

# SOCIO-ECONOMIC ANALYSIS TOOL

## MANUAL

### OVERVIEW OF TOOL

The Caribbean Renewable Energy (RE) Socio-Economic analysis tool is a web-based calculator which allows the users to quantify the external benefits, such as job creation and avoided greenhouse gas emissions, of implementing renewable energy technologies (RETs) under Caribbean-specific conditions. The tool is intended for business, energy policy and programming bodies, or socially responsible financing institutions or other entities planning to fund or invest in RE projects.

The tool can be used to assess RE projects or programmes, according to: technology type, country of implementation, intended market application (e.g. residential, commercial, utility/IPP), and extent of penetration of the given RET in the market. The parameters used in calculations are specific to the target country of interest/selected. The user can specify some of the parameters himself/herself, if desired, to reflect specific circumstances. With only a few basic inputs from the user, the calculator determines key socio-economic indicators that the user can use to evaluate socio-economic gains to be had from setting/achieving RE deployment targets or milestones for a particular market and target country.

### STRUCTURE OF TOOL

The calculator functions with a set of inputs, provided by the user, to generate outputs. Inputs can be prompted either via drop down lists, from which the user selects amongst a limited set of pre-defined options, or via open entry, used for inputs that are very user-/situation- specific e.g. plant size or capacity (kW or MW) or average energy consumption per month, where the user can enter own data, if known, or can ignore in which case the calculator will use the built-in default values. All inputs are mandatory, identified by a red asterisk to the right of the input field label. Instructive text has been included below several key entries, to guide the user on the type of input that is expected. The user is advised to read these to avoid incorrect or inaccurate outputs. All inputs for this tool have been given a default value, considered to be the value most broadly applicable based on data collected by the CaPRI RE team.

### HOW TO USE THE TOOL

Your initial point of contact upon arrival to the tool should be the landing page as shown in the screen shot below. This screen is your starting point where you are given the option of selecting a RET and your target country. You are required to select one of the RETs in the drop down list, then a target country before proceeding.

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**Screen shot of Landing page**

## TO START YOUR ANALYSES

Both technology and target country must be selected before proceeding.

- Select your RET by clicking on the small arrow to the right of the “Technology” drop-down list, then select one of the options displayed
- Repeat the above for selecting “Country”. Not all RETs are applicable to all target countries, so the target countries available for selection will be dependent on the RET selected.



**Screen shot of drop-down list country selection**

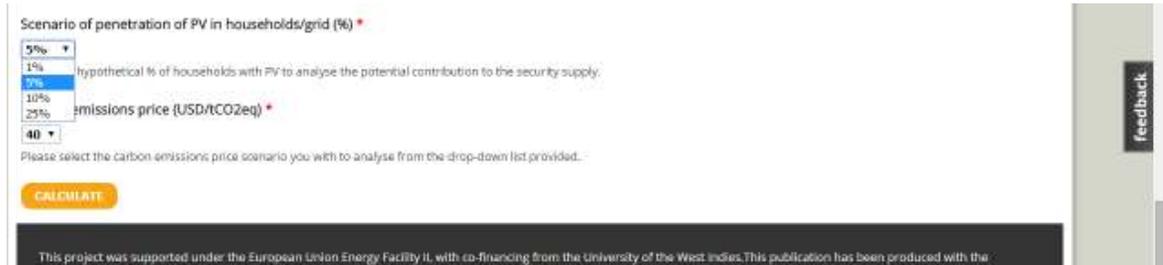
- After you have selected your RET and target country, a combination of drop-down lists and open entry inputs will be displayed, specific to the RET and country selected.

## TO COMPLETE YOUR ANALYSIS

- Select your market application from the drop-down list

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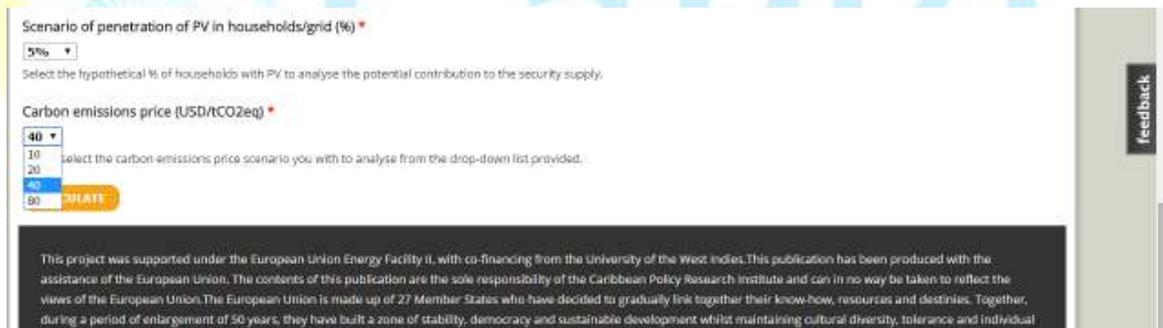
- Whether by drop-down list or manual entry, insert/change the remaining parameters below to entries that you believe are most accurate and relevant to the RET and country of interest. If you are not sure of a particular parameter, you may leave the default value. Please remember to always read and follow the guiding narrative below the input fields
- Using the drop-down list, be sure to select a scenario penetration level that you wish to assess, relevant to the RET and country of interest. This is critical to the final results of the analysis.



