

Rosefield Solar Farm

Environmental Statement

Volume 4
Appendix 5.7: Indicative Construction, Operation and
Decommissioning Waste
(Tracked)

EN010158/APP/6.4_2
Deadline 2
April/September 2026/5
Rosefield Energyfarm Limited

APFP Regulation 5(2)(a)
Planning Act 2008
Infrastructure Planning
(Applications: Prescribed Forms
and Procedure) Regulations 2009



1. Indicative Waste

1.1. Introduction

1.1.1. This document has been updated at Deadline 2 in response to the Local Impact Report. The document references have not been updated from the original submission. Please refer to the **Guide to the Application [EN010158/APP/1.2.7]** for the list of current versions of documents.

1.1.2. Table 1 sets out the indicative waste generation during the construction, operation (including maintenance) and decommissioning -phase of the Proposed Development. The associated assumptions are detailed below.

1.2. Methodology for Estimating Indicative Waste

1.2.1. The indicative volumes of construction packing waste associated with photovoltaic modules and string inverters have been derived using manufacturer data, shipping weights and unit net weights, with the difference between shipped and product weights attributed to packaging materials.

1.2.2. The International Energy Agency states that currently recycling technologies can recover up to 95% of materials from crystalline silicon PV modules¹, which account for the majority of the global PV market.

1.2.3. Total waste generation has been updated to include worker waste based on a rate of 200kg per person per year. This value is derived from current English household waste values per person which are assumed to be 377kg per year and factoring it down to account for the time workers will be on-site.

1.3. Photovoltaic Module Packaging Waste

1.3.1. For photovoltaic modules, the indicate waste is based on typical palletised deliveries of Jinko Solar 144 half cell modules. Each module has a net weight of approximately 32kg, and a standard pallet contains 36 modules, resulting in a combined module weight of 1,152kg excluding packaging.

1.3.2. One pallet weighs approximately 1,205kg. The difference between the delivered pallet weight and the module weight, amounts to approximately 53kg per pallet, this has been attributed to packaging materials.

¹ https://iea-pvps.org/wp-content/uploads/2020/01/Life_Cycle_Assesment_of_Current_Photovoltaic_Module_Recycling_by_Tas_k_12.pdf

1.4. String Inverter Packaging Waste

1.4.1. Packaging waste associated with the delivery of string inverters has been estimated using manufacturer weight data. The shipping weight of each inverter is reported as 152.5kg , and the net weight of the inverter unit is 116kg. The difference between these values, amounting to approximately 36.5kg per inverter, has been attributed to packaging materials.

4.1.1-1.4.2. Of the total estimated packaging weight per inverter, it is assumed that approximately 25kg comprises the timber pallet, with the remaining 11.5kg comprising carboard and plastic materials.

Table 1: Indicative Construction, Operation (including maintenance) and Decommissioning Waste

Construction Phase				
	Recycle	Unit	Landfill	Unit
Damaged Solar PV modules	95	Tonnes	5	Tonnes
<u>Stone</u>	<u>3,150</u>	<u>Tonnes</u>	<u>na</u>	
Steel	110	Tonnes	na	
Wood	1,175	Tonnes	na	
<u>Cardboard and Plastic</u>	<u>140</u>	<u>Tonnes</u>	<u>59</u>	<u>Tonnes</u>
Total	<u>41,670</u>380	Tonnes	5	Tonnes
Operation (including maintenance) Phase				
	Recycle	Unit	Landfill	Unit
Damaged Solar PV modules	133	Tonnes	7	Tonnes
Replaced String Inverters	248	Tonnes	13	Tonnes
Replaced Battery units	35,910	Tonnes	1,890	Tonnes
Replaced BESS MVS	1,140	Tonnes	60	Tonnes
Steel	1	Tonnes	na	
Wood	371	Tonnes	na	
<u>Cardboard and Plastic</u>	<u>35</u>	<u>Tonnes</u>	<u>8</u>	<u>Tonnes</u>
Total	<u>37,8</u>3802	Tonnes	<u>1,97</u>80	Tonnes

Decommissioning Phase				
	Recycle	Unit	Landfill	Unit
Solar PV modules	18,950	Tonnes	997	Tonnes
String Inverters	83	Tonnes	4	Tonnes
Battery units	17,955	Tonnes	945	Tonnes
BESS MVS	570	Tonnes	30	Tonnes
<u>Stone</u>	<u>12,600</u>	<u>Tonnes</u>	<u>5,400</u>	<u>Tonnes</u>
Concrete	59,786	Tonnes	na	
Steel	11,035	Tonnes	na	
Cable	318	Tonnes	18	<u>Tonnes</u>
<u>Cardboard and Plastic</u>	<u>0.3</u>	<u>Tonnes</u>	<u>0.1</u>	<u>Tonnes</u>
Total	108,39779.3	Tonnes	1,9747.1	Tonnes



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