
ARENA – Community Energy
Funding Toolkit

FRONTIER IMPACT GROUP

Community Energy (CE) Funding Toolkit

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Advice to users of the guide

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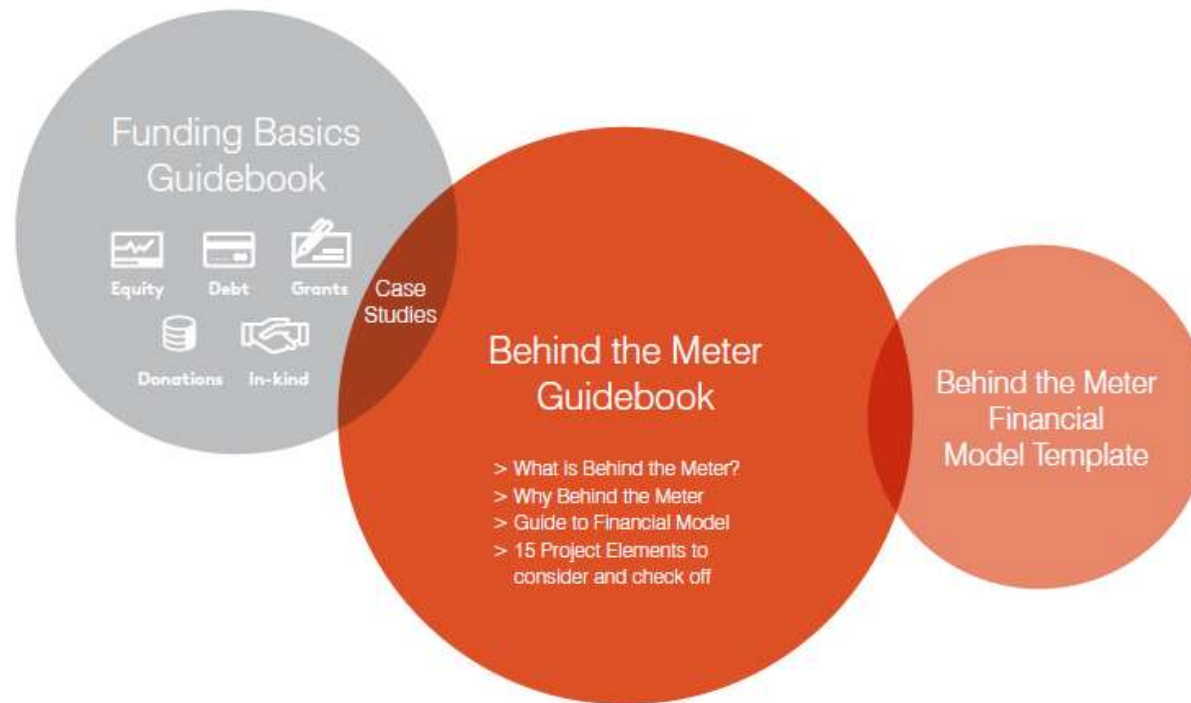
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Community Energy (CE) Funding Toolkit

The Community Energy Funding Toolkit (Toolkit) has been developed as a “centralised, simplified repository of information” to mobilise the development of community renewable energy projects

- ▣ Increases expertise in developing renewable energy projects
- ▣ Information on funding alternatives and to improve financial literacy of CE project Developers
- ▣ Resources to provides the tools required to enable CE project development
- ▣ Understanding community renewable energy models (with CE Examples) that can be replicated
- ▣ Case studies that show practical application
- ▣ Reduces costs and timeline for delivery and development

Funding Toolkit Structure



Funding Toolkit Structure

- The overall Funding Toolkit is set up on a modular basis and is comprised of a series of guidebooks.
- The Core Funding Basics Guidebook supports all the project-based guidebooks
- The first project module is the Behind the Meter Solar PV Projects.
- This structure has been adopted to allow for future expansion of the Funding Toolkit that may include Grid Connected Solar PV, Solar PV Storage, Bioenergy and Wind projects.



Funding Basics Guidebook

PROJECT PHASES



The **concept phase** describes where a CE project idea has been conceived and various options for the development of the project have been discussed at a high (conceptual) level.



The **prefeasibility phase** evaluates key project elements in more detail and includes an initial financial model and scope. The various project-based guidebooks associated with the Funding Toolkit incorporate financial templates that are supplied in order to assist with the financial modelling process.

