

Research and Design of Low Carbonization Treatment Device for Hotel Wastewater based on Carbon Fixation Technology

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Abstract. With the deterioration of the environment, the frequent occurrence of natural disasters, people become more and more aware of the importance of protecting the environment. Therefore, how to link the low carbon and low carbonization of the hotel wastewater and apply it to the design has become a new research topic in recent years. The article mainly analyses the hotel wastewater with low carbon processing low carbon of low energy consumption, high carbon low carbon Hotel wastewater treatment principle, and combined with a Jiangxia light according to the agriculture park as an example, for low-carbon Hotel wastewater treatment related points are analyzed, mainly from the aspects of materials, plants and water resources put forward low carbon landscape construction measures.

Keywords: Low carbon hotel; waste water treatment; sustainable; carbon fixation technology; environmental protection technology.

1 Introduction

With the development of economy, the city is constantly expanding, and the environment problems such as forest reduction, air pollution, soil and water loss, flood disaster, resource shortage and so on have become more and more serious. In this context, a series of new concepts, such as low carbon, low carbon economy, low carbon life, low carbon society, low carbon city, low carbon landscape and so on, have brought a glimmer of hope for solving the global crisis. Whether other modern residential quarters and urban parks or green landscape, to meet the environmental requirements of modern society. Therefore, the low carbon concept into low-carbon Hotel wastewater processing, has become the modern hotel wastewater low carbonization development have to think about the problem, but also for the low-carbon urban contemporary hotel wastewater treatment development model provides a good opportunity [1].

Low carbon, low or lower greenhouse gases (mainly carbon dioxide) emissions. Low carbon Hotel wastewater treatment is low energy consumption, low pollution as the goal of the purpose of the Swallow Edinburgh Greens Hotel wastewater treatment. Low carbon landscape as a landscape in the field of new concept, its connotation including low carbon meaning of "low carbon society", "low carbon economy" corresponds to the concept of basic level, and that is the reduction of landscape construction in the process of carbon emissions]. In the design and construction of the landscape to promote the process of saving energy and reducing carbon emissions, and maintaining the ecological balance of nature, so that people coexist.

Therefore low carbon Hotel wastewater low carbonization treatment is also a sustainable development of the design concept, in line with the ecological context of today's society for the treatment of low carbon Hotel wastewater treatment requirements. Under the guidance of the concept of ecological design, low carbon Hotel wastewater treatment has a considerable development. On the macro, landscape workers in the spirit of respect for nature, sustainable development and other purposes, to fully understand and respect the site, so that the design is in line with the environment, so that the natural workmanship. Micro, low carbon landscape in the planning, design, construction, use and maintenance of the entire process pay attention to reduce carbon emissions, promote the formation of harmonious development of landscape system, this is the ecology design idea concrete manifestation. However, low carbon Hotel wastewater treatment is not low carbon ecological design, it is similar to the ecological design, but there are also different. Ecological design mainly in response to the environment, the main environmental and ecological design of the main purpose is to reduce the destruction of human activities on the environment, and low carbon design can be applied to all aspects of human life, the subject is human and human activities. Therefore low carbon Hotel wastewater treatment is not only focused on the design of the role of the environment, but also focus on the human activities themselves. It is the study of human and human activities in the role of the landscape of the carbon emissions, lower carbon emissions is a low carbon Hotel wastewater treatment of low carbon pursuit of the goal. Therefore, from the impact of the bad environment, low carbon design and ecological design has a common, but they are different. Ecological design is more emphasis on the purpose, while low carbon design is more emphasis on the process of low carbon. Ecological design is more broad, and low carbon design focus on structural optimization and the details of the deal, so it is easier to bear fruit, but also more likely to be understood and accepted by the general public.

2 Low Carbon Hotel Wastewater Low Carbonization Treatment

Under the influence of the ecological design theory, low carbon Hotel wastewater treatment reflects the following characteristics. First, more respect for the site, design combined with nature. Under the guidance of the theory of ecological design, low carbon Hotel wastewater treatment to make use of the favorable conditions of the site, to coordinate and solve the unfavorable conditions of the site or even become unfavorable. Using the existing conditions and the material foundation of the site will reduce the carbon emission in the low carbonization process and the construction process of the hotel wastewater. Respect for the site is the basic feature of low carbon Hotel wastewater treatment. Combined with the natural conditions of the site design rather than zero". Second, the dynamic balance of landscape ecosystem. Landscape ecological system includes ecological relationships between structure and function of landscape and landscape and internal and external system between the various elements [2], landscape elements inside, the landscape of life and its environment and human and landscape ecological system is a dynamic balance relationship. Cross scale ecological system requirements of low carbon low carbon Hotel wastewater processing and strive to balance these relations, and in the process to reduce carbon emissions, and landscape ecological system reached dynamic balance will achieve the goal of reducing carbon emissions. Third, ecological design under the guidance of ecological design. Ecology can be designed, low carbon Hotel wastewater treatment under the guidance of ecological design principles of ecological design. Is well known in the ecosystem is a very complex system, it

