

## **The effect of climate change on materials in urban architecture**

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### **Abstract:**

The research reviews the need to consider and study the importance of climate changes and that they will affect the available natural resources, especially on two main resources that Egypt is characterized by relative scarcity in, namely the land and water resources, which leads to a direct and long-term impact on the agricultural sector, and these climatic changes will affect increased pressures On the state's general budget, and Egypt's exposure to external risks, the Intergovernmental Panel on Climate Change (IPCC) published its fifth assessment report on climate change, in November 2014, and stated that "human interference in the climate system is clear and that greenhouse gas emissions are At the highest levels in human history, the increasing levels of greenhouse gases are "highly likely" the main cause of climate change, as human activities produce a large proportion of about 78% of carbon dioxide from the combustion of fossil fuels and industrial uses and as a result, The Earth is warming, glaciers and mantles are shrinking, and sea levels are rising, and these changes have greatly affected both the human and natural systems. 1983-2012) was warmer than any other time period on record, and according to this report, greenhouse gas emissions are expected to continue to increase, and this is likely to lead strongly to longer and more frequent heat waves, as well as to an increase and frequency in the abundance of rain in many From regions, sea levels will continue to rise and the ocean will become more acidic, and these changes are likely to cause severe and significant impacts on ecosystems and individuals, and the damage caused by climate change will be greater for individuals and poor communities in the world, in addition, many plants face Small mammals and marine organisms are at increased risk of extinction, and climate change cannot be stopped, but it can be reduced, and this may need to achieve significant and sustainable reductions in greenhouse gas emissions, and to achieve this, individuals must change their lifestyle significantly - otherwise What is already being done - to reduce dependence on fossil fuels, which are the main source of greenhouse gases. Egypt is expected to be one of the countries most affected by the effects of climate change. These effects are represented by rising temperatures, changing rainfall patterns, rising sea levels, an increase in the frequency of climate-related disasters and the proposed methods to reduce or overcome the effects of climate change in overcoming the phenomenon and identifying the international and local efforts made to confront the effects of climate change. .

Hence the importance of having some systems and standards for evaluating green buildings, and now a certificate and specifications for green buildings are granted that work to improve the performance of buildings through design treatments, implementation and construction methods, and systems and standards for evaluating green buildings in the Arab world, which is green energy technology and with Description of the US Leadership in Energy and Environmental Design (LEED) standard.

And access to a methodology for applying the concepts of green architecture to buildings at the design stage is through accessing a check list or an assessment tool (assessment tool) for the design during its various stages, starting from the stage of preparing studies (pre-design) through the stages of initial design and development Design up to the stage of preparing executive designs and tender documents for contractors (<http://1a394khanbashi.blogspot.com>). So .. the designer should target and work on human comfort in his designs with the optimal and rational use of materials and energy to obtain the maximum compatibility and harmony with nature to achieve the standards of green energy technology.

All of the energy, ventilation, lighting and directing the building to wind and sun in relation to the area in which it is located and finally applying the Egyptian Green Pyramid criteria form to determine the percentage of validity with the standards applied to it. The others are finished.

**Key words:**

Climate change, climatic regions, urban architecture, architecture, sustainability, environmentally friendly architecture, green energy technology.