



MINUTES

Climate Change Working Group Meeting

6 March 2023

**MINUTES OF THE KYOGLE COUNCIL
CLIMATE CHANGE WORKING GROUP MEETING
HELD AT KMI HALL SUPPER ROOM, ROXY LANE, KYOGLE
ON MONDAY, 6 MARCH 2023 AT 9.45AM**

Meeting commenced: 9.45 am

Acknowledgement of Country

Cr John Burley (Chair) acknowledged that the meeting was being held on the traditional lands of the Bundjalung people and acknowledged Elders past, present and emerging.

Present: Cr John Burley (Chair), Dr Arthur Webb, Dr Terry De Lacy, John Redmayne, Robyn Lucienne, Matt Sorenson (left meeting at 9.25am), Maree Brennan, Peter Kelly, Judy Faulks.

Present Online: Kieran Somerville, Jason Hague,

Guest Presenters: Patrick Denvir (100% Renewables), Dr Kate Steel (Lismore City Council).

1. Apologies

Chris Hoare, Cr Maggie May, Graham Kennett, Cr Tom Cooper, Cr Robert Cullen (alternate delegate).

2. Confirmation of Minutes

The Working Group agreed to confirm the minutes of the Climate Change Working Group meeting held on 28 November 2022. **MOVED:** Dr Terry De Lacy **SECONDED:** Robyn Lucienne

3. Correspondence

3.1 Inwards - Nil

3.2 Outwards - Nil

4. Presentation by Patrick Denvir, 100% Renewables – Microgrid solutions for Kyogle LGA – preliminary market review and needs assessment

Patrick Denvir (100% Renewables) provided an overview of the preliminary market review and needs assessment on Microgrid solutions for Kyogle LGA. A copy of the presentation 'Microgrid prefeasibility assessment – initial work and directions' was provided.

The project brief identified five steps, and they are currently at Step 2:

Step 1: Review current status of microgrid projects in Australia including those currently funded through ARENA, by NSW Regional Community Energy Fund (RCEF) and by the Regional and Remote Communities Reliability Fund (RRCR).

Step 2: Discuss Kyogle LGA needs, potential opportunities / models for microgrids, and identify 2-3 projects that align with Kyogle's needs.

Step 3: Engage with 2-3 projects to discuss key elements of their studies, such as technology solutions, community engagement, network and regulatory aspects, challenges being faced and how these are being overcome, feasibility funding and approach, governance particularly with local councils and community groups, progress to date and anticipated timeline to completion, pathway to implementation, etc.

Step 4: Identify potential funding sources for the development of a feasibility study. Will provide a funding brief.

Step 5: Presentation summarising the analysis, present to Climate Change Working Group and Kyogle Council with recommended next steps.

What is a microgrid? (slide 5) A microgrid is considered a 'subset' or 'smaller' version of an electrical grid network. A microgrid system is an independent network that provides energy requirements at a local level. Microgrid proposals are increasingly common, particularly with the incorporation of renewable energy technologies (e.g. solar, wind and batteries).

A microgrid system may be pursued to increase **energy security and reliability**, particularly in remote regions prone to electrical infrastructure disruption. Being a self-contained system, a microgrid system can potentially disconnect from the network (island mode) or continue to supply energy to the connected loads without being connected to the grid network. The timeframe of this resilience depends on the type of resources supplying energy to the microgrid (which could be fossil fuels or renewable energy generators). Furthermore, when the microgrid is in an 'island mode', it has the potential to supply energy only to critical loads, leaving sheddable demand off until the system returns to normal and can connect back to the grid.

Affordability - Designing microgrid systems that incorporate the right mix of technologies and are cost-effective can be complex, taking into account the needs and objectives of a community / precinct, the optimal technology and control mix, operational requirements, and capturing all potential / accessible savings and income streams, including from direct energy savings, energy sharing and interaction with the grid, and avoided network upgrades where applicable. Securing available grant funding is often also crucial to determining the affordability of a microgrid.

