

Meeting Record

Project Name	Waterloo Wind Farm	Meeting Date	25 October 2016
Meeting / Subject	Community Liaison Group	Recorded By	MO
	Meeting 23	Total Pages	7

Facilitator:	Georgina House (GH)	GH Planning
Members:	Abby Walker-Schwartz (AWS)	Waterloo Resident
	Angela Ruddenklau (ARu)	Economic Development Officer, Regional Development Australia Yorke and Mid North
	Brenda Sugars (BS)	Saddleworth Resident
	John Sugars (JS)	Saddleworth Resident
	Colin Endean (CE)	ACF Climate Project, Transition Action Group
	David Clarke (DC)	Armagh
	Heidi Hodge (HH)	Black Springs Resident
	Chloe Hodge (CH)	Black Springs Resident
	John Browne (JB)	Marrabel Committee District Association and Marrabel Rodeo Club
	Kerry Ward (KW)	Member NRM Board
	Margaret Wayman (MW)	Saddleworth Resident
	Peter Wayman (PW)	Saddleworth Resident
	Pat Williams (PW)	Auburn Resident
	Sue Wurst (SW)	Clare Resident
	Trevor White (TW)	Planning Consultant and PhD Student
EnergyAustralia/ Palisade	Steve Brown (SB)	GM, Renewables, Palisade
	Clint Purkiss (CP)	Project Development Manager, Palisade
	Sarah Neville (SN)	Communications Adviser, Palisade
	Mike Clee (MC)	SA Operations Manager, EA
	Hannah Willson (HW)	Waterloo Farm Business Administrator, EA
Apologies	Hon Dan van Holst Pellekaan	Honourable Member for Stuart
	Hon Geoff Brock	Honourable Member for Frome
	Lindsay Ward (LW)	CEO, Palisade Asset Management
	Sarah Stent (SS)	Communications Adviser, Palisade
	Denni Russel (DR)	Dept. OF Environment, Water, Natural Resources (DEWNR)
	Anne Brown (AB)	Greening Australia
	Amanda Redden (AR)	Economic Development Officer, Regional Development Australia Yorke and Mid North
	Peter Edson (PE)	Burra Resident
	Garry Fieldhouse (GF)	Gally's
	Sally Fieldhouse (SF)	Gally's
	Kerry-Anne Saffin (KAS)	CE, Regional Development Australia Yorke and Mid North

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	Cindy Nolan (CN)	Clare Resident
	Geoff Rowett (GR)	Marrabel Committee District Association and Marrabel Rodeo Club
	Glenn Christie (GC)	Seed Collector and Revegetation
	Lis Jones Inman (LJI)	Burra Resident
	Peter Edson (PE)	Burra Resident
	Pip Edson (PEd)	Burra Resident
Minute Taker	Marie Oatway (MO)	GH Planning

Item	Topic	Action By
1.	Welcome and Apologies – Georgina House	
1.1.	Welcome <ul style="list-style-type: none"> GH welcomed members and guests to the October 2016 CLG Meeting. GH gave a special welcome to John Browne a new member attending his first meeting. 	
1.2.	Apologies <ul style="list-style-type: none"> Apologies are noted above. 	
1.3.	Agenda and Housekeeping <ul style="list-style-type: none"> GH outlined today's agenda, which includes: <ul style="list-style-type: none"> A safety induction and tour of Waterloo 2 – as the construction phase has recently concluded. A presentation by Steve Brown on the recent South Australia Blackout. 	
1.4.	Review of Previous Minutes <ul style="list-style-type: none"> There were two actions arising from the previous minutes (14 June 2016) which have all been actioned, they included: <ul style="list-style-type: none"> GH to circulate the Mid North and Rangelands Landscape Plan to members GH to inform members of successful Community Grant recipients. Minutes of the 14 June 2016 CLG Meeting were accepted as a true representation of the meeting. 	
2.	Overview of Mid North Wind Farm Projects – Clint Purkiss/Mike Clee	
2.1	Waterloo Wind Farm Update – Mike Clee <ul style="list-style-type: none"> MC provided an update on Waterloo Wind Farm. MC presented Waterloo Wind Farm wind generation for the previous year (2015/2016), and Year to Date (2016/2017). Refer tables on Page 3. During September we experienced a termination failure on one phase of the main transformer incomer circuit breaker due to water ingress. The cable and terminations were replaced. Acting in a proactive manner we have set a strategy to replace all cables and terminations. All "A" circuit cable joints that have not been replaced with the new Trifurcated joints are planned to be replaced at the same time as the above termination works. Both of the above proactive works are being planned to occur during the low wind periods and periods of least impact to the local farming community. This will occur early next year, possibly during March/April. "E" circuit was isolated to allow for the connection of WLWF2. All works during this last period have been performed with no safety/environment issues. 28 September 2016 at 16:18 we experienced a wind farm trip due to the loss of the grid, which was later announced as a "system black" event in South Australia, as the whole state had lost supply. 	