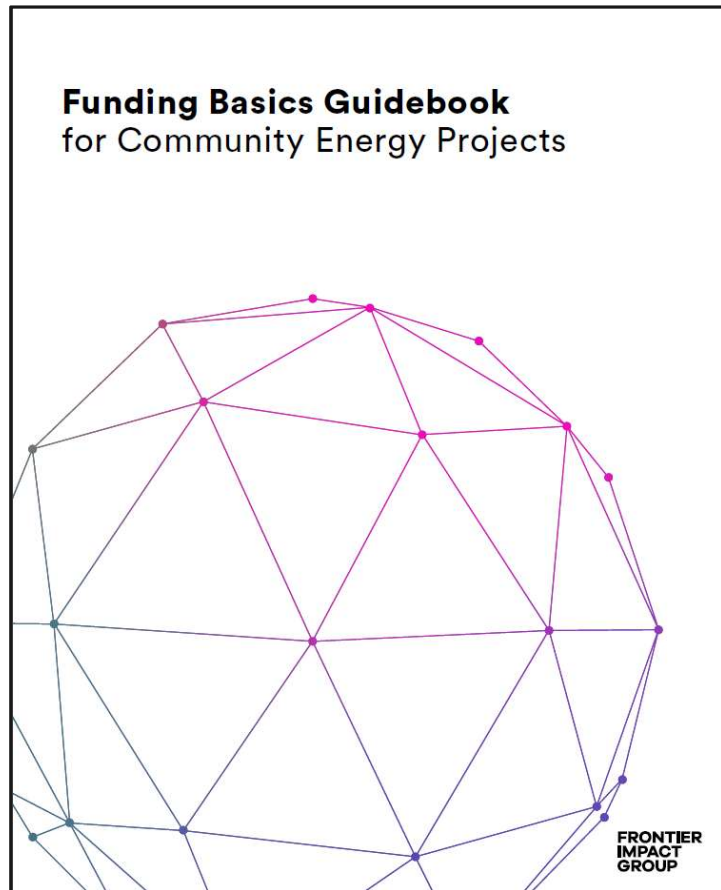


The **feasibility phase** incorporates confirming in more detail all of the project element options including establishing more certainty around project costs and revenues. Once these are firmed up, project proponents will be in a position to then validate outcomes of the initial modelling undertaken during prefeasibility and develop a more detailed level of modelling required in order to achieve final funding.



Final funding refers to the phase where all project elements have been developed in full detail including firm construction costs, confirmed revenue streams established, all contracts have been agreed and the project is ready to be funded. Once final funding is achieved, a project should be able to move into construction.

Funding Basics Guidebook



OVERCOMING FUNDING CHALLENGES

- ▣ Types and Source of Funding
- ▣ Factors that effect the choice of Funding
- ▣ The Types of Funding most common in CE projects (including examples)
- ▣ Different community business models that are replicable
- ▣ Key funding challenges and how to overcome them
- ▣ List of current CE projects & financial contacts

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Solar PV Guidebook Quickstart Guide

HOW TO USE THE GUIDEBOOK

Before you Start

The Community Energy Funding Toolkit has been developed by Frontier Impact Group with project partners Coalition For Clean Energy (C4CE, represented by Embark and Community Power Agency) and funded by ARENA to provide you with information on how to develop a community renewable energy project more quickly and increase the likelihood of securing funding and delivering a successful project for your community.

The Funding Toolkit is set up on a modular basis and includes a series of guidebooks. The core Funding Basics Guidebook supports project-based guidebooks with the first project module being this Behind the Meter Solar PV Guidebook.

This guidebook is expected to be followed by a Grid-Connected Solar PV, Wind, Solar PV Storage, Bioenergy and other future Guidebooks in response to demand and subject to funding.

This guidebook focuses on Behind the Meter Solar PV projects and provides guidance on actions and factors that need to be considered as part of the process of achieving funding to develop these projects. It sets out the information needed to give confidence to funders that the project is financially viable and worthy of investing in and/or financing.

We are fortunate that the CE community have provided various items of collateral such as legal templates, case study information and shared lessons learnt that may provide guidance on how to reduce the time and effort needed for your project. We hope that this toolkit empowers you to get on with building your own community energy enterprises for the benefit of your community.



Getting Started

Read through this guide to understand the structure of the guidebook.

There is a lot of material, so don't be overwhelmed if you do not understand it all to start with.

