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REICAL

(Renewable Energy Investment Calculator)

User Manual



Towards Green Sustainable Energy

📍 **REICAL: Renewable Energy Investment Calculator**
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1. INTRODUCTION

This document describes how to use REICAL. It defines and explains the functions of all icons on REICAL Toolbar as well as REICAL Menu. For further information or updates, please visit [REICAL Website](#) or contact our Support Team on support@reical.uk.

2. SYSTEM REQUIREMENTS

REICAL is a windows-based application that needs no specific system requirement in terms of hardware or software, it runs on Windows-based computers running Windows 7, 8, 10.

3. START REICAL

To run REICAL, click on REICAL shortcut on your desktop or click on REICAL on your Windows Start menu. After you run REICAL, you will see REICAL Main Window as shown in Figure 1.

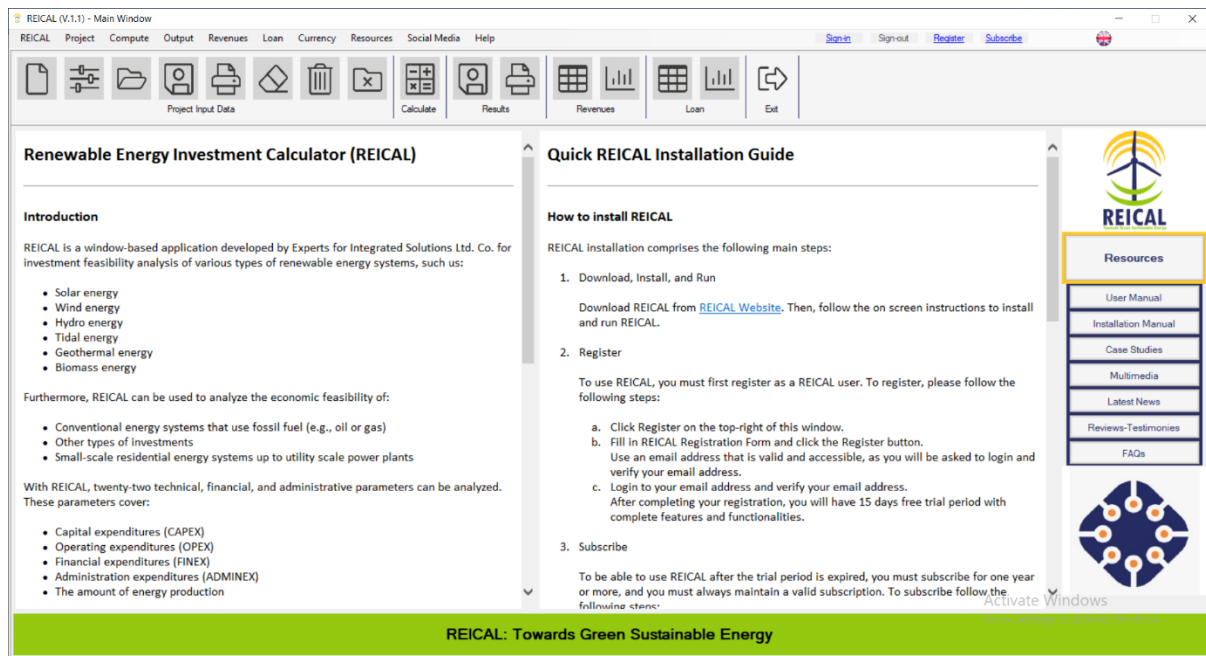



Figure 1. REICAL Main Window.

At the beginning, all commands (icons) are disabled except the Exit command () , which is always enabled.

Hint: Enabled icon has WhiteSmoke background, while disabled icon has darker background.