contains many subsystems, each subsystem and includes is very rich in content and self-contained, so ecological systems cannot is designed and it is hard to design, but design can play a role, the design of artificial ecological should be incorporated into natural ecological system, is a part of the natural ecological system. Therefore, in the low carbon Hotel wastewater treatment process is the design of ecology, is to imitate the natural design of the ecological process.

Only the design of the hotel wastewater low carbonization treatment, after the completion of the project in order to form a good ecological cycle. Fourth, subtraction design, saving manpower and material resources. Low carbon Hotel waste water treatment of low carbon idea to do subtraction design, not a waste of energy. Not only in the early stage of the project design, in the project design and construction process, are adhering to the principles that can be less, saving human and material resources. To reduce the amount of carbon emissions, only a greater extent to reduce the loss of manpower and material resources. Low carbon Hotel waste water treatment in the entire process of low carbon focus on saving manpower and material resources, in order to achieve the purpose of less carbon emissions. Fifth, to reduce energy consumption, reduce carbon emissions. Low carbon Hotel wastewater low carbonization treatment to minimize energy consumption, reduce carbon emissions as a principle. Many low carbon design under the banner of low carbon, in fact, is not low carbon. Said examples of low carbon is not low carbon, such as in order to create a better natural effect, thousands of miles away to find material, or to one or two plants run several provinces. And do not cherish the resources, free energy, these practices only focus on the purpose, while ignoring the process of low carbon, nor is the correct approach to low carbon Hotel wastewater treatment of low carbon. This is also the biggest difference in ecological design and low carbon design [3].

2.1 Low Carbon Concept in the low Carbonization of the Hotel Wastewater

In real life, human development is inseparable from nature, the relationship between man and nature are interrelated and interdependent, mutual penetration, nature itself is an efficient self repair system, respect for nature to minimize human intervention in the natural, open natural self I restore function become one of the best strategy to solve the problem of carbon emissions. While the contemporary Urban Inn wastewater treatment in low carbon, many design programs under the banner of "low carbon" label, in fact, is not low carbon. For example, at the beginning of the nineties of the last century so far, a shares of urban greening "lawn fever" in many cities across the country rise, in order to follow the trend, many cities cut the original branchy dense trees, with a large area of lawn instead. In the northwest of some serious drought in the city, the designer in order to achieve the luxurious visual landscape effect, at the expense of building a large area of the water features. These forms of work in the consumption of a large number of human and material resources, but also exacerbated the carbon emissions and natural restoration of the degradation of function.

2.2 Low Carbon Hotel Wastewater Low Carbonization Treatment Principles

Space of contemporary urban landscape is the essence of human production and life is art, so low carbon City Hotel wastewater processing from the person's point of view of make full use of various resources, the maximum to meet the people's material and spiritual life needs, to

create a people-oriented harmonious contemporary low-carbon urban landscape. Chinese landscape painting in the words "heart is not absolute live", visible throughout the natural landscape, waterscape design important. In low carbon context, in addition to considering the effect of the design of the building, but also should follow the principle of people-oriented. As in the choice of address, it should be based on the characteristics of the terrain, the water environment to design features, to create an elegant environment in line with the needs of the public. Symonds said, "people need to get inspiration from the city, motivation, physical and mental relaxation, beautiful and pleasant source." City as man and nature, people and people interacting with the product is human in the transformation and adapt to the nature of the process to establish an artificial ecosystem, which requires low carbonization of Contemporary Urban Hotel wastewater treatment must be at the core of ecological. In low carbon City Hotel wastewater treatment to explore existing land resources ecological effects and the ecological maintenance and regeneration design method, low carbon City Hotel wastewater processing to provide mankind with endless ecological service, make the city the real to the low carbonization.

