

# **Demand Assessment (Existing)**

SAMPLE (EXISTING SOLAR, DAILY\_TOTALS)

123 SAMPLE STREET, BALLARAT VIC 3350

NMI: SAMPLE

2024-02-23

# Report: Demand Assessment (Existing)

## How to Understand this Report

### Understanding Your Smart Meter Data

This report summarizes data from the Revenue Smart Meter used by your electricity retailer to calculate your bill.

This Smart Meter data shows electricity usage (and if applicable, Solar Export) as it has actually been recorded and does not involve any manipulation of the data to model hypothetical scenarios. As such it can be used as a baseline when considering:

- How Demand would increase or decrease if Appliances change (eg. replace Hot Water Service using an Electric Element with an Electric Heat Pump)
- How Renewable Energy (eg. Solar Power & a Battery) and Energy Efficiency measures might reduce energy bills and greenhouse gas emissions

Your Revenue Smart Meter records Mains Import on a Single Meter Register which appears on your electricity bill as: E1.

Your Revenue Smart Meter records Export of Excess Solar Generation from Your Existing Solar Power System on a Single Meter Register which appears on your electricity bill as: B1.

### Understanding Energy [kWh] and Power [kW]

This report refers to Energy measured in KiloWatt Hours (or "kWh"). This is the same unit of measure used on electricity bills.

A KiloWatt Hour ("kWh") is the amount of Energy converted (consumed or generated) over a Period of 1 Hour at a Rate of 1 KiloWatt ("kW"). This Rate in KiloWatts ("kW") is referred to as "Power". The more Powerful ("kW") a device is, the faster it converts Energy ("kWh").

So a 4.8 kW Electric Element in a hot water service that ran for 2 Hours would consume  $4.8 \text{ KiloWatts} \times 2 \text{ Hours} = 9.6 \text{ KiloWatt Hours ("kWh")}$ . And a Solar Power System generating 2.0 kW for 4 Hours would yield  $2 \text{ KiloWatts} \times 4 \text{ Hours} = 8 \text{ KiloWatt Hours ("kWh")}$ . And a fully-charged Battery with a useable capacity of 10.0 KiloWatt Hours ("kWh") could be discharged at a Rate of 4.0 KiloWatts ("kW") for  $10.0 \text{ KiloWatt Hours ("kWh")} / 4.0 \text{ KiloWatts} = 2.5 \text{ Hours}$ .

# Information Used to Prepare This Report

## Site Information:

- **Street Address:** 123 SAMPLE STREET, BALLARAT VIC 3350
- **Mains Connection Details:**
  - **NMI:** SAMPLE
  - **Main Meter:** SAMPLE
  - **Main Meter Register:** E1
  - **Number of Phases:** 1

## Pre-Existing Solar PV System:

- 1.54 kW of Solar PV Panels
- 1.5 kW of (Total) Solar Inverter AC Output
- 1 of 1 Mains Phases supplied by Solar Inverter(s)
- 0 kWh Battery Capacity
- 1.5 kW Export Limit

## Data Sources:

- **Data Source:** NEM Format Data from your Revenue Smart Meter
- **Data Series from this Source:** E1,B1
- **Data File Name:** SAMPLE\_POWERCOR\_VECFORMAT.csv

## Data Quality:

A Full Year of Actual Revenue Smart Meter Data is available; No Estimations have been made to fill out a Full Model Year. Actual Solar Yield Data from Existing Solar System is \*NOT\* available; Solar Yield has been estimated using a Data for Typical Performance at this Location. But Solar Export Data is available from the Revenue Smart Meter and has been used.

