Using the CEFF financial model workbook

1 Introduction

The financial model workbook (Microsoft Excel) serves three main purposes to help the assessors understand:

- what you plan to do
- the financial viability of the project
- the expected emissions savings and energy generation or savings.

Three versions of the workbook are available from the website, a worked example, which demonstrates how the spreadsheet can be used for several example project modules, a blank template and an extended version allowing for 20 modules (essentially components of the project). You can either work from the blank template or start with the worked example and change it to cover your project.

1.1 Disclaimer

This financial model workbook is intended to draw out specific information for project evaluation purposes. It has been designed for simplicity. However, it is limited and any use of it to manage your project is at your own risk. The Department of Water and Environmental Regulation takes no responsibility for any use of this template outside of the Clean Energy Future Fund (CEFF) grant application process.

This model has significant limitations. It does not incorporate depreciation or tax impacts, on the premise that it is measuring the inherent value of the project, rather than the tax structuring of it.

The model assesses cashflow by year rather than month, and works with current year Australian dollar prices, effectively assuming that inflation affects all costs and revenues equally over the life of the project unless you indicate otherwise by completing the assumption values by year on the **Assumptions** tab.

1.2 Conventions – colours and money, carbon and energy

The workbook uses a basic colour code:

Green is for user input of values or labels like cost components and module descriptions.
Light green is for values with a calculated or suggested default that you can type over.
Yellow highlighting indicates a value has been typed over a formula. If you need to do this, please leave the yellow highlighting to draw attention to the change and indicate in a cell comment why the change was needed. If you do this by mistake, you can reverse it using Undo or Ctrl+Z.

The model tracks the project's impact on key resources using a set of columns containing the resource intensity. For example, when using grid electricity from the South West Interconnected System, the emissions intensity was 0.56 tonnes CO_2 equivalent per MWh in 2025. CEFF examines energy, emissions and money resources as shown below.

Peach cells indicate values relating to energy.
Grey cells indicate values relating to greenhouse gas (CO_2 equivalent) emissions.
Gold cells indicate values relating to money.

Capture all money values in current year Australian dollars as the time value of money will be handled in the internal rate of return and net present value calculations.

1.3 Navigation

The first tab of the financial model workbook, called **Index,** has a table of contents. You can use it to quickly navigate to a section. You can return by clicking on the **Index** tab again.

1.4 Submitting your application

When you have completed your financial model, please attach it in spreadsheet form with your application. Do not submit it as a PDF. The assessors may need to check your formulae and comments.

2 Tab structure

There are five main tabs in the financial model as outlined below. Further detail on how to complete each tab is included in section 3.

2.1 Assumptions tab

You will need to review and update the default assumptions to reflect your project.

Capturing explanations against the inputs and outputs helps the assessors understand your project and have confidence in your assumptions.

The **Assumptions** section is mentioned first in this list because it applies across the whole workbook; you should become familiar with it and use it to capture assumptions as you populate the rest of the model.

If necessary, you can use Excel's <**View**> <**New Window**> command to open a second window on the same workbook to see assumptions side by side with what you are working on.

2.2 Project Model tab

The **Project Model** tab covers what you will build, the inputs it will need, the outputs it will produce, and the impact of these inputs and outputs on key resources (emissions, energy, money).

The basic structure is two groups of columns, one for the modules you will build and the other for the resources you are tracking. The rows are for inputs and outputs, and they are grouped for project construction, operational inputs, operational outputs and decommissioning. Values calculated here feed the **Cashflow** tab.

2.3 Cashflow tab

This tab shows the flows of cash, emissions and energy over the project life, which you can check to see if the **Project Model** accurately reflects your project. The calculations on this tab are automatically generated and do not require any user input.

2.4 Funding tab

This shows the total project costs calculated from the Project Model tab. You will need to enter the expected sources of funding to cover all project costs and any real or nominal financial return required for sources of funding.

2.5 Outputs tab

This tab summarises the key parameters of the project and its outputs.