Then, to start REICAL, you must sign-in using your registered Username (your Email Address) and Password. After you Sign-in, the following commands are enabled (Figure 2):

- New
- Default
- Open

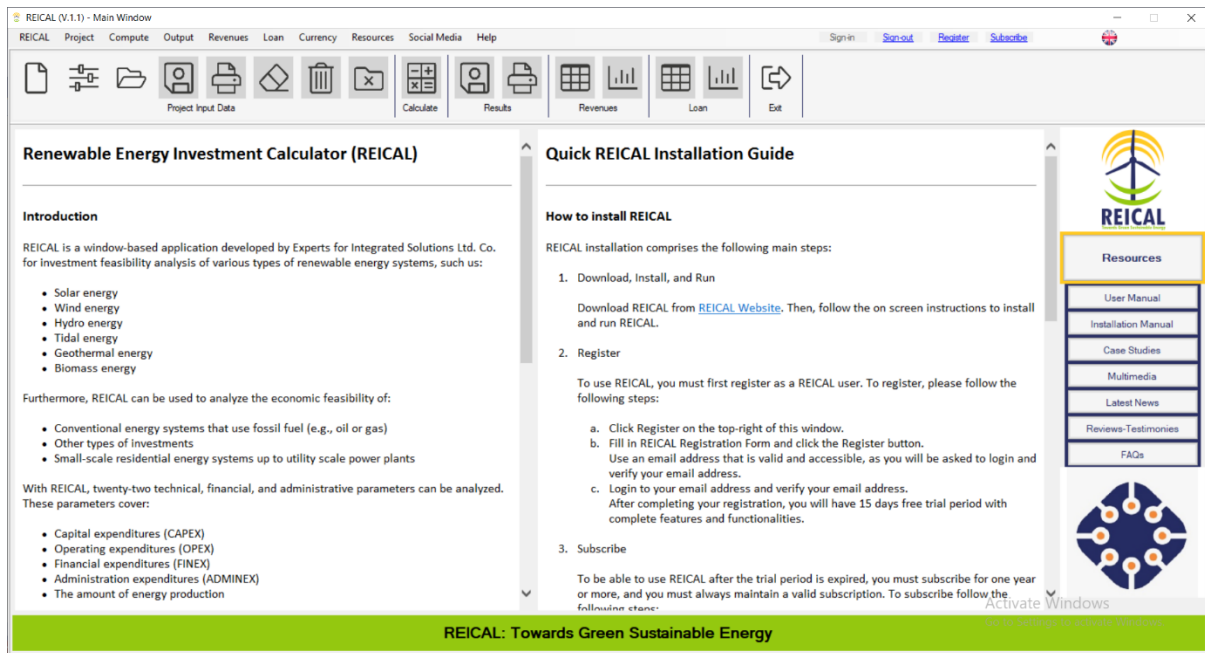


Figure 2. REICAL after signing-in (New, Default, and Open Icons are enabled).

Other commands are enabled/disabled according to the functionality criteria (i.e., a command is enabled when the function is valid, otherwise it is disabled).

All commands can be initiated by clicking either on the Icon on the Icon Toolbar (herein refer to as Toolbar) or on the Command Name on the Command Menu (herein refer to as Menu).

REICAL main commands are grouped into six groups as shown in Table 1.

Table 1. REICAL Commands				
No.	Group	Function	Icon	Description
1	Project	New		Open a new project
		Default		Open a new project with default data
		Open		Open an existing project
		Save		Save project input data
		Print		Print project input data
		Clear		Clear current project input/output data
		Delete		Delete current project
		Close		Close current project
2	Calculate	Calculate		Proceed to calculation
3	Investment	Save		Save current results
		Print		Print current results
4	Revenues	Table		Display a table showing Annual Produced Energy (KWh), Annual Revenue, Annual O&M Cost, Annual Loan payment, Annual Insurance Cost, Annual Administration Cost, and annual Net Revenue.
		Graph		Show a graphical representation of the above.
5	Loan	Table		Display a table showing the Loan Amortization Table including Loan Present Value, Interest, Payment, Principal, and Balance.
		Graph		Show a graphical representation of the above.
6	Exit	Exit		Exit REICAL



4. PROJECT

Project Input Data can be managed from Project Icons on the Toolbar or the Menu (Figure 3). These commands include: New, Default, Open, Save, Print, Clear, Delete, and Close. In what follows, we shall provide a description of each of these Commands.

