Planning and Assessment
Department of Planning, Industry and Environment
Locked Bag 5022
Parramatta NSW 2124

[redacted]

Dear Ms/Sir
Subject: **Objections to SSD 10452 - Stubbo Solar Works**

I am against the proposal for the 400MW solar and potentially battery installation at Stubbo on the following grounds:

1. Lack of Community Consultation.

I am aware that a number of people from here and from other regions, who live next to or in close proximity to proposed and existing solar infrastructure, and who said that they had not had the opportunity to discuss with the developers how these projects would affect them. Many in the 'general' community are still unaware that projects are happening until they are under way.

We are tired of politicians at all levels using blanket statements such as, "these projects are generally well accepted by the regional communities." It simply isn't true! There are few in the community, other than the landowners who profit from leasing their land, who actually embrace renewables. For instance, over 430 objections in a population of 2500, were lodged against the proposed Gulgong solar electricity generating works. In addition, over 1100 objections were raised against the Burrundulla (Mudgee) solar farm proposal. Both projects were declined unanimously by the WRPP.

Renewable technology is dividing regional communities in devastating ways. Some of these people have lived on properties for generations and have grown up with their neighbours. Resentments are inevitable. No one wants to look over hundreds or even thousands of hectares of solar panels! At least one community member in the NSW food belt will be surrounded on three sides by solar panels! And her family grow crops, so it's likely the 'heat sink' will affect her produce, not to mention the psychological effects of being surrounded by unwanted technology. What do you say to the landowner in Orange who has just been informed that he will have to get used to just that very scenario. What do you say to him when he relates that he has lived on that property for more than forty years, planning and tending gardens and planting more than 200 trees? What do you say to him when he tells you he is 'gutted'?

It feels like the developers are giving out as little information as possible. We had one meeting at Gulgong which we found out about by chance. I don't know what notifications they sent out, or how. Maybe the local councils should be more proactive and send notifications by whatever method they send rates information.

We expected to be 'informed' at the meeting. We expected that they would be able to answer our questions, that they actually knew the facts about the solar industry. Given that we have little say in something that profoundly affects members of our community and that as Australians we are contributing to their generous subsidies by way of taxes, I would have thought that they would have had enough knowledge of their technology to convince us that the pain inflicted on us is justified. These developers openly advertise that the consolation is to promote the 'benefits' of the project. They omit to raise the 'negative' impacts.

They proudly told us that they are an 'Australian' company. They did not tell us that their 'parent' companies are multinational conglomerates. They did not tell us that the environmental study was being conducted by a different company or that they also had an overseas parent company.

They mentioned the good, well paying 'jobs' that would be created by projects such as these. They didn't mention that most of the jobs in the renewables industry are done outside of Australia.

Our solar panels come predominantly out of China. Though we have valuable resources here, it's cheaper to source and process materials in developing countries. The materials that don't come from Chinese mines are sourced by them from other developing countries such as Africa and South America. So, the mining, transport and processing of ores are predominantly overseas jobs. The manufacturing of the solar panels that we purchase are from China, so, no Australian jobs there.

Our Chinese solar panels arrive at the Australian ports that China share ownership of, at varying levels. There are few Australian jobs to be had in the renewables industry. Though, these developers cash in on it, and I suspect that the parent companies do extremely well given that they do business with China for their 'global' renewables deals. Again, subsidies through our taxes going overseas.

Just what is the Australian content? The developers Australian project management team. Transport from the ports, this comes with much C02 of course. Surveyors, earthmovers, they use lasers on their bulldozers to get a level surface. They scrape up every blade of grass and critter that gets in their way. I digress, they obviously need electricians too, lots of them. It's almost impossible for locals to get an electrician when they need one, and heaven help anyone building a home, including home building businesses.