If you are already well into a project and have run into a few hurdles then we suggest that you go the Section C project elements and look at the areas of interest only and either the explanations in the guidebook or the external references provided should assist you in a targeted fashion.

We also offer train the trainer workshops on the toolkit so if you are interested in participating please speak to Frontier Impact Group.

An outcome of the toolkit is to be able to complete a financial template that will determine whether there is sufficient revenue to meet its costs and pay a return to its investors. The place to start is the financial model template!

The financial model template asks a number of questions and also requires a range of input values relevant to your project to be entered. The model template has references to the relevant part of Section C of the guidebook so you can go straight to the part where there is a more detailed explanation on a particular item with links to further reference material if needed.

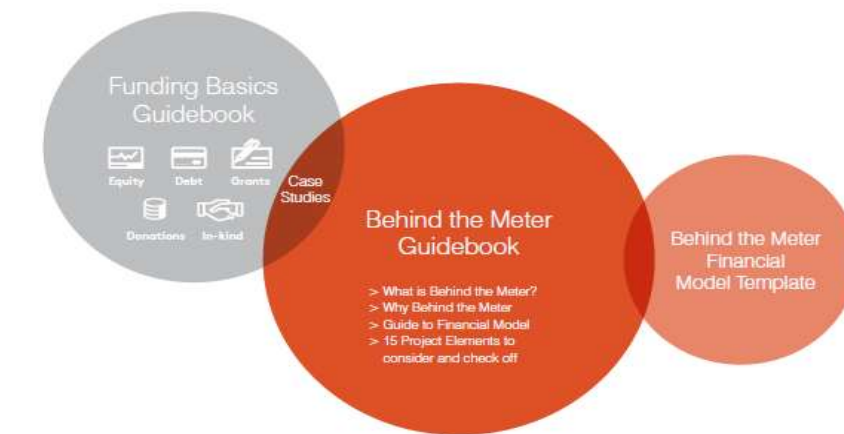


Behind the Meter Solar PV installation

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Behind the Meter Solar PV Guidebook Quickstart Guide

PROJECT AREAS AND FOCUS



KEY PROJECT ELEMENTS

The key project elements are shown below and while the guidebook explains that each of these cannot be considered in isolation of the other, they provide a logical checklist of things that you need to address in your project:

 1. Technology	 2. Project Scale	 3. Community Engagement	 4. Business Structure	 5. Project Development / Resourcing
 6. Site Selection & Acquisition	 7. Resource Assessment	 8. Construction	 9. Network Connection	 10. Permitting
 11. Operational Resources	 12. Project Funding	 13. Power Sales Agreements	 14. Financial Modelling	 15. Risk Management

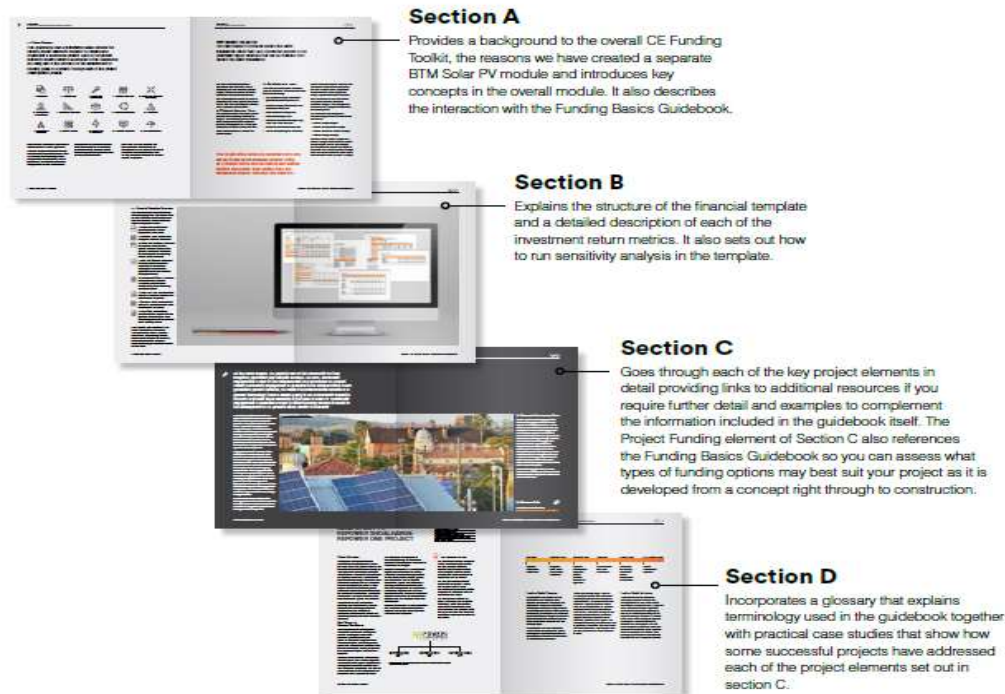
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Behind the Meter Solar PV Guidebook Quickstart Guide