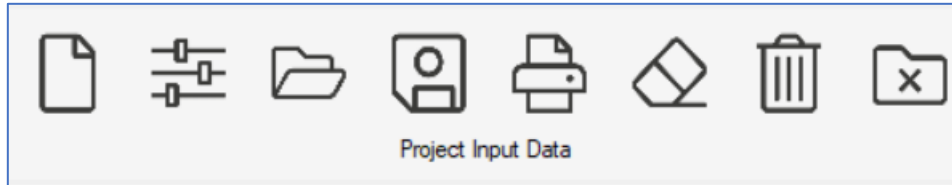



Figure 3. Project commands (icons).

4.1 New

Open a new project. To open a new project:

- (1) Click New Icon ().

New opens an empty project (all fields are empty), and you must enter all required project input data (Figure 4). After you open a new project, the Project Input Data Icons and the Calculate Icon on the Icon Toolbar are enabled.

REICAL verifies all input data before performing any calculations and change the bgcolor of any error field to pink.

The new project is unsaved; therefore, you must save the project as we will explain later.

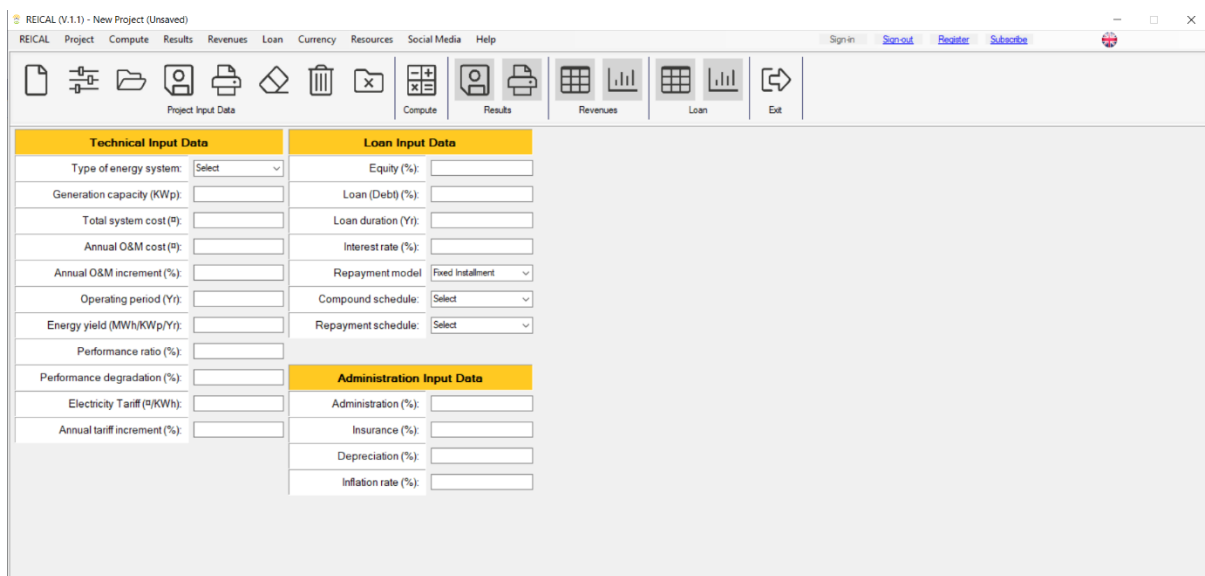


Figure 4. New command.



4.2 Default

Open a new project with default data. To open a new project with default input data:

- (1) Click Default Icon (), which will load the project default data.

After you open a new project with default data, the Calculate Icon on the Icon Toolbar are enabled (Figure 5). The new project is unsaved; therefore, you must save the project as we describe later.

