



City Blueprint Users Guide



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1 Executive Summary

The BlueSCities Users Guide to the City Blueprint and City Amberprint is the manual which will accompany the BlueSCities Independent Analysis Software packages. The two packages are the result of the work carried out on the revised version of the City Blueprint and the creation of the City Amberprint which have already been undertaken in more than 50 cities around the World.

The two parallel methodologies incorporated into the BlueSCities Software permit target users, both professional and non-professional including municipal administrations to generate a concise, clear and effective analysis of the situation concerning Water and Waste (City Blueprint) and Energy, Transport and ICT (City Amberprint) in any given town or city. The results reveal at a glance precisely where a municipality's strong and weak points lie and can serve as the key first step in a local, regional, national or supranational strategic approach so that all stakeholders will be better equipped to create broad, long-term visions in order to plan for the sustainable urban communities of the future.

Presented in an easily-accessible format which will permit one to obtain and provide the necessary information in a logical step-by-step procedure, the BlueSCities Independent Analysis Software packages produces visual results which converts it into an effective communication methodology which enables stakeholder engagement, city-to-city learning and the exchange of best practices.

The system has been tried and tested and works efficiently. It will strengthen the argument that all environmental factors must be analysed as a whole when considering the options available for urban development in the coming years.

2 Blueprint manual

2.1 Welcome page

Welcome to the BlueSCities Users Guide to the City Blueprint and City Amberprint. By following the step by step instructions contained in this document the user will be able to employ both the City Blueprint and the City Amberprint software in order to undertake an analysis of the city in question. By generating the City Blueprint, one will have the necessary information at a glance concerning water and waste in any given municipality. The City Amberprint will provide a compatible analysis of the situation concerning energy, transport and the use of ICT methods. This is an easy to understand interactive tool serving strategic decisions. The actual assessment is completed together with key stakeholders ensuring usable results and quick access to expert knowledge. This is a platform that enhances city-to-city learning, the exchange of best practices and will be a valuable support for citizen and general stakeholder engagement. Cities can learn important practical lessons from other cities that have already implemented best practices. This software package will provide the user with the data necessary in order to identify which practices may be learnt and which practices may be taught. Furthermore, the BlueSCities Independent Analysis Software offers an opportunity to combine water and waste strategies with the traditional Smart City sectors of energy, transport and ICT so that decision makers can truly appreciate the full global picture.

When you enter the link a welcome page will appear. You will find the essential information concerning the benefits of the application together with a description of the methodology. At the top of the page is a link to register in the application, the link to log in as a user and further information concerning the City Blueprint. Here you may contact the BlueSCities experts for support and access this Users' Guide.

The City Blueprint
a practical communicative tool that can help cities on their path to becoming sustainable water-wise cities

Extreme weather events that leave city streets under water in no time
1

Protracted drought that renders a city's water supply incapable of meeting its needs
2

Two extreme cases that become more and more a reality because of **climate change**, and especially since **urbanization** is rapidly increasing

In 2050, 87% of the population in developed countries will be living in cities. At about that time, water supply will fall short of demand by 40%

The consequences of climate change leave cities no choice: they are forced to adapt their water cycles, because the cost of inaction is very high

But how can a city quickly grasp which elements of its water cycle are already sustainable and which need to be adapted?

[Try it!](#) [Know more](#)

Benefits of the City Blueprint

- Reveals at a glance precisely where a city's strong and weak points lie and can serve as the key first step in strategic long-term planning to realize cities to be sustainable and water-wise
- It is an easy to understand interactive tool serving strategic decisions. The actual assessment is done together with key stakeholders ensuring usable results and quick access to expert knowledge
- It offers a platform that enhances city-to-city learning, exchange of best practices. Cities can learn important practical lessons from other cities that have already implemented best practices
- The City Blueprint platform is expanding with at present, 50 cities in 30 different countries

How does it work?

Participation in the City Blueprint process requires little effort whereas it can produce high returns. It shows the city exactly what steps they want to take towards making Urban Water Cycle Services (UWCS) sustainable.

