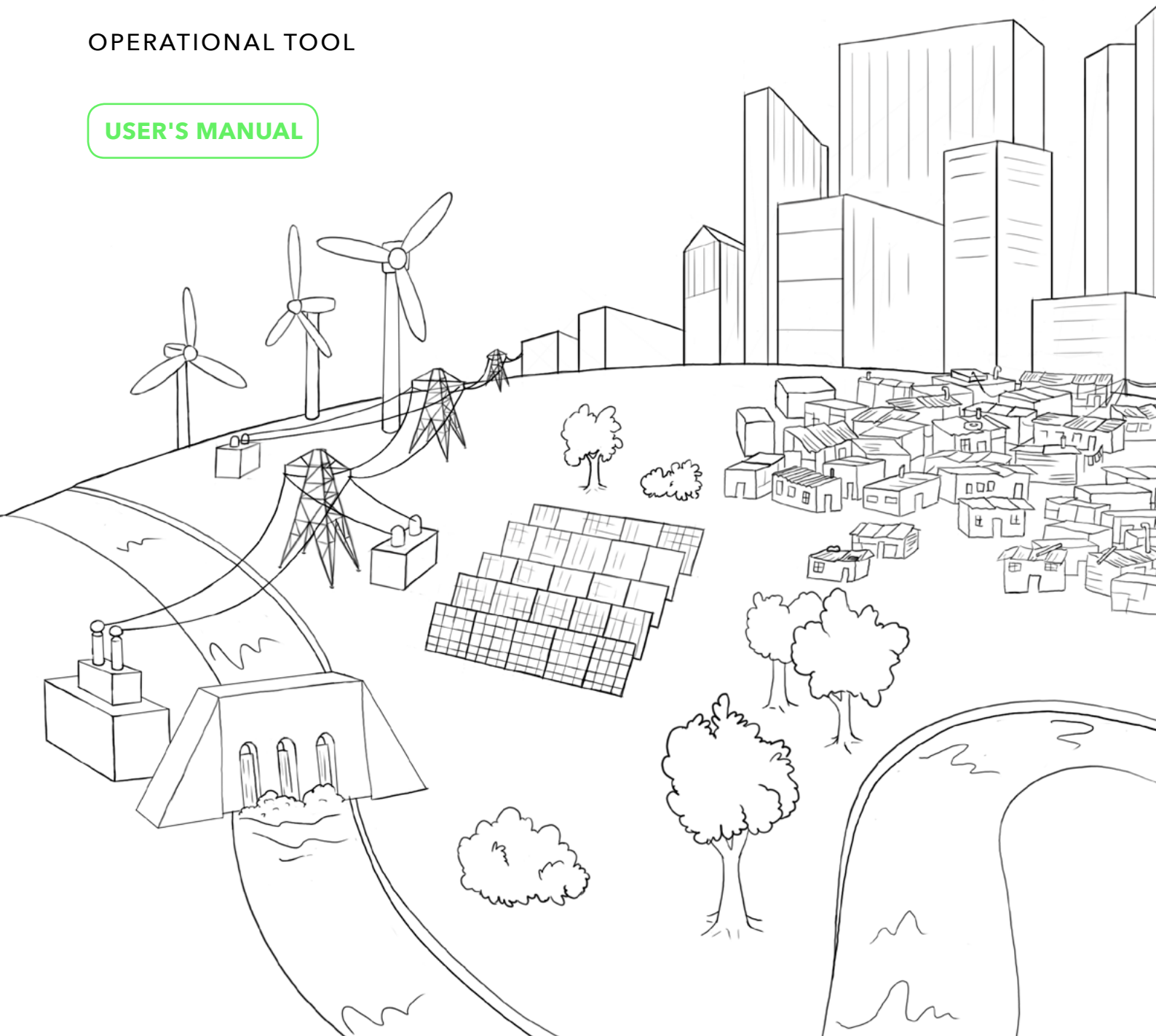


Green Utility Toolkit

Spider Chart

OPERATIONAL TOOL

USER'S MANUAL



Principal Author

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BEWOP

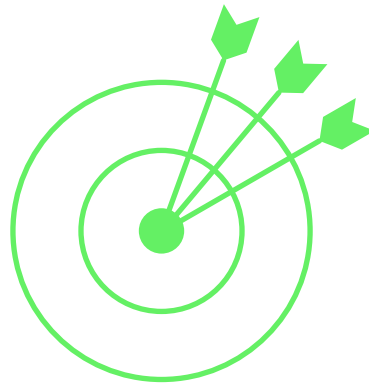
Water Operators' Partnerships are peer support arrangements between two or more water and sanitation operators, carried out on a not-for-profit basis with the objective of strengthening operator capacity.