I'm sure that there are others too, but my point is, Australian jobs are not abundant in the renewables industry as promised for the regions, and most of the jobs are short term contracts. Even large projects, such as Stubbo, only have a handful of jobs once the project is complete (up to ten employees apparently) and most of them are part-time. By far, most of the jobs in renewables here in Australia are in construction. Our local solar works at Beryl

had around 150 over four months or so, most of them were backpackers who were bussed in and out of town each day. The solar installation at Wellington had 560 construction workers, also mostly backpackers. Same with a solar installation in Queensland. Their project is currently under way, though not without serious problems. More than 200 construction workers were laid off by text at 6am in the morning last week and told to vacate the accommodation that had been provided to them and to return to their previous accommodation.

Sadly, truckloads of fruit are being dumped because pickers could not be found before the fruit spoiled. This results in reduced income for the growers but also impacts the jobs and money that now can't be spent in their local community. Backpackers and labour hire are harder to come by due to the renewables industry.

We are fed up with politicians expounding the blanket statement about all the 'good paying' jobs to be had in the regions due to the so called 'investment' of billions of dollars in renewables. What rubbish, most of that money is going offshore. Please spell out the benefits the we are supposed to be enjoying. We are simply selling out our country. This infrastructure is being dumped on the regions. Some time down the track there will be a massive cleanup bill, who is going to pay for that? Does that fall on the taxpayer too, along with all the other hidden costs?

Will we never stop handing out subsidies? Given all the problems in the industry, and the fact most of this money is going overseas, isn't this industry something of a farce? Didn't they claim more than a decade ago that they could be a standalone industry? Surely that time is way overdue!

A continuous energy supply will be essential in the future as it is now, so an overlap period will be necessary. The 300 plus square kilometres (wind and solar) of agricultural land in Renewable Zone 1 alone will need to be replicated by more renewables before this first roll-out reaches end of life. That equates to more than 600 square kilometres of agricultural land, just in the Central West Region. How is this sustainable? Just to give you some perspective of how much land that is, think of a location 600 kilometres from where you live and imagine a road trip with half a kilometre of solar panels and or wind turbines on either side of you for the entire distance. There are two additional renewables zones across NSW, at this stage anyway, but they are hoping to add more. That equates to 1,800 square kilometres of agricultural land fenced off in NSW for renewable energy. Most of it surrounding small historic country towns. It could be more, wind requires substantially more land than solar.

Renewables journalists have a hide to criticise the federal government for their policies in regard to energy here in Australia. How about a policy that withdraws all subsidies and favoured treatment that the renewables industry currently enjoys. They claim that this

industry is capable of operating stand alone, let them do just that. But with no more money from the taxpayer.

The 'quiet Australians' are feeling betrayed right now. There are few politicians or MSM with the guts to speak the truth about renewables. They need to act soon, or we won't be 'Australia' anymore. We will simply be 'states' of other countries.

The developer, UPC/AC, must justify their proposed project for Stubbo given the points above.

2. Apples and Oranges can't be compared as equal

A 400MW solar plant does not produce anything like the 400MW of, say, coal, gas or nuclear. To match the MWh output of a 400MW nuclear plant you would need an approximately 1200MW solar plant. But solar is only produced in daylight hours and nuclear generates power 24/7. The different power sources are not equal when MW's are quoted. The proposed 400MW capacity solar installation proposed for Stubbo does not produce 400MWh of energy. 400MW is simply a statement of its maximum possible capacity instantaneous output. The actual output from solar in daylight hours is intermittent and is mostly pathetic. There is no output once the sun goes down and the backup batteries only last half an hour or so for the size that the developer is suggesting for Stubbo (200MW BESS). These batteries are horrendously expensive and they would need to be replaced a three times throughout the stated 30 year life of the proposed solar works. Not to mention, as with the recycling problems associated with the panels, they are costly to recycle so no one wants to do it.

Further, on average, solar works in the US are being decommissioned after 21 years, whereas publications suggest that new nuclear plants last up to eighty years. The solar plants will need to be replaced up to three times over that period and the backup batteries many times more. The scale of raw materials necessary to build all forms of renewables is unsustainable!

For anyone using nuclear waste as a reason not to consider it as a source of energy there is three hundred times more toxic waste in the production of renewables, backup batteries and EV batteries than waste from nuclear energy. The waste caused by renewables from the processing of rare earth materials alone is extremely problematic in regard to its disposal and it also has varying levels of radiation. Many of the different processes required to build renewables creates toxic waste.