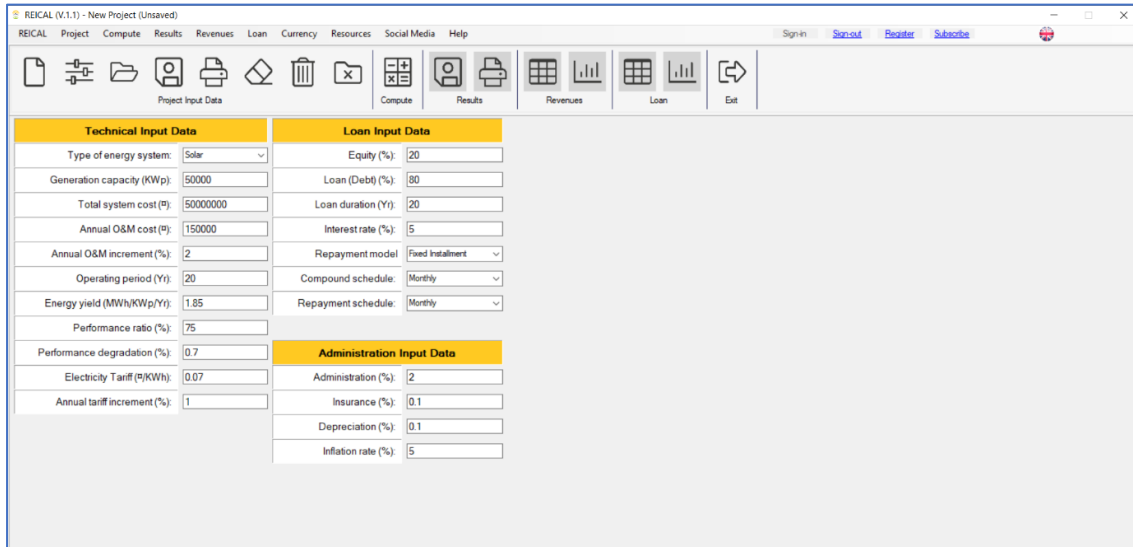



Figure 5. Default command.

4.3 Open

Open an existing project. To open an existing project:

- (1) Click Open Icon (), which will open the Open Dialog (Figure 6).
- (2) Select project name.
- (3) Click Open on the Open Dialog.

The input data of the selected project will be loaded, and the Project Input Data Icons and the Calculate Icon on the Icon Toolbar are enabled.

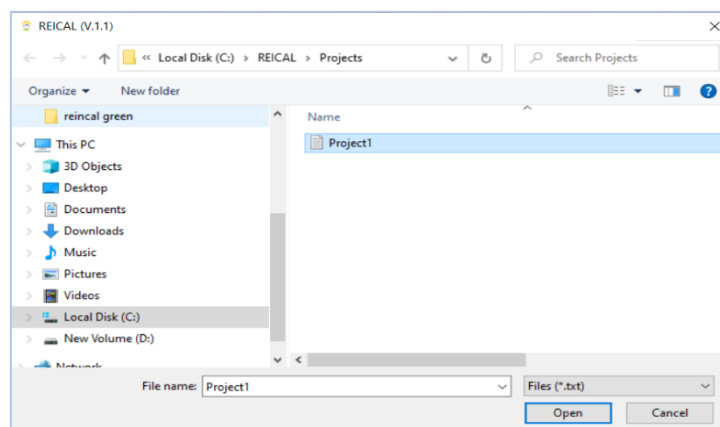



Figure 6. Open command.



4.4 Save

Save project input data. To save the project input data:

- (1) Click Save Icon (), which will open Save Dialog (Figure 7).
- (2) Select destination folder and enter project filename.
- (3) Click Save on the Save Dialog.

The App select a default path and name. The default path is “C:\REICAL\projects\”, and the default name is “project” followed by a number (e.g., project1, project2, project 3, and so on). The App selects the next available number starting from 1.

However, the user can change both the path and the name of the project and select his own path and name.

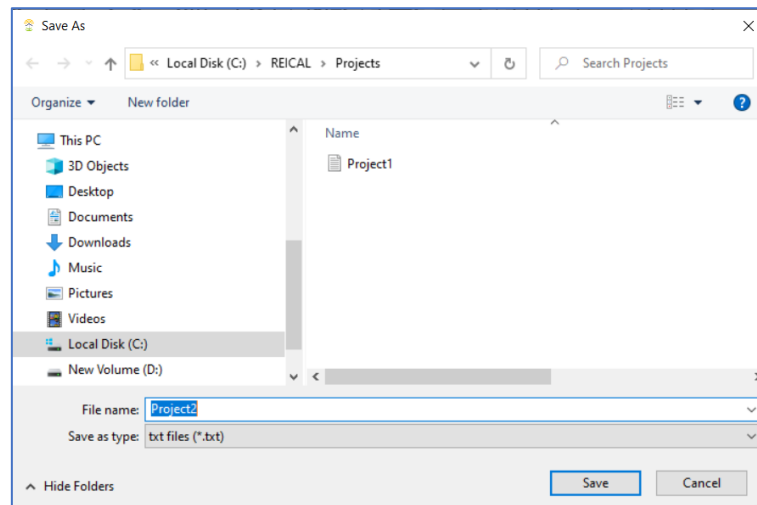



Figure 7. Save project.

