



Policy Brief

Analysing workforce implications of renewable energy projects in Queensland

Authors: Professor John Rolfe, Dr Kalpana Pudasaini
Affiliations: Central Queensland University
Date: 18 September 2026



About the Hub

The Queensland Decarbonisation Hub brings together knowledge, people and innovation to co-create solutions to accelerate Queensland's clean growth future. We connect Queensland universities, industry, communities, First Nations people and government to build and share the knowledge needed to reduce emissions. The Hub's vision is for Queensland to become a leading decarbonised economy in which communities, industry and the environment thrive.

About this policy brief

In 2024, the Queensland Decarbonisation Hub initiated a funded research stream, inviting proposals for research that could contribute to understanding and supporting Queensland's decarbonisation transition. The Hub's Advisory Committee, which brings together representatives from industry and other sectors, helped inform the selection process by identifying areas where research could add value to emerging policy and practice. Eight projects were selected across a diverse range of topics, including the research featured in this brief.

Each project has produced a detailed technical report, which is undergoing review prior to publication. Alongside these reports, the Hub has worked with the research teams to consider a different question: what does the research mean for policy and practice?

This question was explored through a series of workshops and the Hub's Research Showcase, where researchers presented their findings to an audience drawn from government, industry, research and the wider community. These policy briefs build on that process. They are intended as short, accessible companions to the technical reports, highlighting the findings that matter most beyond the research itself and the questions and opportunities they raise for Queensland and Australia more broadly.

About this research

John Rolfe and Kalpana Pudasaini have examined an important aspect of the workforce implications of Queensland's renewable energy transition. Employment is frequently presented as one of the principal benefits of renewable energy development, yet governments, communities and industry often have limited information about the number, type and duration of jobs that individual projects are expected to create. The study analysed workforce requirements for projects where employment information was publicly available. In doing so, it also highlighted a significant information gap: consistent project-level workforce data is not readily available, making it difficult to build a clear picture of the employment implications of renewable energy development.

Recent changes to approval requirements for renewable energy projects in Queensland represent an important step towards improving the availability of project-level information. The study suggests, however, that the value of this information will depend on what is reported, how consistently it is presented, and how easily it can be accessed and understood by governments, communities and industry. The authors' recommendations for



more consistent reporting, greater transparency and a searchable workforce information resource point towards a more coordinated approach that could strengthen regional planning, improve community understanding and provide greater accountability for the employment outcomes associated with renewable energy development.

Against this background, the research provides a practical evidence base by analysing workforce requirements across renewable energy projects throughout Queensland. The findings show that, while workforce needs vary with project size, they are sufficiently consistent to provide indicative estimates that can inform workforce planning and regional decision-making where project-specific information is unavailable.

Dr Liz Young

Research Director, Queensland Decarbonisation Hub

From the Showcase Session Facilitator

Regional communities can face significant disruption and uncertainty when large energy projects are proposed nearby, particularly when they are missing information about what a project will mean for their area. Employment is one important piece of the puzzle—communities want to understand not only how many jobs may be created, but how many will remain and what proportion will be filled by locals.

Rolfe and Pudasaini's research demonstrates that this information is often incomplete or missing from publicly available project documents. They also found variation in workforce requirements between projects, depending on factors such as project size and technology type. This variability matters because when project-level information is missing, it can be difficult for communities and other key stakeholders to look to an existing solar or wind project as a reliable guide for the likely workforce impacts of a new proposal.

By identifying commonalities and bringing together the available data, Rolfe and Pudasaini provide an important practical basis for estimating workforce impacts for proposed solar and wind projects across Queensland. In addition, their recommendations for more consistent, transparent and accessible employment reporting would help key stakeholders better assess proposed developments and make more informed decisions about implications for their region.

Dr Sarah MacInnes

Postdoctoral Research Fellow, University of Queensland



1. Why this research matters

The Queensland Government has a net-zero target by 2050. Renewable energy development is one part of the broader transition towards lower-emissions energy and economic activity, with continued investment in solar, wind and associated infrastructure creating opportunities for employment and economic activity, including in regional Queensland. Employment opportunities are likely to be strongest during project development and construction, particularly across electrical trades, engineering, construction and technical occupations. The scale and duration of these benefits will, however, depend on the extent to which investment translates into local employment, supply chains and industry capability. Solar and wind infrastructure and components are largely imported, while operating renewable energy facilities typically require relatively small ongoing workforces.

At a case study level, employment changes matter. Regional communities want to know what job opportunities new projects will bring to their area, and what long-term operational jobs will be available once the construction phases have passed. Communities also want to know if the levels of employment creation vary between the types of projects (e.g., wind and solar), or between projects more generally in decisions about whether to offer broad support or not.