ABOUT THE GUIDEBOOK

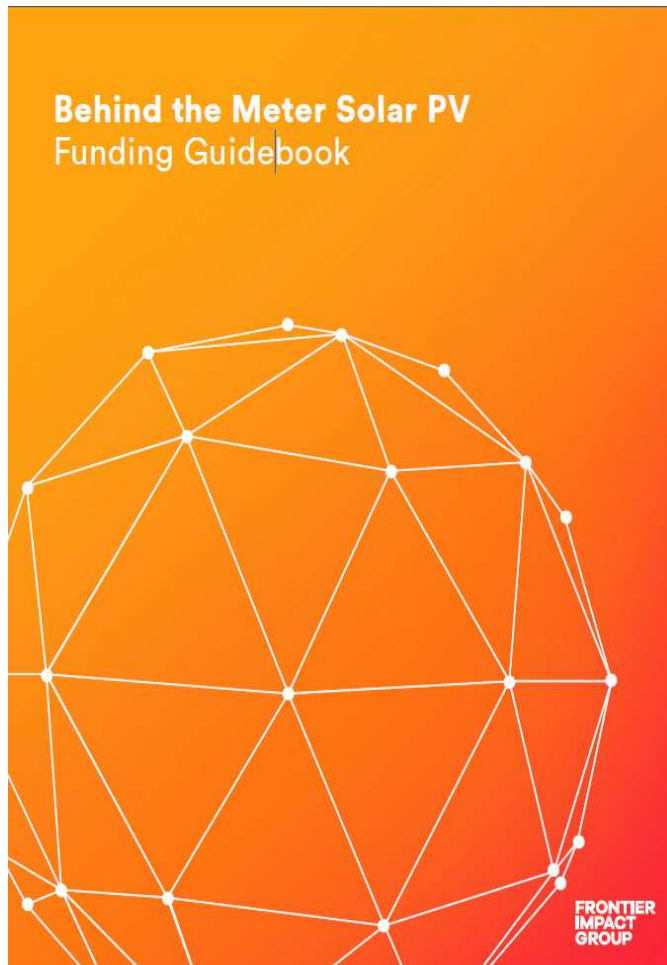
Once you have completed the necessary inputs in the financial model template you can then look at the output results in the Investor Return section of the financial model template to see if the project is going to be viable. Section B of the guidebook explains the Investor Return metrics used in the guidebook.

Projects can be assessed in many ways and the investor return metrics are only one set of factors to consider particularly for projects funded by community members. Other motivations such as energy independence, environmental benefits and local resilience can also be strong drivers of community energy initiatives.



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Behind the Meter Solar PV Guidebook



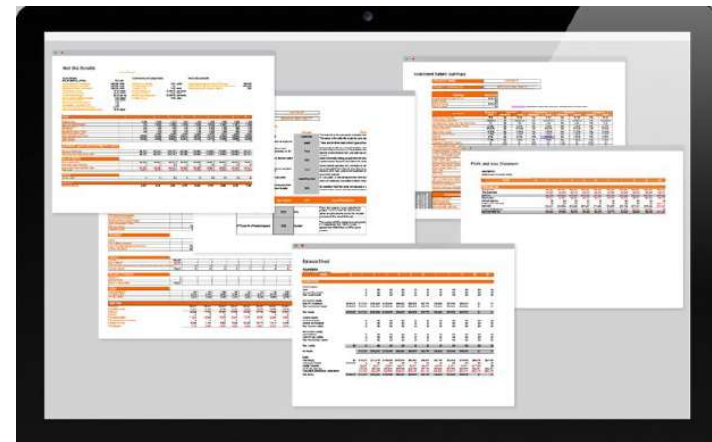
This Behind the Meter (BTM) Solar PV guidebook provides guidance on actions and factors that need to be considered by project developers as part of the process of achieving funding to develop Behind the Meter solar PV projects.