## Mains Electricity Prices:

- **Electricity Retailer:** Sample Retailer
- **Tariff Plan:** Single Rate
- **Supply Charge [\$ per Day]:** \$ 1.40
- **Mains Import Flat Rate (E1) [\$ per kWh]:** \$ 0.34
- **Solar Export [\$ per kWh]:** \$ 0.05
- **Retailer Discount [% for Per kWh Portion]:** 0 %

## Acceptable Budget & Payback Period:

- **Budget:** Not Specified
- **Payback Period (Simple):** Not Specified

## Existing Demand Scenario

# Existing Demand Scenario

## How to Interpret the Following Section ...

### Existing Demand

The following section shows your Actual Mains Import (E1) and Solar Export (B1) as recorded in "NEM" Data from your Revenue Smart Meter.

Since your site already has an Alternative Source of Electricity (ie. a Solar (and Battery) System), the Total Demand for Electricity, is the Sum of the Demand met by Solar and the Remaining Demand met by Mains Import.

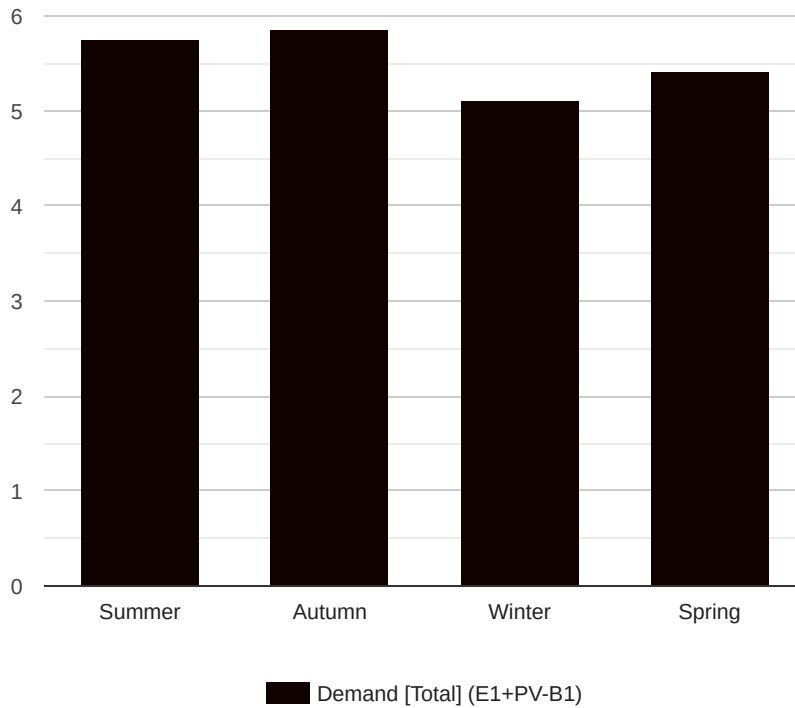
The Total Demand is described as "Demand (Estimated)" because it has been derived by considering the Total Solar Yield (PV) and subtracting the the Solar Export (B1) to leave the the Solar Self-Use (PV-B1). The Total Demand "Demand (Estimated)" is then the Sum of the Solar Self-Use (PV-B1) and the Mains Import.

Since No Data recorded by the Actual Solar Power System itself is available, the Solar Yield (PV) has been estimated based on the Panel Capacity (kW) and Angles of Orientation (eg. North) and Angles of Elevation (eg. 20 Degrees) of the Existing Solar Power System.