2.6 Other tabs

Other tabs included in the workbook are:

- **In-kind** – Where you can record any sources of funding supplied as in-kind goods or services
- **Milestones** – An automated summary of your project milestones (no user input required)
- **Charts** – An automated summary of funds and cashflow (no user input required)
- **Eligible costs** – A summary of the types of costs CEFF can fund (no user input required)
- **Scratchpad** – Optional tab for the user to complete miscellaneous calculations
- **Grid emissions** – Current electricity grid emissions intensity forecasts (no user input required)
- **Glossary** – Current terms.

3 Tab sections

Within the tabs, there are numbered sections. The suggested path to complete the spreadsheet is by following the numbered sections.

3.1 Assumptions tab – 1. Assumptions

The **Assumptions** section includes three key columns:

- **Default Value**
- **Override Value**
- **Value to Use**

The **Value to Use** column automatically selects the **Override Value** if provided; otherwise, it defaults to the **Default Value**. This setup allows you to test different scenarios by temporarily changing assumptions. For example, to explore the impact of a higher selling price, enter the new value in the **Override** column and view the results in the **Project Summary** section of the **Outputs** tab. To revert to default values, simply delete the override entries.

Note: This functionality only works if all relevant formulae reference the Assumptions tab. Values hardcoded elsewhere will not respond to overrides.

Time-varying assumptions

You can also capture assumptions that change over time – up to 50 years – for long-life projects like transmission lines. This is useful for assets such as solar panels or batteries that degrade over time, or for pricing forecasts with expected trends.

To enable time-varying assumptions:

- Ensure a value (even zero) is entered in **Column H** for the assumption.
- If **Column H** is empty, the year-by-year assumption table will be ignored.

Required and optional assumptions

- Enter the **project start date** and **operational life** to set up the cashflow timeline and module start month. These are mandatory.
- Add any additional assumptions needed for your calculations.
- For each assumption, complete the **Justification for assumptions** column.
- Add or delete rows as necessary.

Emissions intensities

Some values (in light green) are based on **Australian Emissions Projections** (see **Grid Emissions** tab). Where possible, provide updated or project-specific values and

complete the **Justification** column. The **National Greenhouse Accounts Factors** is another useful source.

For projects:

- Selling electricity to the grid: use projected emissions intensity for the year operations begin.
- Buying electricity from the grid: use annual emissions intensity for each year of purchase.

Using **Goal Seek** and **What-If** analysis

The **Override** column is compatible with Excel's **Goal Seek** tool. For instance, you can use **Goal Seek** to determine the selling price you need to meet the investment threshold IRR.

3.2 Project Model tab – 2. Construction or capital costs

This section is used to capture the items you will need to spend money on. Do not include GST. This section distinguishes between eligible and ineligible costs. Eligible costs are those that are eligible for CEFF funding. There is a tab in the workbook called **Eligible costs** which explains which costs are eligible. The grant payment cannot be more than 25% of the total eligible expenditure for each milestone.

In this section, at the top of the [**Project Model**] tab, capture the names of each module or cost centre as column headings, and the various inputs that go into that module as rows. Modules are intended to be high-level components of the project, such as a solar array, wind farm, an electrolyser, a pyrolysis plant, an industrial process, or a battery. Generally, a module would be a project component that creates an output or revenue stream and has a fixed timing associated with it. If you have a second plant being commissioned two years later than the first, it may make sense to model this as a separate nodule.

Because the modules feed through to the **Cashflow** tab which is created with an Excel data table, you cannot easily add or remove columns here (modules). The standard template accommodates 10 modules, which should be adequate for most projects. A separate financial model template with 20 module columns is available to download from the CEFF website.

For each module, row 3 and column P (on the 10-module version) hold the quantity of the module column or quantity for the input or output row. This is labelled in cell P3 as **Quantities** and holds a quantity, often 1 or 0. The financial, emissions and energy impacts of the module are multiplied by the quantity in row 3. Likewise, the impacts of an input or output row is multiplied by the quantity in row P.

