’s report cites another example of value adding potential within Australia—lithium. Australia is the world’s biggest exporter of lithium in its raw form, spodumene, which was trading at US\$750 a tonne in 2019. If our lithium was manufactured into end-use batteries, the same amount of lithium would be worth \$150,000 per tonne, using 2019 figures.

In May 2022, the price of spodumene concentrate hit a new record, with prices hitting US\$5,955 in the Pilbara, per dry metric tonne, which was up from US\$1,250 in July 2021.⁸

⁴ <https://pmtranscripts.pmc.gov.au/release/transcript-2197>

⁵ <https://atlas.cid.harvard.edu/rankings>

⁶ <https://atlas.cid.harvard.edu/countries/14/export-basket>

⁷ https://d3n8a8pro7vhmx.cloudfront.net/theausinstitute/pages/3332/attachments/original/1595693276/A_Fair_Share_for_Australian_Manufacturing.pdf?1595693276

⁸ <https://www.marketindex.com.au/news/spodumene-bids-hit-record-ususd5-955-at-pilbara-minerals-fifth-lithium>



To satisfy steel production abroad, the demand for iron ore and coking coal will not abate in the decades to come. The total export volume of iron ore from Australia has risen almost 100 million tonnes in the last two years alone. Iron Boomerang will be entering a market of high demand for steel making globally. At 44 million tonnes' steel production per annum at the end of the first stage of production, Iron Boomerang will be providing just 3-4 per cent of the world's steel demand. To produce that, it will require 64 million tonnes of iron ore per year. Looking at 2020 figures, we produced 923 million tonnes of iron ore, of which 873 million tonnes were exported.⁹ This means the sooner we have the steel mills up and running, the better it will be for the GDP and balance of payments, and our economic diversity.

E. The environmental benefit of the reduction in bulk ore exports in regard to marine pollution and energy consumption.

Iron Boomerang's impact on the environmental is a net positive. Whilst there will be an increase in localised energy expenditure and resources consumed, the waste and biproducts can be processed whilst also ensuring there is zero impact on surrounding environments like the Great Barrier Reef, by capturing 100 per cent of wastewater and runoff for reuse and processing.

Some of the large benefits relate to fuel savings, utilisation of waste in secondary industry, and use of the trains and ships for additional purposes beyond the delivery of ore across Australia, and steel overseas, which add efficiencies that lower fuel consumption and environmental impact. Iron ore is 60 per cent iron and 40 per cent dirt. By making steel in Newman and at Abbot Point, we eliminate the transportation overseas of 40 per cent useless dirt immediately.

PIB reduces long-distance international hauling of Iron Ore and Coking Coal, which is a 15,000km round trip to China, replacing it with local steel production near to the point of extraction. Australia currently exports approximately 873 million tonnes of iron ore per annum.¹⁰ Those bulk ore ships delivering iron ore and coal return empty. The proposed ships used in Iron Boomerang, designed by Shane Condon, are called "Roll-on Roll-off" (Ro-Ro) ships. They have a dual use which ensures maximum utilisation for the outward and return journeys. On the outward journey they can deliver up to 70,000 tonnes of steel and 2,000 empty containers, and then bring back 2000 full containers. By returning with containerised cargo to Australian ports, they earn an income in both directions.

These ships are of a size that can pass through all major shipping channels and canals such as the Suez and Panama, unlike the bulk ore ships that travel to and from China/Japan/South Korea. The efficiency of the ship is also such that a smaller fleet is required due to faster load and unload times when compared to bulk ore carriers. According to EWLP, a fleet of 50-80 ships will be needed.

The Ro-Ro shipping shifts the export of the steel from indirect export to direct export, as EWLP will control the shipping directly without the need for third parties. The dual use of the ships for the transport of containers will ensure maximum transport time with fewer empty ships on the return journey. This will also mean shipping rates are less of a factor in the cost to benefit ratio, as the transport can be closer to cost rather than market prices. And if cost does increase in line with markets, the profit comes back to PIB anyway. By optimising the journey this way, these ships attain maximum utility for the fuel they consume, with minimum latency.

