Submission by Roy Currie - April 25 2019

Keep in mind that regardless of global warming etc, alternative energy is subsidised by the taxpayer and **ib vogt** is in this to make money on their investment which is normal business practice. Therefore to obtain as large a return on investment as possible, the investing company wishes to have as good an outcome as possible which means that if someone gets stepped on, so be it. The current rush of solar farms from the investor point of view has nothing to do with global warming or greenhouse gases, it has to do with return on investment and if you can get a taxpayer funded guarantee, it is a home run investment. In short, it is the **exploitation of the local economy** for investor and national gain.

My observations regarding the **ib vogt - EIS statement** prepared by **NGH Environmental** – is that it is not an objective report and is very pro development, therefore must be viewed with great distrust! The EIS consists of 295 pages therefore my comments do not constitute an in depth coverage of the statement, selecting the pertaining items that I know to be incorrect or overlooked.

The entire EIS is based on a state/nation wide "one size fits all" solar protocol based on "if it is solar, it is good". This is to achieve the stated targets regardless of local impacts. For an example of this bureaucratic ignorant attitude, just look at what the MDBP has done and will continue to do to our rural economy and the nation.

Link to the EIS below:

https://www.planningportal.nsw.gov.au/major-projects/project/9391

Page 16 – 2.4.6 Site suitability and justification – My comments in italics

Finally, it would contribute to economic development in Yanco and Leeton, and the surrounding region. The key site constraints with justification as to why the site is suitable is detailed in Table 2-1 below: *The "table below" does not list one negative effect to the local community, is biased positively to the promotion of the solar farm, glossing over or ignoring the real facts.*

Groundwater - Page – 182 – Extract - *My comments in italics*

An internal road system would be established for the construction and maintenance of the solar farm infrastructure.
Several irrigation canals are present within the development site. Gogeldrie Branch Canal borders the development site.
Several farm buildings and dwellings also occur in the development site.

Other improvements on the development site that are not mentioned, purposely understated or overlooked are:

- *Two irrigation bores –delivering approximately 5.5 megalitres per day to the irrigated area- It is interesting to note that the report easily glosses over these two assets – Construction and equipping of the two bores would currently be about $150,000 not considering the application to supply electrical connections to each site which today may be as high as $100,000 per bore site.*
- *I have bore log copies of bores – GW402594 and GW415644- Bores that are **NOT** mentioned in the EIS- the EIS does make mention of two S & D bore as follows:*
    - "There are two bores within 500 m of the development site with Bore IDs GW058303 *(no log recorded)* and GW040500 *(cannot be found).* Both are used for Stock and Domestic water supply. Data is available for GW058303 and indicates that the drill depth is 10.40 m with a standing water level of 2.10 m and a good rating against salinity." *(no detail other than location recorded according to the NSW State Water records so where did this information come from? – the recorded location of bore GW058303 is 3 km north of the proposed solar farm homestead on a different property title). There is an unregistered S & D bore located at the homestead.*
        - *A convenient oversight? Or sloppy research? Or information provided to mislead?*

*Indicative infrastructure list and is a not a conclusive list as **there is a second system of similar size:***

- *Grid power to the properties*
- *Transformer – 200 kVa*
- *Shed irrigation pump motors – 2 x 45 k/W plus jockey of about 10 k/W = 100 k/W*
- *Bore pump – 22 k/W*
- *Very extensive piped underground mainline for the irrigation water distribution system*
- *Valves and sub-mains*
- *The many kilometres of irrigation drip tube*
- *The irrigation valve control system*
- *Reinstallation of the irrigation system - currently value approximately $5,000 per ha x205ha = $1,025,000*
- *Reinstallation of the posts and wires*
- *The procurement and replanting of the selected species*
    - *There is considerably more infrastructure not listed*

*It is a grandiose statement to return the land to its **existing capability** but it will be vacant land with all present infrastructure and assets destroyed or rendered useless. This statement is very misleading, treating the community as uniformed fools.*

The Leeton community is faced with 30 years of loss of contribution to the economy which on top of the present MDBP monumental impact will decrease the Leeton population even further, making Leeton capable of only providing very minor services

EIS - *7.9.2 Potential Impacts* - Page 235 -

These impacts have been assessed in detail in **Section 6.4** and found to be highly manageable. It is also important to note that the proposal will not limit all agricultural activities, and it is proposed to graze the development site.
Upon decommissioning of the solar farm, the development footprint would require rehabilitation to restore it to its pre-existing agricultural condition.

