

Eyre Peninsula's Master Development Project

Making a difference to Australia's economy (for distribution)

11th January 2015

by Mrs Liz Penfold JP GAICD

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Eyre Peninsula in South Australia, is large enough to be a State in its own right and has sufficient potential projects to justify Local, State and Federal governments supporting a Master Development Program. The program would aim to develop as many viable, innovative projects across the region as possible with emphasis on long term job creation and those that are synergistic, for the economic benefit of the Eyre Peninsula, the State and the nation.

http://www.infrastructure.sa.gov.au/_data/assets/pdf_file/0003/5178/2_EYRE_PENINSULA_6-13.pdf

[www.adelaide.edu.au/saces/economy/regionprofiles/Fact sheet RDAWEP Final May2012.pdf](http://www.adelaide.edu.au/saces/economy/regionprofiles/Fact_sheet_RDAWEP_Final_May2012.pdf)

Our existing major industries of agriculture and fishing/aquaculture are well established and viable but subject to weather and exchange rates. The region produces 45% of the State's wheat and 20% of its barley, on average about 2.2 million tonnes worth \$450 million and about 77% of the State's fishing and aquaculture income. With research and development, this production could be significantly increased.

Our mines currently produce: One Steel - 1.1 million tonnes of iron ore, Gypsum Resources - 1.8 million tonnes, Iluka - 340,000 tonnes mineral sands and Cheetham Salt 104,000 tonnes. When prices improve, these tonnages can be increased and there is potential for relatively much larger operations with Iron Road's proposed magnetite production of over 20m tonnes pa and Valence Industries Uley project and Archer Exploration producing significant quantities of graphite. The huge underdeveloped Gawler Craton mineralisation that lies under the region is one of the largest in the world.

http://minerals.statedevelopment.sa.gov.au/geoscience/geology/gawler_craton

However, to reach the real potential of this great region, money needs to be spent on power, water and a new deep water port at Cape Hardy, plus the supporting services.

Our State and Federal leaders combined with local councils co-ordinating their programs and bulking up available funds into one planned, integrated, innovative and environmentally friendly series of projects with economies of scale, but also some that would support many smaller enterprises, would create a showcase for what other relatively isolated regions could do. There would be a huge multiplier effect, with private direct investment in projects and their subsequent investment in housing and the supply of goods and services. The jobs created would be substantial.

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Australian rural communities need to help reduce global warming, overcome isolation and disadvantage and build long term income earning assets - we earn our way now, but could do so much more!

Many of the projects suggested below are marginal in the present economic climate, but it is important to take their future potential into account and the synergies with other projects when considering infrastructure development; projects that could be viable and would stimulate the development of others.

1. Power supply is critical - wind, biodiesel, wave, solar, PV thermal, solar thermal, hot rocks and nuclear power electricity generation are all possible on Eyre Peninsula!

The Federal Clean Energy Council Chief Executive, Kane Thornton, said after the strong global agreement on climate change in Paris on the 13th December 2015 that, "Australia is blessed with some of the best renewable energy resources in the world, and we have a once-in-a-generation opportunity to create the jobs of the 21st Century." The Council funds renewable energy through the Clean Energy Finance Corp. (CEFC) and Eyre Peninsula could be the hub!

<https://www.cleanenergycouncil.org.au/news/2015/December/Paris-climate-renewable-energy-CEFC-future.html>

The South Australian government has just increased the renewable energy target to 50% by 2025 - up from 33%. The balance of the power will be small plants, mainly gas, and imported from other states. Victoria and NSW may restrict the availability of electricity at high use times once they close some of their old and dirty coal power plants. The cost of power to our industries will sky-rocket.

<http://reneweconomy.com.au/2014/south-australia-sets-50-renewable-energy-target-for-2025-2020>

The Leigh Creek coal mine has closed and the last old power station at Port Augusta will close early in 2016, reducing our State generated base load power supply. This has had a very damaging effect on the local communities and people when there is no alternative work. But the infrastructure remains and can be repurposed to take solar, wind, wave, geothermal, biodiesel, even nuclear power generated on Eyre Peninsula and northern areas into the State grid. The proposed new power line direct to Port Lincoln could be diverted along the West Coast to take in the wave and wind sites and provide power for mining sites, aquaculture and tourism ventures.

<http://www.portlincolntimes.com.au/story/2979213/route-chosen-for-power-line/>

Stabilising power can be a problem unless gas, biodiesel, geothermal or nuclear power are in the mix, but batteries are also being developed and Eyre Peninsula has some of the best high grade flake graphite deposits in the world. Graphite is a major component in the lithium-ion battery, one of the most exciting battery technologies so far developed. There is also the Australian flywheel based stabilisation technology for wind and solar generation developed and operating in Australia that may well suit some projects.

<http://reneweconomy.com.au/2015/darwin-made-outback-tested-energy-storage-system-to-be-used-in-remote-africa-88338>

<http://www.valenceindustries.com/activities.php>

(1) Battery Technology

Tesla Motors Inc. are investing US\$5 billion into lithium-ion batteries that use 10 to 20 times more graphite than lithium. Prototype batteries have been developed that are substantially more efficient than those currently commercially available.