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Behind the Meter Solar PV Guidebook

FINANCIAL MODELLING

A comprehensive financial model plays an important role in being able to take a Behind the Meter CE project concept and developing it through to a successful final funding implementation.





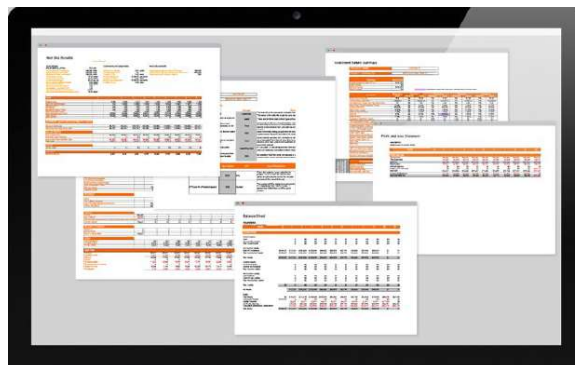
The financial model and supporting toolkit resources are designed to allow project developers to quickly grasp the key financial elements of their project and target and address the financially challenging areas as high priority items.





Behind the Meter Solar PV Guidebook

FINANCIAL MODELLING

The financial model template includes the following eight key worksheets (there are also additional worksheets that are used for sensitivity analysis but these require no input from users):

-  A **Cover Worksheet** for the project name and date of preparation of the model
-  A **Contents Page** to allow easy navigation between worksheets
-  An **Input Assumptions** worksheet that requires users to enter specific financial details of their project, certain host site details and assumptions underpinning various project elements
-  A **Host Site Benefits** worksheet that sets out the commercial benefits to the host site of entering into a commercial agreement under the modelled project parameters



-  An **Investment Return Summary** worksheet which provides a summary of the financial viability of the project including sensitivity analysis
-  A **Profit and Loss** worksheet that sets out a financial Profit and Loss Statement for the project
-  A **Balance Sheet** worksheet that sets out a financial Balance Sheet Statement for the project
-  A **Cash Flow Calculations** worksheet which requires no user input but shows the cash flows utilised to generate the investment return summary values