⁹ <https://worldsteel.org/publications/bookshop/world-steel-in-figures-2022>

¹⁰ [ibid.](#)



In terms of the concern about CO₂ emissions, Iron Boomerang designers have shown that by coupling the production of steel with chemical processes, the CO₂ can be captured for use in cement production, production of fertiliser and urea, and as proposed by some firms, like Cubic QED, the CO₂ can be used in the industrial production of Ammonia, Methanol and Hydrogen, provided it is coupled with the requisite feedstock minerals, which optimally would come from desalination.

The other benefit is the reduction in truck haulage in favour of rail use, reducing fuel consumption on roads in cases where rail can substitute. Construction materials, mining products and agricultural produce could also use the rail line, reducing energy consumption. The capacity of the transcontinental rail line is very large. Studies should be conducted by Government to ascertain how much fuel can be saved by using this rail line instead of trucks and ships, to quantify this benefit.

Other countries are going to need steel. The priority for developing countries is to industrialise, with whatever means are available. Given our iron ore and coking coal is the highest quality in the world, it is therefore prudent for us to transform it locally into steel using the most responsible, efficient, and effective practices globally.

To maximise the environmental benefits of Iron Boomerang, we should have an eye to the third stage of the project, when modular additions to the ten steel mills come online, increasing production beyond the current target of 44 million tonnes of steel. Even at double the capacity of 44mtpa it would not produce enough steel to otherwise replace the large quantities of iron ore and coking coal that we export already, but the more steel we make using Iron Boomerang here, the less waste in fuel and global environmental consumption we will have elsewhere.

F. Any environmental impacts from the proposed alignment

Based on the submission by EWLP to the 2014 Inquiry into the Development of Northern Australia¹¹, the grade of the rail line is on average 1:200, which demonstrates that the corridor will be constructed on very flat country. This will mean a streamlined construction process without the need for tunnelling and other major disruption to the land. The proposed corridor is 200 meters wide. The Citizens Party believe it would be desirable to explore the potential for a wider corridor to allow for future development along the route. This will become a major east-west transport corridor for a century and more to come. We should build it with an eye to the future, like John Bradfield built the Sydney Harbour Bridge, ensuring it had six lanes each way with rail as well, to accommodate a growing population.

One of the added advantages of the rail line is that it can be coupled with water and gas pipelines, fibre optic and mobile phone towers, and potentially electricity transmission lines in the future to integrate future energy markets. Hence this will constitute a development corridor friendly to settlement and habitation in some of the areas along the line, subject to the land status and native title.

If coupled with a forestation program, the proposed route could also provide opportunities for anti-desertification programs. For those concerned about CO₂ emissions, forestry programs and using

¹¹https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Former_Committees/Northern_Australia_44P/Inquiry_into_the_Development_of_Northern_Australia/Submissions



trees for carbon capture and storage will help to lower temperatures, and increase the retention of moisture in otherwise extremely dry soil.

G. Any impacts of the rail line or steel parks on the Aboriginal community

We believe Aboriginal communities spanning the entire route from Port Hedland to Bowen will benefit immensely from this project. It will be crucial for all to engage and consult with Aboriginal community leaders to ensure opportunities are not missed and a full understanding of the project is conveyed and any concerns addressed. Iron Boomerang will bring amenity, technology, and improved services to remote communities. Moreover, it will be very important to invest in training programs and recruitment, to maximise the participation of all locals in the construction and ongoing operations of the line.

The proposed steel parks at Newman and Abbot Point are in regions already seeing intensive mining. It would be logical to approach negotiation and arrangements with local Aboriginal communities in a similar fashion that mining companies have such as Rio Tinto, BHP and Fortescue, as well as the respective state and territory governments.