- As such, no cumulative impacts to agricultural enterprise are expected - *This is a very skewed comment*

See below copied from Section 6.4 - page 136 of the EIS:
The value of production lost is estimated at up to $1.2 million per year (good year) *(it is actually a lot greater on a good year)* or an average of $850,000 over a longer-term period (expressed in $2018 dollars). All production from the site supplies the domestic market (i.e. no exports). In comparison**, it is estimated the wholesale value of clean electricity supply into the national grid from the Yanco Solar Farm could total $10.0 million per year.**

So what does the $10 million do for the Leeton economy?

*This is an ib vogt emotive **estimated** value and makes absolutely **no contribution** **to Leeton's economy**. My calculation is this – using their figures,* (not my previous figures*) and a current average of $1 million production from the property per year and the EIS stated value to Leeton during the 10 month construction phase only, of $560,000, Leeton's loss just in the 10 month is $833,000 - $560,000 = $273,000 and of course this loss continues on at the 2018 rate of $1,000,000 per year for 30 years offset by the employment of 3 people and minor contractors, if in fact the solar infrastructure lasts that long. NOTE that there is no mention of the six downstream jobs that agriculture provides.*

Repeatedly much is made of "returning the site to agricultural use" – as I previously listed, currently has as operating infrastructure of:

- Two equipped operating irrigation bores **(not declared in the EIS - page 18**2) – Bore GW402594 at 20 metres deep, producing 2.5+ megalitres per day and Bore GW415644 at 40 metres deep producing 3+ megalitres per day – approximate replacement cost of $150,000
- Two fully functional drip irrigation systems with a current replacement cost of 1.1 million dollars
- The connection of electricity supply estimated at $100,000 each.

All or most of this existing infrastructure will require replacement in 30 years as damage to the underground pipe systems and the general deterioration of the motors, pumps, water supply infrastructure.

NGH Environmental - EIS statement – **Extract – Page xix** - continues on to state - *My comments in italics*

The proposal is expected to operate for 30 years. (*The current solar panel effective life span is 25 years at best, losing efficiency at an ever increasing rate as they age – so where does the 30 year figure come from? The inverter life span is about 15 years, and as for the battery life span, if even they are implemented, is unquantifiable as the present research is inconclusive and they themselves pose a safety concern, a limited cycle life, a high capitol cost and a pollution problem, none of which is fully addressed as yet, as well as the new technology aluminum-ion battery on the horizon as a cheaper, safer option.)* The construction phase of the proposal is expected to take 10 months and will commence in early 2020. After the operating phase, the proposal would either be decommissioned, removing all above ground infrastructure and **returning the site to its existing land capability**, *(a totally impractical statement)* or upgraded with new photovoltaic equipment- *virtually the only practical option*

Other questions:

- *If **ib vogt** sells the business in the ensuing time does the "clean up" responsibility pass with the sale to the new owner/lessee?*
- *Is the damaged underground distribution system returned to viability?*
- *Is the MI "on property" irrigation water infrastructure systems returned to reliable viability?*
    - *Including the MI supply system that will have fallen into disrepair during this time frame*
- *Are the bores returned to reliable viability? If they have not collapsed during this time!*
- *What or who cleans the shattered glass from the affected area if a catastrophic event destroys the panels? An event like this will render the land virtually useless for agricultural purposes*
- *Where does the "end of life" component go? Leeton landfill?*

My observation is that in thirty years' time, is that it will be unviable to carry out the foregoing and the land will be forever a solar farm, grazing or waste land, all low economic value pursuits when compared to what the current and potential economic generating value is.

PROJECT BENEFIT - EIS – Page *xx* - *My comments in italics*

In addition to reduced greenhouse gas emissions and meeting government energy policies, local social and economic benefits that would be associated with the construction and operation of the proposal include:

- Direct and indirect employment opportunities during construction and operation of the solar farm. This includes up to 120 direct and 190 indirect full-time staff for the 3 to 4 month peak of construction and five operational staff for the life of the project. *(A contradiction of the **ib vogt** Newsletter 2 April 2019, stating **3 permanent jobs**)* Maintenance contracts for panel cleaning, fence repair, road grading, etc. would also be required and would likely be met by local contractors.
- Direct business volume benefits for local services, materials and contracting (e.g. accommodation, food and other retail).
    - ***The short term benefit does not offset the current normal economic return that this property produces now!*** *The only way that this project can contributes to the Leeton economy is by putting it on low economic value land. See below!*