This research assembled and analysed workforce requirements for renewable energy projects across Queensland. A desktop review identified all wind and solar projects in each region of the state and project status, as of March 31, 2025. In total, 193 projects were found. Construction and operational workforce data for the projects were collected from the available planning and approval documents and other publicly available resources. Only the direct employment requirements of energy generation were considered, excluding changes in transmission, supply firming, and upstream or downstream supply chains, to facilitate transferability of the results between case studies.

2. Key findings

The full dataset included 69 wind projects and 124 large-scale solar projects across five stages of development: conceptual, development, approved, under construction, and operational. The main findings from the study are:

- Although there are more solar than wind projects proposed across the state, the average wind project is larger in scale.
- Publicly available details about employment impacts are missing or unclear, to the point where it is difficult to evaluate regional impacts with any degree of accuracy. From 69 wind projects identified, 30% did not report construction workforce and 40% did not report operational workforce, while from 124 large-scale solar projects 55% did not report construction workforce and 71% did not report operational workforce. The gaps in employment data are not limited to projects in the conceptual or development stages.



- Larger projects require more labour. Regression analysis (limited to projects with employment data) confirms a positive relationship between project size and job creation in both solar and wind projects, indicating that larger projects generate more employment in both construction and operational stages.
- While workforce requirements vary across regions, the analysis (limited to projects with employment data) does not reveal any systematic regional differences in workforce intensity. This indicates that workforce estimates can be reasonably extrapolated across the State, irrespective of regional location.
- Workforce requirements were also tested against project status, to identify if newer projects, largely at the conceptual or planning stages, had different needs to older projects (established or under construction). The analysis (limited to projects with employment data) does not reveal any systematic differences in workforce needs by status, indicating that workforce estimates can be reasonably extrapolated across the State, irrespective of the stage of planning or construction.
- The workforce requirements for construction per unit of energy generation capacity (MW) are more than double for solar than wind, at 1.84 and 0.52 annual direct workforce per unit of generation capacity (MW) respectively. However, there are no major differences for operational workforce, at 0.05 and 0.04 annual direct workforce per unit of generation capacity (MW) for solar and wind respectively.
- Construction workforces are typically arranged around block-shift commuting patterns, so regional shares of construction workforces tend to be limited and varied. Operational workforces are more stationary, and it is assumed that 70% of these employees are based in the regions where projects are located.

3. Why the findings matter in practice

The energy transition is largely taking place in regional Queensland, where most new utility-scale solar and wind projects are being proposed and constructed. However, the development of new projects is not universally accepted, with some communities and stakeholders questioning the effects of new projects. Impacts on local employment are one of the key factors that communities to support new projects, but this information has been missing for many projects. This study demonstrates that employment information is critical to gaining community support and provides proxy employment estimate factors that can be used when workforce numbers are unknown.

4. Who should pay attention

- These findings are primarily relevant to **government departments** responsible for energy, regional development, employment, and community engagement, especially those involved in implementing strategies aligned with climate, energy and regional development priorities across regional Queensland.
- The project findings are highly relevant to **renewable energy proponents** who need to obtain social licence for projects in regional areas, as the study demonstrates key information gaps that exist to date.



- **Local governments, industry bodies, and community groups** will find practical guidance on how to estimate employment impacts from proposed energy projects, and to identify where proponents have workforce estimates that differ widely from industry averages.

5. What could happen next

These findings identify that large information gaps exist around the employment effects of the energy transition in regional areas in Queensland. While the 2025 strengthening of the approvals process for renewable energy projects by the Queensland Government will help to provide more detail on projects, more needs to be done.

- Proponents of renewable energy projects in Queensland should be transparent about their workforce requirements at the regional level. This needs to be a core pillar of their case for social licence to operate. Ideally, proponents will detail their overall workforce requirements and then identify the proportion that is expected to be based locally.
- Best practice guidelines could be developed to help the renewable energy industry be more consistent and transparent in reporting its workforce needs and the effects on regional employment.
- Regulatory approval processes for energy projects could be adjusted at both the state and local government levels to request data on workforce requirements and local employment.
- Data on employment needs and projections should be consolidated into a searchable source that facilitates access for planners, regulators and communities. This could be done by the industry as part of efforts to improve social licence, or by government agencies.
- Follow-up studies to track workforce numbers and locations for completed projects are needed to confirm initial estimates and to test if assumptions about workforce arrangements remain accurate in a changing economy.

6. Points to note

In Queensland, wind project proposals are assessed by the State Assessment and Referral Agency (SARA), with reforms in 2025 that require a Social Impact Assessment (SIA) report and a Community Benefit Agreement (CBA) for new projects. Utility-scale solar proposals have traditionally been assessed by local governments based on their planning schemes, but larger projects are now assessed through the SARA process, with conditions similar to those for wind projects.

7. Contact

Professor John Rolfe: j.rolfe@cqu.edu.au