H. The relevance of the Iron Boomerang project to our national security

Iron Boomerang would have a positive impact on our national security because it will secure stronger relationships through trade with our neighbours, including China. In recent years, trade and geopolitical tensions have sunk Australia's relationships with its neighbours to the lowest level. We need to restore Asian (especially Southeast Asian) countries' confidence in Australia as a good neighbour. The best way to do this is through good trade, and by delivering on our promises to support their growing economies.

We also add to this the ability to provide a competitive alternative in the steel market exports trade. Currently, China accounts for 54 per cent of total world steel production. It exports around 95 million tonnes of steel in indirect trade, and 66 million tonnes in direct export.

If the Government in partnership with EWLP can negotiate, secure, establish and deliver 44 million tonnes of steel, via ten world-class steel mills, and in so doing secure investment from foreign steel makers, as proposed, then we will be boosting international confidence in Australia as a trading partner and good neighbour.

Australia does not currently have a domestic shipping fleet. Iron Boomerang will provide a fleet of ships with that capability, which can be used for national strategic interests in the event it is necessary to do so. One of the first initiatives the newly formed Commonwealth Bank took following its founding in 1911, was to procure ships for Australia in World War One.

In a worst-case scenario, where Australia is somehow thrust into war, the PIB rail line and its ability to ensure sovereign capability will become indispensable to the nation. At present, we possess only one east-west corridor for rail, which is the southern Perth-Adelaide-Melbourne line. We also have the north-south Adelaide to Darwin line.

Adding a northern east-west corridor, with a heavy haul capability, will have innumerable positive implications for securing our territory. It will give us the capability to move goods across the continent, which air freight and trucks otherwise could not, and would connect into the existing



standard gauge grid mentioned above. It will give us the ability to defend our strategic raw materials in the northwest and northeast. A heavy-haul freight rail line, deep in the northern interior, would be more useful to us than a handful of offensively designed submarines (which will arrive at an unknown time in the future, if at all). In this worst-case scenario, if we already have the rail line, we will use it for strategic advantage. But if we don't have it, it is inconceivable to think that this scale of infrastructure would be built in the midst of a conflict.

We also note that in any conflict scenario, the steelmaking capability of Iron Boomerang makes us capable of satisfying a much larger demand for steel production if necessary. Owing in part to the modular nature of the steel parks, more than the initial proposed ten steel mills can be constructed if and when demand exists for them.

The locomotives for hauling the iron ore and coal are powered by liquified natural gas (LNG), with a dedicated service hub built near Ti Tree (NT) for the refuelling of the trains and maintenance. Using the Amadeus Basin gas reserve to supply the line, we have an abundant reserve of fuel along the line which would ensure no disruption to the operations of the transport, east and west.

At Ti Tree, and other locations, strategic fuel reserves can be stored, replacing the current arrangement of holding Australia's strategic fuel reserve in the United States, 14,000km away. This would ensure that in the event of a threat to our national security, we would reduce the risk of the whole country running out of fuel after approximately thirty days. The rail line can be used to transport said fuel, reducing the need to rely solely on trucks (which run on diesel, which would be more strategically important to conserve in that scenario).

Iron Boomerang ensures we have full sovereign supply chain control for steel and beyond. It creates two industrial hubs (Abbot Point and Newman) whereby other supply chain issues with other strategic products can be addressed as well, by using the process heat and excess electricity available at the sites.

I. Any other related matters.

“WHY A RAIL LINE? WHY NOT SHIPS?”

This is the most frequently asked question about Iron Boomerang. Here are the answers in one place:

- (1) The ports in the Pilbara and Abbot Point have been solely for export of ore as outbound goods.
 - a. **PORTS:** There are important differences between inbound and outbound port capability. The infrastructure for inbound cargo at the ports in question does not currently exist.
 - b. **TIME:** It takes three times longer to unload a ship with goods inbound than to load them when destined outbound.
 - c. **SPACE** - You need to find more room at the ports.
 - d. **EFFICIENCY** - You can't deliver the coal and iron ore fast enough to produce 44 million tonnes of steel per annum, without adding billions more to the project to keep the efficiency level.
- (2) **COST** - It is three times more expensive. Constructing the ports to take inbound material will add billions onto the project.