Sustainability - Some of the motivation for developing microgrids at a local level is to increase the uptake of renewables locally and take steps at a community level to reduce greenhouse gas emissions, and most of the grant support to microgrids in recent years has been directed to systems based on renewable energy and related enabling technologies.

Social licence - A key component in the planning and design of a microgrid at a community level is securing the buy-in from the community and other stakeholders, and securing a 'social license' to develop a solution based on agreed parameters including technologies, operation, ownership, governance, opt-in / opt-out provisions, etc.

Projects do take a lot of time as involving communities, volunteers and gaining social licence within the community.

Applications of microgrids (slide 6) –

- Remote systems – traditional reason for microgrid, connection is costly or difficult.
- Commercial and industrial systems - for example, connected to commercial precincts. Generally developed for energy security and affordability.
- Communities and residences – drivers tend to be security, cost and sustainability.
- Institutions and campuses

Key funding opportunities (slide 7) –

- Regional and Remote Communities Reliability Fund (RRCR) – refer DCCEEW link: <https://www.energy.gov.au/government-priorities/energy-programs/regional-and-remote-communities-reliability-fund>
- Emerging Energy Program – refer link: <https://www.energy.nsw.gov.au/nsw-plans-and-progress/major-state-projects/shift-renewables/emerging-energy-program>
- Regional Australia Microgrid Pilots Program – refer link: <https://arena.gov.au/funding/regional-australia-microgrid-pilots-ramp/>
- Community Batteries for Household Solar – refer link: <https://arena.gov.au/funding/community-batteries-for-household-solar/>
- Advancing Renewables Program – refer link: <https://arena.gov.au/funding/advancing-renewables-program/>
- NSW Regional Community Energy Fund – refer link: <https://www.energy.nsw.gov.au/government-and-local-organisations/ways-get-started/regional-community-energy-fund>

Snapshot of microgrid projects in Australia -

- Selection of projects funded by ARENA (refer slide 9 for further details) – Examples include: Coober Pedy Renewable Diesel Hybrid, Narara Ecovillage (Smart Grid Project), microgrid solutions on new housing developments.
- Projects funded by NSW RCEF (refer slide 10 for further details) – Examples include: Community energy for Goulburn, Grong Grong Haystack project.
- Projects funded by the RRCRF program (refer slides 11-12 for further details) – Examples include: ANU – Southcoast u-grids Reliability Feasibility (SuRF) project, Indigo Power Ltd – Aggregated Community-scale Battery Storage in North East Victoria, ITP Development Pty Ltd – Cobargo Microgrid Feasibility Study and Load Control Trial, C.L.E.A.N. (Cowra) Incorporated – Cowra Microgrid Detailed Feasibility Study, Totally Renewable Yackandandah Inc – Yackandandah Islandable Microgrid Project.

Kyogle LGA microgrid options and preferences –

Major electricity infrastructure in Kyogle (slide 14) - The Kyogle LGA is not served by any 132/110 kV transmission infrastructure, and the major infrastructure servicing the region is the Essential Energy-owned 66kV line serving Kyogle from Lismore, and a 33kV line from Casino through Bonalbo to Urbenville (Tenterfield). Other infrastructure across the region is 11kV and LV, including edge-of-grid communities such as Woodenbong.

Initial meeting with Essential Energy was held in the context of their microgrid work at a regulatory level, and in consultation with business and community groups where changes to regulatory rule is a key goal.