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PROJECT ELEMENTS



1. Technology



2. Project Scale



3. Community
Engagement



4. Business Structure



5. Project Development/
Resourcing



6. Site Selection
& Acquisition



7. Resource Assessment



8. Construction



9. Network Connection



10. Permitting



11. Operational
Resources



12. Project Funding



13. Power Sales
Agreements



14. Financial Modelling



15. Risk Management

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Case Studies

Case Study 1 – Repower Shoalhaven: Repower One Project

Repower Solar One

Local Funding \$119,800

Number of Investors 20

Expected minimum return 6.5%

Located in Shoalhaven Heads, NSW

99kW solar system



Case Study 2 – Pingala: Young Henrys Project

Young Henrys

Total Cost \$38000

Local Investor Funding \$18000

Expected Minimum Return 5%

Located in Newtown NSW

29kW Solar System



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Acknowledgements



Australian Government
Australian Renewable
Energy Agency



Office of
Environment
& Heritage



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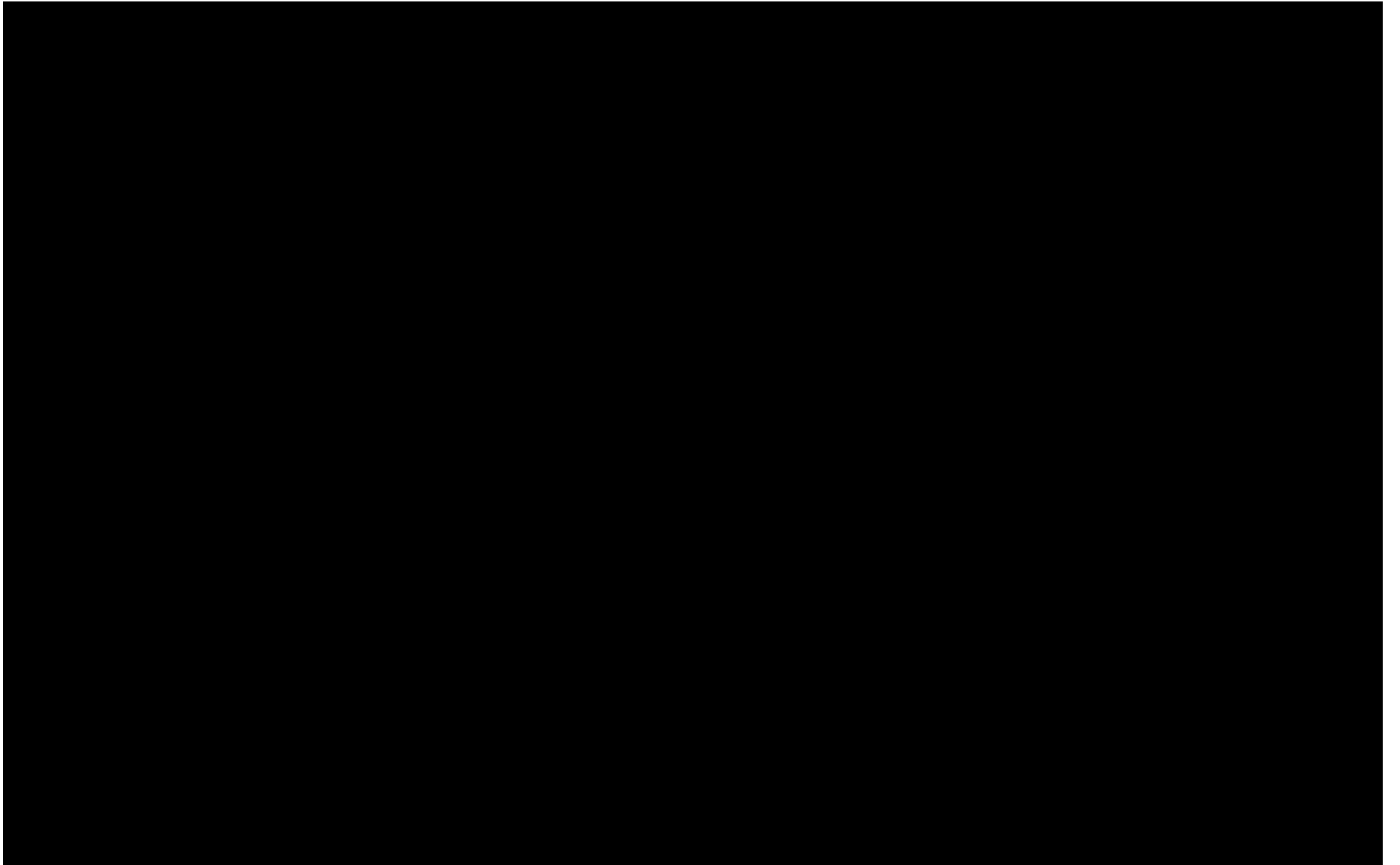
Community Energy Funding Toolkit

The toolkit has been developed to be downloaded on a stand alone basis via the Frontier Impact Group website:

<https://www.frontierimpact.com.au/resources>

or viewed in the context of other Community Energy Projects on the Embark Wiki:

www.embark.com.au



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WORKSHOP MATERIAL

Funding Basics Guidebook

OVERCOMING FUNDING CHALLENGES

Challenges	Possible Solutions
Access to early stage funding	<ul style="list-style-type: none">• Develop community volunteer skills to access donation crowdfunding and other fundraising approaches• Create replicable business models or information toolkits for community developers to reduce early stage cost requirements• Access pro-bono networks e.g. partnerships such as Embark, Engineers Without Borders, legal and accounting firms• Gain access to philanthropic funding• Lobby and apply for potential grant funding provided by Federal and State Governments and local councils
Project lacks credit worthiness	<ul style="list-style-type: none">• Securing a loan guarantor to provide credit backing to the project is a successful tool that has been used in CE projects. It is usually high wealth individuals who strongly support CE projects and are willing to provide the backing. This is how Hepburn Wind was able to successfully obtain access to debt funding for the balance of their project funding
Low wholesale and LGC prices (refer to the Behind the Meter Solar PV Guidebook and future project-based Guidebooks for more information)	<ul style="list-style-type: none">• Consider the Behind the Meter community solar models that provide STCs upfront• Participate in Government supported auctions or electricity purchases (e.g. ACT Reverse Auction for 1MW of community solar that provides premium pricing)• Secure investors that have lower return expectations• Build projects when market pricing improves (if the market price is not high enough sometimes the timing just isn't right!)