<http://www.visualcapitalist.com/the-lithium-ion-megafactories-are-coming-chart/>

<http://www.persistencemarketresearch.com/market-research/graphite-market.asp>

(2) Wind Power

The Federal Government's apparent instruction to the Clean Energy Council to concentrate on offshore wind farms probably demonstrates a concern that more onshore farms would be politically unpopular. In the UK, the many offshore farms are producing electricity at about twice the cost of onshore farms.

I believe that onshore farms would be welcomed on the coast of Eyre Peninsula and the remote West Coast near Elliston has some of the best wind energy potential in the world – it has been rated as 4th or 5th in the world for reliability. This coastal region also has the advantage of a very low population and low traffic numbers and therefore little chance of significant objections to major wind farm developments. Approval was given for a wind farm at Tungketta Hill (cost \$630 million) near Elliston with a grid connection to Wudinna. The cost of the connection was suddenly doubled and the proposal became no longer viable.

This and a series of additional farms could be progressively developed as part of a bigger plan. It could use the diverted 132,000 & 275,000 KV lines north to Port Augusta.

Alternatively, a DC line across the gulfs would be potentially more efficient and result in the minimum loss and could be especially viable with other wind farms on the coasts of Eyre Peninsula and Yoke Peninsula and using the large – up to 3MW – generators now available. The larger generator towers available would make this power much more viable than the initial proposal.

This project could commence quickly

<http://www.auskergroup.com.au/energy.html>

<http://www.electranet.com.au/network/current-and-planned-projects/>

(3) Biodiesel

The Ausker Group have already put millions of dollars into the Muradel algae biodiesel project at Whyalla. This process could use human waste from waste water treatment plants or even stockpiled solids and turn it into renewable green crude oil rather than fertiliser. Developing this process would have massive value if the waste replaces fossil fuels. Further, imagine the benefits to societies, particularly the health benefits, if human waste became valuable and was disposed of properly across developed countries plus India, China and Africa.

<http://www.muradel.com/news.asp>

(4) Wave energy

The Wave Rider wave energy conversion systems are designed to supply electricity and desalinated water for remote communities. They have trialled a prototype at Elliston, however a commercial size unit failed, as often occurs with new technology. With further research, a viable design should be able to be developed and survive the severe southern Eyre Peninsula coastal conditions. If so, it should be able to provide reasonably reliable renewable energy to remote coastal communities all around the world. The company is based in Adelaide.

<http://www.waveriderenergy.com.au/News.html>

(5) Solar - Thermal

Whyalla Solar Oasis Consortium was awarded a \$60m grant under the Renewable Energy Development Program to deliver a commercial scale solar thermal power plant using a dish design developed by the Australian National University. This funding was withdrawn due to the Consortium not fulfilling certain conditions. Another application is possible. The University of SA has a campus located at Whyalla and could provide the research support. With the reduction in production of steel and low prices of iron ore, Whyalla is facing significant job losses, so the jobs are badly needed.

<http://www.eyreregion.com.au/doing-business/major-projects/whyalla-solar-thermal-concentration-plant>

A feasibility study for a Concentrated Solar Power (CSP) for Port Augusta was jointly funded by ARENA, Alinta (the company soon to close its last coal fuelled generator) and the South Australian Government. I understand a proposal to develop a CSP is under consideration at the moment.

<http://reneweconomy.com.au/2015/lets-get-on-with-solar-thermal-at-port-augusta-19142>

(6) Solar - Food Production

Sundrop farms near Port Augusta are already viably using the sun to power their greenhouse truss tomatoes and are extending their operation to 20ha of greenhouses. The example this company has set may be able to be expanded and replicated producing other foods, creating a synergistic industry with many producers of high quality vegetables and perhaps flowers. Kohlberg Kravis Roberts (KKR), the massive investment firm, has invested in this project and the SA Government has provided a \$6m grant.

<https://www.youtube.com/user/SundropFarmsTV>

(7) Hot Rock Technology

Although substantial funds have been invested in hot rock geothermal in Innamincka and other sites, it has not proven to be viable to date. It has future potential, as electricity can be generated with temperatures as low as 100 degrees Centigrade and "a resource shallower than five kilometres and hotter than 150 degrees Centigrade could supply Australia's total energy requirements for 26,000 years (based on 2004-15 figures)".

<http://www.ga.gov.au/scientific-topics/energy/resources/geothermal-energy-resources>

(8) Nuclear

The proposed expansion of the Olympic Dam Uranium, copper and gold mine at Roxby Downs north of Eyre Peninsula is now on hold! Undertaking the massive mining operation requires solutions to the costs involved and price increases for the minerals to be extracted. Olympic Dam mine is the largest uranium resource in Australia and is the biggest exporter.

<http://www.australianmining.com.au/news/olympic-dam-expansion-too-much-of-a-challenge-for>

The Labor State Government Royal Commission is investigating a location for a nuclear waste repository and the potential for a nuclear industry in the State with tentative findings due to be released in Feb 2016. This could mean processing 'yellowcake' into a higher value product, reprocessing used fuel rods, or at least storage of nuclear waste.

The attitudes of the public and both State and Federal, Labor and Liberal parties have changed a lot in the last few years. I and many others believe we should at the very least take the waste back from the uranium we have exported from Olympic Dam and the nearby mothballed Honeymoon mine.