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	Energy Production Figures - Year 2015/2016						
	2015 / 2016	WTG* Actual (GWh)	WTG Target (GWh)	WTG Actual Wind Speed (m/s)	WTG Wind Speed Target (m/s)	Capacity Factor Actual (Average %)	Capacity Factor Forecast (Average %)
	July	33.4	32.3	9.4	9.8	41.1	39.7
	August	27.9	31.9	8.2	9.7	34.3	39.2
	September	25.7	25.7	8.0	9.7	32.5	39.4
	October	25.6	25.6	8.2	9.0	31.3	33.9
	November	19.9	26.1	7.4	8.8	24.9	32.6
	December	25.1	25.9	8.3	8.6	30.4	31.4
	January	24.0	22.4	7.8	7.8	29.0	27.1
	February	18.9	20.8	7.4	8.1	24.5	27.9
	March	14.3	23.1	6.3	8.1	17.3	28.0
	April	19.7	23.8	7.5	8.4	24.7	29.8
	May	38.0	39.5	10.7	7.9	46.1	27.2
	June	32.7	24.1	9.9	8.5	40.9	30.6
	Energy Production Figures – Year to Date 2016/2017						
	2016 / 2017	WTG* Actual (GWh)	WTG Target (GWh)	WTG Actual Wind Speed (m/s)	WTG Wind Speed Target (m/s)	Capacity Factor Actual (Average %)	Capacity Factor Forecast (Average %)
	Q1 July, August, September	33.4	32.3	9.4	9.8	41.1	39.7
	Q2 October, November, December	90.5	96.6	9.6	9.7	36.8	39.4
	Q3 January, February, March						
	Q4 April, May, June						
	<ul style="list-style-type: none"> The windfarm was re-energised approximately 10 hours later but constrained to 10 MW generation for the remainder of the month. The Australian Energy Market Operate (AEMO) are investigating this “state black” event. Site analysis indicates that the wind farm performed according to its Generator Performance Standards. 						
	EnergyAustralia Reconciliation Action Plan (RAP)						
	<ul style="list-style-type: none"> Since the last CLG meeting Energy Australia has launched a “Reconciliation Action Plan (RAP)”. The plan is the vehicle for the business to meet its Diversity and Inclusion commitment of increasing its Aboriginal and Torres Strait Islander engagement and participation across the business. Key focus areas are: <ul style="list-style-type: none"> Relationships – build genuine and long term connections Respect – recognise and embrace peoples and cultures Opportunities – grow participation across our business. 						<p>GH to circulate RAP to CLG members.</p> <p>Members to consider if they would like to have a presentation from EA on the RAP at a future meeting.</p>

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2.2	<p>Waterloo Extension Update (Waterloo Wind Farm Stage 2) – Clint Purkiss</p> <ul style="list-style-type: none"> CP provided an update on the Waterloo Extension Project which has involved the construction of 6 additional turbines during 2016. <p>Turbine Construction Now Completed</p> <ul style="list-style-type: none"> All 6 turbines were installed by 13 July. Final blade deliveries occurred first week of September 2016. Heavy works complete, crane now offsite. Turbines energised first week Oct – minimal issues. All civil works completed 17 Oct – including removal of access track Steelton Rd. Onsite remediation works – includes revegetation largely done. Around 40 personnel onsite, 220+ inducted for site access. Project largely ran to schedule despite some wet weather / high winds. Works nearing completion and on time, and according to original schedule. We expect construction site will be closed and returned to Energy Australia as operator by the end of October. Important to note that this has been a complex engineering exercise completed with no Lost Time Injuries – a stellar safety record and a good reflection of how seriously we take safety at this asset. Between now and the end of October onsite teams will test the turbines for reliability and availability. This is to ensure they can generate the amount of power warranted by the supplier – and contribute what we specify they can to the NEM. Ongoing data collection and testing including noise monitoring to ensure compliance with planning approval. All deliveries were performed to plan and safely with no traffic management issues. <p>Site Remediation</p> <ul style="list-style-type: none"> All work areas not required for operations to be remediated. Road repair along public access route. Top soil removed during construction returned. Use of plant species native to the region to encourage biodiversity. Identified habitats or protected species – peppermint box – maintained throughout operations. Restoration of roadside verges on Steelton Road completed post deliveries to ensure road condition better than prior to construction. Council planting alongside Steelton Rd verges to replenish stock. Erosion control monitoring ongoing. Wedge tailed eagle – sightings during construction – no nesting activity. <p>SMS Alert Service and Community Engagement</p> <ul style="list-style-type: none"> Regular texts sent during Mar -Sept to advise transport plans, changes to works Useful conduit for neighbour comms – some call backs to discuss issues – all resolved Service remains in place: to subscribe, text name to 0408 547 869 – envisage this will be used for emergency operations works if required. 	

