

APPENDIX 20

Cumulative Impact Assessment

This report has been prepared for Richmond Valley Solar & BESS Pty Ltd (ABN 43 672 993 869) a wholly owned special purpose vehicle of Ark Energy Projects Pty Ltd and the Proponent of the Project. Richmond Valley Solar & BESS Pty Ltd will herein be referred to as Ark Energy or Ark Energy Projects.

1.0 Appendix 20 – Cumulative Impacts

1.1 Introduction

When viewed separately, the environmental, social, and economic effects associated with a Project may be limited or minor. However, when the impacts of numerous projects on the same recipients, communities, and surroundings are taken into account the significance of the impacts may change (both positive and negative). Cumulative impacts also provide opportunities for greater collaboration and innovation to manage and mitigate.

The Project is located outside of the five REZs identified in NSW. This will likely result in fewer renewable energy projects within the region. As a result the cumulative impacts associated with projects in this regional will be less than comparable solar projects within REZs. The nearest REZ is the New England REZ, located 95 km south-east of the Project Area. Although the Project is located outside a REZ, the Myrtle Creek Solar Farm and Summerville Solar Farm are within 2 km of the Project and potential cumulative impacts of these projects has been a key consideration throughout the EIS process. Nearby projects are identified in **Figure 1.1** below.

The SEARs require the EIS to include an assessment of the likely impacts of all stages of a project, including any cumulative impacts of the site and existing proposed projects in the region, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice.

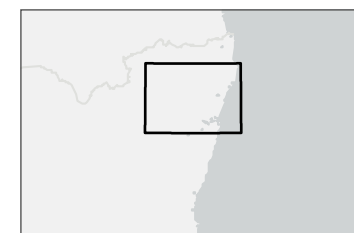
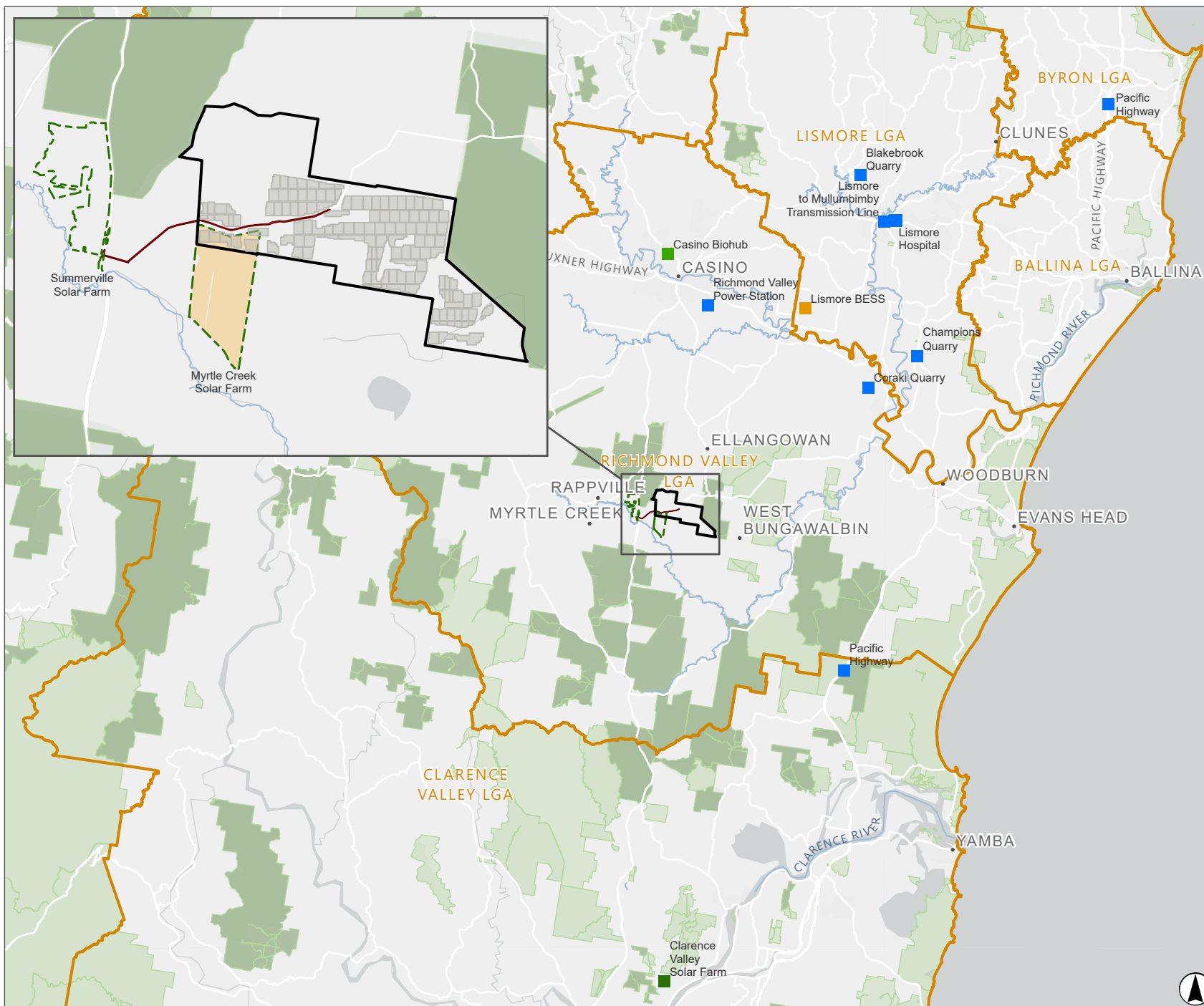
This section presents an assessment of the potential cumulative impacts associated with the construction, operation and decommissioning of the Project when considered in combination with other projects and activities occurring near the Project. It also presents an approach for the management of any cumulative impacts. This assessment was conducted in accordance with the requirements of the SEARs, the *Large-scale Solar Energy Guidelines* (NSW Government, 2022) and the *Cumulative Impact Assessment Guidelines for State Significant Projects* (CIA Guidelines) (DPIE, 2022).

