

## Template for Evidence(s) UI GreenMetric Questionnaire

University : Alexandria University  
Country : Egypt ...  
Web Address : <https://alexu.edu.eg/> ...

### [2] Energy and Climate Change (EC)

#### [2.9] Elements of Green Building Implementation as Reflected in All Construction and Renovation Policies



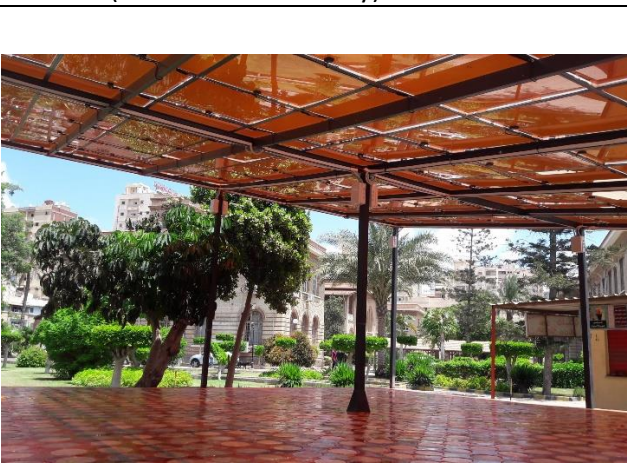
Green Building Implementation - Green Technologies implemented at the Abis Campus (Alexandria University). All new buildings in Abis campus are designed with large windows to get maximum benefit from daylight and ventilation



All new and renewed teaching rooms contain well equipped technological facilities (screens, data shows and white boards).



Solar Energy Center at the Faculty of Science (Alexandria University)



BIPV Roof Pergola, Faculty of Science in Moharram Bek (Alexandria University)

BIPV Garden Pergola, Faculty of Science in Moharram Bek (Alexandria University)

### Description:

#### Elements of Green Building Implementation as Reflected in all new construction and renovation policies:

#### The Abis Campus (11 new University buildings)

Alexandria University set up a construction policy for the renovation and maintenance of the Facilities and building new building. This policy includes the following elements: Smart Buildings, Renewable energy usage, Natural ventilation, full natural daylighting, and LED lighting.

- The area of the new Camus is 160 acres (667,730.988 m<sup>2</sup>), a general site for educational buildings, and 120 acres are complementary activities. The percentage of green areas and lake is about 52% in addition to 25% streets and lanes.
- All new buildings in Abis campus are designed with large windows to get maximum benefit from daylight and natural ventilation. In addition, all University builaings have good natural ventilation and daylight.
- Water-saving plots are used, which will reduce water consumption by abut 30%. The sewage water will be treated and reused in the irrigation of green areas in the project.
- Rainwater is collected in the main lake and used for irrigation.
- The use of plants with few water rationed plants to reduce irrigation needs in addition to absorbing quantities of rainwater to reduce the severity of rain spells.
- As for energy, all the buildings have solar enery generation cells to provide part of the building's needs, which are estimated at about 45%, in addition to using energy-saving lamps (LED).
- The public site lighting poles are powered by solar enery.



**The Faculty of Science:**

**Research Project:** Development and implementation of decentralised solar-energy-related innovative technologies for public buildings, in the Mediterranean Basin

System Application	Number of modules	Solar System kWp	Power (kWh)
BIPV façade brise-soleil	120	17.28	26350
BIPV garden pergola	90	8.1	23270
BIPV roof pergola	30	4.1	
Total Power (kWh)			49,620

**Environmental Benefits**

Life time CO <sub>2</sub> emission savings	556,935 kg
Life time SO <sub>2</sub> emission savings	2,004 kg
Life time NO <sub>x</sub> emission savings	668.322 kg

**University administration building**

The project of "supplying, installing and operating the photovoltaic solar plant with a capacity of 20.1 kW above the administration building of Alexandria University in Shatby was launched by the Arab Renewable Energy Company, on 2/14/2020. The capacity of the station per month is 20.1 kW, while the capacity consumed from the building is 255 kW / month, meaning that the station provides within 8% of the total monthly consumption. Total Solar energy per year = **241.2 KWh**.

**Higher Institute of Public Profession**

The Institute has two initiatives to exploit solar energy at the Institute through two units of photovoltaic cells (50 watts each) that are currently installed and are exploited to provide the electrical energy necessary to operate the Ultra-Filtration unit located in one of the laboratories of the Department of Materials Science for educational purpose. Moreover, five units of photovoltaic cells (260 watts each) were installed to operate the discussion room at the Institute and to provide it with sufficient energy for lighting purposes and to operate its display device. Total Solar energy per year = **360 KWh**.

**Alexandria University** have generalized this initiative in some of the faculties of Alexandria University in gradual stages.

**Additional evidence link:** <https://alexu.edu.eg/index.php/about-us-ar>

**Link for LED lighting:**

[https://alexu.edu.eg/index.php/?option=com\\_content&view=article&id=5935&catid=21&lang=ar-AA](https://alexu.edu.eg/index.php/?option=com_content&view=article&id=5935&catid=21&lang=ar-AA)

**Link for Solar Energy:**

[https://alexu.edu.eg/index.php/?option=com\\_content&view=article&id=5936&catid=21&lang=ar-AA](https://alexu.edu.eg/index.php/?option=com_content&view=article&id=5936&catid=21&lang=ar-AA)

**Link for Sustainable Development:** <https://alexu.edu.eg/index.php/en/sustainable-development>

**Link for Green University:**

[https://alexu.edu.eg/index.php/?option=com\\_content&view=article&id=5932&catid=21&lang=ar-AA](https://alexu.edu.eg/index.php/?option=com_content&view=article&id=5932&catid=21&lang=ar-AA)