

## Comparison the Energy Consumption with Sustainability in Campus: Case Study of Four American Universities

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**Abstract :** Under the tide of promoting sustainable development in the world, American universities that have been committed to sustainable practice and innovation, not only have its sustainable campus construction been in the forefront of the world, but also have developed STARS (The Sustainability Tracking, Assessment & Rating System), which is widely used in the world and highly recognized. At the same time, in the process of global sustainable campus construction, energy problem is often regarded as one of the most important sustainable aspects, even equivalent to the sustainability of campus. Therefore, the relationship between campus energy and sustainability is worth discussing. In this study, four American universities with the highest level evaluated by STARS are selected as examples to compare and analyze the campus energy consumption and the use of new energy, GHG emissions and the overall sustainability of the campus, in order to explore the relationship between campus energy and sustainable construction. It is found that the advantages of sustainable campus construction in the United States are mainly focused on the "software" of management, education, activities, etc. Although different energy-saving measures have been taken in campus energy, the construction results are quite different. Moreover, as an important aspect of sustainable campus, energy can not fully represent the sustainability of campus, but because of the various measures it takes, it can greatly promote the sustainable construction of the whole campus. These measures and construction experiences are worthy of summary and promotion, and have positive reference significance for other universities even communities around the world.

**Keywords :** sustainable campus, energy consumption, STARS assessment, GHG emissions

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