

Renewable Energy Technologies

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# 1 Introduction

{{ company\_name }} Project: {{ project\_name }} Client: {{ client\_name }} Location: {{ site\_location }} Date: {{ report\_date }}

System Capacity: {{ system\_capacity }} Number of Panels: {{ panel\_count }} Annual Generation: {{ annual\_generation }} Annual Savings: {{ annual\_savings }} Payback Period: {{ payback\_period }}

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# Facilities

These are the facilities that comprise the SWIS.

|  |  |
| --- | --- |
| **Facility Name** | **Facility Code** |
| {%-tr for facility in facilities %} | |
| {{ facility.facility\_name }} | {{ facility.facility\_code }} |
| {%-tr endfor %} | |

# Technologies

\*\*Generation and Storage Technologies for ({{demand\_year}})\*\*

These are the technologies that are relevant to modelling the decarbonisation of the SWIS. The data has been sourced from the CSIRO GENCOST report. From the Capex down the attributes vary by year. The reference year is {{demand\_year}}.

{%- for technology in technologies %}

## {{technology.name}}

{{technology.description}}

### Technology Attributes:

• Renewable: {{technology.renewable}}

• Dispatchable: {{technology.dispatchable}}

• Lifetime: {{technology.lifetime}} years

• Discount Rate: {{technology.discount\_rate}}%

• Emissions: {{technology.emissions}} kg/MWh

• Area: {{technology.area}} km²/MW

{%- if technology.capex %}

• Capex: ${{technology.capex}}/kW

{%- endif %}

{%- if technology.fom %}

• Fixed O&M: ${{technology.fom}}/kW/year

{%- endif %}

{%- if technology.vom %}

• Variable O&M: ${{technology.vom}}/MWh

{%- endif %}

{%- if technology.fuel %}

• Fuel Cost: ${{technology.fuel}}/GJ

{%- endif %}

{%- if technology.is\_generator %}

### Generator Attributes

• Capacity Max: {{technology.capacity\_max}} MW

• Capacity Min: {{technology.capacity\_min}} MW

• Rampdown Max: {{technology.rampdown\_max}}%/min

• Rampup Max: {{technology.rampup\_max}}%/min

{%- endif %}

{%- if technology.is\_storage %}

### Storage Attributes

• Discharge Loss: {{technology.discharge\_loss}}%

• Discharge Max: {{technology.discharge\_max}}%

• Parasitic Loss: {{technology.parasitic\_loss}}%

• Recharge Loss: {{technology.recharge\_loss}}%

• Recharge Max: {{technology.recharge\_max}}%

{%- endif %}

{%- endfor %}

# Technologies Summary Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Technology** | **Type** | **Renewable** | **Dispatchable** | **Lifetime** | **Emissions** |
| {%-tr for technology in technologies %} | | | | | |
| {{technology.name}} | {%- if technology.is\_generator %} Generator{%- elif technology.is\_storage %} Storage{%- else %} Other{%- endif %} | {{technology.renewable}} | {{technology.dispatchable}} | {{technology.lifetime}} | {{technology.emissions}} |
| {%-tr endfor %} | | | | | |