The link below will show you what is being sacrificed for rare earth materials. This is an example of your 'clean and green' energy production.

https://www.bbc.com/future/article/20150402-the-worst-place-on-earth

The '100% renewable energy' is another common blanket statement that is thrown around. Tell that to Germany. The country lauded as the 'gold standard' of transition to renewable energy. They have among the highest level of renewables in the world (and the most expensive). Yet they are so energy starved right now that at this moment their weather dependent renewables have been shut down by the weather, and they are calling on Poland for coal fired power, Russia for gas and France for nuclear powered energy! Who would we call on? Texas has large numbers of wind turbines, they too find that their turbines are off-line due to weather. Some parts of this state have no power at all! The temperatures there at the moment are sub zero! Wind and solar are fragile, they are susceptible to the elements, they fail regularly.

Our local 87 MW solar installation was damaged by lightning and it took months to restore the damage to components. Output was significantly reduced in the December quarter 2020. 100% renewable energy is simply not possible, it's not clean, it's not sustainable and it's not reliable.

The proposed Stubbo solar project will only add to the overall associated life-cycle waste of renewables, global environmental damage and cause more unreliability, insecurity and costliness to the electricity system.

The DPIE must address these issues the developer has not covered in EIS marketing document.

3. The dirty truth about solar panels

At the community Information Drop-in Session we asked the developers what type of solar panels they were using. They said they were yet to select the 'brand'. We expressed that as some panels are more of a contamination risk than others that it would be good to know what they intended to use, but it would be a 'tier 1'. They said the there was nothing toxic in them and that panels are pretty much made of 'glass'. To further this point, and from subsequent written information from them, they quoted that there were no toxic materials in the panels and that materials such as CdTe were only used for applications in space.

Well, the 87MW solar works 4 kilometres from us at Beryl is of the CdTe thin film variety. This installation is on to its second owner and it's up for sale again now. The panels there are not easily recycled, acids are required in the recycling process and I believe that the nearest specialist recycling facility for these panels is in Malaysia. The original owner was contracted to fully decommission the site at the end of the contract. I only hope that this is still in place as it will be a very expensive process. If the renewables industry were to collapse then it would be up to the landowner, and in the event that they declare bankruptcy then it would be up to the government or Council (ratepayers) to restore the site. Taxpayers yet again.

There are a number of different 'types' of solar panels and each type has variations in its design and materials used to make it work. The link below, 'Materials for Photovoltaics', describes each different type of panel in some detail with pros and cons for each.

On page '17' in its description of CdTe panels it says:

"CdTe PVCs can withstand high temperatures better than C-Si cells and capture radiation better in humid environments. However, the elements that make up CdTe are scarcer than Silica and CdTe is a potentially toxic material."

The thin film panels at Beryl are CdTe (cadmium/tellurium). These materials can be easily flushed out during a hailstorm or other storm damage. Beryl's installation has already been struck by lightning and suffered 'component' problems, whatever that means. We only know that much because listed companies have to report any issues. This is one reason that many renewables companies have delisted from the stock exchange. They have to tell their 'investors', but no one tells us, those affected, anything. Beryl solar is built over two waterways which lead to Cudegong River and onto Burrendong Dam. There is a huge aquifer which runs under our entire town and extends for many kilometres. The community draws bore water from this source.

Do we not have a right to be concerned about the potential for toxic contamination? People thought that asbestos was a good idea at one time. From experience I can tell you that it's devastating to watch a family member die from asbestosis. It was also devastating when we found out that people 'from the government' asked his spouse to sign a document stating that she wouldn't make a claim on them. All those years in the navy, exposed to asbestos as a gunner during WWII meant nothing.

There are many semi conductors and doping materials used to make a solar panel work to create electricity. Not all of them are classified as toxic in small quantities but in large quantities can be problematic, such as major damage from hail, storm or wind to thousands of panels at a time. The Stubbo project proposes to have 800,000 to 900,000 solar panels, yet to be defined.