- Essential Energy plays a role in the development and implementation of distribution-level batteries and stand-alone power systems (SAPS) in the context of their regulatory requirements.
- Network batteries are being installed to replace or augment diesel-powered generators at zone substation level, with the purpose being to improve network reliability. This is typically necessary in remote or capacity-constrained parts of the grid, and it was noted that there are <10 parts of the network currently identified as being suitable for this type of upgrade, which may include Urbenville in the adjacent Tenterfield Shire.
- Stand-alone power systems (SAPS) are being implemented in remote parts of the grid where there is a benefit to the network as a whole in a local solution compared with kilometres of wires and poles to service a single or very small number of customers. There are around ~400 SAPS proposed across the Essential Energy grid at this time. At this time a solar-BESS-diesel hybrid is the normal approach to SAPS development, but Essential Energy is also looking at 100% renewable energy models delivered as solar + hydrogen systems.
- The regulatory environment does not fit with what most microgrid proposals are seeking, with 'islanding' of networked parts of the grid not permitted. As this may be a feasible and desirable network solution, Essential Energy is working with microgrid proponents to trial solutions that test regulatory rules and make the case for rule changes by AEMC. Trial projects that demonstrate how innovative network solutions can be beneficial and potentially warrant rule changes forms part of Essential Energy's approach to microgrids.

Suggested 'top 3' microgrid projects to consult with for Kyogle (slide 16) –

- One of the [Community energy for Goulburn](#) or [Grong Grong Haystack project](#): both projects we understand are well advanced with financial models in place, and are examples of local communities 'solar gardens' that may be of interest to communities in Kyogle.
- The ANU's *Southcoast u-grids Reliability Feasibility (SuRF)* project is an example of a **multi-community assessment** that is looking to respond to needs in terms of reliability, energy security and other factors in multiple communities across the south coast of NSW. Many of these communities have been severely impacted by bush fires in recent years. Essential Energy is a key collaborator in the project and may be able to offer further key insights that can inform proposed models for Kyogle.

- Several microgrid projects are focused on towns / communities that have reliability issues as a result of being at the **end of long rural feeders**, which may be one of the opportunities in the Kyogle region. We suggest engagement with one of:
 - Ergon Energy Corporation Ltd – Clairview Beach and Stanage Bay Community Microgrid Feasibility Study
 - Resources WA Pty Ltd – Coolgardie Microgrid Feasibility Assessment
 - Sunrise Energy Group Pty Ltd – Mullewa Microgrid Feasibility Study Project
- Some Kyogle communities may be interested in looking at a **community battery** as a basis for a local microgrid project, such as the Indigo Power Ltd – Aggregated Community-scale Battery Storage in North East Victoria.

Questions for the CCWG to consider and provide feedback on:

- What situation/s best describe Kyogle's needs and drivers for local microgrid solutions?
- Are these projects the 'right' type to consult with to help firm Kyogle's vision for microgrid solutions locally?
- Are there other or different microgrid models that fit better with the region's needs and goals?
- Are there other aspects of a microgrid project or study that you think need to be discussed to inform Kyogle's progress and next steps?

Discussion:

- We are trying to achieve 100% green energy (microgrids allow more control over this).
- Want to address issues with blackouts. Reliability is a key issue (e.g. reliability in times of natural disasters, having a backup supply).
- Resilience against climate change.
- Cost also needs to be considered. Patrick noted that the high cost for feasibility studies reflect the cost associated with community consultation and obtaining a social licence for projects.
- From a strategic planning perspective, Council are wanting to update our Local Growth Management Strategy (LGMS) and thinking that information that may influence how we allow for or design for microgrids *etc* will help inform the LGMS.
- As an example of a project for Kyogle LGA: could focus on a village like Woodenbong which is at the end of the line/edge of grid (and possibly Urbenville working in with Tenterfield SC). Urbenville might already be identified by Essential Energy as a village where they want to address reliability issues, so perhaps does not need to be included. Could look at other projects within Australia that are looking at solutions to edge of grid. Having Essential Energy on-board for developing the solutions (as the regulators) for communities like Woodenbong/Urbenville would be important. The project would aim to addressing reliability, edge of grid issues, communication issues in remote villages.
- Community batteries – Bonalbo.
- Branding and tourism opportunities.

Consultation topics (slide 18) – A list of the key discussion topics with other projects was presented.

Is there anything else? Suggestions:

- How did they raise the money for a feasibility study if they are small volunteer groups – as this may be a barrier here? Patrick noted that feasibility studies can be funded through the programs mentioned (e.g. RRCF). Community awareness/gaining a social licence would best be part of a funded project as it can be a very expensive exercise and is extremely important part of the process.