The intent here is to allow easy experimentation with configuration options. If you put a 0 in the quantity, the model removes all the impacts of that module without deleting the data. You can switch the module on again by putting a 1 in the quantity row. If you put 2 there, the model assumes you have two of those modules. It can be useful to use -1 in the column to indicate a module that you are decommissioning. For example, if you are replacing a gas process with an electric one, capture each as a module, but put -1 in the module quantity for the gas module and 1 in the column for electric module.

You can also use this to compare alternative modules. For example, if you have an iron ore process that can run on coal, charcoal or regenerated carbon monoxide, you can create all three modules in their own columns but use a quantity of 1 for the selected module and 0 for the others. This lets you compare performance of the overall project with each module type.

Use the green cells to capture construction inputs. Use the resource columns to the right of the modules (peach, grey and gold) to capture the resource intensity for each input and resource (energy, emissions and money).

We recommend that you complete the cells in the resources columns by linking to assumptions listed in the **Assumptions** tab. The assumptions section has a column to provide the source or reasoning behind each assumption. This can help the assessors have confidence in your numbers. Alternatively, you can capture the values directly in the coloured resource intensity columns at the right and use cell comments to support your assumptions. Capturing the values in the assumptions section makes it much easier to do What-If or Goal Seek calculations, and to see the result of changes in assumptions.

A **Quantities** column is also available to the right of the modules, to experiment with inputs and outputs. It allows you to set up optional inputs and see the impact of switching between them. For example, you may have three different vendors quoting for wind turbines. You could capture these as three rows in the construction section and use the quantity column to put a 1 for the supplier you want to assess and zeros for the others.

3.3 Project Model tab – 3. Timing impacts

Use the dark green cells to capture the number of months from project start to the main costs and until revenue starts flowing for each module. Check the calculated date values match your project expectations. Note the project operating life is in years where other rows are in months. The calendar date for module start and end of life are for your information only and are not used in calculations. The model tracks dates in months since project start.

You should also capture the capacity factor (dark green cells), which is the expected yearly output divided by theoretical maximum yearly output operating continuously at

full capacity. For example, solar panels, which do not work at night, are likely to have a capacity factor in the 15% to 35% range. A 1 MW solar system with a capacity factor of 30% can produce for 30% x 24 hours x 365 days = 2,628 hours or 2,628 MWh per year. Alternatively, you can capture the number of operational hours per year. These fields are used to convert hourly capacities into annual production rates. It is recommended to put values on the Assumptions tab where you can explain the rationale for the default value you choose, and where you can test other values in the override column.

3.4 Project Model tab – 4. Operating inputs or costs

Use the green cells to capture operational inputs or costs.

For this section, capture costs as positive numbers.

The first set of dark green rows capture hourly or rated inputs. The second set of light green rows automatically convert the hourly rates to annual amounts using information from section 2 about capacity factors or operating hours per year. Light green cells contain a calculated default value, but you can type over them if you need to.

Add rows if necessary. If you need to add a new project cost row, add it in the middle as there are formulae that refer to a range between the first and last project cost row. You may need to copy adjacent formulae (from above or below) into your new row.

Use the resource columns (peach, blue, brown, grey and gold cells) to the right of the modules to capture the resource intensity of these inputs.

You can link rates or resource values used to assumptions listed in the **Assumptions** tab. Please use the **Justification for assumptions** area of this tab to explain the source and justification for any rates and resources used. Information you put in this column will help assessors to have confidence that the project assumptions are sound. Alternatively, you can capture the values directly into the project model and use cell comments or notes to support your assumptions.

3.5 Project Model tab – 5. Operating outputs or savings

This section works very similarly to the operational inputs section. Use the dark green cells to capture operational inputs or costs as a rate and they will be converted to annual outputs in the light green cells. Use the resource columns (peach, grey and gold cells) to the right to capture the resource intensity of these outputs. Add rows if necessary.

For this section, capture savings or revenues as positive numbers.