Complete the questions provided → **Provisionary City Blueprint** (Can be used for internal progress and comparison with the eight other cities that have been assessed)

Experts from KWR check the source data and complete missing information whenever needed → **City Blueprint** (This platform is optimal and independent assessment of the source information and allows for a comparison with all other cities, providing the city insight into its most important strengths and weaknesses)

We can then work together in defining the right direction and goals for UWCS, show the most rewarding points of improvement and show cities that have already implemented measures to seize these opportunities

Finally, we will also show which best steps and WaterSmart tools (<https://www.watersmart.eu/>) can be useful for reaching the city's own formulated ambitions on their path to become water-wise

Methodology

After the completion of the questionnaire, a radar chart of all 26 performance-oriented indicators and the overall score, the Blue City Index (BCI) are provided both varying from 0 (concern) to 10 (no concern).

The indicators are divided over seven broad categories representing the entire urban water cycle

- 1 Water quality
- 2 Solid waste
- 3 Basic water services
- 4 Wastewater treatment
- 5 Infrastructure
- 6 Climate adaptation
- 7 Governance

For detailed information regarding the scoring and rationale of each individual indicator, see [City Blueprint Guidelines](#)

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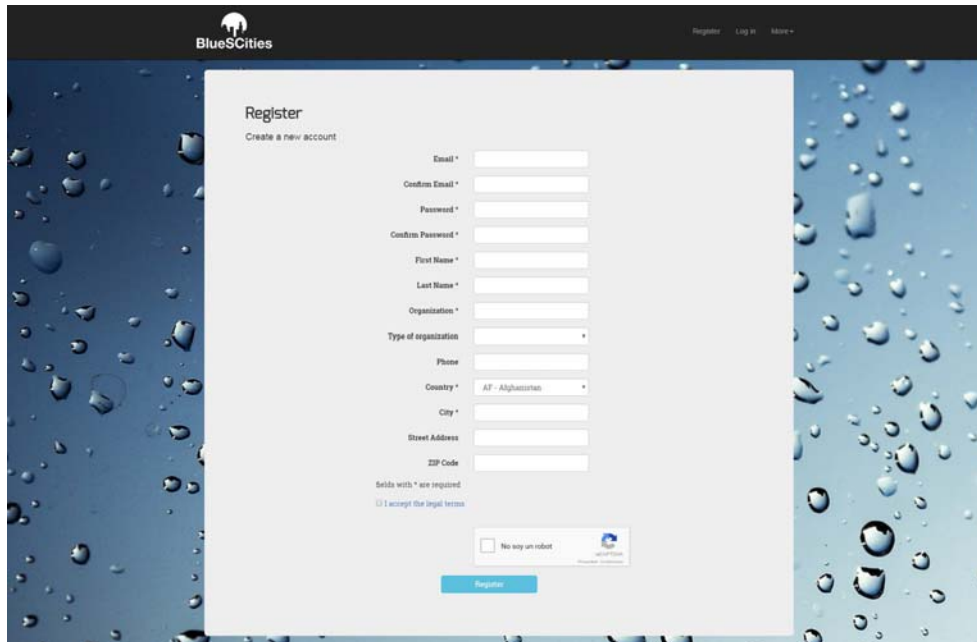
Project Coordinator: **ctm** (City of The Hague)

Project partners: **KWR** (Watercycle Research Institute), **European Commission** (Joint Research Centre)