4.5 Print


Print current project input data. To print the current project input data:

- (1) Click Print Icon (), which will open the Print Dialog.
- (2) Select printer.
- (3) Click Print on the Print Dialog.

You can also, change the printer to Microsoft Print to PDF to save the project input data in a PDF file format.

4.6 Clear

Clear current project input data. To clear current project input data:


- (1) Click Clear Icon (), which will clear all input data fields as well as hides any output data fields and start over a new unsaved project.

This command created to help users to clear all fields in one click only. It is like closing the current project and start over a new project.



4.7 Delete

Delete the current project. To Delete the current project:

- (1) Click Delete Icon (), which will show a confirmation message box (Figure 8)
- (2) Click Yes to delete the project or No to cancel.

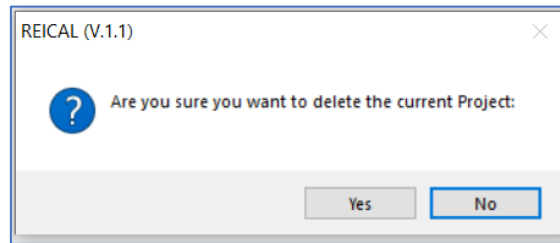



Figure 8. Delete command.

4.8 Close

Close current project. To Close the current project:

- (1) Click Close Icon (), which will show a confirmation message (Figure 9).
- (2) Click Yes to save and close the current project, click No to close without saving any changes to the current project, or click cancel to cancel.

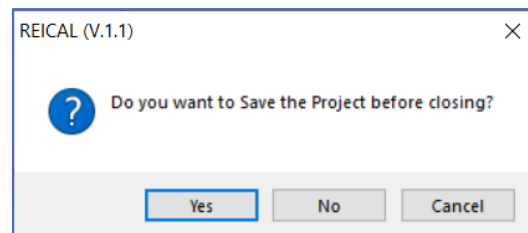



Figure 9. Close command.

Closing a project will close all input/output data fields and return to the Main Window (Figure 1).

5. CALCULATE

Perform calculation. To perform the calculation click the Calculate Icon ().

REICAL validate all input data before proceeding to perform the calculations, if all data are valid, then the calculations proceed, and the results are shown on the right-side of the Main Window. Also, the Results, Revenues, and Loan Icons are enabled as shown in Figure 9.

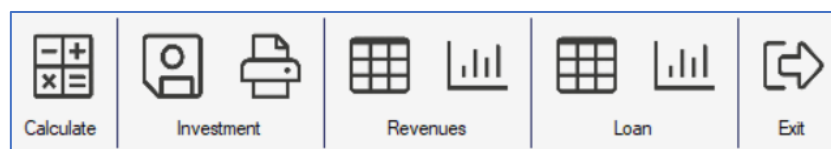


Figure 9. Calculate command.




6. INVESTMENT

The calculated investment indices such (NPV, IRR, RoI, Pi, and PP) and many other calculated results can be saved as PDF file or directly printed.

6.1 Save

Save investment results in a PDF file format. To save the investment results,

- (1) Click Save Icon (), which will open the Save Dialog (Figure 10).
- (2) Select a destination folder and enter a filename.
- (3) Click Save on the Save Dialog.

However, you can ignore Step 2 above, and use the default destination folder and filename.