Next steps – Patrick Denvir advised that he will follow-through with some of the case studies that are relevant to Kyogle LGA, and will continue to liaise with Matt Sorenson throughout the project (to complete Steps 3-5).

5. Presentation by Dr Kate Steel, Lismore City Council (LCC) – Planned collaborative cross-LGA landscape hydrological function repair project for which funding is being sought from the Future Drought Fund. The project will build on LCC’s successful landscape rehydration program (Natural Sequence Farming).

Dr Kate Steel provided background on current LCC programs, including an application that will be submitted from the Northern Rivers / Richmond Catchment Consortium to the Federal Future Drought Fund: Long-term Trials for Drought Resilience Program.

LCC programs – under their Biodiversity Management Strategy:

- Rural Landholder Initiative – is a \$150,000 small grants program offered across the LGA to rural landholders for on-ground works to address biodiversity issues. There is also a funding component for educational events.
- Working with rural industries partnerships
- Regenerative Farming - Natural Sequence Farming (NSF) delivery grant and Landscape Rehydration (to determine an Index of Health)
- Landslip and riparian damage
- Federal Future Drought Fund (long-term trials, addressing changing climatic trends – including an increase in droughts, more extreme rainfall events, and a decrease in autumn/winter rainfall - with innovative farming practices). If funding for the project is successful it will be inter-agency/ community consortium led by the North Coast Regional Landcare Network Inc (NCRLN). The project will trial hydrological restoration techniques for drought/climate resilient subtropical farming. Kyogle Council will be a part of the Consortium for the project.

Evidence is growing that hydrological restoration of Australian landscapes is possible and provide effective drought mitigation strategies. But does it work in the subtropics?

- This collaborative, 5-year project aims to provide a scientifically rigorous evidence base for the effectiveness of innovative techniques in restoring hydrological function to agricultural landscapes in the subtropics.
- The project will marry sub-catchment scale paired trials with an engagement and education program. The aim is for increasing uptake of innovative practices leading to improved economic, environmental and social resilience of farming communities in the Northern Rivers of NSW.
- Innovative elements – testing transformational farming techniques (e.g. unlimited capacity level contours, hill ponds, fertility cycling, leaky weirs, etc) in the subtropics.
- Using novel measurement tools linked to production measures and ecosystem services.
- Supporting the implementation of on ground actions that build the resilience of the landscape foundation for agriculture, along side changing mindsets around traditional management systems that are not functioning in climate shift scenarios in the Northern Rivers of NSW.

Mapping (at a property scale NSF/landscape rehydration) showing contours, identifying works – e.g. seeding, fencing including riparian fencing, erosion zones in the valley and how to address, where contour banks may be required, where to revegetate, where to put leaky weirs in eroded gullies, rotational grazing. The aim is to slow the flow, increasing infiltration, reducing sediment runoff, increasing cattle production and diversity in the paddocks which leads to both ecological improvements and productivity improvements. There has been a loss of small floodplains and wetlands (soak areas) in upper catchments – there is a need to reinstate them to assist hydrologic function.

Progressing a successful application:

- Focus on application and results at a landscape scale.
- Cross LGAs, industries and catchments.
- Lead Organisation capacity to deliver across boundaries - North Coast Regional Landcare Network Inc.
- Scientific validity with SCU and Living Lab.
- Support from Collaborators to identify and help drive delivery in their sphere of influence. The project has been discussed with Kyogle Council. In-kind support for the project could include: supporting workshops and extension works/activities, assisting with working with community to identify a paired trial site/s and landholders within the Kyogle LGA (i.e. upper Richmond/ Clarence River catchments), assist with communications regarding engagement/education program, provide appropriate climate information that is being gathered *etc.*

Discussion:

- The CCWG were supportive of the project, and for a paired-trial site to be in the upper Richmond River catchment. (i.e. Kyogle LGA). It was noted that a larger beef cattle property would be most probably targeted for trial sites.
- First step is to get a good plan of how landscape rehydration/NSF activities would look on the property and to then stage the works. Works can be scaled as don't have to address everything at once, start by reading the landscape, looking at the patterns in the landscape.
- Funding will pay for works on the trial sites. Understanding what the costs and benefits are is a gap. A cost benefit analysis would be part of the project (which would identify the public benefit to e.g. downstream). Because of the public benefit it was felt that public funds should be made available. How do you share the costs? Developing a funding model would not be part of the application.
- It was felt that the inclusion of upper Clarence catchment should be considered along with the upper Richmond River (both of which fall within the Kyogle LGA) and it was confirmed that they were.

MOTION:

The Climate Change Working Group agrees to collaborate with and support the proposed project under the 'Future Drought Fund – Long-term Trials of Drought Resilient Farming Practices Program' that would incorporate both the catchments of the upper Richmond and Clarence Rivers.

MOVED: Kieran Somerville Seconded: Terry De Lacy

Action:

- (1) Incorporate into Kyogle Council's letter of support for the Future Drought Fund project application, in-kind support from the CCWG.

6. Draft Community Resilience Plan 2022 – Peter Kelly, Community Recovery Officer

The draft Plan is on public exhibition until 17 March 2023 and feedback from the CCWG members would be welcome. A copy of draft Plan is provided in Google Drive or is available on Council's website.

Peter Kelly provided an overview of the draft Plan which outlines the ways Kyogle Council will partner with and support communities to strengthen their own resilience, become more self-reliant, and play a more active role in planning for, preparing for, responding to and recovering from stresses and adverse events.

Development of the Plan has been led by the Kyogle Council Community Resilience Officer and brings together a range of initiatives which are in place or being rolled out across the whole LGA, as well as specific goals and actions identified through consultation with community groups representing the areas of Cawongla, Bonalbo, Kyogle, Wiangaree, Mallanganee, Old Bonalbo, Tabulam, Woodenbong and their surrounds.

Target Outcomes for community resilience, economic resilience, community asset resilience and natural environment resilience for the plan are explained (refer pages 14-15) and have been identified for each of the areas.

It was suggested that solutions could identify branding and tourism opportunities.

Action:

- (1) CCWG members to provide any comments back to Council on the draft Community Resilience Plan by 17th March 2023.

7. Hydropanels – makes, stores and dispenses clean, mineralized water– Robyn Lucienne
Website link: <https://www.source.co/>

Robyn Lucienne wanted to make the CCWG aware of the existence of these hydropanels which have the ability to make, store and dispense clean, mineralized water. Are particularly suited for those that don't have a reliable water source. Panels can sit on the roof or on the ground. Can be accessed remotely. May suit schools, community halls, *etc.* May assist rural communities in times of drought. The company, Source, can provide a presentation to the CCWG.

Action:

- (1) Robyn Lucienne to organise a presentation on Hydropanels from Source for the next meeting in order to learn more about them and to explore what applications they may be suitable for.

8. Update on application made under EV Destination Charging Grants

Council was advised that the application for four EV charging stations made under EV Destination Charging Grants was successful. Sites for the EV charging stations will be: Kyogle Museum, Bonalbo Norman Johnston Park, Tabulam Sports Ground and Woodenbong Recreation Reserve. Council, at the February 2023 meeting, accepted the funding offer of \$28,800 and included an additional \$131,200 contribution from Council in the current year's budget.

Comment: EV transition is counterproductive if the electricity used to recharge EVs isn't renewable.

9. Update on Climate Change Adaptation Initiatives Council is funding using grants

Maggie May was absent so item held over to next meeting.

10. Carbon Forum event in Kyogle area– Judy Faulks

DPI (Dr Cathy Waters) and LLS (Lelia Kamphorst) have advised that they will work together to organise an On-Farm Carbon Regional Forum event within the Kyogle area. The target audience will be agricultural producers in the region (horticulture and beef enterprises) providing them with an opportunity to learn more about practical on-farm carbon management and carbon markets. The event will be held late April (or the first week in May) 2023.