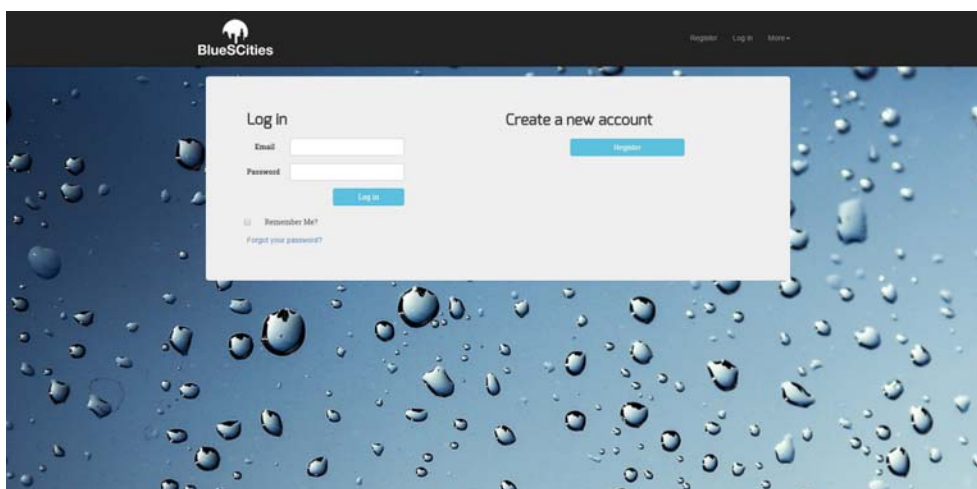
All partners

2.2 Register page

To register you enter this page and fill in the required information. It is also important to have read and accepted the legal terms of use which in turn can be accessed by clicking on the link. Having submitted the information you will receive an e-mail which will confirm that your Blueprint account has been successfully created and which asks you to validate your account following the link provided.



Once the account is validated the user can access the log in page providing both their e-mail and password. If the password has been forgotten then the user clicks on the 'Forgot your password' link.



2.3 Study definition and selection

When the user enters they are automatically directed to the principal page. Here they can decide to undertake one of four actions: to create a new study, to create a new study based on an existing one, to modify a study or to delete a study.

By clicking on one of the aforementioned options, the relevant questions to be answered will appear and once completed, the user clicks on 'Submit'.

The screenshot shows the 'New Study' form in the BlueSCities application. The form is titled 'What do you want to do?' and has several options: 'Create new Study', 'Create new Study based on existent one', 'Modify existent Study', and 'Delete existent Study'. The 'New Study' section contains the following fields: 'Name' (text input), 'Date of reference' (text input with value 'dd/mm/aaaa'), 'Target City' (text input), 'Country' (dropdown menu with 'AF - Afghanistan' selected), 'Population' (text input with unit 'inhab'), 'Land Area' (text input with unit 'km²'), 'GDP per capita' (text input with unit 'C'), and 'Climatic Zone' (dropdown menu with 'Temperate' selected). A blue 'Submit' button is located at the bottom of the form.