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	<ul style="list-style-type: none"> ● Project update has been delivered to all households in the region. ● Tree planting and television signal study underway to limit impacts of WLWF2 on near neighbours (2km). ● Community & neighbour engagement to continue as normal post construction. ● Key contacts: Hannah Willson, Mike Clee, Steve Brown. <p>Remaining Project Milestones</p> <ul style="list-style-type: none"> ● Reliability testing – ensures turbines operate to plan – able to generate safely for NEM. ● Commissioning – further tests and inspections for quality assurance. ● Site handover - Commercial Operation – initial 6 months further reliability testing. ● Ongoing data collection – including noise monitoring to ensure compliance with planning approval. ● Aiming to “switch on” Waterloo 2 on Saturday 29 October 2016. <p>GH – The metmast that is going to be constructed -is that only temporary? CP – Yes it is only a temporary structure likely to be in place 4 – 5 months.</p>	
2.3	<p>Stony Gap Update – Mike Clee</p> <ul style="list-style-type: none"> ● MC provided an update on Stony Gap. ● Stony Gap still represents the most cost effective, large scale renewable energy development option currently available to Energy Australia (and arguably in the National Electricity Market based on indicative cost modelling). ● With an agreed Renewable Energy Target (RET) and more political certainty in achieving carbon emissions reduction, the development of Stony Gap remains a key focus for Energy Australia. ● We have agreed terms on extension of key land options, we are reviewing the optimal connection solution and are finalising a path to development. <p>Qu: - If it did go ahead would it be an EA project or a Joint Venture? CP - Still on the table at this stage. JS – How many towers associated with Stony Gap? CP – Approved for 35 turbines. SB – For reporting purposes it is proposed that this CLG cover both Waterloo and Stony Gap Wind Farm sites. JB – Would Stony Gap be connected to the Waterloo Wind Farm facility? SB – No, not connected to the Waterloo facility but connected to the electricity network further north.</p>	
3.	<p>Waterloo Wind Farm Community Fund 2016 – Mike Clee</p>	
	<ul style="list-style-type: none"> ● A total of 17 applications were received requesting approximately \$70,350. ● CLG sub committee nominated 8 organisations and EA/Palisade agreed to share \$29,969 in funding. ● Recipients have received cheques for their initiatives. Successful recipients are: <ul style="list-style-type: none"> ○ Waterloo CFS – lighting up the local volunteers \$7,403.00 ○ The Workshop @ Saddleworth – shelving benches \$2,500.00 ○ Burra Regional Tourism – Railway rehabilitation \$1,500.00 ○ Clare & District Apex Club – APEX BBQ shelf Clare train park \$7,000.00 ○ Manoora Hall Committee – significant interpretive feature - \$1,500.00 ○ Clare Motor Cycle Club – irrigation and fire safety system - \$5,000.00 ○ Manoora Primary School – operation chicken run - \$1,000.00 ○ Saddleworth Bowling Club – refrigeration and freezer for club house - \$1,566.00 ○ Saddleworth Lawn Tennis Club – re-fence and re-plumb - \$2,500.00 ● MC thanked the sub-committee for their hard work in assessing all the applications. 	