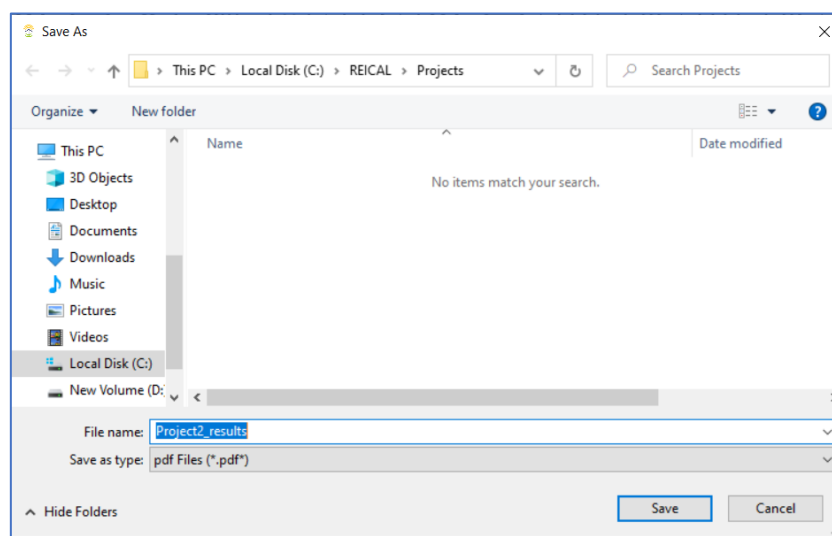



Figure 10. Save command.

6.2 Print

Print investment results. To print the investment results,

- (1) Click Print Icon (), which will open the Print Dialog.
- (2) Select the printer.
- (3) Click Print on the Print Dialog.

You can also, change printer to Microsoft Print to PDF to save the investment results in a PDF file format.


7. REVENUES

The calculated annual energy production (KWh), revenue, O&M cost, instalment, insurance cost, and administration cost for operation period can be presented in tables and graphs. The results can be saved as a PDF file or printed.



7.1 Table

To present the results for the revenues parameters as a table:

- (1) Click the Table Icon (), which will show the table in Figure 11.

You can save or print the Revenues Table by clicking on the icons at bottom of Revenue Table Form. Also, you can click Graph Icon to display the above parameters in a graphical form (Figure 11).

Y/M	Energy (KWh)	Revenue (\$)	O&M Cost (\$)	Loan Payback (\$)	Insurance Cost (\$)	Administration (\$)	Net Revenue (\$)
1	69,375,000	4,856,250	150,000	3,167,788	50,000	97,125	1,391,337
2	68,889,375	4,870,479	153,000	3,167,788	49,950	97,410	1,402,332
3	68,407,149	4,884,749	156,060	3,167,788	49,900	97,695	1,413,307
4	67,928,299	4,899,062	159,181	3,167,788	49,850	97,981	1,424,262
5	67,452,801	4,913,416	162,365	3,167,788	49,800	98,268	1,435,195
6	66,980,632	4,927,812	165,612	3,167,788	49,750	98,556	1,446,106
7	66,511,767	4,942,251	168,924	3,167,788	49,701	98,845	1,456,993
8	66,046,185	4,956,731	172,303	3,167,788	49,651	99,135	1,467,855
9	65,583,862	4,971,255	175,749	3,167,788	49,601	99,425	1,478,692
10	65,124,775	4,985,820	179,264	3,167,788	49,552	99,716	1,489,501
11	64,668,901	5,000,429	182,849	3,167,788	49,502	100,009	1,500,281
12	64,216,219	5,015,080	186,506	3,167,788	49,453	100,302	1,511,032
13	63,766,705	5,029,774	190,236	3,167,788	49,403	100,595	1,521,752
14	63,320,338	5,044,512	194,041	3,167,788	49,354	100,890	1,532,439
15	62,877,096	5,059,292	197,922	3,167,788	49,305	101,186	1,543,092
16	62,436,956	5,074,116	201,880	3,167,788	49,255	101,482	1,553,710
17	61,999,898	5,088,983	205,918	3,167,788	49,206	101,780	1,564,292
18	61,565,898	5,103,894	210,036	3,167,788	49,157	102,078	1,574,835
19	61,134,937	5,118,848	214,237	3,167,788	49,108	102,377	1,585,339
20	60,706,992	5,133,846	218,522	3,167,788	49,059	102,677	1,595,802

Figure 11. Table command.

7.2 Graph

To present the results of the revenues parameters in a graphical form:

- (1) Click the Graph Icon ().

You can save or print the Revenues Graph by clicking on the icons at bottom of Revenues Graph Form (Figure 12).

