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Office of Energy and Climate Change  
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### **Going circular in clean energy issues paper**

Local Government NSW (LGNSW) is the peak body for local government in NSW, representing NSW general purpose councils and related entities. LGNSW facilitates the development of an effective community-based system of local government in the State.

LGNSW welcomes the opportunity to provide feedback on the Going circular in clean energy issues paper. LGNSW advocates for all levels of government, as well as business and the community to work together as we move to a more circular economy where materials and products remain within the economy for longer and waste is reduced. LGNSW also advocates for a transition to net zero greenhouse gas emissions by 2050.

Councils support a circular economy approach to clean energy as it has the potential to reduce the environmental impact of products, save valuable resources and create local jobs. It will also reduce the burden on councils and rate payers managing end of life products.

This is a draft submission and is subject to review and approval of the LGNSW Board. Any changes will be advised at the earliest opportunity.

#### **1. *What are the key barriers to adopting a circular economy for clean energy in NSW? Are there any specific barriers in your industry?***

##### **Distance and density**

Clean energy generators located in regional areas face a number of barriers including high transport costs, limited access to appropriate recovery options, smaller feedstocks to recover and also limited access for disposal without overburdening municipal landfills.

Trials through the NSW Government's Circular solar grants program has highlighted that in regional NSW, getting sufficient feedstock for a solar panel recycling facility is problematic. Low supplies of end of life or defective panels in the regions coupled with high transport costs, make economies of scale hard to reach for regional recycling operations. This may change over time as more panels become obsolete.

Clean energy generators also experience the tyranny of distance when dealing with construction, operational and end of life waste. Transport costs make it more cost effective to dispose in landfill rather than source higher-order resource recovery options. Disposing of commercial waste in a municipal landfill has the potential to overwhelm the existing landfill with

no notice. Opening new landfill cells follows a regulatory process and can take years to complete. For example, a regional council was presented with a wind turbine blade to dispose of as there was no other economically viable alternative to disposal. Some clean energy products also create a work health and safety hazard, fire risk or environmental harm if sent to landfill.

### **Lack of end markets**

Investment in end markets is required to make a circular economy for clean energy viable. We currently have the technology to strip solar panels into component parts. However, local processing and use of crushed glass in regional NSW has so far proven problematic. Testing of glass for use as sand replacement in council construction and road projects is onerous and costly unless council already has the equipment from operating a quarry. Materials handling and stockpiling of recycled crushed glass is also more complex than other building materials as it is still classified as a waste product. End markets need development with a focus on higher order uses.

### **Planning considerations**

Clean energy projects are usually determined through the State Significant Development process. The recent update of the large-scale solar energy guideline has provided further guidance around assessment issues and requirements. This includes circular economy approaches to waste, agricultural land use conflicts and landscape and visual impacts. Similar guidance is recommended for the environmental impact assessment of other clean energy generation projects with an emphasis to include a waste management plan that identifies end markets for waste materials generated at each stage of the project and consultation with councils or facilities on what materials and volumes can be accepted.

### **Material inputs**

Product design is a key factor influencing future circular economy outcomes and should represent a priority area for consideration. Designing out waste is one of the seven key principles contained within the NSW Government's Circular Economy Policy Statement. Similarly to the large-scale solar energy guideline, all clean energy projects should be assessed for circular design principles and strategies to mitigate impacts and reduce waste generation throughout all stages of the project (such as using recycled, reusable and low-impact raw materials where possible).

For example, councils have reported that solar PV panels arrive on a double-sized pallet. High volumes of pallets end up in landfill as the quality of the wood is too poor to be repurposed. Similar issues occur with the metal tape and the plastic film that holds the PV panels within the pallet.

## ***2. What are the key opportunities to advance a circular economy for clean energy in NSW? Are there any specific opportunities in your industry?***

Opportunity exists for a range of circular economy responses to different supply chain dynamics. Enabling a diversity of approaches will assist in responding to local circumstances including availability of feedstock, distance to markets and local reuse opportunities. For

example, higher quantities of discontinued solar PV panels in metropolitan areas may have a higher order glass reuse proposition than reuse in roads.

**3. *What role can a circular economy play in building resilient and circular supply chains for clean energy technologies? What industries or areas should be a focus?***

LGNSW supports a circular economy approach as it is a big generator of jobs and investment. Recycling creates three times as many jobs as waste sent to landfill and modelling from the Centre for International Economics suggests that a 5 per cent increase in recycling rates could add \$1 billion to Australia's gross domestic product.

NSW is vulnerable to a range of climate risks that have the potential to damage or destroy clean energy infrastructure. A more circular supply chain would reduce the amount of disaster waste and the strain on landfill capacity as well as improve energy security.

**4. *How can the NSW Government facilitate a circular economy for clean energy? What policy options could the NSW Government explore?***

Circular design strategies in clean energy developments are needed from the outset. The NSW Government could support this by requiring evidence of circular design considerations as part of the development approval process.

LGNSW would support a materials passport to support recovery and new market opportunities. This would also support safe handling and management of residual waste.

Mechanisms such as product stewardship schemes and product design represent opportunities to minimise water and improve the sustainability of clean energy developments. LGNSW is supportive of mandatory product stewardship schemes to ensure that producers are responsible for both the costs and logistics of product disposal at the end of the product's life.

LGNSW recognises that product stewardship schemes are currently outside the scope of the issues paper however the National Waste Policy outlines the role that all levels of government must play in supporting resource recovery and reducing residual waste.

The NSW Government could advocate through its membership in National Cabinet and the Environment Ministers Meeting to accelerate the establishment of an Australia-wide mandatory product stewardship scheme for PV systems. PV systems have been listed on the Minister's Priority List since 2016 and yet industry still hasn't established a voluntary scheme or process to recycle end-of-life PV systems.

**5. *What are some additional issues in creating a circular clean energy sector (if any) that haven't been discussed in the issues paper?***

There has been some concern about concentration of PFAS in biosolids sourced from wastewater treatment plants. Bioenergy or energy from biomass sources are excluded from this issue paper, however LGNSW notes that the management of biosolids including from local government wastewater treatment plants has the potential to change with the introduction of PFAS National Environmental Management Plan V3.0 and subsequent regulation from the NSW Environment Protection Authority. Future work may be needed to ensure the best circular economy outcomes of bioenergy.

**Conclusion**

LGNSW supports a circular economy approach to clean energy developments. There is opportunity through the development consent process to strengthen circular economy outcomes and consideration of residual waste management. Further incentives are needed for developing recycling technologies and also end markets for those products. A diversity of solutions may be required to respond to local circumstances.

For further information, please contact Denise Anderson, Senior Policy Officer – Environment, on [Denise.Anderson@lgnsw.org.au](mailto:Denise.Anderson@lgnsw.org.au) or 02 9242 4056.

Yours sincerely

A handwritten signature in black ink, appearing to be 'Damian Thomas', with a long horizontal flourish extending to the right.

Damian Thomas  
**Director Advocacy**