The Boosting Effectiveness of Water Operators' Partnerships (BEWOP) initiative is producing a series of guidance materials, tools and games to help WOP partners expertly plan and implement WOP partnerships and effectively learn and share knowledge with one another.

Two types of products feature in the second phase of this BEWOP initiative. Process Tools support WOP participants prepare for, design, implement and follow through with their WOPs. Operational Tools support in the transfer of knowledge on specific operational topics relevant for water utilities.

Find out more

bewop.un-ihe.org | BEWOP.org | [#BEWOP](https://twitter.com/BEWOP)



Objectives

The Green Utility Toolkit is a self-assessment strategic planning and monitoring tool for water and wastewater utilities that are interested and willing to improve their practices in a sustainable and environmentally-conscious manner. As such, the terms 'green' and 'greening' refer to the processes and activities that can be implemented by utilities to support their development along the 3 pillars of sustainability – Social, Environmental, and Economical – while considering a long-term business horizon.

This Spider Chart Tool Manual will guide you in how to install and use the Spider Chart, which is Python-based and can run on Google Chrome web browser.



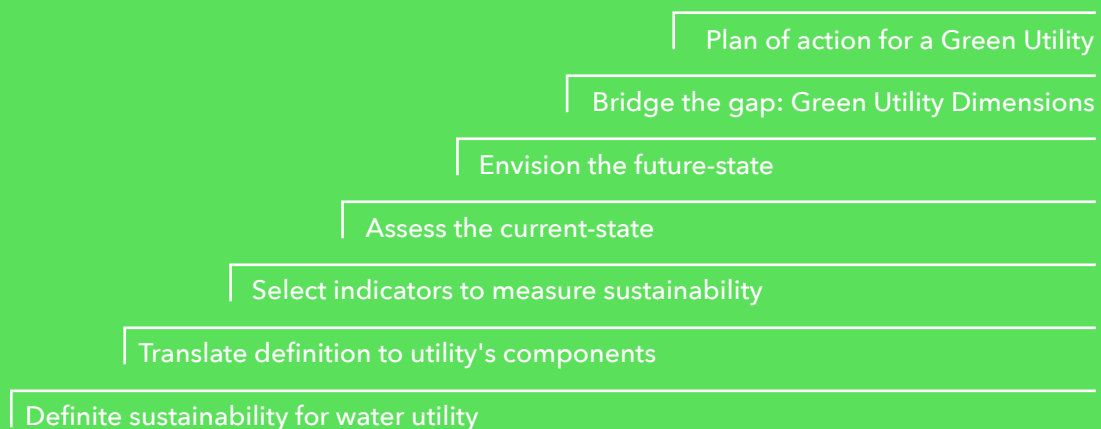
How this tool works

The tool contains 7 steps that lead water utilities' staff (and other stakeholders) to define:

- (i) What being a Green Utility means for them,
- (ii) How they intend to measure its performance,
- (iii) Where they envision their utility in the future, and
- (iv) How they plan to get there.

By doing so, expectations, definitions and plans are made explicit and can be built upon.

The 7 steps, which together target each of the objectives described above, lead to the development of a Plan of Action for becoming a Green Utility as so:

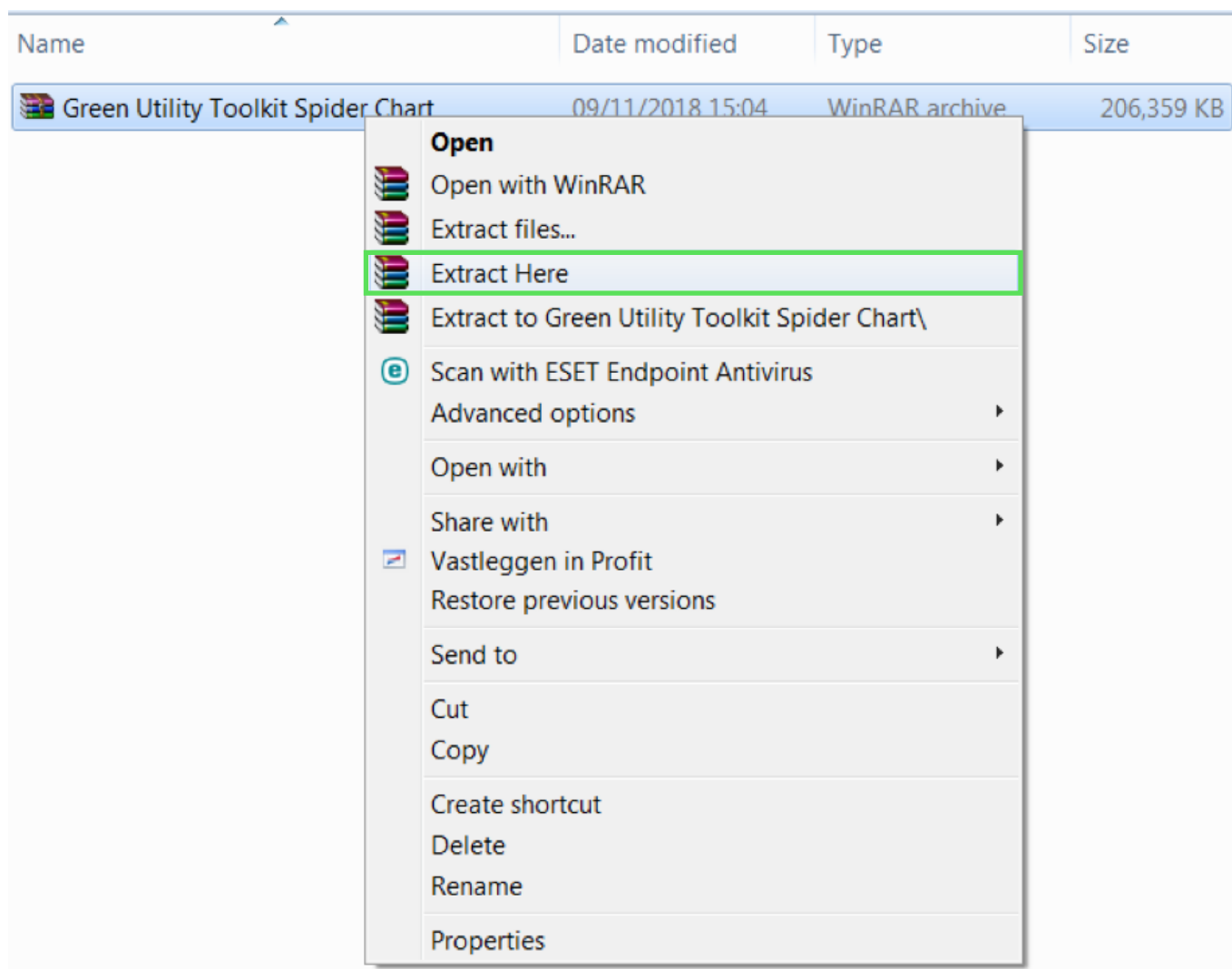


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1. Installing the application

The first step requires you to download the compressed WinRAR file, named Green Utility Toolkit Spider Chart, from BEWOP's Green Utility Toolkit website: <https://bewop.un-ihe.org/green-utility-tool>. Having done this, right-click on the WinRAR file and select Extract Here (or Extract files...and select a location of your preference).









The folder location where you have extracted the files, should have the following files:

| Name | Date modified | Type | Size |
|--|------------------|-----------------------|--------|
| indicators | 09/11/2018 14:54 | File folder | |
| indic_plot_36.py | 05/11/2018 16:30 | PY File | 8 KB |
| indicators | 16/10/2018 16:43 | Microsoft Excel Co... | 4 KB |
| Installation instructions for the indicators ... | 05/11/2018 18:12 | Microsoft Word D... | 20 KB |
| mapping_app | 09/11/2018 15:04 | Chrome HTML Do... | 203 KB |
| runner | 09/11/2018 15:04 | Windows Batch File | 1 KB |

To ensure the proper functioning of the Spider Chart, **only** access/modify the "indicators" excel file and the "runner" batch file.