Details of the different types of solar panels can be found in the following link.

'Materials for Photovoltaics'. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6412461/

How can the Stubbo solar project ignore the contamination risks from solar panels and batteries to our communities? The DPIE must take this into account.

4. The hidden 'ingredients' and CO2 in so called 'glass' panels

The largely 'glass' panels that the developers refer to is a misleading statement. They are in fact C-Si, or crystalline silicon solar panels. The production of silicon wafers requires

intensive energy sources over a number of processes. High temperatures need to be maintained over several days and the necessary ingredients will surprise most people. The ingredients include metallurgical grade coal, coking coal, hardwood and quartz. Sand is not suitable as it's too fine. Here's one 'recipe' from the link below 'Why do we burn coal and trees to make solar panels?'

Raw materials for 'one' ton (t) MG-Si:

- Quartz 2.4 t
- Coal 550 kg
- Oil coke 200 kg
- Charcoal 600 kg
- Woodchip 300 kg.

That's 4.05 ton of raw materials to make just one ton of metallurgical grade silicon. 'Half' of this is lost to cut the ingots down to the 'wafers' used in silicon solar panels. This waste is most often discarded due to the costs of reprocessing.

I find the hypocrisy overwhelming. That one of the key ingredients is metallurgical coal, and coal is also the likely heat source too. I am also appalled that in some places rainforest hardwood is being cut down in places like Brazil and Indonesia to make solar panels! This timber and coal is being shipped to different countries around the world for processing and manufacture creating a massive CO2 footprint!

CO2 audits are not interchangeable from one place to the next. Some countries mine and process the raw materials, and make their own solar panels, thereby cutting down their CO2 from transport. Australia imports the panels. Each different location will have a different CO2 result, or it should if the audit was conducted honestly and thoroughly. Australia's CO2 footprint in regard to renewables should be higher than most other countries due to our size and geographic location. CO2 from every stage must be taken into account, from mining, transport including shipping of ores and other materials to China for manufacturing. The CO2 from processing must be taken into account too, and given the size of Australia all forms of transport must be included in the audit.

The UN absolve China from strict rules on CO2 by declaring them a developing country. What a joke. China has more billionaires than any other nation, a large proportion of the country is now considered middle class, they have a space program and send rockets into space, they have the largest army in the world, they have a nuclear weapons and nuclear power stations. They also have huge numbers of navy vessels, own ports, land and infrastructure in many countries across the globe including Australia. A developing nation? Their CO2 has gone up by 68% and they try to bully us about needing to reduce our CO2! They are the highest CO2 emitters in the world and most comparison charts don't even put us on this list.

It's the mining, transport, processing and manufacture of renewables for other countries that has pushed up their CO2 and caused other serious pollution and environmental damage to their country. China's wealth has increased dramatically, but at what cost?

You often hear people speak disparagingly about the coal that Australia sends to China and that we must take credit for the CO2 that burning it creates. They don't mention that metallurgical coal, other forms of coal and timber are among the actual necessary ingredients to make crystalline silicon solar panels. They also don't mention that per capita, Australia has spent more on renewables than any other country over 2005-2018. Australia has installed more renewable energy capacity per person than any other country by far. Also, our investment in 2019 in renewables was higher per capita than any other country. {source: Climate Change Bill 2020 - DISER Departmental Submission Attachment E}. One in four homes in Australia have rooftop solar. And we are constantly told Australia is not doing enough!

The link below illustrates what a toxic process making silicon for PV panels is! It also illustrates the massive infrastructure necessary, the heat required and the fact that somewhere along the way it was 'agreed' not to include the CO2 of some processes! This link is a must read, people need to know where their solar panels come from, they are not clean or green!

'Why do we burn coal and trees to make solar panels?' There is an option to download the document from the this link below. I recommend that you do so, simply because the PDF by Thomas A. Troszak is better quality and easier to read.

https://www.researchgate.net/publication/335083312_Why_do_we_burn_coal_and_trees_to_make_solar_panels

The developer fails to acknowledge the amount of CO2 emissions created just to make their 'glass' panels. The DPIE must take this into account, along with all the other emissions created by this solar project, given that developer claims their project will reduce emissions.

