IN-CONFIDENCE REPORT – 16 JANUARY 2013 COUNCIL MEETING

Item No	**21.7**
Report Title	**Island Energy Initiatives Update**
Council Meeting Date	16 January 2013
Author	Andrew Boardman
Title	Chief Executive Officer
Attachments	RDAF Rnd 4 EOI Application Overview – Energy Opportunities
File Ref - Records	
Hours to compile	150.0 (to date estimate)
Strategic Plan Reference	1.1 – Work to achieve ongoing financial sustainability through additional funding sources 1.26 – Council will work to facilitate alternative power generation and distribution on Kangaroo Island and ensure that planning Policies encourage alternative energy use.
Purpose	Update on Island Energy; Big Wind and other initiatives currently in hand.
Executive Summary	To create baseline of knowledge within Council over activities associated with Island Energy, Big Wind and other initiatives. It is suggested that the working group now include all members of Council for strategic planning purposes and that the working party maintain a focus on the technical implications of the initiatives.
Recommendation 1	That this report is received for information
Recommendation 2	That Council ratifies the recommendation of the Chief Executive Officer to proceed with the purchase and commissioning of the Wind Monitoring Station in conjunction with funding from the RDA Adelaide Hills, Fleurieu and Kangaroo Island.
Recommendation 3	That Council ratifies the recommendation of the Chief Executive Officer to proceed with public marketing of a Bulk Energy Purchase Scheme to the Community as an activity of a cost / revenue centre called "*Kangaroo Island Energy*" in conjunction with staff from the RDA Adelaide Hills, Fleurieu and Kangaroo Island.
Recommendation 4	That Council ratifies the recommendation of the Chief Executive Officer to proceed with formal evaluation of economic and social benefits associated with Behind the Meter Solar Photovoltaic (PV) Solutions.
Recommendation 5	That Council approves: a. That all documentation relating to the above matter be kept confidential, pursuant to Section 91 (7) (b) of the said Act. b. Further, that pursuant to Section 91 (9) (a) of the said Act, that part "a" of this resolution shall cease from 30 June 2013.

Discussion

There are a number of items to comment on within this report:

1) Big Wind
At this time focus around Big Wind has been somewhat minimised by a combination of circumstances –

- the failure of the RDAF application on a technicality;
- uncertainty around the State-wide Wind farm Development Plan Amendments (which will now make any Development in the proposed locations a Cat 3 application);
- the need to establish whether other technologies in this location would be more suitable / show better returns (Bioenergy Study);
- the lack of direct assessment and feedback from Affinity Investments around the required co-funding;
- the lack of clear understanding of cost / specification and detail around the SA Power Networks requirements for augmentation (which are a significant cost);
- the concern over the fact that our constraint in mainland supply means that we really need true base-load supply guarantees if the Community are to start expanding power demands.
- the concern that radial network constraints means that whilst the Island would have more power it would still really only be accessible to those areas that are not constrained by the radial distribution network (principally the townships and some of the rural areas)
- the lack of knowledge around the capacity or otherwise of the Island Distribution system.

This, combined with other workloads has simply meant that the project has stalled at this point in time.

We have had some conversations around alternative uses of the wind power – linked to pumped storage etc to create true base-load – however it is likely that these projects will simply be too costly in the first instance although there is a possibility that we could look at this in conjunction with the CWMS project and see if we could use the CWMS treated water lagoon as one of the potential storage lagoons to mitigate cost. The additional revenue / cost deferral from local power generation being used in the CWMS project would also assist with mitigating the long-term costs of this project as well.

It is suggested that Big Wind as a project is held in abeyance until the outcomes of some other key pieces of work are clear and then it may be that we can look at the project again with a fresh and whole of Island perspective.

Wind Monitoring Funding
In the June 2012 meeting we highlighted the possibility of getting access to the residual funds from the RDA Energy Project ($30,000) and combining with some of our own funding to install some wind monitoring equipment. The RDA have confirmed with their funding provider (DMITRE / Clean Tech) that this is possible and we have a provision of $26,000 in our Capital budget to match this and fund the purchase, installation and management of a Wind Monitoring Station.

