

Sirius Solar PV Project Two, Northern Cape Province

Social Input for the amendment of the Environmental
Authorisation

September 2020

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Prepared for:

Sirius Solar PV Project Two RF (Pty) Ltd



PROJECT DETAILS

Title	:	Sirius Solar PV Project Two, Northern Cape Province: Social Input for the Amendment of the Environmental Authorisation
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SPECIALIST DECLARATION OF INTEREST

I, Lisa Opperman, declare that –

- » I act as the independent specialist in this application.
- » I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant.
- » I declare that there are no circumstances that may compromise my objectivity in performing such work.
- » I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity.
- » I will comply with the Act, Regulations and all other applicable legislation.
- » I have no, and will not engage in, conflicting interests in the undertaking of the activity.
- » I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing – any decision to be taken with respect to the application by the competent authority; and – the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority.
- » All the particulars furnished by me in this form are true and correct.
- » I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the Act.

Lisa Opperman

Name

September 2020

Date



Signature

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PURPOSE OF THE REPORT

Sirius Solar PV Project Two RF (Pty) Ltd proposes the development of the Sirius Solar PV Project Two, a commercial PV energy facility and associated infrastructure on a site 21km south-west of the town of Upington, in the Northern Cape Province. The proposed project comprises a commercial photovoltaic (PV) solar energy facility and associated infrastructure and is intended to be bid under the Risk Mitigation Independent Power Producer (IPP) Procurement Programme of the Department of Mineral Resources and Energy.

Sirius Solar PV Project Two received Environmental Authorisation (EA) from the National Department of Environment, Forestry and Fisheries (DEFF) in accordance with the National Environmental Management Act (No. 107 of 1998) (NEMA), and the 2010 Environmental Impact Assessment (EIA) Regulations after the completion of an EIA process. The Environmental Authorisation was obtained in July 2014 under the reference number 14/12/16/3/3/2/481.

A Social Impact Assessment (SIA) Report was prepared by Tony Barbour of Tony Barbour Environmental Consulting and Research (Pty) Ltd in November 2013¹, in order to assess the positive and negative social impacts associated with the project.

Sirius Solar PV Project Two RF (Pty) Ltd is now proposing an amendment to the Environmental Authorisation, which consists of the inclusion of a Battery Energy Storage System (BESS) as well as an increase of the contracted capacity by 75MW. This results in a change of the project description and the infrastructure associated with the project, as well as the layout of the facility. It must be noted that the inputs provided as part of this report assumes that no new areas or properties will be affected by the amendment (i.e. addition of BESS and increase in contracted capacity), other than those previously assessed, and that no new listed activities in terms of the EIA Regulations, 2014, are triggered.

1. OVERVIEW OF THE PROJECT AS INDICATED AND CONSIDERED IN THE SIA

1.1. Project Description

Sirius Solar PV Project Two is proposed on the Remaining Extent of Farm Tungsten Lodge 638 within the Kai !Garib Local Municipality and the ZF Mgcau District Municipality, 21km south-west of Upington.

Sirius Solar PV Project Two constitutes a commercial solar energy generation facility, and will utilise photovoltaic (PV) solar technology. The project will have a maximum installed (contracted) capacity of ~75MW², and will include the following associated infrastructure:

- » Solar panels;
- » Mounting structures for the PV panels;
- » Cabling between the project components, to be laid underground where practical;

¹ Tony Barbour(2013) Social Impact Assessment (SIA) for Phase One and Phase Two of the Sirius Solar Energy Facility, Northern Cape.

² To be increased by 75MW as part of this Amendment Process.

- » A new on-site facility substation and power line to evacuate the power from the facility into the Eskom grid;
- » Internal access roads and fencing;
- » Workshop area for maintenance, storage, and offices; and
- » Foundations to support the PV panels.

1.2. Potential Social Impacts as determined through the EIA Process

The SIA that was undertaken as part of the EIA process for the solar energy facility identified impacts during both the construction and operation phases. Both positive and negative impacts were identified for these development phases.

The following positive impacts are expected to occur during the construction phase:

- » Creation of employment and business opportunities.

The following negative impacts are expected to occur during the construction phase:

- » Presence of construction workers and potential impacts on family structures and social networks;
- » Potential safety threat to farmers due to the presence of construction workers;
- » Risk of stock theft, poaching and damage to farm infrastructure;
- » Risk of veld fires;
- » Impact of heavy vehicles and construction activities; and
- » Loss of farmland.