5. End of life issues avoided by the developer

We talked to the developers about decommissioning, recycling and land restoration and it seems that they had not considered this aspect. It was something to deal with down the track. Yet in different states in America and in the EU have imposed prepaid taxes, levies or lodgement bonds put in place to cover just the costs of decommissioning and recycling. Much like the arrangement that First Solar made with Beryl, though I'm still not sure what happens after the asset is sold.

The Stubbo developer did suggest that they were here for the long haul. However, they did not confirm that should the business venture did fail, who would be responsible for

decommissioning, recycling and restoration of the properties. Would these be left to the landowners, the Council or some others, as has happened overseas?

I have included the link below because it makes reference to owners of solar farms in America that had reached this process due to end of life of the project. The largest of the two referred to was only 20MW, but including decommissioning, restoration and returns from recycling it actually 'cost' the owners more than $US2 million dollars. How much will it cost for the 400MW Stubbo project?

I suggest that in the worst case scenario if this happened at Stubbo, a 400MWh installation, it might ultimately fall on the Council to deal with the cleanup. That's a lot of panels, somewhere between 800,000, which was one figure quoted, and 900,000! That's just for this one proposed site!

Recycling of renewables is not a profitable business. If it was there would be fully operational facilities globally. There is one in South Australia that has been in start up mode for six years. A few others are stockpiling in some other states, but it is a problematic industry globally and it had to be mandated in Germany. Even in Germany, in most instances only around 80% of the panel is recycled and the rest is incinerated. Some countries are sending them to Ghana under the pretence that they are still useful. This is simply criminal, even if there is 'some' life in them it will be short and they are simply not equipped in these countries for industrial scale panel recycling. They use machetes to break them up and burn the plastics off to recover copper wiring or to try to recover silver used in some panels. They are working in toxic waste dumps and as with the Congo, children work there too. Sending used panels to developing countries simply absolves the need for the sender to deal with the problems themselves.

It's simply cheaper to make a solar panel from scratch, and they do keep on telling us how cheap they are. Yet our electricity bills continue to rise and our feed-in tariffs continue to fall. We are under threat of having control of our FIT taken away from us. Companies in the industry continue to write down their assets, write off losses and put up their solar and wind for sale. I believe there are 15 solar installations up for sale now, and some wind farms as well. Billions of dollars have been lost in the local (Australian) industry so far, and they call renewables an 'investment'?

The following link is about soil contamination and unspoken recycling costs.
https://www.carolinajournal.com/news-article/environmental-hazard/

The DPIE must address these end of life issues that the developer has avoided in their EIS.

6. Excessive land requirements

I am appalled that no one, developers or politicians at all levels can see that the amount of land required for renewables is obscene. This proposal at Stubbo will fence off close to 18 square kilometres of agricultural land, in addition to Beryl this amounts to more than 21 square kilometres of land. This footprint will dwarf our small town, and we know that there will be more in the pipeline. Around 1,200 hectares will be bulldozed, eliminating all flora and fauna, every blade of grass, every small native creature destroyed or displaced. That amounts to 12 square kilometres of our environment being turned into dust and covered with solar panels that in their production caused massive environmental damage in China and developing countries across the globe.

There is a 750MW HELE coal fired power station in Kogan Creek QLD that takes up just 30 hectares. This new technology has reduced the emissions from coal dramatically. That's just three square kilometres, to provide reliable energy 24/7 without destroying swathes of the environment both here and overseas. And because it has a higher capacity factor than solar, it would provide vastly more energy too; without encroaching on virgin rainforests in developing nations, without poisoning their drinking water with acids and other toxic materials and without killing them or their children, just so we can have 'clean' energy.

The developer cannot justify using so many more times the farming land requirements, yet produce so little reliable and non-continuous electricity supply. For example, the project's 1772ha of land at a maximum 28.5% capacity factor vs 30ha of land used for the much larger 82.3% capacity factor HELE power plant, which can generate 24/7 vs the project's daylight hours operation (plus 0.5 hour battery backup).