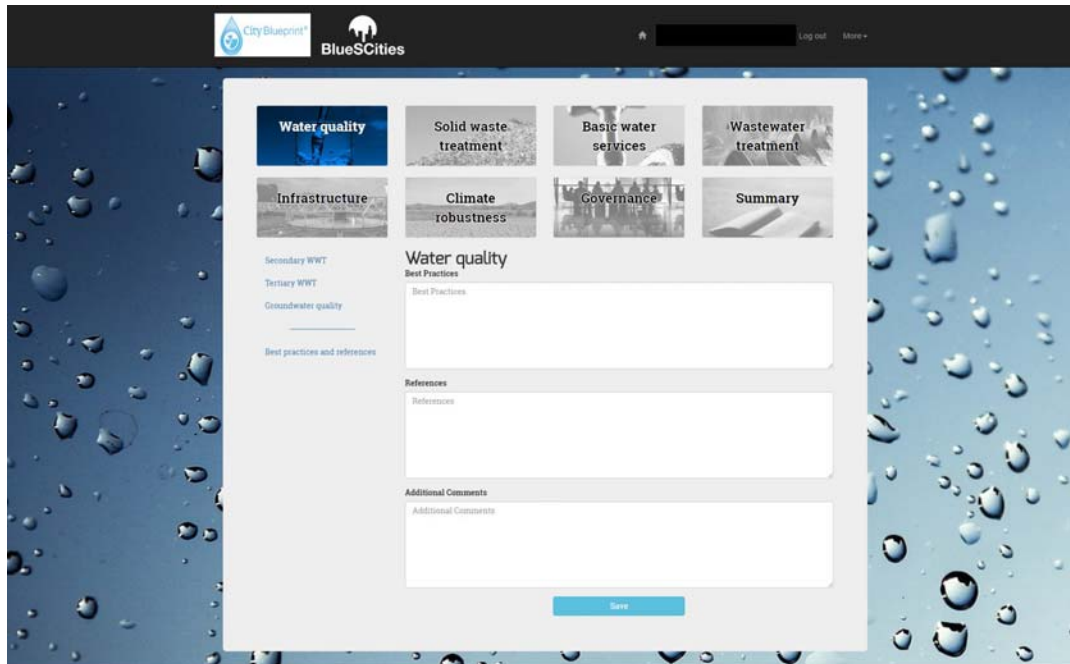
2.4 Indicator categories

A page appears which at the top shows the seven different aspects to be analysed and a summary. These are Water Quality, Solid Waste Treatment, Basic Water Services, Waste Water Treatment, Infrastructure, Climate Robustness and Governance. Clicking on each aspect in turn, opens the 25 indicators in numerical order. Each indicator is described and the user is expected to enter the relevant information in the box provided. The user may then save the information or save and continue with the next indicator. When an indicator is saved, automatically, said information is illustrated on the graphic display which appears on the screen.

The screenshot shows the 'Water quality' indicator page in the BlueSCities application. At the top, there is a grid of eight indicator categories: 'Water quality', 'Solid waste treatment', 'Basic water services', 'Wastewater treatment', 'Infrastructure', 'Climate robustness', 'Governance', and 'Summary'. The 'Water quality' category is selected and highlighted. Below the grid, the 'Water quality' indicator is described as 'Indicator 1 of 25 - Secondary WWT'. The description states: 'Primary Waste Water Treatment removes the sludge, oil and grease from sewage. Secondary Waste Water Treatment is a process which physically removes sediments from sewage and a biological process which removes suspended organic material. This indicator shows the percentage of the city's population connected to secondary waste water treatment.' There is a text input field for '% population connected to at least secondary WWT' with the value '0.0'. Below this, the 'Indicator value' is shown as '0.00'. A radar chart is displayed with three axes: 'Secondary WWT' (top), 'Groundwater quality' (bottom left), and 'Tertiary WWT' (bottom right). The chart shows a single data point at the origin, indicating a value of 0.00. At the bottom of the page, there are two buttons: 'Save' and 'Save and continue'.

2.5 Best reference practices

Having completed one of the aforementioned categories, a section appears in which the user may describe in their own words Best Practices, References and Additional Comments which will be read carefully by the official City Blueprint validators.

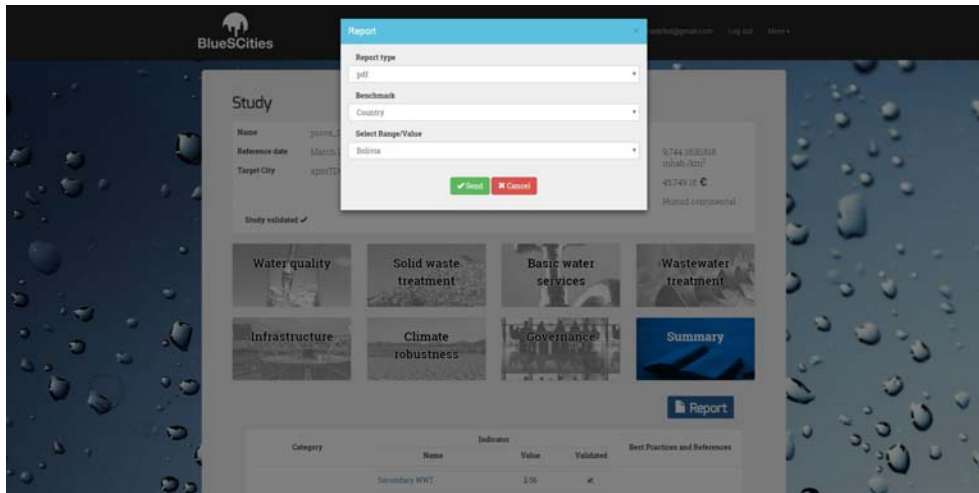


2.6 Summary and reporting

In the Summary appears at the top of the page a number of general statistics concerning the city in question which the user will have supplied at the beginning of the creation of the study. Below appears a report which is in reality, a table reflecting the numerical values of all the indicators which the user has answered. At the bottom of the same page, the resulting graph or City Blueprint can be observed.