Wind Monitoring Station Budget		
Mast purchase and installation	$	30,000
4x 1st class Anemometers	$	8,000
Mobilisation to site	$	5,000
Data Logger and Cabling	$	5,000
WP management, instrument setup and installation time	$	5,000
1x 1st class Wind Vane	$	1,800
2x Max #40 Anemometers	$	1,000
1x Back Up Wind Vane	$	500
Total	**$**	**56,300**

Whilst we have taken our foot “off the gas” on Big Wind over the last 6 months there is still likely to be a place for wind generation on the Island moving forward and therefore we should be looking to capture actual data as soon as we can.

One of the identified risks to the project are the assumptions derived from the Wind Prospect computerised wind modelling not being accurate at a local level. The computer-modelling is very sophisticated and can be directly compared to actual wind records maintained at Starfish Hill for example however there is a perceivable level of risk associated with any individual site and on-site monitoring for as long as possible prior to construction is accepted as standard practice within the industry.

Of the two proposed locations in the Dudley North area it is recommended that we place the mast on the location furthest South (i.e. away from the Coast) as this will be the most representative (pessimistic) location of the two to collect data from. This would be on the Howard's land and they have indicated in the past that they would be very supportive of this project. We would enter into a short-term lease for access and installation only at minimal / no ongoing cost.

At this point in time the Council's investment to get to this point has been minimal.

The equipment is ultimately portable so we would be able to relocate the mast and monitoring gear to another prospective location should we need to in the future (incurring only the costs of demount / remount).

To this end it is recommended that we proceed with the purchase and installation of the equipment at this location with the commitment of $26,000 to the RDA's $30,000 to fund the full costs of installation.

2) Update on RDAF Application

Our Round 2 application was unsuccessful as Council are aware due to our notional *construction* start date in the project plan being outside of the project guidelines. This was a little galling as it could have been resolved as simply as changing the date and deeming *construction* to have started within the first 6 months through establishment of simple roadway and fencing to the site - however this was not an option. More thorough checking is required of this sort of detail going forward. As part of the debrief with RDAF, we discussed this and the project in general and we were strongly encouraged to reapply.

Round 4 opened in November 2012, seeking new Expressions of Interest (EOI) and we completed this in early December. We have been unofficially informed that the project was successful in the RDA Adelaide Hills, Fleurieu and KI Board review of projects and has been referred to Canberra for their assessment. The timetable on the RDAF website is as follows:

Notification of outcomes of the Expression of Interest process by the department	Wednesday, 13 February 2013
Full applications for Round Four open	Wednesday, 13 February 2013
Full applications for Round Four close	Thursday, 11 April 2013 5.00 pm local time
Minister announces projects to be funded from Round Four	From Friday 12 July 2013
Funding Agreements negotiated and executed	Within six months of announcement

It should be noted that the Round 4 funding guidelines have changed and there is no longer a "match" funding concept and also there are other criteria that have changed that allowed us to submit a far more generic application that is less focused on "Big Wind" and more focussed on "*Island Energy*". The refined EOI application document is attached.

The timescales for full application are more realistic this time round and we will be better informed of our options for this full submission once various other works already in hand are completed.

3) Bioenergy Resource Analysis & Technology Feasibility for Kangaroo Island
Phase 1 report is complete and the TOR for Phase 2 confirmed – this is the subject of a separate in confidence report for January Council (item 21.5). It is expected that Phase 2 will take between 4-6 weeks to finalise and therefore we would be expecting to see this report in mid February.

It is of note that the demise of Gunns has probably put some added impetus behind the land-owners associated with the Blue-gum properties to try and determine the route forward with possible markets for the trees – discussions have been held with Viento (owners of 700ha but interested in commercial opportunities for all of the resource), New Forest (the managers for the Canadian Assurance Company that own the majority of the old Great Southern land holdings) and of course RuralAus. RuralAus are also looking at biomass to power opportunity as what seems to be an acknowledged "last resort" for them to realise any value from the asset and / or Timber Mill facilities. They have informed us that this work will only proceed if they are successful in obtaining funding from ARENA.