## Existing Demand Scenario

# Demand (Estimated) (on All Meter Registers) [kWh]

## Average per Day per Season

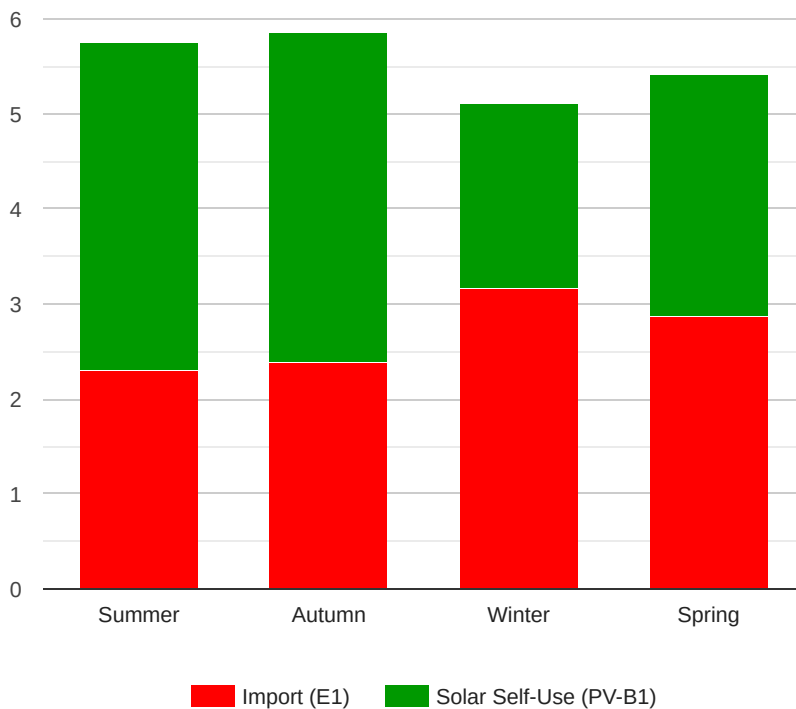


	Demand [Total] (E1+PV-B1)
<b>Summer</b>	5.76
<b>Autumn</b>	5.86
<b>Winter</b>	5.11
<b>Spring</b>	5.41

**Existing Demand Scenario**

# Where Demand is currently Supplied From [kWh]

## Average per Day per Season

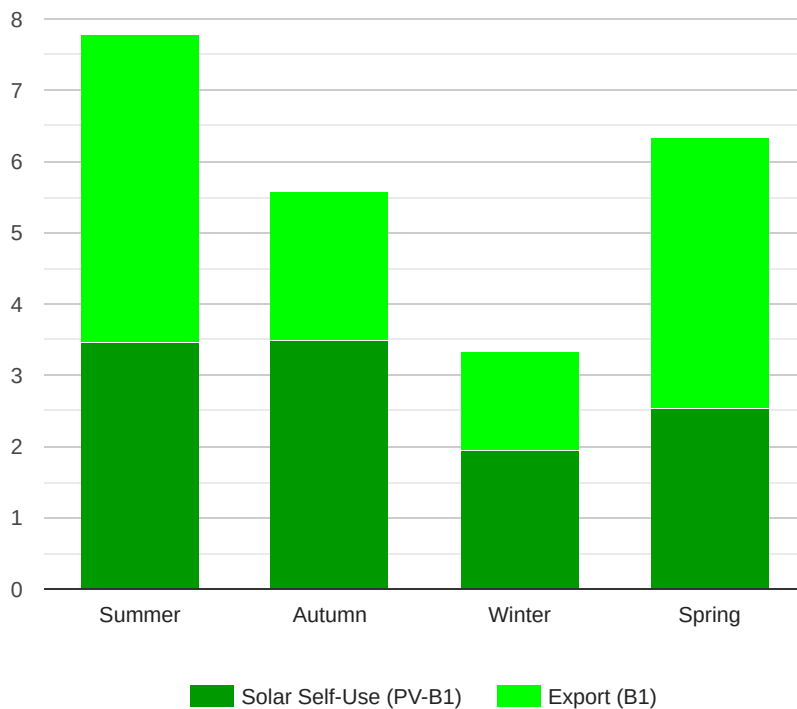


	Import (E1)	Solar Self-Use (PV-B1)
<b>Summer</b>	2.30	3.47
<b>Autumn</b>	2.39	3.47
<b>Winter</b>	3.17	1.94
<b>Spring</b>	2.87	2.54