- **EIS - Page 247 -** It is estimated that $560,000 in wage spending would be directed at local and regional businesses and service providers during the construction period. Spending would include housing expenditure, retail, recreational spending, and personal, medical and other services. – *this property area presently returns about $2million gross per annum so for the indicated construction period of 10 months the potential property return would be $1,670,000 for the same time period – an economic loss to the community of $1,110,000 just during construction, plus 30 years of continued loss.* ***The EIS states that the property produces 1.2 million! Either way, Leeton loses!***

Amongst others, the following misinformation:

• Retain some agricultural production value through managed stock grazing during operation. *An emotive observation that will have very little economic value compared to the overall loss of income to the community over 30 years*

• Preserve future agricultural production values, being highly reversible at the end of the project's life. – *An impractical but "feel good" statement that has no value – see my previous comments above.*

I reiterate the following from my pervious submissions:
The downstream flow on losses of employment, machinery sales and service industries to name some:

- 10 plus casual workers,
- The harvest contractors,
- The use of about 4.5 megs of water per ha. totaling 922 megs per annum that must be provided by MI and their employees, the maintenance of the irrigation systems and the bores that the maintenance of, supports local contractors.
- The required professional services of mechanical repairs,
- Agronomy advice
- Chemical sales
- Fertiliser sales
- Population loss, affecting services and the community in general
- Population loss, hence school age pupils, affecting our schools
- Solar farms create heat cells that research has shown can be up to 6 degrees above the area ambient temperature.
    - The solar farm is directly south of the Leeton, and directly west of the Yanco community – our weather systems move west to east and our prevailing winds blow west to east – the settled areas will experience higher temperatures.
    - This rise in temperature will have adverse effects on other intensive agricultural pursuits in the area!
- **ib vogt** disputes the heat cell claim, yet extensive research in Wisconsin and Arizona raises this as a concern.

See below:

Written by Sandra Henderson (Research Editor, Solar Novus Today) **29 November 2016 Extract** ***"Large Solar Power Plants Increase Local Temperatures"***
Link - https://www.solarnovus.com/photovoltaic-heat-island-effect-large-solar-power-plants-increase-local-temperatures_N10518.html
*Contrary to previous studies that predicted solar power installations would decrease temperatures around them by absorbing some of the sun's energy, a study by a team of researchers from the **University of Arizona** and the **University of Madison-Wisconsin** indicates the opposite: Large solar power plants cause a photovoltaic heat island effect.*

- Be aware that as a general rule, agriculture generates six indirect non ag downstream jobs – solar cannot do this!
- All the foregoing affects Leeton's fragile economy.

Why do I use the term fragile? Fragile because of the disastrous Murray Darling Basin fiasco! Have a look at our main street with the empty shops! Yes! The first excuse that is made about this situation is "on line shopping" is ripping the heart out of the town! I do not deny that this is a contributing factor, but the only reason that any rural community exists is that there is a **RURAL POULATION/INDUSTRY** that requires support services. This proposed so called "development" has a great and needless negative impact on our community. The **ib vogt** solar project **decreases** this dependency of support services – see alternative below.

EIS ***6.4.1 Existing environment*** **- Page 130 - Excerpts**

It is important to note that solar farms do not preclude the use of land for agriculture. Some agricultural activity is still possible whilst a solar farm is operating (e.g. grazing). Additionally, the degree of permanent land disturbance in the construction and operation of solar farms is small, and upon decommissioning of the proposal, the development footprint would be rehabilitated to restore land capability to pre-existing agricultural use.

Class 3 land is considered **High Capability Land**: Land that has moderate limitations and is capable of sustaining high-impact land uses, such as cropping with cultivation, using more intensive, readily available and widely accepted management practices.

Class 6 is considered **Low Capability Land**: Land that has very high limitations for high-impact land uses and is restricted to low-impact land uses such as grazing, forestry and nature conservation. **97% of the development site is classified as Class 3 land.**

So why is this "high capability" land being developed for a "low capability" income to the Leeton economy?
See green outline below for alternative Class 6 land sites!

A snapshot of 1950 ha of possible alternative sites that would satisfy all requirements for the community and making the **ib vogt** EIS stated contribution to the Leeton economy a **positive** reality with very little of the current angst. Of course **ib vogt** has to dig deeper into their pockets to make it happen, - **Too bad! - I don't care!**