- (3) **TIME** - It takes on average 2-3 weeks to deliver the products using ships, versus a 48-hour transit time on the train.
- (4) **QUALITY** - Once extracted and processed, coking coal deteriorates while it sits idle, so it is best to deliver and use it as quickly as practicable. At present the delivery of coking coal to foreign countries takes 20 days. This will be cut to 2-3 days' delivery to the Steel Parks.
- (5) **ENVIRONMENT** – There is no environmental benefit to shipping it coastally – more ships going through the Great Barrier Reef, and more fuel use. The locomotives on PIB will use combined battery and LNG for power. This cuts fuel emissions by 40-50 per cent.
- (6) **INLAND DEVELOPMENT** – There is no gain to the viability of inland mining. There are potash, phosphorus, and other deposits inland on the WA/NT border. Trucks are currently driving these resources 970km to market.
- (7) The train can deliver large cargo trans-continently, including to remote inland areas, eliminating the need for long-distance road transport which is expensive and logistically challenging.

GREEN ENERGY AND GREEN STEEL

Project Iron Boomerang is a project of incredible national significance, which brings immediate economic, social, and environmental benefits. It should not be delayed based on hypotheticals, such as the establishment of sources of energy such as green hydrogen, or for new so-called green steel production. In recent days, climate campaigner Saul Griffith has challenged this path toward green hydrogen specifically, as being unviable at the present time and for at least a decade to come.¹² There is fierce debate ongoing about the way forward on steel production with new “green”

¹² “An investment opportunity the likes of which we’ve never seen” *Australia Financial Review*, 14 October 2022: <https://www.afr.com/companies/energy/an-investment-opportunity-the-likes-of-which-we-ve-never-seen-20221012-p5bp77> **TRANSCRIPT BELOW:**

AFR: I’m interested in your comments on hydrogen because it’s fair to say there’s a lot of people drinking the Kool-Aid on hydrogen. There’s a lot of people pushing green hydrogen as the great hope for Australia weaning itself off fossil fuels. You seem to think there seems to be a need to be a bit of a reality check.

SAUL GRIFFITH: If hydrogen works, I will make more money than all of you because I built the hydrogen tanks that all of the world’s automakers have licensed for doing either stationary or motion hydrogen tanks. I’ve shot large-calibre bullets into hydrogen tanks in the desert. I’ve watched them explode. I’ve owned two hydrogen vehicles. It was the scariest, most horrible user experience of my life. I feel qualified to say a lot about hydrogen. I understand the physics and the thermodynamics.

To get \$2-a-kilogram hydrogen – which is our stretch target – you have to start with 2¢ per kilowatt-hour electricity. If you have 2¢ a kilowatt-hour electricity, why would you waste a quarter of it in the electrolysis, waste another 15 per cent in the compression, another 50 per cent in the fuel cell, or the combustion engine coming out? Making it four times at least, probably five or six if you include capex, more expensive than just doing the whole thing you were going to do with hydrogen electrically anyway.

Now we have to do hydrogen for ammonia. That’s food. That’s 1 per cent of global energy flows. Australia could make all the world’s ammonia, that’s a great idea that would be about a \$90 billion or \$100 billion export opportunity for us.

But we should temper our enthusiasm for hydrogen solving any domestic economy problems. We are still being dragged into it by Germany, Japan, other nations that have had hydrogen as a national security strategy more so than really an energy strategy. They’re our customers. They’re signing these sorts of fake contracts that aren’t real contracts that “if you produce it, we will come”. That’s not real. So, we’re trying to solve someone else’s emissions, we’re over-investing in that as a nation.

I’m concerned we missed the thing we have to do right now. We missed the thing that is going to win the game, which is electrification, if we over-focus on hydrogen. I can’t say it harshly enough, we have drunk the Kool-Aid and we’re about to squander a decade.



methods,¹³ but we can't let this hold us back from getting actual concrete positive outcomes using world's best practise now—which carry measurable environmental benefits.