By clicking on the 'Report' button the user can generate a Preliminary City Blueprint for their own private, non-commercial use.

Once the analysis of the city in question has been validated by the BlueSCities experts (the validation is requested by sending an e-mail via the contact form), the user can generate a PDF report and compare their data to the benchmark consisting of the anonymous data of other municipalities according to different criteria such as Country, Population, Land Area, Population Density, GDP per capita and Climatic Zone.

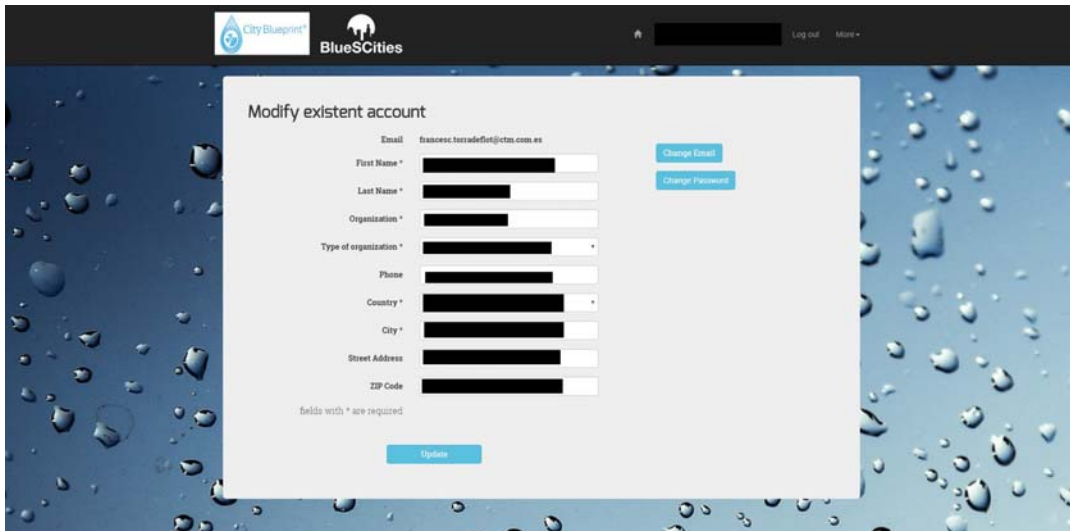


The screenshot displays the 'Study' page in the BlueSCities interface. At the top, there is a navigation bar with the BlueSCities logo and user options like 'Admin', 'Log out', and 'More'. Below the navigation bar, the 'Study' section provides details for a specific study, including its name, reference date, target city, and various metrics like population and GDP per capita. A grid of category tiles (Water quality, Solid waste treatment, Basic water services, Wastewater treatment, Infrastructure, Climate robustness, Governance, and Summary) is shown, along with a 'Report' button. The main content area features a table with columns for Category, Name, Indicator, Value, Validated, and Best Practices and References. Below the table is a radar chart that visualizes the data points for each category, showing performance levels across multiple indicators.