2. Input of selected indicators

For the Spider Chart to display the specific indicators you and your utility have selected, you will have to manually add/modify them in the "indicators" Excel file. The first step then is to open the Excel file.

| Name | Date modified | Type | Size |
|--|------------------|-----------------------|--------|
|  indicators | 09/11/2018 14:54 | File folder | |
|  indic_plot_36.py | 05/11/2018 16:30 | PY File | 8 KB |
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|  mapping_app | 09/11/2018 15:04 | Chrome HTML Do... | 203 KB |
|  runner | 09/11/2018 15:04 | Windows Batch File | 1 KB |

This will bring up the file seen below. It is **vital** that the set-up columns and rows is followed for the application to work. This means:

- All Cluster need to be placed in Column A;
- All related Categories in Column B; and
- All the categories' related Indicators in Column C.
- Each time the level is changed (from Cluster to Category, Category to Indicator, or Indicator to a new Cluster), the following row must be used.
- Only put one Cluster, Category, or Indicator per row.

The image below demonstrates the proper set-up:

| | Clusters | Categories | Indicators | |
|----|-----------|------------|-------------|---|
| | A | B | C | D |
| 1 | Cluster 1 | | | |
| 2 | | Category 1 | | |
| 3 | | | Indicator 1 | |
| 4 | | | Indicator 2 | |
| 5 | | Category 2 | | |
| 6 | | | Indicator 3 | |
| 7 | | Category 3 | | |
| 8 | | | Indicator 4 | |
| 9 | | | Indicator 5 | |
| 10 | | | Indicator 6 | |
| 11 | Cluster 2 | | | |
| 12 | | Category 1 | | |
| 13 | | | Indicator 1 | |
| 14 | | Category 2 | | |
| 15 | | | Indicator 2 | |
| 16 | | | Indicator 3 | |
| 17 | | Category 3 | | |
| 18 | | | Indicator 4 | |
| 19 | | | | |

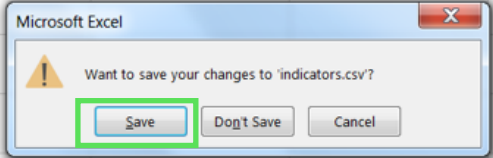
Every new item (Cluster, Category, or Indicator), is placed in a new row under the relevant column

The list can be as extensive as needed.

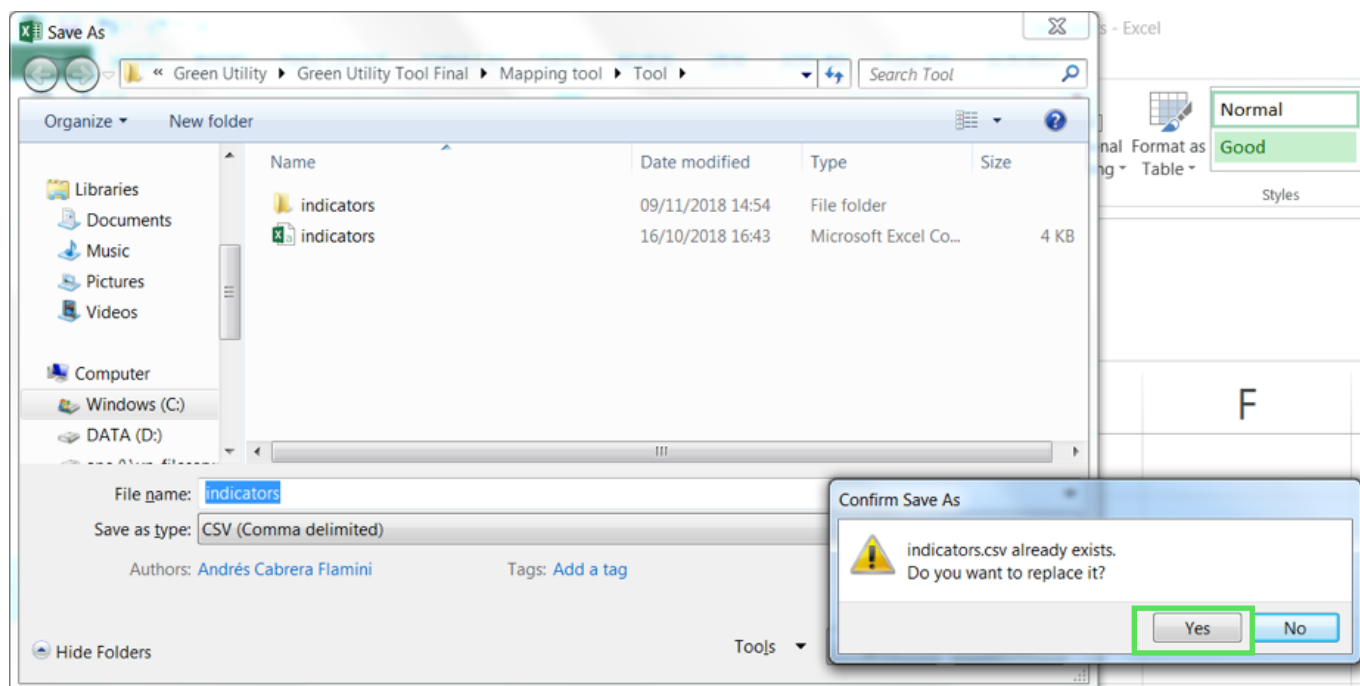
Once you are finished inputting the different items, you **must** follow the next steps when saving to ensure compatibility between your Excel file and the application:

- Close the Excel file so that you are prompted if you want to save your changes and click 'Save'. If you want to save your progress before closing, make sure you keep the '.csv' file extension (see below).

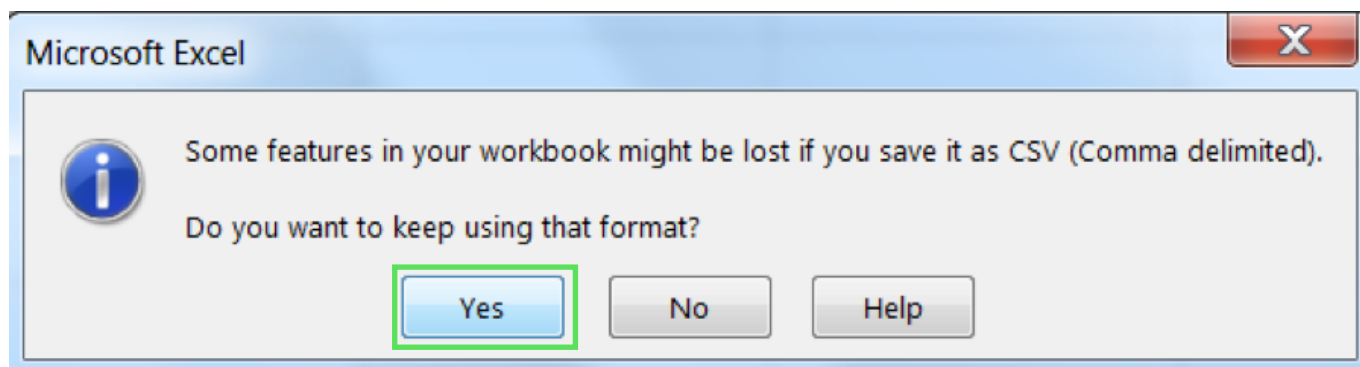
| | A | B | C | D | E | F |
|---|---------|----------|-------------|---|---|---|
| 1 | Cluster | | | | | |
| 2 | | Category | | | | |
| 3 | | | Indicator 1 | | | |
| 4 | | | Indicator 2 | | | |
| 5 | | | Indicator 3 | | | |



- Save the 'indicators' Excel file in the same location with the same name. This will prompt the message 'indicators.csv already exists. Do you want to replace it?'. **Click Yes.**



- You will then receive the message prompt: 'Some features in your workbook might be lost if you save it as CSV (Comma delimited). Do you want to keep using that format?' **Click Yes.**