The DPIE must consider the huge demands on farmland compared to the much less resource intensive alternatives of coal, gas and virtually zero emissions nuclear plants.

7. Humanitarian issues not considered by the developer

Why does no one talk about slave labour in these developing nations? Why does no one talk about the 40,000 children working in the artisanal mines in the Congo? Or the children who work in the e-waste dumps in Ghana. Why does no one mention the mines that collapse in the artisanal areas and the children who are orphaned as a result? Children who then have no choice but to work at the mines so that they can eat, children who are abused, young girls being forced into prostitution to survive, having babies when they are not much more than babies themselves. Violence is common in the artisanal mines to protect their territory.

The following link will give you an insight into what is happening in the Congo. The number of children related to in the article was 35,000, at the time the article was written.

Renewables including backup batteries and EV'S has made the situation worse and the problem will grow dramatically with the push for Western ideology.

Please click on this link, and the embedded links too. Modern slavery is bad enough, but no child should suffer the degradation we are imposing on them.

https://www.theguardian.com/global-development/commentisfree/2019/dec/16/i-saw-the-unbearable-grief-inflicted-on-families-by-cobalt-mining-i-pray-for-change

Is it that you only see the shiny renewables and the promise of investment returns that it's easy to turn a blind eye to the truth? The environmental destruction and human degradation they create globally.

Greed is the driver now, nothing else matters. Renewable energy will not only destroy our environment here in Australia it will destroy our economy too. It's already happening. Maybe that's the plan after all.

The Commonwealth Modern Slavery Act 2019 must be taken into consideration by the DPIE.

8. Politicisation of Climate Science

People often use the 'fall back' phrase 'you must trust the science'. Again, absolute rubbish, at least where so called climate science is concerned. We've been listening to catastrophic rhetoric about climate for around 50 years now. Early on in that time they predicted that we were going into an ice age. In the 90's, when the temperature started to rise again they switched tactics. There have been dozens of catastrophic predictions over that time and not one of them has come true. Not one. Though there have been plenty of decent and respected scientists who have lost their jobs because they dared to refute the 'consensus science'.

Science is not a constant. They have been pushing the same so called science for more than fifty years now. If science isn't challenged it cannot advance, it becomes dogma. There is no such thing as 'settled science'! We learn new things every day, things that prove to us that taking a different direction gives us a different result, or we are presented with new information. There is little 'independent' research provided to the public in regard to the science around climate. Anyone who is not in full agreement with the current dogma is shut down.

As with catastrophic climate science, CO2 is just a marketing tool. Even if Australia ceased to exist tomorrow, and the amount of CO2 we apparently produce disappeared, it would not make any difference whatsoever to the temperature of the planet and therefore change the climate. At 1.3% contribution to anthropogenic CO2, just not using renewable energy would contribute to Australia's Paris Climate Agreement targets.

No, we have been given so much false information over such a long period of time that, at least in regard to the science of climate, we do not 'trust the science'.

Nor do we trust the politicians who have let us down badly. How do you trust a state government that hands over $AU10million to one of China's largest wind farm companies? For what? Our money. Taxpayers money! And that same 'Liberal' government states that their climate advisers are an Independent (green) and a member of the Greens Party!

How do you trust a federal government who led you to believe that they would honour the platform on which they were voted in? Yet continue to hand out massive subsidies, our money, taxpayers money and may commit to a 2050 CO2 reduction that may cripple Australia's economy.

Politicians forming policies detrimental to our country without having 'real' independent studies done. There is no point in calling someone in who has a total renewables bias, and who are potentially 'invested' in the renewables industry. Would they raise any of the issues above?

I am not against mining. Our way of life came about due to mining. But I am against UNNECESSARY mining. Renewable energy is not sustainable. We are raping the planet!

At the end of the day this is really about absolute power and greed for a handful of elites.

How independent are the consultant's reports supporting the Stubbo EIS?

Yours faithfully