<http://www.smh.com.au/business/rosatom-sells-honeymoon-uranium-mine-in-south-australia-20150901-gjci9k.html>

Six sites have been recently chosen to hold low and medium level waste, three of them on or near Eyre Peninsula. With a suitable site for high, medium and low level storage, waste from overseas could also be stored if laws are changed and the very long term costs are suitably recompensed. The Federal Government is offering up to \$10 million as an incentive. The local Liberal Member for the region in the seat of Grey, Rowan Ramsey, has offered his farm at Kimba as a potential site. Leigh Creek north of Eyre Peninsula could be suitable. Although several nuclear generators in Japan, Germany and the US in particular are being shut down as they either became uneconomic or have completed their 40 year approved life, many more are being built, mainly in China, but also in other countries. About 400 reactors are operating worldwide at present and China is planning to add another third more to their nuclear capacity. As a result, there is a very substantial amount of waste needing storage. The UK is planning one of the world's largest new nuclear power plants and planning others to provide base-load electricity, even though to make it economic, the guaranteed price of energy generated is higher than onshore wind-power. **Thorium**, which is found locally, as is uranium, has future potential, but has considerable technical problems that need to be solved before it could be considered.

<http://www.smh.com.au/federal-politics/political-news/six-sites-shortlisted-for-australias-first-permanent-nuclear-waste-dump-revealed-20151112-gkx8mo.html>

<http://www.ga.gov.au/scientific-topics/energy/resources/uranium-thorium/uranium-resources>

http://www.epa.sa.gov.au/environmental_info/radiation/mining_and_mineral_processing/mineral_sands

South Australia's Royal Commission is expected to provide a full report on the potential of nuclear waste next year. With a good report and a supportive Coalition, Federal Government and Labor State Government projects could be implemented and make a massive difference to the State's finances and future.

<http://www.abc.net.au/news/2015-11-13/sa-govt-consider-nuclear-waste-proposal-royal-commission/6937530>

(9) Manufacturing

Almost all of the projects require substantial materials supply and processing. This should be done locally where viable. Wind turbines and wave generators, for instance, could be constructed using Whyalla's fabrication facilities. Money should be available for retraining if needed. If South Australia is going to introduce many more wind farms, with this factory it may be possible to lure a Victorian manufacturer to Whyalla. However now there has been a change in policy they may be content to stay where they are.

<http://www.smh.com.au/national/countrys-largest-wind-turbine-maker-sacks-24-workers-20120606-1zwp6.html>

2. Water Supply

SA Water Corporation has now tapped the last large freshwater underground basin on southern Eyre Peninsula, the Coffin Bay lens.

https://www.waterconnect.sa.gov.au/Content/Publications/DEWNR/Southern_Basins_PWA_CB-A_lens_GSR_2014.pdf

One of its recent reports I recall has also admitted that the basins south of Port Lincoln that we currently rely on are over pumped and are drawing seawater in, as I stated was happening in a parliamentary speech some years ago.

(1) Water Desalination

A desalination plant was promised by the State Labor Government in August 2002. Several sites have been researched by SA Water, but no action has been taken.

If the Roxby Downs mine proceeds, desalinated seawater using wind or wave power near Elliston has been proposed as a much better alternative to an environmentally unsound Whyalla plant located in the inverse estuary of Spencer Gulf. This could also be designed to supply Eyre Peninsula.

<http://www.abc.net.au/news/2009-03-27/support-builds-for-west-coast-desal-plant/1632416>

Another alternative that should be considered is Poldia, where there is apparently a large saline water basin under what was the freshwater basin that could possibly be used if it is significantly less salty than seawater. Any recharge of freshwater could shandy the desalinated water to add the necessary minerals before putting it into the pipeline which services the Peninsula. Using the nearby wind energy, this saline basin could be big enough to desalinate water at the pumping station site, saving considerable funds. An evaporation pond would be needed.

<http://www.lizpenfold.com/media-pdfs/EP-Water-Inquiry-27th-March-2012.pdf>

<http://www.users.centralonline.com.au/epwater/elliston.htm>

https://www.waterconnect.sa.gov.au/Content/Publications/DEWNR/Musgrave_PWA_Status_Report_2011.pdf

The spillage of excess wind energy that cannot be put into the grid from the existing wind farm at Cathedral Rocks could be used to desalinate nearby seawater, enabling it to be used in the existing pumping station immediately. Similarly, additional shore based wind farms could supply additional spillage, which could also be used to desalinate the seawater. The wind farm spillage is normally wasted and should be very cheap.

<http://www.johnholland.com.au/our-projects/cathedral-rocks-wind-farm/>

Another proposal uses a salt technology for power, and with reverse osmosis desalination the salt can be used by the existing salt mine business.

http://www.ceduna.sa.gov.au/webdata/resources/files/F-Cubed_Desalination_June_2011.pdf

Small desalination systems at strategic points on Eyre Peninsula's over 1,000km coastline may be more economic than renewing pipelines and pumping. Good quality water would prevent the hidden cost to the communities of replacing hundreds of kilometres of stock pipes clogged with hard sediments and damaged electrical equipment, heaters, water softeners, electric jugs etc.

The State Government has expended considerable funds determining a coastal site for desalination. Given the considerable time to go through the planning processes, work must commence on this project well before the Coffin Bay lens follows the disastrous path of the other freshwater lenses.