Funding Basics Guidebook

OVERCOMING FUNDING CHALLENGES

Challenges	Possible Solutions
The community energy groups do not have the financial modelling skills needed	<ul style="list-style-type: none"> • Use the financial template as part of the toolkit and attend training opportunities to increase community financial literacy • Recruit skilled financial volunteers and board members
Preparation of a Power Purchase Agreement (PPA) and understanding of management of unhedged electricity or LGC position	<ul style="list-style-type: none"> • Use template PPAs for different types of CE projects. This may include variations on the PPA such as an off-take agreement • Refer to the Behind the Meter Solar PV Guidebook and future project-based Guidebooks • Avoid using a PPA model and use a lease- or loan-based model or sell a retail product directly into the community
Grid connection costs and timelines	<ul style="list-style-type: none"> • Refer to the Behind the Meter Solar PV Guidebook and future project-based Guidebooks for more information
Policy uncertainty e.g. Federal, State or other	<ul style="list-style-type: none"> • Recruit a strong policy person in the group • Advocate for policy certainty and supportive policy • Sometimes if the regulatory or market environment does not stack up (e.g low pricing for electricity or LGCs) then you may need to wait
Lack of skills in risk assessment e.g. exchange rate and interest rate risks, default for host sites	<ul style="list-style-type: none"> • Provide training in risk identification, quantification and mitigation • The Funding Toolkit provides information on the risks and challenges involved in developing a successful project from concept through to final funding

Funding Basics Guidebook

OVERCOMING FUNDING CHALLENGES

Challenges	Possible Solutions
Cost of consultants and expert advice	<ul style="list-style-type: none">• The use of a toolkit can reduce costs as it will provide guidance on the requirements meaning a lot can be progressed before an external consultant needs to be engaged• Provision of a consultant panel to provide specialised services in this sector
Community Renewable Energy proponents do not provide information that is adequate for funders	<ul style="list-style-type: none">• Toolkit will provide a detailed explanation of what funders want to see at each stage of the project development process• The case studies will provide detailed information for each key stage of project development• The case studies will provide detailed information on the key steps taken that are complementary to the structure developed in the toolkit checklist• Organise training for CE developers on the utilisation of the toolkit to improve their projects
Costs are underestimated	<ul style="list-style-type: none">• Access to independent external experts that offer modest pricing to develop realistic cost estimates• Toolkit can provide some guidance to costs in certain areas• Refer to case studies for an indication of costs (but cannot be relied upon as every project is different)
The CE project developer does not have contacts in the finance industry	<ul style="list-style-type: none">• Refer to the contact list in the guidebook for financiers and investors

Behind the Meter Solar PV Guidebook



Project Element	Factors to Consider
Technology Choice	<ul style="list-style-type: none"> • Have you selected a proven technology that will perform reliably?
Project Scale	<ul style="list-style-type: none"> • Have you chosen an optimum project scale considering: <ul style="list-style-type: none"> * Host site load profile? * Ability to attract sufficient funding? * Sufficient scale to cover ongoing operating costs? * Reducing network connection costs (<100kW and often 30kW ideally)? * Obtaining STCs upfront (<100kW) versus ongoing LGC revenues?
Community Engagement	<ul style="list-style-type: none"> • Do you have a good community engagement model in place that will: <ul style="list-style-type: none"> * Engender community goodwill? * Assist with permitting approvals? * Provide a base for potential community investors to be identified and targeted?
Business Structure	<ul style="list-style-type: none"> • Is the business structure appropriate in terms of: <ul style="list-style-type: none"> * Engaging community participation? * Obtaining funding particularly from community investor sources? * Keeping business operation costs under control?
Project Development Resourcing	<ul style="list-style-type: none"> • Have you identified the resources required for the development of the project? • Have you prepared a business plan and a budget that can be used to manage the project?
Site Selection and Acquisition	<ul style="list-style-type: none"> • Have the following aspects been considered in relation to the host site you have chosen: <ul style="list-style-type: none"> * Minimising export, i.e. match host site load profile to project scale? * Minimising construction costs (e.g. is roof structure good, not requiring additional work)? * Is host site tariff high enough to provide good revenue base? * Is host site owner creditworthy?