The screenshot shows a web form with two main input sections. The first section is titled "Scenario of penetration of PV in households/grid (%)" and features a dropdown menu with options: 5% (selected), 1%, 7%, 10%, 25%, and 40%. Below the dropdown is the text "hypothetical % of households with PV to analyse the potential contribution to the security supply." The second section is titled "Carbon emissions price (USD/tCO2eq)" and has a dropdown menu with options: 10, 20, 40 (selected), and 60. Below it is the text "select the carbon emissions price scenario you wish to analyse from the drop-down list provided." At the bottom of the form is an orange "CALCULATE" button. A "feedback" button is visible on the right side of the page. A footer at the bottom of the page reads: "This project was supported under the European Union Energy Facility II, with co-financing from the University of the West Indies. This publication has been produced with the assistance of the European Union. The contents of this publication are the sole responsibility of the Caribbean Policy Research Institute and can in no way be taken to reflect the views of the European Union. The European Union is made up of 27 Member States who have decided to gradually link together their know-how, resources and destinies. Together, during a period of enlargement of 50 years, they have built a zone of stability, democracy and sustainable development whilst maintaining cultural diversity, tolerance and individual..."

**Screen shot of selecting scenario of penetration**

- Using the drop-down list, be sure to select a carbon emissions price that you wish to assess, relevant to the RET and country of interest. This is critical to the final results of the analysis



This screenshot is similar to the previous one but focuses on the second input section. The "Scenario of penetration of PV in households/grid (%)" dropdown is now set to 5%. The "Carbon emissions price (USD/tCO2eq)" dropdown menu is open, showing options: 10, 20, 40 (selected), and 60. The text "select the carbon emissions price scenario you wish to analyse from the drop-down list provided." is visible. The "CALCULATE" button and "feedback" button are also present. The footer text is the same as in the previous screenshot.

**Screen shot of selecting carbon emissions price**

### TO GET YOUR RESULTS

- Check that you are satisfied with your entries or changes made to the input fields, then click "Calculate" at the bottom of the page



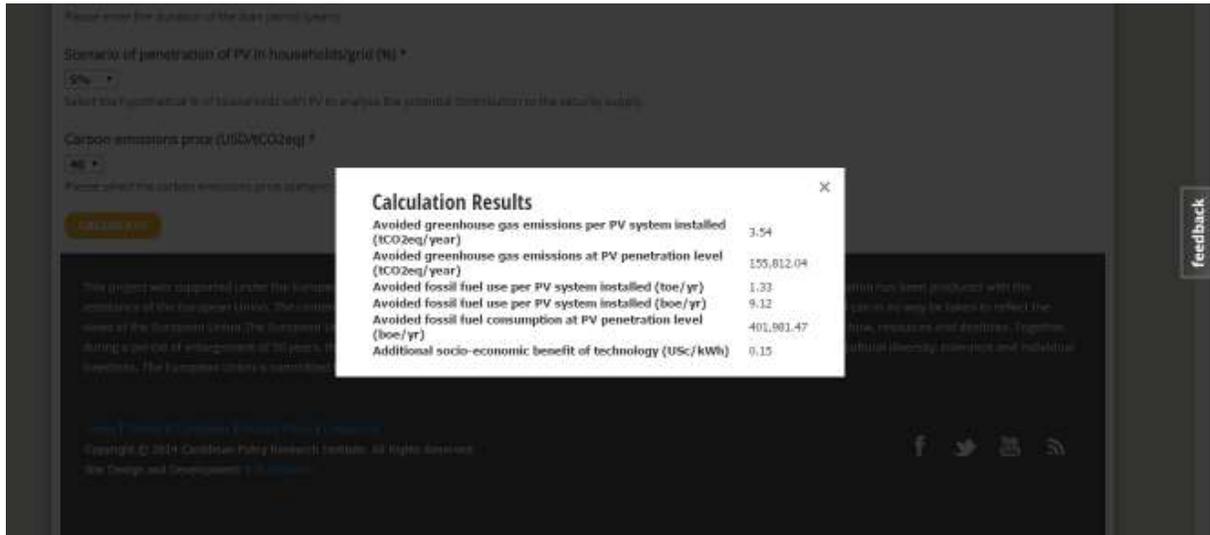
This screenshot shows the "CALCULATE" button highlighted in orange. The input fields above it show the same settings as the previous screenshots: 5% for PV penetration and 40 USD/tCO2eq for carbon emissions price. The "feedback" button is visible on the right. The footer text is the same as in the previous screenshots.

**Screen shot of "Calculate" button**

- Clicking "Calculate" will result in a pop-up "Calculation Results" window, centered in your screen, with all the results and quantified indicators displayed. Please note that if a result window does not appear after clicking "Calculate",

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you have most likely either failed to select/input a mandatory entry (in this case please scroll back up the page to check for an error message indicating missing entries), or pop-ups are being blocked by your browser.



### Screen shot of results window

- To close the “Calculation Results” window, simply click on the “x” at the top right of said window, or press the ‘Esc’ key on your keyboard. To start a new assessment, simply refresh your browser

## FEEDBACK

Your feedback is valuable to us as we strive to make this tool as useful as possible. To access the feedback form, click on the feedback tab located to the right of the webpage, then select the appropriate feedback form. The feedback form consists of “rating” the tool according to specific criteria (accuracy, user-friendliness etc.) and should take no more than a few seconds to complete.

## CONTACTS

You may signal concerns or suggestions, by using the Contact Form in the “Contact the database team” section or by sending us an email: **renewable-energy@capricaribbean.org**