3. Port, Rail, Minerals & Oil/Gas

(1) Cape Hardy Port Facility

A modern deep water port at Cape Hardy where the land is now owned by Iron Road and approvals are being gained for the railway corridor from their mine site. A connecting railway would be a major factor in encouraging the investment in major mining operations on Eyre Peninsula once mineral prices are viable again. There are many undeveloped or under developed mineral deposits scattered through the 440,000 sq km Gawler Craton such as iron ore (Iron Road). In addition, there are other deposits outside the Gawler Craton area such as the Iluka mineral sands deposit north of Ceduna, gypsum & kaolin plus uranium, thorium, zinc, tin, granite, marble, talc, jade and possible gold and diamonds that would benefit from good infrastructure.

<http://www.ironroadlimited.com.au/central-eyre-iron-project/infrastructure-cape-hardy>

<http://www.ga.gov.au/data-pubs/data-and-publications-search/publications/aimr/mineral-sands>

http://minerals.statedevelopment.sa.gov.au/geoscience/geology/gawler_craton

<https://www.sa.gov.au/topics/housing-property-and-land/building-and-development/building-and-development-applications/major-development-applications-and-assessments/proposals-currently-being-assessed/cape-hardy-deep-sea-port>

(2) Wallaroo to Lucky Bay Wharf and Ferry

A barge system from Lucky Bay ferry wharf to load large cargo vessels in the Gulf with minerals and grain would help provide a viable outlet for these products, at least until the Cape Hardy Port facilities are built. This ferry has I understand recently begun operation

again after a break when a replacement ferry was built. The ferry considerably reduces the costs of road maintenance, vehicle fuel and the time taken to travel up to Whyalla and down the other side and return. This long road trip increases significantly the road traffic accidents, freight costs and access to Adelaide. The operators deserve to have the full support of the District Council of the Copper Coast and both State and Federal Governments, as this is a very valuable addition to Eyre Peninsula's infrastructure with massive benefits for the people living in the region and its tourist potential.

<http://www.seasa.com.au/>

(3) Rail Upgrades

If the shallow Thevenard Port proves to be a limitation to production in the future, the existing rail line from north of Ceduna to Wudinna could be upgraded to export bulk minerals and grain from Cape Hardy - gypsum (3 million tonnes), mineral sands (300,000 tonnes of zircon from Iluka Resources Jacinta /Ambrosia mine), salt (unknown) and grain (300,000 tonnes) that are currently being exported from Thevenard. This could be viable when sea-freight costs are normalised and larger vessels are sufficiently more efficient (there is a glut of bulk freight vessels at present).

<http://www.eyreregion.com.au/doing-business/major-projects/port-of-thevenard>

(4) Iron ore

The iron ore province west of Whyalla is a well established iron ore mining region, but production is limited by low prices.

Iron Road Ltd has undertaken almost all the preliminary work and received most approvals to operate a relatively low cost mine in central Eyre Peninsula designed to produce 21m tonnes of high quality magnetite ore annually for 26 years, with potential for additional tonnages being located. Present very low ore prices means the project is unlikely to proceed until demand and supply are better matched. Iron Road owns the land at Cape Hardy and is working on approval for a rail line from its Central Eyre site near Wudinna to Cape Hardy. A Chinese consortium has entered into a non-binding agreement with Iron Road in relation to the \$4 billion project.

<http://www.ironroadlimited.com.au/central-eyre-iron-project>

(5) Gypsum

The Gypsum deposit west of Ceduna at Lake Macdonald has been mined for many years and is the largest deposit and largest mine in Australia. This gypsum is used mainly for plasterboard, while the Cummins gypsum is mainly used for agricultural purposes. There is also a large deposit near Streaky Bay. Loads are limited by the depth of the port at Thevenard, which restricts transport to smaller vessels. Cape Hardy or barge from Lucky Bay are options for the Cummins and Streaky Bay deposits.

http://minerals.statedevelopment.sa.gov.au/geoscience/mineral_commodities/gypsum

(6) Kaolin

The 16.3m tonnes of 'bright white' kaolin clay deposit near Streaky Bay may also viable be if delivered to bulk freight port at Cape Hardy or barged to vessel at Lucky Bay.

http://www.minotaurexploration.com.au/sites/default/files/documents/Carey'sWellKaolinBrochure2web_may13.pdf

(7) Zircon

Iluka Resources' Jacinta/Ambrosia mine produces 300,000 tones of zircon, but there are other large quantities of heavy mineral sands in what was once a very long beach now located inland from Ceduna, with several more leases also owned by Iluka.

http://www.australianminesatlas.gov.au/aimr/commodity/mineral_sands.html

(8) Oil and gas

There is also the prospect of massive oil and gas deposits in the Great Australian Bight. The leases held by BP/Statoil, Chevron & Bight Petroleum are currently being explored by these companies and BP/Statoil are intending to commence drilling in 2016. If the drilling is successful, the benefits to Eyre Peninsula should be substantial. It could be the stimulus to convert Ceduna/Thevenard into a significant service port. There is potential of the deep water port further down the coast from Streaky Bay.

<http://www.bpgabproject.com.au/go/doc/5771/2243598/>
<http://www.bightpetroleum.com>

4. Farming, Fishing and Aquaculture Science and Innovation

<http://www.eyreregion.com.au/doing-business/the-economy>

(1) The Minnipa dry land research station is a wonderful and much under-utilised resource for southern Australia. Additional funding could produce significant benefits for adapting to climate change, increasing production of grains and developing improved varieties. Eyre Peninsula produces most of the State's grain on low and variable rainfall and thin soils. Years ago we very successfully sent our farmers to Libya to show them what we do. I have had interest from China to investigate what they can do to stop and reverse the creeping desertification of their dry areas. The Station could be a major training facility to teach farming techniques to foreign students and be involved with the research.

