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Abstract:
Nowadays the design of buildings, in different countries based on the sustainable development approach will be reviewed. In recent years, following the re-introduction of the importance of public spaces and the urban life, facing has gained importance again. Each building in the complex view of the city, where the streets or fields, effect on the walled city. One of the factors in sustainable urban development proposed building facade materials placed on the sustainability of materials used in the facade facing particularly compatible with the environment. With the expansion of construction in the city, attention to the environment and energy consumption has doubled however for building of outer face of buildings used a lot of different materials which only has no municipal criteria and standards does not exist criteria for energy consumption and their compatibility with the environment and today, most materials used in building facades, appear only at the economic objective, and made without any regard for the environment placed and There is no criteria set for facade design and materials used in accordance with the concepts of sustainable development. So the production and use of these materials in the long term lead to the end unconsciously renewable resources and pollution of the atmosphere.

Facade means the appearance of anything, what is visible and eye. Urban areas are generally limited by the number of building mass and volume levels are defined which are visible from the public space. Bodies are a surface or volume of the building are closed. Each volume contains several surfaces, Architects is called, "Facade" these surfaces of the building. And the position of the outer surfaces so it addressed the main view or side view. Some of the main goals of the facade are: beautiful appearance of buildings, saving energy in different seasons, the protection, prevent premature aging. Sustainable urban development is a process that aims to create a city in accordance with basic human needs in terms of performance. It is an excellent place to live for generations present and future. Sustainable urban development does not mean the sustainable development of each of the subsystems of the economic, social, environmental or alone, and is not meant to increase the stability of these subsystems. But tries to economic growth, restoration of ecological and balance environmental protection and social progress and the difficulties of these challenges, it has become a focus of research around the world.

Therefore, Important sustainable development factors is: reduce energy efficiency, use of natural materials, embodied energy, reusable. The embodied energy of a material refers to the total energy required to produce that material, including the collection of raw materials. This includes the energy of the fuel used to power the harvesting or mining equipment, the processing equipment, and the transportation devices that move raw material to a processing facility. This energy typically comes from the burning of fossil fuels, which are a limited, non-renewable resource. The combustion of fossil fuels also has severe environmental consequences, from localized smog to acid rain. Also Sustainability means the reuse of other building. Beauty and meaning consistent with the spirit of the people has been raised.

Previous studies in the world show that many studies have been done on sustainable materials Generally But so far, particularly on the materials used in building facades approach to sustainability and reduce energy consumption, little research has been done. The closest title of this article, by promising Navid Baheri, is the materials used in the facade of sustainable architecture. This paper is a brief introduction and classification of material in front of them, In compliance with the standard details with regard to climate issues and energy consumption has been reduced And finally to present and examine a few examples of sustainable architecture. this title in external articles and books is in a book that explain about Criteria for resources, pollution, native products, chemical and physical characteristics of building materials and identify materials and environmental states in some articles and books the authors studied Sustainability of eco-friendly materials, embodied energy, Toxic aspects, construction and demolition waste. but in A few of the articles studied exactly about The stability, especially with regard to embody energy building materials Building Façade.
In this article we try to learn about the formation of materials in the process of harvesting (Construction, installation, operation, maintenance), production (Extraction, processing, packaging, transportation) and installation (Recycling, reuse) of energy consumption in buildings that are in each of the steps learned.

And also we studied about nano-material and smart material. Nano-materials and Nano-coatings environmental compatibility feature, the field of Nano and green architecture provides link and Nano buildings need no energy because coatings and new materials also have the capability to meet the needs of energy and insulation with very low thickness and performance much more waste heat reach zero. Smart materials are materials that can function intelligently in the face of changes in the environment such as your living organisms adapt to environmental conditions the most important smart materials in the construction industry can be smart to use concrete and glass buildings noted. Taking advantage of this element can reduce the negative environmental impacts and the approach of society towards the sustainability criteria of city development.

For evaluating and calculate the amount of energy that affect the building facade materials, we have a special software calculates the building energy use. In this application, city, season, number of days, hours and facade material is selected, then the program will calculate the amount of energy per month pays and delivers graphically.

In this article with Ecotect software simulates a building in Tehran climate, and the different between materials facing in the amount of embody energy of building is checked and thus the sustainability and stability of each of the materials provided, as required for a sustainable facade of stable, formed. According to the results obtained in terms of sustainability, Building energy consumption, the use of concrete is 3209396(Wh) during the year. Brick energy is 31954916(Wh) and aluminum is 32641370(Wh).

According to that numbers brick is more sustainable than Concrete and then aluminum for use in the building of Tehran climate so the exchange of energy through the building facade materials smaller, so less energy is building in addition to energy factor in buildings. It is also assumed that the material has sufficient life and after the demolition of the building can be recycled and reused to minimize damage to the raw materials that come from nature placed.

In an overview the first step for façade designing is Use of local materials and eco each region. And also materials to harvest natural mining, processing, transportation (pre-production), construction and operation and maintenance (production), reuse (post-production) have the least interference in nature.

Another important factor when choosing and using materials is use of materials that have minimum Energy consumption during construction (like wood, stone, etc.), and Distance from the materials to the project site is minimum possible. And materials must have durable enough. Also In the ranking of materials in terms of energy consumption, minimum energy is for lime-stone and maximum is for polypropylene. According to this article we say that Aluminum and brick are sustainable that concrete in Tehran.

Keywords: Sustainable Material, Tehran City Facade, Sustainable Development, Ecotect Analysis Software.