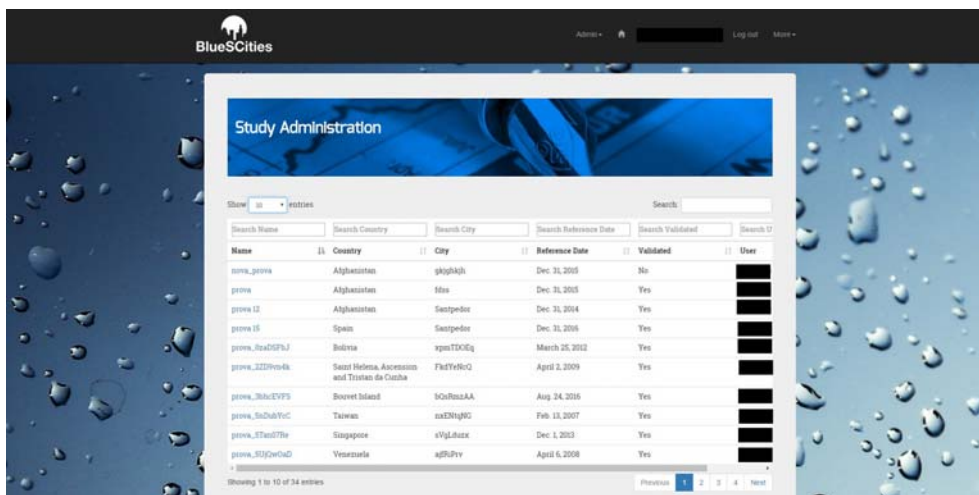
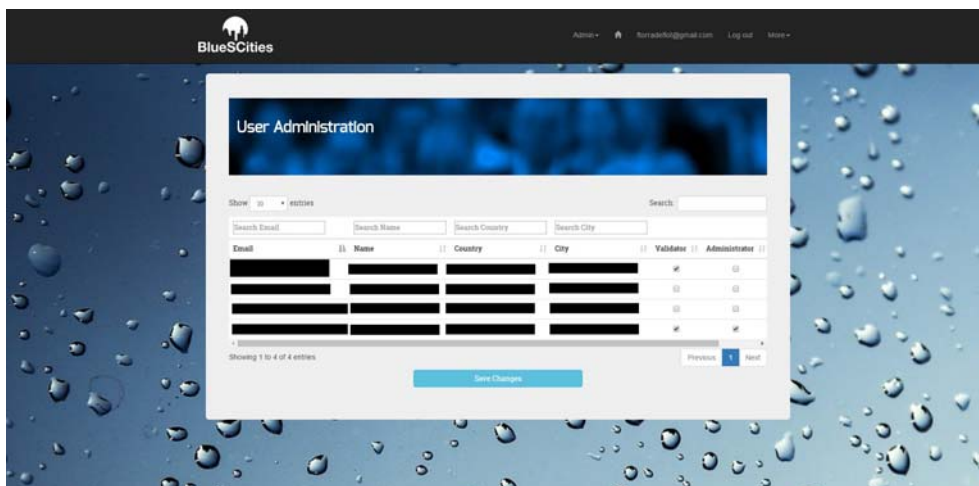
Category	Name	Indicator	Value	Validated	Best Practices and References
Water quality	Secondary WWT		2.56	✗	Best Practices and References
	Tertiary WWT		7.98	✗	
	Groundwater quality		7.50	✗	
Solid waste treatment	Solid waste collected		10.00	✗	Best Practices and References
	Solid waste recycled		10.00	✗	
	Solid waste energy recovered		7.70	✗	
Basic water services	Access to drinking water		6.43	✗	Best Practices and References
	Access to sanitation		2.54	✗	
	Drinking water quality		6.25	✗	
Wastewater treatment	Nutrient recovery		5.41	✗	Best Practices and References
	Energy recovery		1.86	✗	
	WWT energy efficiency		6.00	✗	
Infrastructure	Stormwater separation		5.49	✗	Best Practices and References
	Average age sewers		10.00	✗	
	Water system leakages		0.00	✗	
	Operation cost recovery		3.33	✗	
	Green space		5.19	✗	
Climate robustness	Climate adaptation		7.00	✗	Best Practices and References
	Drinking water consumption		0.00	✗	
	Climate robust buildings		1.00	✗	
Governance	Management and action plans		10.00	✗	Best Practices and References
	Public participation		10.00	✗	
	Water efficiency measures		7.00	✗	
	Attractiveness		6.00	✗	

2.7 Profile editing

There is also a page which permits the user to update the details of their account.



2.8 Users and administration portal



2.9 Contact form and about