<http://www.grdc.com.au/Media-Centre/Hot-Topics>

(2) The Lincoln Marine Science Centre (LMSC)

Eyre Peninsula has over 1,000 kilometres of coastline, the largest natural harbour in Australia and 10 of the State's 19 marine parks. The LMSC was built as a centre of excellence for temperate marine science in the Southern Hemisphere – it would be the only one! Hobart has a highly successful cold water marine science facility which attracts people from the mainland and overseas. The LMSC should be funded as a standalone centre for temperate marine research and generate income from summer schools for students from the northern hemisphere during their cold winters to learn temperate marine science, boat operation and English. There are many people who would be potential users, with academics, students and often their families coming to our beautiful, safe region and its world class environment with its fishing and aquaculture industries. The University of Tasmania purchased the Ceduna telecoms dish for its astronomical studies; perhaps they would be interested in the LMSC to complement their marine studies. It has now been transferred to the State Government of South Australia from the Flinders University to be used by PIRSA.

http://www.misa.net.au/about_us

(3) Training, Research & Economic Development

Marine - The 10 marine parks and the range of fishing and aquaculture undertaken in the adjoining seas would provide an excellent basis for marine research. One area of research besides the effect of global warming on our two shallow gulfs that could prove to be a new industry is seaweed production. There is existing local research into farmed bluefin tuna, greenlip abalone aquaculture, native oysters, whiting in Coffin Bay, molluscs being investigated as a cancer cure and farmed kingfish which could be expanded. A fish unloading facility at Thevenard would have considerable economic advantages for an industry suffering from the impact of the numerous marine parks created in the area.

Farming - Value adding our malting barley for a local beer and for malting before export and the reintroduction of milk production from cows and possibly, sheep and goats could be investigated. The export of live disease free camels and meat from camels, goats, sheep and cattle could be expanded.

<http://www.publish.csiro.au/paper/MF9860039.htm>

http://link.springer.com/chapter/10.1007/978-94-007-7019-5_9

<http://asbtia.com.au/>

<http://www.cleanseas.com.au/main/kingfish.html>

<http://southseasabalone.com.au/news.html>

<http://www.abc.net.au/local/photos/2015/02/11/4178179.htm>

<http://www.abc.net.au/news/2014-06-14/high-export-hopes-for-forgotten-native-angasi-oyster/5520672>

In addition to the Port Lincoln Marine Science Centre and the Minnipa Research facility, training can also be undertaken at the TAFE Colleges, which are underutilised. The private fishing industry training college could also be much more active and train people from outside the region, including overseas students who can learn English and gain certificates.

<http://www.eyreregion.com.au/life-here/services/education-and-training>

Flight Training - Port Lincoln Airport has many advantages for training pilots from Australia and overseas. A major advantage of training in Australia is that the pilots can also be trained in the use of English, the lingua franca of the airline industry. The airport has a relatively low use, the area nearby is flat and has a low population; there is ample space for parking aircraft and training facilities, plus accommodation and not too many distractions in the city. A training school several years ago assessed Port Lincoln for training local and overseas students, however was lured elsewhere. An Air Show is planned for October 18th this year in Port Lincoln. A local firm has started student training in Port Lincoln as a remote facility.

<http://www.portlincolntimes.com.au/story/2963460/fortnightly-pilot-training-in-port-lincoln/>

The potential for overseas students and researchers to come to enjoy our clean and safe environment on Eyre Peninsula is huge.

5. Tourism

<http://www.ceduna.sa.gov.au/page.aspx?u=530>
<http://portlincoln.yourvisitorguide.com.au/#folio=1>
<http://whyalla.yourvisitorguide.com.au/#folio=1>

(1) Grey Nomads, international and family tourists

Eyre Peninsula is one of the most visited regions in Australia. It has the Highway 1 between the Eastern states and Western Australia across the top and major highways around the coast and through the middle.

http://tourism.sa.gov.au/assets/documents/Eyre_Peninsula_factsheet_18Aug2015.pdf

(2) National Parks

In addition to the 10 marine parks, Eyre Peninsula has 100 different National Parks totalling 9.6 million hectares spread over the Peninsula with varying degrees of accessibility and which allow a range of activities. A major attraction is the over 1,000 kilometres of coastline with hundreds of beautiful white sandy largely empty beaches, many of which are accessible for boating and fishing.

Unique Flora, Fauna - The prehistoric threatened species, dinosaur ant, is to be found at Poochera.

Swim with the white pointer sharks off Port Lincoln or seals and sea lions there and elsewhere in the region.

The Port Lincoln purple flowered mallee tree and Port Lincoln parrots plus kangaroos, wallabies and emus are all to be found on the Eyre Peninsula.

If we factored into an Eyre Peninsula plan the potential for attracting more people to enjoy our long coastline and national parks, we could help generate jobs for our children and funds to support our rapidly aging population in their retirement.

<http://www.naturalresources.sa.gov.au/eyrepeninsula/parks/our-parks>

(3) Fishing

Fishing is good on the Eyre Peninsula with very high recreational boat ownership in the region. Tourists love to come and fish here from boats off the beach, off the jetties and off the rocks, and also to eat our fresh seafood products from our pristine waters.