The quantity of resource (24,000 ha) is such that bioenergy needs alone would be an insufficient market for this timber – the older it gets the harder and more expensive it becomes to harvest and manage and therefore the optimum time to get this resource to market is 2015 onwards. Viento seem to be putting a reasonable amount of effort into determining whether it is possible to find a sustainable market for the timber – they have unofficially discounted round log at this stage and are looking again at chip and / or pellets. If a fully commercial operation were to start on Island it would allow for some great vertical integration of this work with energy generation – power, liquid fuels, gas, waste heat use etc which would encourage a multitude of other opportunities to potentially develop – some Council may wish to look at through *Island Energy* and others that we may wish to market to outside investors.

4) Overview
The Overview document attached to the June 2012 report has been refreshed to amend timelines and to represent the range of options that might be possible – again it is something of a road map.

Note that it is being reported currently that the Australian Energy Regulator may open for South Australian submissions in 2016 – 12 months later than expected. We have not had anything in writing concerning this as yet so cannot affirm this as the case.

5) Bulk Power Purchase
Having reviewed more cases where this sort of initiative is succeeding it is believed that we should start this process off on the Island with both the Business and Residential Community. We have held discussions with the RDA and they have agreed that their Business Development Manager, Gerard Snowball, will be in a position to assist Council in carrying out this activity. We would aim for the RDA to start engaging with all of the businesses on the Island and Council to start engaging with all of the Resident Community. The aim will be to collect 12 months of power usage bills from each interested party and then collate these into a demand document that allows for all of the different demands / pricing etc as well as offsets and offset deals that those people who have solar may have in place.

At this point in time it is envisaged that this collation work be undertaken by a contracted specialist business in this field. Should Council give the go ahead to start the active marketing of this concept in the Community we would then look to identify a suitable expert partner to work with. Currently these businesses work on a commission-basis and given that we may be able to drive a core of volume to them we may be able to both negotiate a discount on the commission and / or a benefit capture for Island Energy that will allow co-funding of other social benefit projects (e.g. subsidised replacement of hot water systems).

At this point in time it is almost impossible to rationalise how much benefit there may be in this exercise – other than we know what our annual Island demand profile is like – so that is the main prize – what we do not know is what sort of discounts for marketing the Island's demand in this way may be. The review of experiences both here is Australia and overseas (In UK) is that typically there are between 10 and 22% savings possible as an average. Those business that have been progressive / aggressive with their suppliers may see less than that and some residential customers may see more.

The table looks to evaluate what the process may be able to generate in terms of $ savings to the Community:

Bulk Power Purchase Potential - an assessment of potential $ benefit

	Island Daily Average Demand		MWh	**6.5**	**6.5**	**6.5**	**6.5**
	in		Kwh	6,500	6,500	6,500	6,500
	days			365	365	365	365
	hours			24	24	24	24
	Annual kWh		Kwh	56,940,000	56,940,000	56,940,000	56,940,000
1	Average Cost / kWh ex Retailer			**$ 0.09**	**$ 0.13**	**$ 0.18**	**$ 0.20**
	Total Value of Retail Power			**$ 5,124,600**	**$ 7,402,200**	**$ 10,249,200**	**$ 11,388,000**
2	% uptake by Island Community		**30%**	$ 1,537,380	$ 2,220,660	$ 3,074,760	$ 3,416,400
			40%	$ 2,049,840	$ 2,960,880	$ 4,099,680	$ 4,555,200
			50%	$ 2,562,300	$ 3,701,100	$ 5,124,600	$ 5,694,000
			60%	$ 3,074,760	$ 4,441,320	$ 6,149,520	$ 6,832,800
3	**Potential Net Procurement Discount (PNPD)**	**8%**		**8%**	**8%**	**8%**	**8%**
	Possible net savings on Power by Buying Group		30%	$ 122,990	$ 177,653	$ 245,981	$ 273,312
			40%	$ 163,987	$ 236,870	$ 327,974	$ 364,416
			50%	$ 204,984	$ 296,088	$ 409,968	$ 455,520
			60%	$ 245,981	$ 355,306	$ 491,962	$ 546,624
3	**Potential Net Procurement Discount (PNPD)**	**12%**		**12%**	**12%**	**12%**	**12%**
	Possible net savings on Power by Buying Group		30%	$ 184,486	$ 266,479	$ 368,971	$ 409,968
			40%	$ 245,981	$ 355,306	$ 491,962	$ 546,624
			50%	$ 307,476	$ 444,132	$ 614,952	$ 683,280
			60%	$ 368,971	$ 532,958	$ 737,942	$ 819,936
3	**Potential Net Procurement Discount (PNPD)**	**14%**		**14%**	**14%**	**14%**	**14%**
	Possible net savings on Power by Buying Group		30%	$ 215,233	$ 310,892	$ 430,466	$ 478,296
			40%	$ 286,978	$ 414,523	$ 573,955	$ 637,728
			50%	$ 358,722	$ 518,154	$ 717,444	$ 797,160
			60%	$ 430,466	$ 621,785	$ 860,933	$ 956,592
3	**Potential Net Procurement Discount (PNPD)**	**18%**		**18%**	**18%**	**18%**	**18%**
	Possible net savings on Power by Buying Group		30%	$ 276,728	$ 399,719	$ 553,457	$ 614,952
			40%	$ 368,971	$ 532,958	$ 737,942	$ 819,936
			50%	$ 461,214	$ 666,198	$ 922,428	$ 1,024,920
			60%	$ 553,457	$ 799,438	$ 1,106,914	$ 1,229,904
	Per kWh saving @ PNPD of	8%		$ 0.007	$ 0.010	$ 0.014	$ 0.016
	Per kWh saving @ PNPD of	12%		$ 0.011	$ 0.016	$ 0.022	$ 0.024
	Per kWh saving @ PNPD of	14%		$ 0.013	$ 0.018	$ 0.025	$ 0.028
	Per kWh saving @ PNPD of	18%		$ 0.016	$ 0.023	$ 0.032	$ 0.036

Notes

1	Typical cost for power ranges from 9c (large Commercial user) to 36c (typical Residential) - have erred on side of pessimism for average costs for Island
2	Have allowed for variable uptake for the scheme
3	Have tested for range of 8-18% average discount achieveable

This range of savings – with little / no outlay from Council or the Community would seem to indicate that this is well worth pursuing.

Should the uptake / results be less than salutary then Council will have done nothing else other than facilitate a cost-saving exercise for themselves and the Community and need not take the exercise any further than this. If on the other hand the results are very positive then we should be in a position to bolt this alongside of other *Island Energy* initiatives with an element of commission-based funding from the discounts negotiated to assist with future Community-benefit projects (as mentioned previously).

We therefore seek Council's concurrence to proceed with this initiative.

6) Public Building Retail / Behind the Meter Solar Photovoltaic (PV) Solutions

We have been talking with a number of local businesses here in Kingscote to evaluate the potential for this option.

Basically the operating model would be as follows:

1) Identify premises / businesses that have a reasonable and consistent commercial demand and that have a suitable north-facing roof area.
2) Model is to lease roof space and install solar panels (subject to qualified engineering assessment as would be expected) suited to provide up to 80% of the demand of the building (actual figure TBC). The installation would also involve separate meters being installed on the Business side of the existing Distribution panel recording output that is produced and utilised “in-house” along with any power actually fed back into the grid at times of low demand.
3) Build a suitable discounted energy supply tariff structure for the business passing an element of immediate saving back as an incentive to participate plus the potential of a fixed rate over a period of time to further insulate the business from inevitable annual power bill increases.
4) Participant remains grid connected and has potential to operate on grid for 100% of their load if solar system goes down. Participant also receives power bill from Island Energy for the solar generated power consumed. This may be consolidated into one bill through the bulk purchasing scheme if this is possible.
5) Infrastructure is written off over 20 years and remains Council property on a “no replace” basis given that technology may change over the life of the project.