RISK CHECKLIST

Behind the Meter Solar PV Guidebook



Resource Assessment	<ul style="list-style-type: none"> Have you undertaken the resource assessment factoring in potential variability of output as a result of: <ul style="list-style-type: none"> Weather variations? Network supply reliability?
Construction	<ul style="list-style-type: none"> Do you have a reliable supplier who can back warranties offered?
Network Connection	<ul style="list-style-type: none"> Have you avoided the need for a network connection agreement by <ul style="list-style-type: none"> Choosing the right project scale? Selecting an appropriate site? If not, are the costs justified by the increased scale?
Permitting	<ul style="list-style-type: none"> Are all permits in place?
Operational Resourcing	<ul style="list-style-type: none"> Have you set up a structure to minimise ongoing operating costs?
Project Funding	<ul style="list-style-type: none"> Have you prepared a budget? Have you identified all potential funding types and sources and selected the most appropriate one? Have you determined a marketing approach for attracting investors?
Power Sales	<ul style="list-style-type: none"> Have you identified the most appropriate revenue generating structure for your project: <ul style="list-style-type: none"> PPA? Loan-based? Lease-based? Do you have an agreement in place that guarantees sufficient revenue? Is this agreement legally and commercially sound? Do agreements cover situation where host site lease may expire or building is sold?
Other Revenue	<ul style="list-style-type: none"> Have all sources been identified?
Financial Modelling	<ul style="list-style-type: none"> Have you completed the financial template and does it indicate the project is viable? Have you carried out sensitivity analysis on the template to cover potential variations in project elements? Does the modelled Power Sales revenue structure provide savings to the host site?

RISK CHECKLIST

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Resources

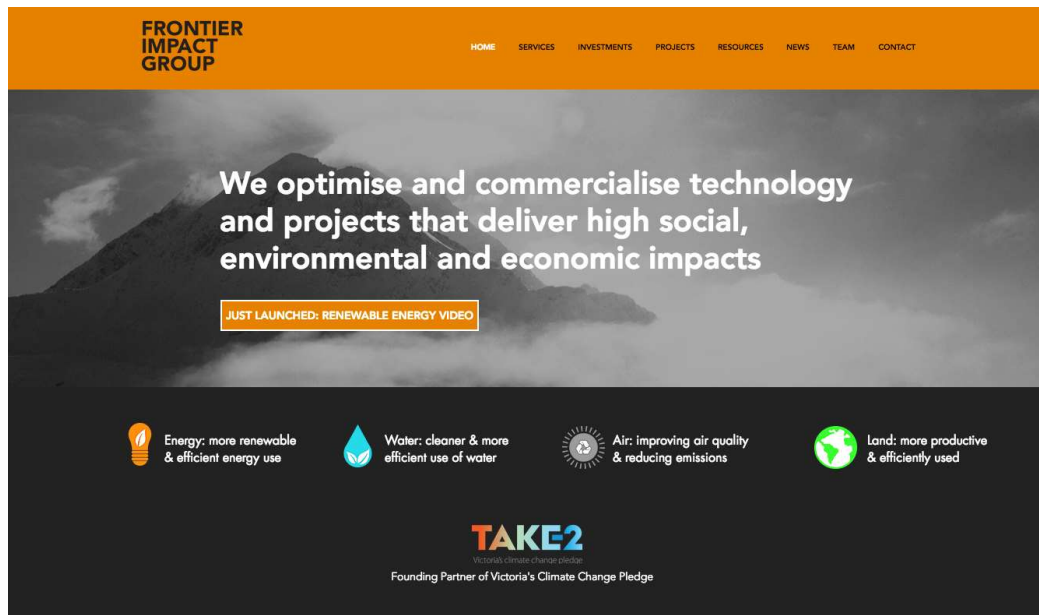
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FRONTIER IMPACT GROUP'S WEBSITE ADDRESS

www.frontierimpact.com.au

The website includes a pop up (landing page) which requires viewers to subscribe to a mailing list in order to view FIG's resources.



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LINK TO THE THREE GUIDEBOOKS



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LINKS TO EXTERNAL RESOURCES

You can find all the external resources for the Funding Basics Guidebook for Community Energy Projects and the Behind the Meter Solar PV Guidebook.



Community Energy (CE) Funding Toolkit

EXTERNAL RESOURCE EXAMPLES

1. Technology Choice
2. Project Scale
3. Project Engagement
4. Business Structure
5. Project Development
Resourcing
6. Site Selection and Acquisition
7. Resource Assessment
8. Construction
9. Network Connections
10. Permitting
11. Project Funding
12. Power Sales
13. Financial Modelling

Community Energy (CE) Funding Toolkit

THE FINANCIAL TEMPLATE

A Financial Template is available upon request.

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Thank You