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4.	Other Business – SA System Black Presentation by Steve Brown	
4.1	<p>SA System Black – SA Power Failure on 28 September 2016 – Steve Brown, GM, Renewables, Palisade</p> <p>Background</p> <ul style="list-style-type: none"> ● 28 September 2016, South Australia was hit by severe storms. It was a once in 50 year event. ● Storm force winds up to 120km/h, rain up to 100mm. ● 80,000 lightning strikes, mainly in the north. ● Events were cancelled, national parks closed, homes sandbagged and workers sent home. ● Following the storm power restarted in full by 30th September. ● 23 towers were destroyed. South Australian transmission system is relatively fragile as it consists of a linear configuration with long lines through to Port Lincoln and Whyalla. <p>DC – Do you know where the transmission towers went down? MC – East of Booleroo, Melrose and near Blyth.</p> <p>Network Impact on 28 September</p> <ul style="list-style-type: none"> ● Around 4pm severe weather impacts 66kv transmission lines. ● Despite faults, no initial impact on overall transmission grid system. ● 16:18:13PM - In a space of a minute 3 x 275kv transmission towers go down. ● Concurrently 315MW of wind output lost – combination of transmission failure and individual system shutdowns. ● Victorian interconnector increased to 850MW to provide additional power. ● Almost immediately interconnector tripped on overload, and the remaining SA generation trips as transmission protection systems shutdown. ● 16:18:16PM - Power lost to all SA region. ● The 315MW wind power that dropped out of the system was only providing part of the SA power at the time. Five thermal generators were also operating, but these, together with the wind farms that continued to generate, could not react quickly enough to make up for the loss of wind power and the interconnector. ● The actual timing of the transmission towers collapsing is uncertain. What is known is that some windfarms continued to generate until the system black (when they tripped on either low system voltage or low system frequency).. ● The specific failure of the system occurred when automatic protection systems that prevent damage to the interconnector between SA and Vic activated as flow levels exceeded the designed capacity of the system (normally up to 600MW). <p>Waterloo Wind Farm – 28 September</p> <ul style="list-style-type: none"> ● In situations like 28 Sept, safety is our priority. ● Normal practice for staff to stop working on the wind turbines when we get lightning alerts. ● With this storm staff withdrew from the ridgeline when lightning was within 50km. ● Waterloo continued to generate until the system black. <p>AWS – Was Waterloo Wind Farm turned off because of the high wind speeds? SB – No Waterloo was generating at the time of the State power outage.</p> <p>South Australia – Leading the way on renewables</p> <ul style="list-style-type: none"> ● Already 40% power in SA from RE - target 50% by 2025. ● Regarding power output fluctuates – i.e. changes in wind speed and solar radiation, there is a need to control frequency. SA power system must manage fluctuating output. ● Normal circumstances - no issues. ● In 2016, SA importing less via VIC interconnector, despite Playford & Northern switch off. 	

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	<ul style="list-style-type: none"> ● Diversity (technological, geographical) helps with security of supply. However, Sept storm highlights need for further improvements. <ul style="list-style-type: none"> ○ TECHNOLOGICAL, i.e. new interstate connectors, energy storage, other forms of renewable energy. ○ BEHAVIOURAL, i.e. smart energy management. ○ DISTRIBUTED, i.e. reduced reliance on grid. <p>Was Wind to blame? No.</p> <ul style="list-style-type: none"> ● AEMO report focuses on fact. What happened and the sequence of events. The report doesn't say wind farms were to blame. ● Faults on the interconnector, line 4 faults and then tripped. <p>HW – What period of time was that? SB - About three minutes. AR – About SA blackout – could this happen in QLD, NSW or Victoria? SB – Absolutely, the level of storm didn't help, the long lines of the transmission system didn't help either. SB - The learning from this is the protection settings on wind turbines, there is no learning about not running wind power. In my view, if we are going to fix the climate we need the renewal source. Battery storage and solar can help mitigate the risk. CE – Have we learnt a lot from the power outage? SB – Yes. COAG have set up an independent inquiry, Australia's Chief Scientist is involved and with some good technical thinking we will get a good result. SB also will be on a working group with the Clean Energy Council. SW – If the protection settings were adjusted and there was a similar storm what would happen? SB – I think the windfarm would stay on but if transmission towers go down then transmission would fail and there would still be a power outage. JB – If something is to be learnt from this – do we anticipate power costs to increase too? SB – We have seen the price of power increase, it is not wind making electricity prices high it is gas. Gas is dear at the moment (driven by export price) and because coal generation has dropped gas generation has come in. Gas is setting the price but eventually there will be battery storage, solar and wind and the need to call on gas is expected to reduce. CE – How does the interconnector come into the price scenario? SB – While the interconnector is connected to SA Victorian power generators are in the price mix, and when the interconnector disconnects or is running at full capacity we have price separation. When this occurs the advantage of being connected to the cheaper coal generation prices in Vic, NSW and Qld is lost – at these times SA runs at prices set only by SA generators.</p>	
5.	Next Meeting and Close –Georgina House	
	<p>Next CLG Meeting – Thursday 2 February 2017 – 4.30pm to 6.30pm at Gally's</p> <ul style="list-style-type: none"> ● GH thanked all for their attendance. ● Minutes of this meeting will be distributed to all for review. ● One week will be provided for members to review draft minutes and provide any feedback to Georgina House. ● Once finalised, the minutes will be placed on the Waterloo Wind Farm Website and circulated to other key stakeholders. <p style="text-align: center;">Meeting Closed</p>	

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Attachments:

EnergyAustralia Reconciliation Plan (RAP).