The Port Lincoln harbour fishing fleet is a major attraction. The harbour is much bigger than Sydney Harbour and is the base for the largest fishing fleet in Australia. The fleet catches tuna, rock lobster, pilchards, abalone and prawns in very well managed fisheries. The tuna, kingfish and abalone are farmed on land. Ideally, these should all be available to visit on tours.

There is a range of hotel, motel and private accommodation available. The city could accommodate many more people throughout the year and not just for the Tunarama Festival and similar events. There are already many small towns that double and triple in population during the summer holidays that could have many more permanent residents.

(4) Yachting

The Boston Bay harbour is the largest deep water harbour in Australia, bigger than Sydney Harbour, and has a large commercial and recreational marina.

The Adelaide to Port Lincoln yacht race and Lincoln Week Regatta attract participants from around the world.

<http://www.lincolnweek.com.au/>

<http://www.saringroup.com.au/property/berths/>

(5) Horse Races

In the 12 months to 16 March this year there were 14 days of racing. These races attract both local, intra and inter state people. Ideally, the number of races should be increased to maximise the number of horses trained in the area and visitors filling our accommodation. The Port Lincoln Cup held in March at the very beautiful Port Lincoln racecourse is the highlight of the year.

<http://www.plrc.com.au/>

(6) The Hard Rock Trail and Gawler Ranges Tours

We have the oldest known granite rock on the planet (2,600 years) exposed at Cape Carnot at Whalers Way on the southern Eyre Peninsula. The trail has never been implemented, but could bring people from around the world to see what we have here on the Eyre Peninsula. There are aboriginal ochres of all colours with spear heads in the Gawler Ranges and huge salt lakes – one used to break the land speed record years ago – the organ pipes rock formation, massive underground limestone cave formations with underground lake, and much more.

<http://www.lizpenfold.com/speeches-pdfs/Reports-hard-rock-trail.pdf>

<http://www.gawlerrangessafaris.com/>

(7) Cruise Ships & Naval vessels

The potential for cruise ships to visit Port Lincoln is only just being tapped and needs to be encouraged. The opportunity for naval vessels and submarines to come here on their way between Fremantle and Adelaide to take a break in a new location could also be further investigated. Some years ago when I inquired they said they would look at it as a possibility. As we all pay for the defence forces it seemed to me that the money spent could be spent a little wider to help the economies of regions like ours.

<https://www.pocruises.com.au/destinations/australia/australia/port-lincoln>

<http://www.flindersports.com.au/shipping-cruise/cruise-liner-schedule/>

(8) Museums

Port Lincoln's Axel Stenross Maritime, Railway, RSL and the Mill Cottage local history museums are excellent value. The Koppio Smithy and the fascinating Tod River Reservoir & Museum which houses the history of the reservoir and of the pipeline from the reservoir to Ceduna, one of Australia's longest gravity fed pipelines ever built are barely know. There are also excellent local museums in almost every town in the region.

<http://www.sharkcagediving.com.au/>

<http://adventurebaycharters.com.au/marine-adventure-tours/cage-diving-with-great-white-sharks/>

<http://theconversation.com/australian-endangered-species-dinosaur-ant-21603>

6. The Aged and Health Care Industry:

This industry is one of the Eyre Peninsula's towns major employers. The aged care demand will increase and has the potential to bring hundreds of people to small coastal towns such as Tumby Bay, which is safe, flat, has a great hospital and is in close proximity to the major airport to Adelaide and to the Port Lincoln level four regional hospital. Port Lincoln also could expand its retirement accommodation and nursing homes. The two existing nursing homes are now old fashioned and need to be replaced by one modern home as part of a retirement village. A beautiful location would be surrounding historic Boston House. People

would be attracted to our mild climate, fresh air, safe environment, friendly people, and services from around the State, Australia and overseas. Medical specialists should be encouraged to live in Port Lincoln.

<http://www.portlincolntimes.com.au/story/3132945/ageing-population-to-leave-big-gaps/>

8. The National Broadband Network (NBN)

NBN coverage is in early stages for Eyre Peninsula. Satellite coverage may be available later this year and fixed wireless is available in limited areas. Fibre to the Node should be available by 2020 at the latest.

<http://www.portlincolntimes.com.au/story/3101940/satellite-to-benefit-eyre-peninsula/>

Fibre to the Node, Fixed Wireless or Satellite connection for everyone is a necessity in this remote, sparsely settled region that relies on technology for its government, business and volunteer services communication. This region has more than 80 education sites, 11 hospitals, 11 councils plus a huge out of council area. There are thousands of kilometres of local roads, Highway 1, the alternate Highway 1 plus the local narrow gauge and the across Australia and north railways. The whole region relies on volunteers for the ambulance, emergency and fire services in all but the towns of Port Lincoln and Whyalla. Many areas are getting an NBN service before Eyre Peninsula although they already have much better services. If possible this should be corrected and its introduction hastened, as accidents happen every day that would have better outcomes with better communication.

9. Road, Sea and Air Infrastructure

(1) Glendambo to Wirrulla

This 300 kilometre dirt road could be an important link between Glendambo on the Stuart Highway and the Northern Territory, and Wirrulla on Highway 1 and Western Australia. If upgraded or preferably sealed it would significantly reduce travel time between Eyre Peninsula, Western Australia and the Northern Territory for trucks and tourism opportunities.