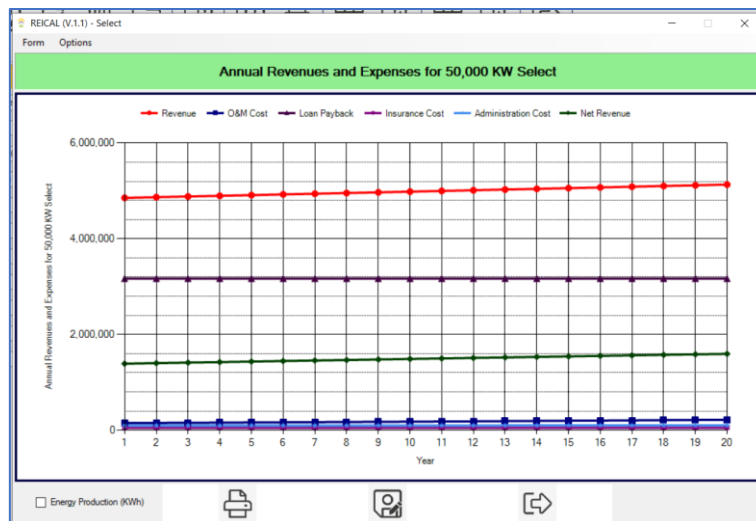


Figure 12. Graph command.




8. LAON

The Amortization Schedule of the loan can be presented in tabular or graphical representations. The Amortization Schedule is a complete table of periodic loan payments (instalment), showing the amount of principal and the amount of interest that comprise each payment until the loan is paid off at the end of its term. Each periodic payment depends on the loan repayment model (fixed instalment or fixed principal). Also, presented are the present value and the current loan balance.

Table for the loan, annual energy production (KWh), revenue, O&M cost, instalment, insurance cost, and administration cost for forecasted operation period can be presented in tables and graphs. The results can be saved as a PDF file or printed.

8.1 Table

To present the Amortization Schedule in a tabular form:

- (1) Click the Table Icon (), which will show the Amortization Table.

You can save or print the Amortization Table by clicking on the icons at bottom of the Table (Figure 13).


You can also present the Amortization Schedule in graphical representation by clicking on Graph Icon at bottom of the Table (Figure 13).

Y/M	Energy (KWh)	Revenue (P)	O&M Cost (P)	Loan Payback (P)	Insurance Cost (P)	Administration (P)	Net Revenue (P)
1	69,375,000	4,856,250	150,000	3,167,788	50,000	97,125	1,391,337
2	68,899,375	4,870,479	153,000	3,167,788	49,950	97,410	1,402,332
3	68,407,149	4,884,749	156,060	3,167,788	49,900	97,695	1,413,307
4	67,928,299	4,899,062	159,181	3,167,788	49,850	97,981	1,424,262
5	67,452,801	4,913,416	162,365	3,167,788	49,800	98,268	1,435,195
6	66,980,632	4,927,812	165,612	3,167,788	49,750	98,556	1,446,106
7	66,511,767	4,942,251	168,924	3,167,788	49,701	98,845	1,456,993
8	66,046,185	4,956,731	172,303	3,167,788	49,651	99,135	1,467,855
9	65,583,862	4,971,255	175,749	3,167,788	49,601	99,425	1,478,692
10	65,124,775	4,985,820	179,264	3,167,788	49,552	99,716	1,489,501
11	64,668,901	5,000,429	182,849	3,167,788	49,502	100,009	1,500,281
12	64,216,219	5,015,080	186,506	3,167,788	49,453	100,302	1,511,032
13	63,766,705	5,029,774	190,236	3,167,788	49,403	100,595	1,521,752
14	63,320,338	5,044,512	194,041	3,167,788	49,354	100,890	1,532,439
15	62,877,096	5,059,292	197,922	3,167,788	49,305	101,186	1,543,092
16	62,436,956	5,074,116	201,880	3,167,788	49,255	101,482	1,553,710
17	61,999,898	5,088,983	205,918	3,167,788	49,206	101,780	1,564,292
18	61,565,898	5,103,894	210,036	3,167,788	49,157	102,078	1,574,835
19	61,134,937	5,118,848	214,237	3,167,788	49,108	102,377	1,585,339
20	60,706,992	5,133,846	218,522	3,167,788	49,059	102,677	1,595,802

Figure 13. Table command - Loan.