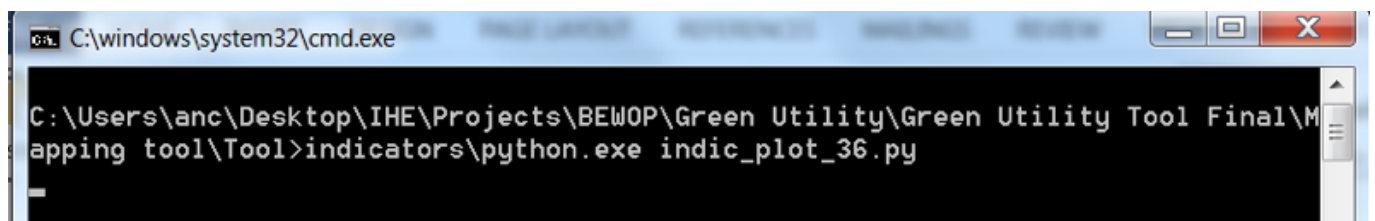


3. Running the GU Spider Chart

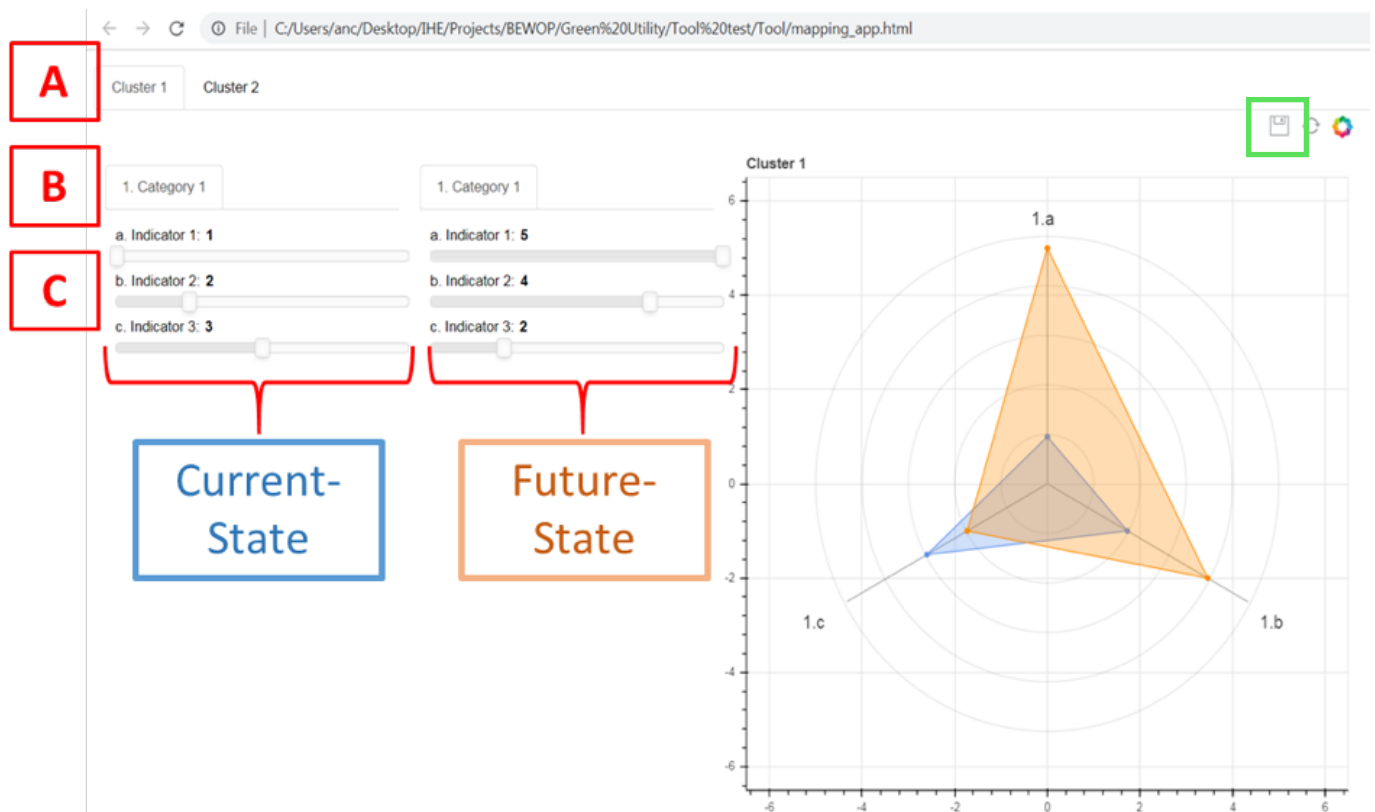
Once you have included the Clusters, Categories, and Indicators in your Excel file, you are now able to run the application to plot the Spider Chart. Double-click on the 'runner' file.

| Name | Date modified | Type | Size |
|--|------------------|-----------------------|--------|
| indicators | 09/11/2018 14:54 | File folder | |
| indic_plot_36.py | 05/11/2018 16:30 | PY File | 8 KB |
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| runner | 09/11/2018 15:04 | Windows Batch File | 1 KB |

This will cause a Prompt Window to pop-up. Please wait while the application loads and launches a new Tab in Google Chrome.