<http://www.lizpenfold.com/speeches-pdfs/s09-road-nov09.pdf>

(2) Olympic Dam Mine

Olympic Dam needs a port with a rail connection and water. Both could be supplied with a port at Cape Hardy linked by rail and a reverse osmosis desalination plant at Elliston or Ceduna. Neither should be allowed at the top of the Spencer Gulf, which is an inverse estuary, unique in the world, and where neap tides and occasional drought tide actually still the water. Any contamination would mean the death of the sea at the top end which currently has unique cuttlefish, seahorses, sea grasses and excellent fishing, prawn and tourism industries.

<http://www.issuesmagazine.com.au/article/issue-december-2011/who-will-protect-cuttlefish-bhp-billiton-and-other-polluters.html>

(3) Highway 1, Alternate Route 1: Port Augusta - Port Lincoln - Ceduna

Highway 1 and the Alternate Route following the Eyre Peninsula coast need many more rest sites that are wide enough for two trucks (or a van) to pass one another (so that B-Doubles do not have to back onto the highway) and toilet facilities for the grey nomads, truckies and other travellers. They also badly need passing lanes in strategic areas. Very few good pull offs and almost no passing lanes exist on these roads. Truck drivers must legally stop driving and park after a certain driving time, but to do this they need safe pull off sites with basic facilities. Millions of dollars have been spent putting steel guard rails along many relatively low risk road edges, providing little scope for vehicles to pull over in an emergency. This money would be much better spent providing pull off sites and passing lanes.

(4) Port Lincoln City - Access

A major expenditure that will have to be planned and implementation commenced is the progressively more crowded Lincoln Highway into Port Lincoln city. Heavy transport (B Doubles & B Triples) arriving from the north or leaving going north from Port Lincoln have only one route – the Lincoln Highway. They must travel through the centre of the city to and from the silos and other destinations during the holiday season when there is considerable pedestrian and car traffic in December and January plus at various times of the year. There is no apparent forward planning or further consideration for bringing heavy transport from just south of North Shields over the hills and into Port Lincoln from the west, which would now be difficult because of the considerable housing developments that have occurred.

<http://www.portlincolntimes.com.au/story/1871948/bypass/>

If the Cape Hardy port was built, when the existing silos come to their use-by dates, replacements could be built at Cape Hardy and be serviced by road and an extension of the railway from Ungarra. In Bunbury, Western Australia, they have turned their silos into high rise apartments overlooking their harbour. What a fantastic view from ours and what a boost to our local economy and the tourist industry! The councils and government have never worked together to develop a bypass route to prevent the increasing traffic and consequent congestion and danger. It is a disaster waiting to happen and we shouldn't be waiting for that disaster, as so often happens, before taking urgent action!

(5) Air transport

Flying from Port Lincoln, Ceduna and Whyalla to Adelaide is generally more expensive than going from Adelaide to Melbourne, and there are very few cheaper flights available despite Adelaide being the capital city and hub for our educational, health, sporting and cultural activities. The cost Port Lincoln to Adelaide can vary up to \$420 per person one way. This massive cost reduces significantly the opportunities for the people living on Eyre Peninsula and as a matter of equity for our region should be addressed with travel subsidies or better

services being provided. We do not see the cultural events that often get as far as Whyalla or Mount Gambier. This year the Adelaide Symphony Orchestra went to Whyalla, but Port Lincoln was too far.

(6) Medical Transport

The medical transfers or retrievals have to be paid for per person by the local hospitals or patients themselves. Closer to Adelaide the air ambulance is free, but the Royal Flying Doctor Service has to be used by the people on Eyre Peninsula. Much of the money even for the aeroplanes and their operation is raised in the regions.

The Patient Assisted Transport Scheme (PATS) has always been of very limited benefit. Finding information about what is covered and what isn't is not something that I can do and appears to rest with staff. Rules have apparently recently been updated to cover airfares – if the patient is deemed sick enough – otherwise assistance is limited to a vehicle fuel subsidy only and a very generous \$40 per night accommodation, with equivalent cover for escorts only if the patient is hospitalised. However the PATS Information Booklet listed in Google is dated on the very last page (24) in the smallest visible writing as Dec 2014 so is well out of date!

<http://www.countryhealthsa.sa.gov.au/LinkClick.aspx?fileticket=jRzR71%2Fd%2BvE%3D&tabid=678>

The cost to families of time and money is more than some can pay, so they leave the region and their community support, spend money they often can't afford, or don't get treated. Even with a cancer centre in our level 4 hospital in Port Lincoln, one elderly gentleman currently has to travel from Tumby Bay to Adelaide to have an injection, with his daughter coming from regional Victoria to get him to the appointment and back onto the plane. Parents have to stop work altogether or take days off to get chronically sick children to Adelaide.

Travel by car for medical or hospital treatment should only be required **if** the patient is fit enough and has someone to share the driving. Fourteen hours driving from Port Lincoln and return or much longer from Ceduna for sick, often elderly or young patients plus accommodation isn't a reasonable or even safe option. It should be possible for the government and PATS to negotiate for patients approved for PATS to be charged only the minimum rate on the airlines fee scale. This would increase the passengers and improve the viability of the regional airlines and the trip could be done safely in the same day with no accommodation requirements and significantly reduced trauma to the patient and families.