FIGURE 1.1

Approved and Proposed Projects in the vicinity of the Project Area

Legend

- Project Area
- Road Upgrade Area
- Local Government Area
- NPWS Reserve
- State Forest
- Solar Array Layout
- Myrtle Creek Solar Investigation Layout
- Nearby Solar Project - In Planning
- Watercourse
- Solar Project - In Planning
- Operational Project
- Project Under Construction
- Proposed Project



Scale 1:600,000 at A4
GDA 1994 MGA Zone 56

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1.2 Assessment Methodology

In accordance with the CIA guidelines, a scoping summary was prepared to identify the potential for cumulative impacts to occur as a result of the Project. The scoping summary determined that given the distances between other projects in proximity of the Project and the relatively minor impacts associated with the operations phase of the Project, the majority of the potential cumulative impacts are associated with the construction and decommissioning phases (particularly with respect to traffic and social/economic impacts). Through the EIS process specialist assessment has informed the potential cumulative impacts associated with each environmental and social aspect of the Project. This process allows for the EIS to capture the standalone and cumulative impacts that may be perceived by the surrounding area and community.

Nearby projects with the potential to result in cumulative impacts with, or as a result of, the Project were identified using the following sources:

- NSW DPE Major Projects website including renewable and other projects in the area.
- Transport for NSW current projects register (relative to transport routes).
- DCCEEW Protected Matters Search Tool.
- Richmond Valley Council development application registers.
- Google maps.

The Project has the potential to generate cumulative impacts with existing, approved or proposed developments in the region. The Major Projects website (NSW Government, 2024) was searched to identify renewable (**Table 1.1**) and non-renewable (**Table 1.2**) SSDs and State Significant Infrastructure (SSI) projects within 50 km of the Project with a potential to contribute to cumulative impacts. Myrtle Creek Solar Farm and Summerville Solar Farm are within 2 km of the Project and potential cumulative impacts of these projects has been a key consideration throughout the EIS process.