The Spider Chart Tab on Google Chrome will look like the image below:



From here, you can click on the relevant Cluster (A), then select the relevant Category (B) from which the Indicators will appear with a sliding bar underneath (C). The Category column on the left side relates to the Current-State level of the indicators, and the right side on the Future-State level. In the Spider Chart, the blue-shading relates to Current-State and the orange-shading to Future-State. As the approach used for mapping the current and future-states is qualitative (See Steps 4 and 5 of the Green Utility Toolkit), the scale used ranges from 1-5, with 1 being the lowest and 5 being the highest. The desired number can be selected by clicking on the sliding bar or dragging the sliding bar. In the upper right-hand side of the page, there is a save button (in the image above circled in red) which downloads an image file (.png) of the Spider Chart.

4. Example of a GU Spider Chart

Below is an example of the 'indicators' Excel file with its respective Spider Chart for the Social Cluster.

| | A | B | C | D | E | F | G | H | I | J |
|----|--------|--|---------------------------------------|---|---|---|---|---|---|---|
| 45 | Social | | | | | | | | | |
| 46 | | Population with easy access to water services | | | | | | | | |
| 47 | | | Water Coverage - In-house Connections | | | | | | | |
| 48 | | | Water Coverage – Public Water Points | | | | | | | |
| 49 | | Long-term plans for service expansion, linked with foreseen population change/growth | | | | | | | | |
| 50 | | Prioritization of Environmental Processes | | | | | | | | |
| 51 | | Staff involved full-time in environmental / sustainability aspects | | | | | | | | |
| 52 | | Staff involved part-time in environmental / sustainability aspects | | | | | | | | |
| 53 | | Role of staff involved for a and b | | | | | | | | |
| 54 | | Department(s)/area(s) responsible for environmental / sustainability aspects | | | | | | | | |
| 55 | | Internal funding dedicated to environmental aspects | | | | | | | | |
| 56 | | Human Resources Management | | | | | | | | |
| 57 | | skills and training strategy for all staff | | | | | | | | |
| 58 | | annual appraisal and target setting system for managers | | | | | | | | |
| 59 | | annual appraisal and target setting system for all staff | | | | | | | | |
| 60 | | reward and recognition programme for all staff | | | | | | | | |
| 61 | | ability to recruit and dismiss staff (within an agreed plan) | | | | | | | | |
| 62 | | Staff training | | | | | | | | |
| 63 | | Staff trained in the last 1 to 4 years | | | | | | | | |
| 64 | | Staff trained in green (environmental/sustainability) processes in the last 1 to 4 years | | | | | | | | |

Operational Environmental **Social**

1. Population with easy access to water services

2. Long-term plans for service expansion, linked with foreseen population change/growth

3. Prioritization of Environmental Processes

4. Human Resources Management

5. Staff training

a. Staff trained in the last 1 to 4 years: **2**

b. Staff trained in green (environmental/sustainability) processes in the last 1 to 4 years:

1

1. Population with easy access to water services

2. Long-term plans for service expansion, linked with foreseen population change/growth

3. Prioritization of Environmental Processes

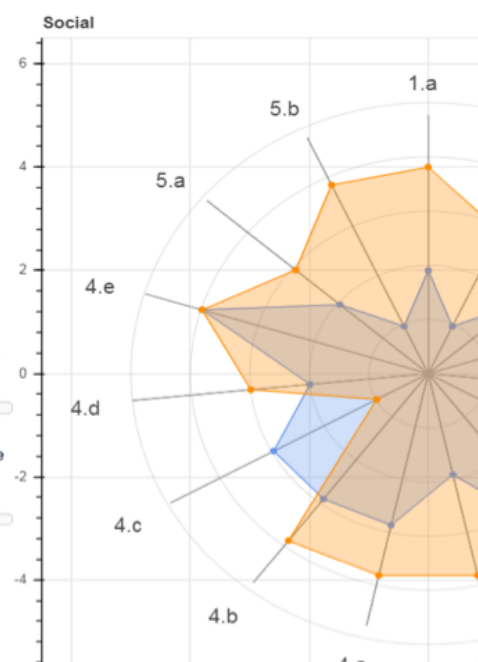
4. Human Resources Management

5. Staff training

a. Staff trained in the last 1 to 4 years: **3**

b. Staff trained in green (environmental/sustainability) processes in the last 1 to 4 years:

4



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BEWOP

Supporting the implementation of

**SUSTAINABLE
DEVELOPMENT GOALS**