CCWG (via Kieran Somerville) to stress to organisers the importance of adequately advertising and marketing this event – through their channels including direct contact with landholders within the Kyogle LGA (particularly if they have a database of landholders). This can be supplemented (and assisted by Kyogle Council) with advertising the event through Kyogle's Community Newsletter, social media, Landcare networks, Casino Food Co-op, etc. It was also felt that organisers should be encouraged to offer an electronic version of the event for those that can't attend in person.

Action:

- (1) CCWG to work with event organisers to ensure there is adequate advertising and marketing of the On-Farm Carbon Regional Forum event.

11. Council's resolution to seek proposals on current and projected climate change impacts on Kyogle LGA and develop a climate change adaptation risk assessment and action plan to strengthen community resilience – Judy Faulks

An update on the 'Local Government Climate Change Toolkit' was provided. The Toolkit is being prepared by the NSW Government (Office of Energy and Climate Change) and they have advised that it is not quite ready for public release. The Toolkit will set out step-by-step how to identify and assess risks of climate change and formulate an adaption strategy/plan in response. The Toolkit can be completed by Council or a consultant can be engaged to complete the process for Council. The Office of Energy and Climate Change can review a Scope of Works that seeks EOIs from consultants to provide a brief back to Council on what they could provide in terms of this project, including costings. The Toolkit, or aspects of it, would form the basis for these works.

Next step: Once released, the CCWG to review the Toolkit to see if it meets all our needs and to make recommendations to Council in that regard.

Comments:

- Coastal inundation will drive population movement inland. Prior to this happening insurance implications associated with the inundation will make this population movement happen earlier. it is different to living close to a river where it happens sporadically whereas coastal inundation will happen and the implication is permanent.
- On discussing opportunities - Sustainable Aviation Fuels (SAF) is a growing industry with global airlines moving towards sustainable practices. Billions of litres of SAF annually will be needed. Can Kyogle region play a part in producing SAF?

12. Greenhouse gas emissions from organics component going to landfill – Judy Faulks

Using a Carbon Calculator, there was just over 1000 tonnes of CO₂ (greenhouse gas) emissions from food and garden organics (FOGO) that went to landfill in 2020/21 (copy of calculation provided). With moving to a 3-bin system, FOGO will now be captured from going to landfill (by the introduction of an organics bin).⁶

13. Action Plan – Status (copy provided)

Full listing of actions since Working Group commenced – available on Google Drive.

Current Action Plan provided.

Action 5.1.1 28/11/22 Chair to include this updated action in a Delegate's report for Council meeting.

Action 12.1 25/7/22 Peter Kelly to liaise with management regarding this action now that Scott Antcliff has left Kyogle Council.

Action 4.1 26/9/22 Exploration of partnerships/project – LLS agreed at last meeting to work with Agriculture Focus Group regarding this action. Carbon Forum is also addressing some aspects of the action.

14. Climate Change Resource Guide

Working Group members to continue to forward any additional documents for inclusion in the Climate Change Resource Guide. Quarterly updates will be carried out. Robyn has provided an updated guide which will update the copy on the website.

15. Agenda Items for Next Meeting

- Item 9 (held over): Update on Climate Change Adaptation Initiatives Council is funding using grants
- Update on progress of Microgrid prefeasibility assessment
- Presentation by Source on Hydropanels
- Dr Webb – Presentation – topic tbc

16. Close of Meeting: 12.30 pm

17. Next Meeting

The next meeting will be held on Monday, 1 May 2023 at 9.30am (for morning tea) with the meeting to commence at 9.45am-12.30pm in the KMI Hall Supper Room, Roxy Lane, Kyogle.

Invitation for the following 2023 meeting dates to be sent out: 1 May, 17 July, 18 September, 20 November.

The minutes of this meeting were confirmed at the Climate Change Working Group Meeting held on 1 May 2023.



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JOHN BURLEY, CHAIRPERSON