3.6 Project Model tab – 6. End of life

Here you can capture the financial and emissions impact of the project reaching end of life. If the project or its modules still have a value, capture this as the residual value (positive number). If there will be a cost to dispose of modules, or remediate the site,

capture this cost (as a negative number). If there will be a carbon emissions impact from closing the project, include it here as well. Note these cells are direct input, not formulae. It is suggested that you use cell notes (right click on a cell and select [New Note]) to describe values you capture. You could also use calculations on the Scratchpad tab to show how your figures are derived or put assumptions on the **Assumptions** tab with associated explanations.

3.7 Project Model tab – 7. Net benefits (outputs less inputs)

Section 6 at the bottom of the **Project Model** tab automatically calculates the annual impact of the project on energy, emissions and money, and provides a rough return on capital employed (ROCE) calculation for each module, to help identify underperforming modules.

Note that not all costs are allocated to modules, so ROCE figures will be general guides only.

3.8 Cashflow tab (section 8)

This section has its own worksheet tab.

There are no user inputs on this tab. One of the rows covers miscellaneous cashflows by year. These are captured in the **Assumptions** section.

There are some columns at the left of the worksheet that show the start and end dates for each module. They are grouped using Excel's outlining function so you can conveniently hide or display them.

This table provides the basis to calculate the internal rate of return (IRR), simple payback and net present value (NPV) with and without grant funding. These values show up in the **Outputs** tab section 11 **Project Summary**. You should check that the values seem realistic and if not, check your inputs.

Note that if you have captured decommissioning costs or revenues, these should automatically be applied in the appropriate year.

The cashflow worksheet also tracks energy and emissions over the years. These rows are grouped so you can use the outline features to hide them to focus on the financial side only if needed.

3.9 Funding tab – 9. Funding

Identify the sources of project capital in the dark green cells. Capture the project funding by indicating the amount from each source category and the rate of return required for each amount. For debt, this will be the interest rate you are charged. For equity, it is the minimum return that you or your investors will expect. For grants which do not need to be paid back, it will be zero. From this information, the spreadsheet calculates the weighted average cost of capital (WACC). This is used to set a default

assumption for the discount rate, but you should check that this is appropriate for your project.

Capture the threshold return rate (also called the hurdle rate) for investment. This is the minimum return that your organisation requires for a project with this risk profile to be funded.

You can use the **In-kind** tab or the **Scratchpad** tab to show calculations of values and use links in the project funding section to show where the values come from.

Check the calculated percentage of eligible costs you want to apply for from the grant, noting the maximum is 25% and the maximum amount that can be requested is $4 million.

Use the **Justification for assumptions** column to give any supporting information.

3.10 Funding tab – 10. CEFF parameters

This section captures the scheme parameters. You should not change these values.

3.11 Outputs tab – 11. Validation

Check the **Validation** section which contains several checks on your data. If any of these validations fail, they will be highlighted in red. You should address this issue by checking your inputs to the **Project Model** or **Assumptions** section before you submit your application. If your project is for a sub-commercial scale pilot, it is normal for revenue/IRR checks to be red. If your project is a commercial scale project, but there are still red warnings in the validation section, you should check whether there is an inherent issue in the project data, or even the project itself.

3.12 Outputs tab – 12. Project summary

This shows a short summary of the project inputs and outputs. You should review it to check that the values match your expectation of the project.

3.13 In-kind tab – 13. In-kind contributions

You can use this section if you want to capture in-kind expenses.

In-kind expenses refer to non-cash costs where goods or services are provided instead of money. These are expenses that are paid for with resources other than cash, such as materials, labour or equipment.

3.14 Milestones tab (section 14)

This table has been set up to give CEFF administrators some indication of the timing of grant payments for the project. There are formulae in row 2 which populate the table from assumptions on the **Project Model** tab. The formulae rely on a new Excel feature

called 'spilling'. If this does not work for you, you can ignore it without impacting your project's assessment.

Note that for successful applicants, a more detailed milestone table will be negotiated as part of the funding agreement.

3.15 Charts (section 15)

The **Charts** tab will now show pie charts for sources and uses of funds as well as a line graph showing simple payback with and without the grant.