The following positive impacts are expected to occur during the operation phase:

- » Creation of employment and business opportunities;
- » Establishment of a Community Trust; and
- » Establishment of infrastructure for the generation of renewable energy.

The following negative impacts are expected to occur during the operation phase:

- » Visual impact and impact on the sense of place.

Impacts during the decommissioning phase were also identified and linked to loss of jobs and the associated source of income.

Positive and negative cumulative impacts were also assessed as part of the SIA.

The positive cumulative impacts include:

- » Cumulative socio-economic impacts including creation of employment, skills development and training opportunities, creation of downstream business opportunities and stimulation of the local property market.

The negative cumulative impacts include:

- » Cumulative impacts on the sense of place and landscape character.

Overall conclusion of the Social Impact Assessment:

The findings of the SIA undertaken for Sirius Solar PV Project Two indicate that the development will create employment and business opportunities for locals during both the construction and operational phases of

the project. The establishment of a Community Trust will also create an opportunity to support local economic development in the area. The development of renewable energy has also been identified as a key growth sector by the local and district municipalities and also represents an investment in clean, renewable energy infrastructure, which, given the challenges created by climate change, represents a positive social benefit for society as a whole.

The SIA recommended that the Sirius Solar PV Project Two be supported, subject to the implementation of the recommended enhancement and mitigation measures contained in the SIA report.

2. DETAILS OF THE AMENDMENTS

The requested amendment will result in a change in the layout, with the main change being the addition of a BESS to the associated infrastructure of the facility. The BESS will have a capacity of up to of up to 4.5MWh and will be located within the authorised area for the project and will not affect any areas not previously assessed as part of the SIA. The area proposed for the BESS is ~ 18ha and is proposed within the area assessed and approved for the solar PV facility. The extent of the footprint of the battery energy storage will be up to 6.5ha and will be located within the development area of 18ha. The BESS is proposed to be located adjacent the authorised on-site facility substation of the solar PV facility. The following infrastructure is associated with the BESS:

- » Lithium-ion, Lithium Iron Phosphate, Sodium Sulphur, or Vanadium Redox batteries in a container with a footprint of 6.5ha and a maximum height of up to 2.8m; and
- » Multi-core, 33kV underground cables to connect the BESS to the authorised on-site facility substation of Sirius Solar PV Project Two.

The amended layout illustrating the location of the BESS is included as **Figure 2.1**.

The generation capacity of the facility will be increased by 75MW, and therefore the contracted capacity of the facility will be 150MW in total. The need for the increase in capacity is based on the demand for electricity and technological advancements in the development of solar PV panels. It is understood that the increase in capacity will not affect the area authorised for the development of the PV facility. The height of the PV panels will remain the same with the increase in capacity.

3. POTENTIAL FOR CHANGE IN THE SIGNIFICANCE OF SOCIAL IMPACTS AS A RESULT OF THE PROPOSED AMENDMENTS

In terms of Regulation 32(1)(a)(i) of the EIA Regulations, the following section provides an assessment of the social impacts related to the proposed amendment for Sirius Solar PV Project Two. Understanding the nature of the proposed amendment and the fact that the addition of the BESS and the increase of the contracted capacity does not change the assessed and authorised development footprint, which was fully assessed as part of the SIA, it is concluded that the proposed amendments will not introduce any new social impacts, nor significantly alter the social impacts as previously assessed in the SIA. It is understood that the BESS will

result in additional employment opportunities during the construction and operation phases, however these are limited and do not affect the significance ratings of the related impacts.

As required in terms of Regulation 32(1)(a)(iii) of the EIA Regulations, consideration was given to the requirement for additional measures to ensure avoidance, management and mitigation of impacts associated with the proposed change. Considering that there will be no change in impacts, no additional mitigation or enhancement measures are required for the addition of the BESS to the layout and the increase of the contracted capacity from a social perspective. The recommendations, mitigation and enhancement measures provided in the SIA are considered to be sufficient for the enhancement of the positive impacts and the management and mitigation of the negative impacts to acceptable levels. Therefore, all enhancement and mitigation measures, as proposed in the SIA are still required to be implemented for the amended Sirius Solar PV Project Two development.