There are currently no linking flights between the major centres of Ceduna, Whyalla and Port Lincoln to take patients to services available at these sites but not available locally.

10. Money

(1) Federal

The source of funding will vary according to use.

From normal departmental operating budgets plus:

1. Clean Energy Finance Corporation

2. Australia's Future Fund was set up to fund the unfunded Commonwealth superannuation liabilities and is now holding \$117 billion dollars.

<http://www.theaustralian.com.au/business/economics/future-fund-swells-to-117-billion/news->

3. Building Australia Fund is there to fund transport, communication, energy, water and national broadband matters.

4. Education Investment Fund to fund research.

5. Health and Hospital Fund to fund infrastructure.

6. Australia's superannuation funds

(2) State

Funds from normal departmental operating budgets plus:

- 1. The Community Emergency Services Fund:** The balance in this Fund is very difficult to find, but the 'contribution from the Community Emergency Services Fund' is \$14,794,000 in one place, then is \$15,705,000 then \$14,918,000 in another as 'Payments to the SA Government'. I am not sure exactly what has been paid to the government and I still can't find what is remaining in the Fund!!!

https://www.audit.sa.gov.au/Portals/0/Documents/Audit%20Reports/2014-15/Financial%20Reports/Financial_report_2015_South_Australian_State_Emergency_Service.pdf

- 2. Ambulance services and CFS** are manned by volunteers except in Whyalla and Port Lincoln and one person in Ceduna! Significant funds are raised from this region for the plane replacements and operating costs by the Royal Flying Doctor Retrieval Service, however it still charges per however the helicopter service is provided free within range of Adelaide.
- 3. Boating facilities fund:** I can find no financial statements in the DPTI annual returns let alone anything that shows what is in this fund or being taken from it, but it must be in the multi-millions by now unless it is being put into general revenue or paying for things it was not meant to pay for!

http://www.dpti.sa.gov.au/data/assets/pdf_file/0019/154270/DPTI_Annual_report_2013-2014_060115.pdf

I cannot find a 2015 annual report for this fund.

The region has one of the highest recreational boat ownerships in Australia per capita, but the recreational boating facilities fund does not appear to return funds to the region. Boston Bay harbour is one of the biggest in Australia and has the largest fishing fleet in Australia, plus a deep water port catering for ships from around the world taking out grain and bringing in fertiliser and fuel. But what funds are collected and what are being spent here from the funds raised here or from Thevenard, which takes out an even greater tonnage of produce than Port Lincoln, including grain, gypsum, salt, mineral sands and other commodities. It is time that some of these funds are spent where they are taxed!

(3) Federal, State and Local Government Road Funding

Electranet Reinforcement Project on Eyre Peninsula \$700,000

<https://www.aer.gov.au/system/files/Appendix%20Q%20-%20Proposed%20Contingent%20Projects.pdf>

When a reliable supply of power is available the three standby back up diesel generators at the Port Lincoln substation costing millions every year could be decommissioned and the funds redirected to providing the long term sustainable solutions needed.

(4) Private Funding

1. Direct investment, similar to the approximately \$150m invested in the Sundrop Farms greenhouse project.
2. One major source of funding for infrastructure would be to set up special funds to finance a variety of income generating infrastructure and for large and small superannuation funds to be allowed to invest in these investment bodies. This should able the superannuation funds to generate a return similar to the Future Fund, providing substantial benefits to the investors and the infrastructure to the communities.

(5) Crowd Funding

I understand that Australian law is currently being changed to enable crowd funding to be properly managed in Australia. However if \$12 million can be raised from crowd funding for an innovative Australian designed bee hive then surely it could be used to help fund infrastructure on Eyre Peninsula. Port Lincoln is reputed to have the most millionaires per capita of any other city in Australia. Some of these fishing and farming millionaires would I believe be willing to invest in local projects that would help to secure the local economy for future generations of their family and the communities on Eyre Peninsula.

Conclusion

Eyre Peninsula Master Project

This environmentally friendly planned and staged development concept, with clear support from governments will attract business and satellite development. People will want to be involved and it will provide an ongoing economic boost to the economy with long term jobs and infrastructure in a remote regional area. It could be an example to other regions across Australia and the world!

When money is in short supply it should be put only into income generating assets in Australia that will provide long term jobs. The economic situation worldwide is fragile with massive increases in debt. Governments should concentrate any assistance and infrastructure where it can very quickly provide a long term economic benefit. Projects should pay for themselves. Currently money is being dissipated, frittered away on non income earning expenditure such as make-work road extensions in cities. Superannuation funds are being invested overseas for the benefit of other countries.

Power, water, mineral, infrastructure and tourism projects could draw together public and private money in one place at one time to create worthwhile projects that will provide big long term economic boosts to the region and the State. I know these projects will not happen overnight, but we must have an overall integrated master project for the Eyre Peninsula to enable it to fulfil its potential. If we don't, these things will eventually happen, but not as quickly or in such an efficient and integrated way as they could and should.

A big major project such as a series of wind generators along the southern coast would give efficiencies and economies of scale, providing the viability that would attract the support of the large funders and be given government major project status.

Our political leaders need to be focused and determined to achieve results and inspire others who have to solve similar problems without our advantages.

Note: Eyre Peninsula bound by Ceduna, Whyalla and Port Lincoln is approximately 170,500 square kilometres, however the areas to the north of it impacts significantly on this area and I have taken them into account as I prepared this document.

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