2.3 Native Plants with Strong Carbon Fixation and Oxygen Release

In recent years, the energy consumption of the low carbonization treatment of hotel wastewater is mainly electric energy, and the power of our country mainly depends on the coal combustion. The higher the utilization rate of coal, the higher the carbon dioxide emissions. In the landscape construction, the need to consume a large amount of electricity and the increase in power is bound to lead to more carbon dioxide emissions. Low carbon landscape construction is to consider how to reduce this part of the emission of carbon dioxide. Will be used in the landscape to create a 25W incandescent lamp replacement for 5W energy-saving lamps, can reduce the direct energy consumption of nearly 80%. Therefore, as a low carbonization of the hotel wastewater treatment workers, should be as much as possible to reduce the low carbonization of the hotel wastewater treatment power consumption, improve the efficiency of its use [4].

Landscape materials include paving, glass, ceramics and other hard materials, including wood, flowers and other soft materials. Most of these materials are subject to high temperature, calcination and other processes to form, resulting in a large amount of carbon dioxide, and low carbon materials cost less, high durability, can be reused. In Japan, the design of the ten - Millennium Forest Park has adopted the principle of "subtraction", which has made full use of the local landscape materials, and recycled, reducing the amount of carbon dioxide emissions. Low carbon landscape construction, deal with local materials to rational use, as far as possible the use low carbon landscape materials, reduce the use of new, artificial, high carbon material, so that can not only reduce the amount of traffic emissions of carbon dioxide, but also to give full expression to the historical and geographical characteristics and strong adaptability, low cost, easy to use.

3 Analysis of Low Carbon Hotel Wastewater Treatment with Low Carbonization

Jiangxia light agricultural park, the planning area of about 67 hectares, the plot of the terrain is obvious, with the original road as the boundary. Most of its north slope, south of natural water and more flat, the overall road of natural and systematic. This project focuses on the interaction between landscape and climate, environment and human settlements, and studies the structure, the source of materials and the reasonable utilization of the main landscape elements. Focus on the design of energy-saving emission reduction ideas and specific measures, through the system of research and planning, to create a low carbon landscape resort for the purpose of.

In the area of landscape architecture, in order to reduce the consumption of energy consumption and improve the energy efficiency, the use of natural ventilation, lighting and heat preservation and other ways to achieve. In the original construction to the South and north sides (the main cold heat maximum wall) design of H type steel composition framework and barbed wire, and through the roof formed green climbing bag, can greatly reduce the sun and winter cold wind blowing passage of strength, in order to save air-conditioning and hot gas consumption to achieve the goal of energy saving and emission reduction.

In comply with the low carbon low carbon Hotel wastewater treatment principle, the scheme to Wuhan local stone as materials, the direct use in original leveling reinforced soil ground for various types of pavement design, both to reduce the mass concrete, mortar, such as gravel "high carbon material, but also reduces the transport cost of other hard materials, achieve the goal of reducing carbon emissions. In soft materials, the program first, keep the original local park plant, the world sight segmentation, regional division, this approach not only demonstrates the local characteristics, but also reduce the energy consumption generated by other materials transport and application, in the use of low carbon profile material, the use of the large number of local waste wood and abandoned stumps. The simple wood structure, which is constructed by the square timber, reduces the use of artificial materials such as steel, concrete and exterior wall coating, and reduces the emission of large amounts of carbon dioxide [5].

According to the field investigation, there is a certain degree of pollution in the water body of light agricultural garden. The main pollutants are human excrement in organic and inorganic materials, kitchen oil and detergent etc.. Therefore, the case of high load underground infiltration and constructed wetland composite technology, the composition of its water treatment system. The basic methods and the principles of the system are: pond water after precipitation into water regulating pond, then the pump mentioned high load underground infiltration device (microbial geochemistry purification technology, artesian water into the high load of artificial wetland, the dephosphorization removing nitrogen depth processing system. Finally, gravity to large reservoirs and distribution of natural wetlands, and flow into the ditch. This not only solves the pollution of domestic sewage, but also greatly reduces the energy consumption and carbon dioxide. In addition, the whole system is buried, planning for the green surface. Small water flow up, the water also has the guarantee, can ensure that the water body will never dry, keep the water balance of the living area. This creates a natural wetland, water can be used for vegetation, and the whole cycle greatly saving energy consumption.

4 Conclusion

In summary, as China's climate warming, natural disasters more frequently, to create a low energy consumption, low emissions as the goal of the modern low carbon landscape, has a very significant meaning. In addition, we can also provide some useful reference for the development of low carbon economy in our country, and make due contribution to the formation of the new situation of modern low-carbon landscape with high efficiency and energy saving as soon as possible.

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