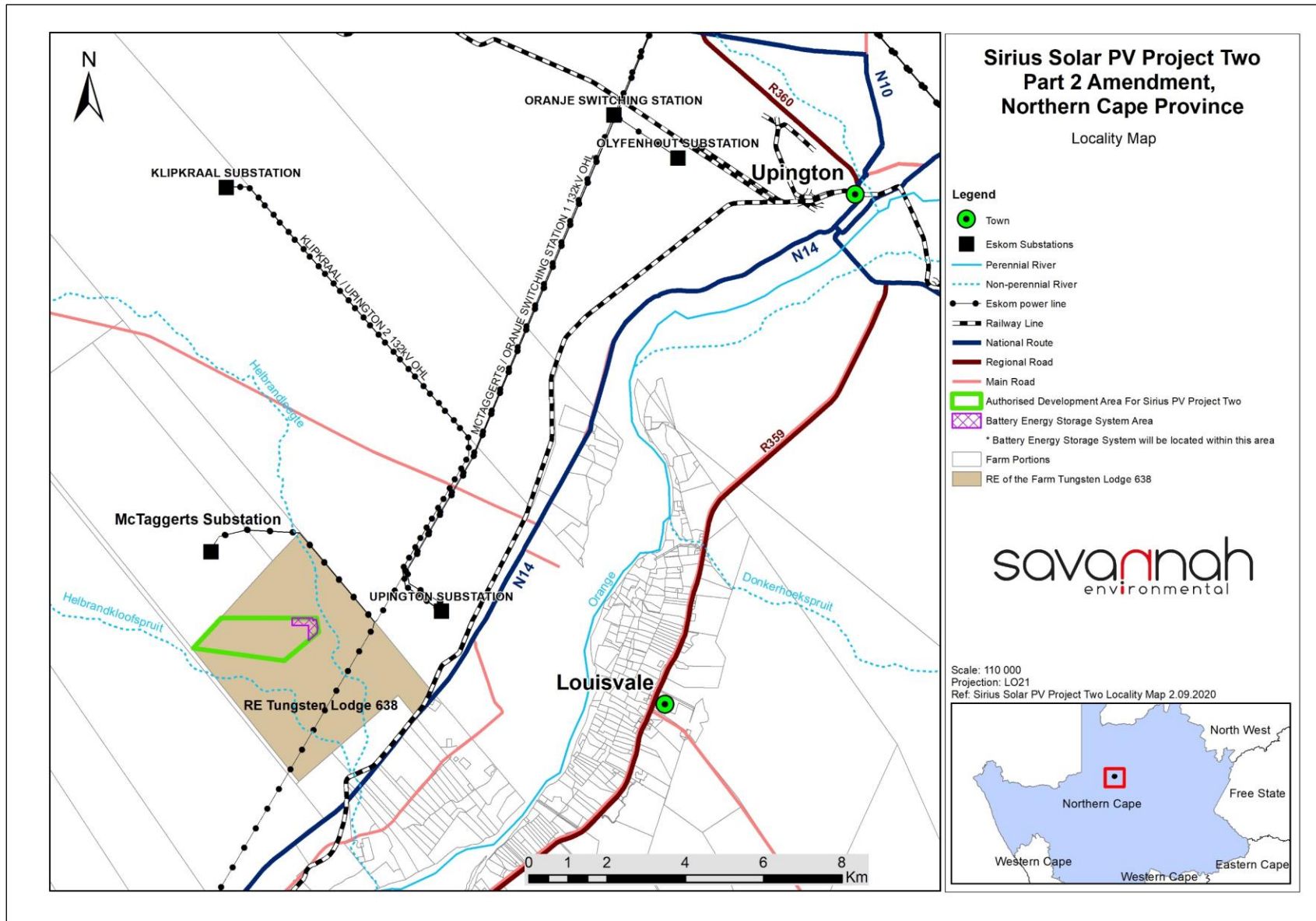


Figure 2.1: Proposed amended Sirius Solar PV Project Two locality map, as considered within this report.

4. ADVANTAGES AND DISADVANTAGES OF THE PROPOSED AMENDMENTS

In terms of Regulation 32(1)(a)(ii) of the EIA Regulations, this section provides details of the advantages and disadvantages of the proposed amendment from a social perspective.

No specific advantages or disadvantages have been identified from a social perspective with the implementation of the proposed amendments as part of the Sirius Solar PV Project Two.

5. CONCLUSION

Based on the nature of the proposed amendment for Sirius Solar PV Project Two, and the fact that the proposed BESS and increase in contracted capacity falls within the property and development footprint which was fully assessed as part of the SIA (November 2013), it can be concluded that the amendment will not lead to any additional impacts other than those identified and assessed within the SIA. No change in the significance of the impacts is expected to occur and there is no need for any additional recommendations or mitigation measures other than those already specified in the SIA.

The proposed amendments are considered to be acceptable from a social perspective and can be approved, subject to the implementation of the mitigation and enhancement measures as specified in the SIA (November 2013).