Existing Demand Scenario

# Where Solar Yield currently Flows To [kWh]

## Average per Day per Season



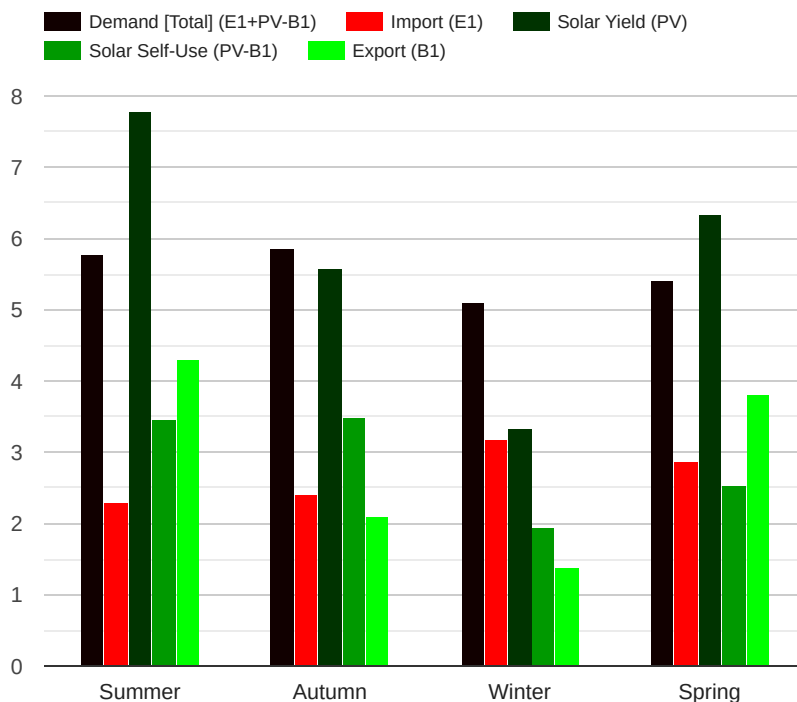
	Solar Self-Use (PV-B1)	Export (B1)
<b>Summer</b>	3.47	4.31
<b>Autumn</b>	3.47	2.11
<b>Winter</b>	1.94	1.39
<b>Spring</b>	2.54	3.80



### Existing Demand Scenario

# Demand (Estimated Existing), Solar Yield (Estimated Existing), Solar Self-Use, Solar Export & Mains Import [kWh]

Average per Day per Season



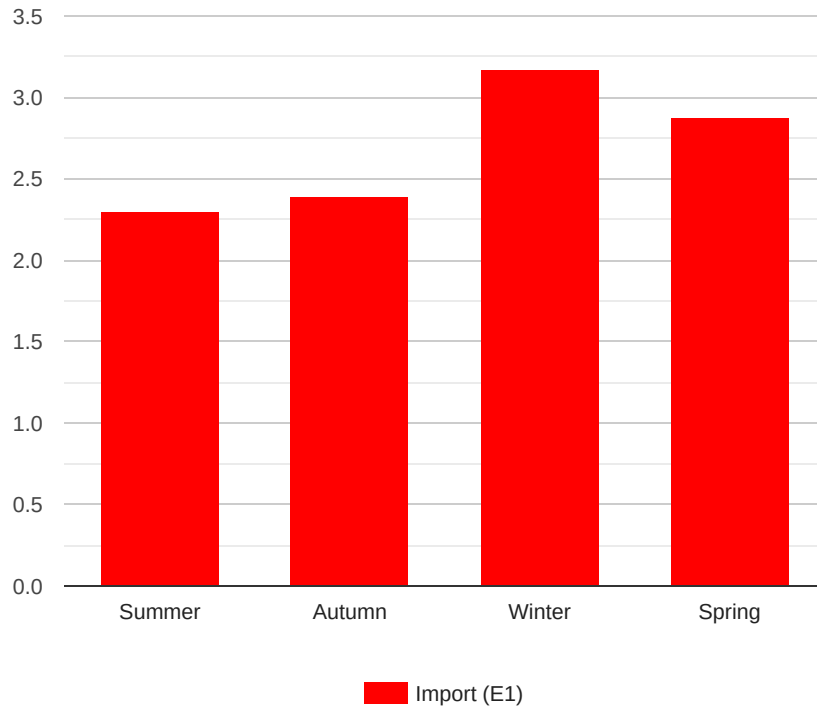
	Summer	Autumn	Winter	Spring
<b>Demand [Total] (E1+PV-B1)</b>	5.76	5.86	5.11	5.41
<b>Import (E1)</b>	2.30	2.39	3.17	2.87
<b>Solar Yield (PV)</b>	7.77	5.58	3.33	6.34
<b>Solar Self-Use (PV-B1)</b>	3.47	3.47	1.94	2.54
<b>Export (B1)</b>	4.31	2.11	1.39	3.80