Currently, 70 per cent of all steel making in the world is done using BOF (Basic Oxygen Furnace), which requires coking coal. The remainder is mostly Electric Arc Furnace. Global steel makers prefer using the BOF method to produce steel, using our coking coal and iron ore. We should not sacrifice the resource advantage that we have, by proceeding to try unused and theoretical methods of steel production, which will blow out the costs by as much as three to four times, according to some estimates.

We should use the steel parks and connected industrial centres of Iron Boomerang as platforms for testing, experimenting, and finding the most economic and feasible methods for future steel production, and move to them once it is demonstrated that those new methods can be sustained in the competitive world steel market, whilst capturing CO₂ for re-use in industrial processes, such as fertiliser production.

The pursuit of green steel and green hydrogen without addressing the economics and true cost could spell the end of Australian steel manufacturing, as former ACTU President and MP Jenny George explained in *The Australian* in Feb 2021.¹⁴ Proposals for using the waste product from the steel production process to generate electricity are not new. This idea has been discussed and debated, in relation to BlueScope's Port Kembla steel works, but was not implemented.

Policy makers should look at the evidence within the steel industry itself. If there is an economically viable pathway, those companies will take it. No business would choose to commit suicide by taking a pathway that doesn't sustain its ongoing operations. A look at world practise shows that there will be no slowdown in the consumption of iron ore and coking coal for steel making abroad. Australia's iron ore exports increased by 100 million tonnes in the past two years.

FINANCE AND BANKING

Project Iron Boomerang stands to be so beneficial to the country in so many ways that it beggars belief that the Government would not be prepared to wholly fund, own, construct and deliver this entire project itself.

We recognise, however, that the origin of all good economic changes that drive civilisation forward necessarily begin in the creative minds of individuals—inventors, scientists, and artists—who then impart those ideas to the wider society to effect a change in that society. In this case, Project Iron Boomerang is a steel makers' project, developed and proposed by entrepreneurs and businesspeople who put their heads together to find a better way—the best and most efficient way to make steel for the world.

¹³ "A wake-up call on green hydrogen: the amount of wind and solar needed is immense"
<https://www.rechargenews.com/transition/a-wake-up-call-on-green-hydrogen-the-amount-of-wind-and-solar-needed-is-immense/2-1-776481>

¹⁴ "The false promises of green-tech energy" The Australian <https://www.theaustralian.com.au/commentary/the-false-promises-of-greentech-energy/news-story/31cbeed93b4562377f43ed6a7d27f8c4>



The Citizens Party recognises that the knowledge of veteran steel makers, engineers, mining specialists, and those involved in the import/export business must be involved in ensuring the maximum viability and efficiency of this project. However, this does not preclude the Government providing financing and credit in the form of loans to fast-track the project. We have several agencies that could assist, including potentially the Clean Energy Finance Corporation, or a massively expanded Regional Investment Corporation, to name a few.

It is the Government's duty to see that ideas which serve the common good are brought to fruition. This project stands to be even bigger than the Sydney Harbour Bridge, or even the Snowy Hydro Scheme. Whilst the funding proposal put forward by EWLP is to come from wholly private investment and global steel companies, the Citizens Party nevertheless advocates for funding using national banking, as it has been done in past decades of Australia's development, especially in the mobilisations of World War One and World War Two.

In order to build large-scale infrastructure, we should establish a national public bank to issue long-term, low-interest loans, modelled on the original Commonwealth Bank established in 1911, which funded hundreds of billions of dollars in infrastructure in the following decades, backed by the wealth of the Australia people. The Citizens Party has legislation for a national infrastructure bank.¹⁵ That is, however, a policy for consideration separately to this Inquiry into Iron Boomerang. The urgency is to get this project underway now.

We thank the Committee for its consideration of Project Iron Boomerang, and we are happy to help further in addressing any matters that arise in the course of the Inquiry.

¹⁵ <https://citizensparty.org.au/sites/default/files/2019-11/20191023%20-%20Commonwealth%20National%20Credit%20Bank%20Bill%202019.pdf>