Generally, cumulative impacts have been qualitatively assessed, based on the perceived likelihood of impact and scale of interaction between the Project and nearby developments. In some cases, a detailed assessment (traffic, visual, noise, economic and social) was carried out to identify and assess the cumulative impacts of the project.

The scaling of potential impacts between no potential cumulative impact to certain cumulative impact as detailed in **Table 2.1**, was based on the qualitative specialist assessments detail in Section 6.0 of the EIS. **Table 2.2** outlines the likelihood of nearby developments to contribute to the various potential cumulative impacts of the Project. In determining the potential for cumulative impacts, the distance between the Project and the development, the scale of the development, the likelihood that the developments construction phases would overlap with the Project and the vulnerability of the environment and community to these impacts was considered to scale the potential cumulative impacts. The assessment of impacts is conservative given it is unlikely that all projects will be approved or proceed within the current indicative timelines provided.

1.3 Identified Developments

Impacts associated with the operations phase of the Project and other renewable energy developments within the area will be limited, with the majority of the potential impacts associated with the construction and decommissioning phases. Therefore, renewables projects that are already operational or currently under construction are considered unlikely to result in cumulative impacts with the Project as there would be limited or no overlap of construction or decommissioning activities. Developments that may contribute to the cumulative impacts of the Project are summarised in **Table 1.1** and shown on **Figure 1.1**. In some instances, sufficient detail relating to nearby projects is not currently available to inform a detailed assessment.

Table 1.1 Major Energy Projects within 50 km of the Project Area

Project	Status	Generation Capacity (MW)	Construction Start Date	Approximate Distance from Project Area (km)	LGA
Myrtle Creek Solar Farm (SSD-12360774)	In Planning – Prepare EIS	120 MW	Unknown	Directly south of the Project Area	Richmond Valley
Summerville Solar Farm (SSD-46982232)	In Planning – Response to Submissions	90 MW	Late 2024	1.4 km east	Richmond Valley
Casino Biohub (bioenergy facility)	In Planning – Prepare EIS	4.4 MW of electricity & 16,000MW/hr of heat	Unknown	27 km north	Richmond Valley
Richmond Valley Power Station (MP06_0217)	Approved in 2010 – construction unlikely	30 MW	Unlikely	20 km north	Richmond Valley
Lismore to Mullumbimby Transmission Upgrade (MP08_0044)	Operational – Approved in 2009	Upgrade and installation of 132 kV transmission line and construction of two 132/11 kV substations	Operational	50 km north-west	Clarence Valley LGA
Lismore BESS facility (SSD-27165998)	In Planning – Prepare EIS	100 MW / 200 MWh battery storage system	Unknown	26 km north-east	Lismore City
Clarence Valley Solar Farm	In Planning – Prepare EIS	85 MW	Unknown	50 km south	Lismore City

Table 1.2 Major Non-Energy Projects within 50 km of the Project Area

Project	Status	Industry	Construction Start Date	Approximate Distance from Project Area (km)	LGA
Coraki Quarry (SSD-7036)	First approved in 2009 and is currently operational.	Extractive	Completed construction. Operating timeframe approved until June 2025.	24 km east-north-east	Richmond Valley
Pacific Highway – Woolgoolga to Ballina (SSI-4963)	Approved in June 2014 last modified in February 2018	Infrastructure	Open to traffic in 2020.	19 km west	Ballina Shire, Clarence Valley, Coffs Harbour City, Richmond Valley
Lismore Hospital Redevelopment – Stage 3C (SSD-8963)	Approved in September 2018 and last modified in September 2019	Hospital	Works completed in 2023.	38 km north-east	Lismore City
Blakebrook Quarry (MP07_0020)	Approved in 2009, Mod 3 approved in July 2021 and consent to operate until 2039	Extractive industries	Consent to operate until 2039.	40 km north-east	Lismore City
Champions Quarry (MP09_0080)	Approved in 2012, Mod 3 approved in August 2017	Extractive industries	Consent to operate until 2031.	30 km north-east	Lismore City

2.0 Cumulative Impacts Scoping Summary

Table 2.1 Cumulative Impacts Key

Key	No potential overlap – no further consideration of cumulative impacts undertaken.
	Minor potential for overlap however unlikely to result in significant cumulative impacts – no further consideration of cumulative impacts required.
	Overlap is likely/certain and there is potential for substantial cumulative impacts – qualitative assessment of the cumulative impacts undertaken.