This Document presents a Summary of Data that might be useful for making a Purchasing Decision. But it is Not Sufficient by itself and needs to be interpreted by a Solar Industry Professional or Energy Assessor. Prepared by Central Highlands Energy Assessments (E: [enquiries@centralhighlandsenergyassessments.com.au](mailto:enquiries@centralhighlandsenergyassessments.com.au) W: [www.centralhighlandsenergyassessments.com.au](http://www.centralhighlandsenergyassessments.com.au))

## Existing Demand Scenario

# Import [kWh]

## Average per Day per Season

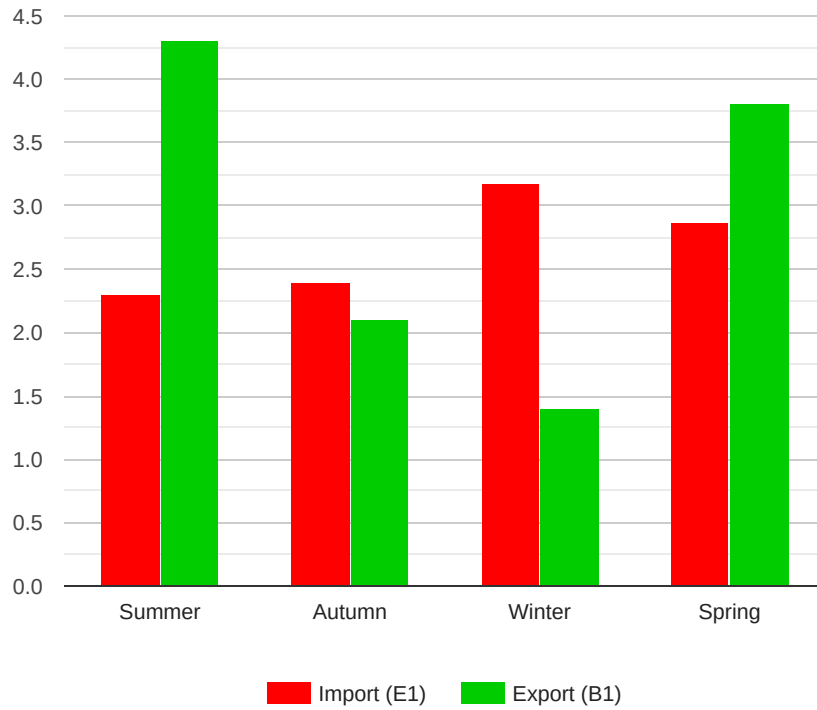


	Import (E1)
<b>Summer</b>	2.30
<b>Autumn</b>	2.39
<b>Winter</b>	3.17
<b>Spring</b>	2.87

**Existing Demand Scenario**

# Import & Export [kWh]

## Average per Day per Season



	Import (E1)	Export (B1)
<b>Summer</b>	2.30	4.31
<b>Autumn</b>	2.39	2.11
<b>Winter</b>	3.17	1.39
<b>Spring</b>	2.87	3.80