There are two - three businesses with whom we can work to see whether this is a viable business model for Island Energy and to establish the lease / management model required to make this viable and sustainable.

We therefore seek Council’s concurrence to proceed with the evaluation of this initiative and to report back with a finalised model and proposal for the business venture.

Note:
On a much smaller scale we will need to investigate this as part of the Wright Park Watering System Project work as they have already thought about putting some solar in this project to power the water pump – we have suggested that they let us investigate the bigger picture game first and then incorporate their needs into the bigger project (possibly being that they build an element of the capital required into their Community Grant Application as a revenue offset for Council to manage repairs, maintenance and refurbishment of the watering system over the life of the asset).

Interestingly we have been approached by a couple of businesses who have heard about this thinking and asking whether we would be interested in looking at their business as well – so there is clearly an appetite for the proposition within the Community.

7) Rural Power Solutions
ZEN have launched their battery / battery management power systems coupled with solar and – whilst not the only player in this field – they certainly claim to have the most advanced technology and are looking to work in partnership with some Remote Regional Councils to see if they can get some flagship projects off the ground. Given that this is a very real issue for the Island – and in particular some of the smaller township / hamlets – this is worthy of progressing with further discussions.

The Phase 2 Biomass Study does also look at technology suitable for decentralised generation either through pellets or gas use and this is something else that can be factored into the scoping for this work in the future.

8) Island Energy “Brand Name”
Discussions with Deloittes have determined that any subsidiary of Council that is 100% owned by this Council would simply be consolidated back into Council financial reporting so there is no benefit in having a separate subsidiary until such time as other parties may potentially get involved (e.g. in the future it may be that our vehicle expands to involve other Councils and Communities and therefore an appropriate model might then be the Regional Subsidiary (as is the case with FRWA)). As discussed in earlier reports the likely model should we joint venture with third parties may well be a Trust.

So, there is little point in trying to secure the Company name *Island Energy* as we are very unlikely to ever want to create a vehicle with that name. A quick search of the ASIC Companies Register reveals there are already businesses out there with similar / identical names therefore we would need to differentiate anyway.

A more logical outcome would be to register the name with IP Australia as a Trademark so that we can protect it's use going forward – given that *Island Energy Pty Ltd* exists as a registered business and *Island Energy* exists as a deregistered business we will probably need to go with ***Kangaroo Island Energy*** (which is the name used within the website that RDA setup in 2012 - www.kangarooislandenergy.com.au) or (with a mind to an expanded future), a more generic *South Australian Island Energy* or *Southern Fleurieu Island Energy*.

Whilst we do not have to act right now it is suggested that should any of these initiatives show promise and start to take off that it will be important to secure the name we will manage them under from a marketing and management perspective (if not an actual financially separate entity and therefore financial reporting perspective).

It is suggested that the Chief Executive Officer identify the costs / issues etc associated with this process and return to Council with a report to accompany any formal investment decision in business ventures that would be delivered as activities under an *Island Energy* brand umbrella.

Governance Considerations
(relates to consistent management, cohesive policies, guidance, processes and decision-rights for a given area of responsibility)

Nil at this time.

Risk Management Considerations
(identification, assessment, and prioritization of risks (defined as the effect of uncertainty on objectives, whether positive or negative) followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities)

Nil at this time.

Economic Considerations
(Assessment of likely financial implications of pursuing a course of action)

Addressed in the report.

Social Considerations
(Assessment of likely impacts with the Community)

Nil at this time.

Environmental Considerations
(Assessment of likely impacts on the environment)

Nil at this time.