Table 2.2 Cumulative Impacts Scoping Overview

Project	Proximity to the Project Area	Details/Timing/Overlap	Key Issue										
			Biodiversity	Waste	Social/Economic	Noise	Visual	Bushfire	Aboriginal Heritage	Historic Heritage	Hazards and Risk	Land Use	Transport
Operational													
Richmond Valley Power Station (MP06_0217)	20 km north	No overlap as potential for cumulative operational impacts is minor.											
Lismore to Mullumbimby Transmission Upgrade (MP08_0044)	50 km north-west	No overlap as potential for cumulative operational impacts is minor.											
Coraki Quarry (SSD-7036)	24 km east-north-east	No overlap as potential for cumulative operational impacts is minor. The transport route does not overlap with the proposed Project transport route.											

Project	Proximity to the Project Area	Details/Timing/Overlap	Key Issue											
			Biodiversity	Waste	Social/Economic	Noise	Visual	Bushfire	Aboriginal Heritage	Historic Heritage	Hazards and Risk	Land Use	Transport	
Pacific Highway – Woolgoolga to Ballina (SSI-4963)	19 km west	No overlap as there are no operational impacts.												
Lismore Hospital Redevelopment - Stage 3C (SSD-8963)	38 km north-east	No overlap as potential for cumulative operational impacts is minor.												
Blakebrook Quarry (MP07_0020)	40 km north-east	No overlap as potential for cumulative operational impacts is minor and the transport route does not overlap with the proposed Project transport route.												
Champions Quarry (MP09_0080)	30 km north-east	No overlap as potential for cumulative operational impacts is minor and the transport route does not overlap with the proposed Project transport route.												
Proposed – under assessment or in planning and design phase														
Summerville Solar Farm (SSD-46982232)	1.4 km east	Construction expected to begin in Q4 2024 or 2025 which has potential to overlap with the Project. Possible overlap for construction workforce requirements, consultation fatigue, construction noise, vehicle construction traffic along Summerland Way and haulage route to Brisbane.												

Project	Proximity to the Project Area	Details/Timing/Overlap	Key Issue										
			Biodiversity	Waste	Social/Economic	Noise	Visual	Bushfire	Aboriginal Heritage	Historic Heritage	Hazards and Risk	Land Use	Transport
Myrtle Creek Solar Farm (SSD-12360774)	Directly south of the Project Area.	SEARs issued April 2024. Potential overlap in construction phase. Potential for social impacts due to consultation fatigue and potential for workforce to work across both projects.	Red	Red	Red	Red	Red	Yellow	Green	Green	Green	Yellow	Red
Clarence Valley Solar Farm	50 km south	SEARs issued December 2021. Potential construction period overlap with no potential for traffic impacts as construction material is expected to be delivered from the Port of Newcastle. Project is unlikely to have cumulative impacts associated with Clarence Valley Solar Farm.	Green	Green	Yellow	Green	Green	Green	Green	Green	Green	Green	Green
Casino Biohub (bioenergy facility)	27 km north	SEARs issued October 2023 with an anticipated peak construction workforce of 25 FTE jobs. Cumulative impacts associated with incoming construction workforces such as traffic, need for short term accommodation as well as increased demand on service provision.	Green	Green	Yellow	Green	Green	Green	Green	Green	Green	Green	Green

Project	Proximity to the Project Area	Details/Timing/Overlap	Key Issue										
			Biodiversity	Waste	Social/Economic	Noise	Visual	Bushfire	Aboriginal Heritage	Historic Heritage	Hazards and Risk	Land Use	Transport
Lismore BESS facility (SSD-27165998)	26 km north-east	SEARs issued in October 2021. Cumulative impacts associated with incoming construction workforces such as traffic, need for short term accommodation as well as increased demand on service provisions.											