8.2 Graph

To present the Amortization Schedule in a graphical form:

- (1) Click the Graph Icon (), which will show the Amortization Schedule in graphical representation.

You can save or print the graph by clicking on the Save Icon or Print Icon at bottom of the graph (Figure 14).

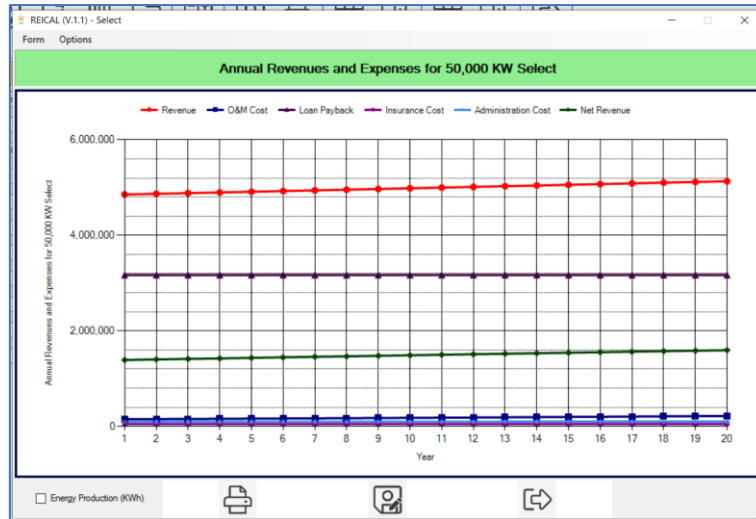


Figure 14. Graph command - Loan

9. CURRENCY

The currency can be changed from **Currency** menu, by selecting the appropriate currency symbol. The selected currency will be reflected on current project input/output data.

REICAL supports the following currencies: GBP (£), USD (\$), EUR (€), CNY (¥), JPY (¥), and for any other currency you can use the symbol ().



Figure 15. Currency options.

10. RESOURCES

The resource menu contains links to REICAL contents such as:

- [User Manual](#)
- [Installation Manual](#)
- [Case Studies](#)
- [Multimedia](#)
- [Reviews and Testimonies](#)
- [FAQs](#)
- [Latest New](#)



11. SOCIAL MEDIA

The Social Media contains links to REICAL social media pages:

- [Facebook](#)
- [Twitter](#)
- [YouTube](#)

12. HELP

The Help menu contains links to the following:

- [About REICAL](#)
- [REICAL Website](#)
- [Contact Us](#)

13. REICAL LICENSE

This option displays information about your REICAL License as shown in Figure 16. It shows the name and version of the product, name of the developer, email address of the signed-in user, type of subscription (SUBSC or TRIAL), physical address of the authorized user, license issue date, license expiry date.

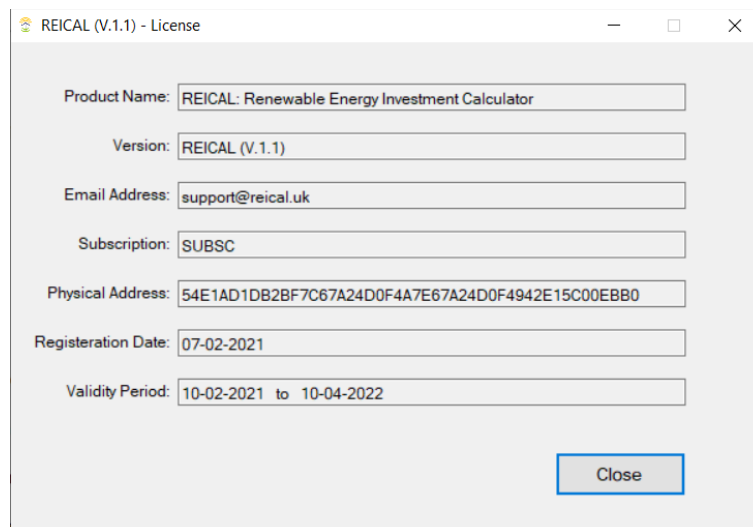


Figure 16. REICAL License.

For further information, please contact us at:

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