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Less Means More

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ABSTRACT. *The oversized family housing has been a major issue that causes the sprawling of cities and growth of ecological footprint. Tiny house, however, with its smaller space, will be able to reduce the ecological footprint of family houses by minimizing the construction waste and fully relying on renewable energy source for power systems. Therefore, the tiny house project should be implemented in some less populated cities.*

KEYWORDS: *Ecological footprint; Waste minimization; Renewable energy; Green city, Small housing; Sustainable infrastructure.*

1. Introduction

As economy develops, many people decide to spend money building and living in higher quality homes. People have begun to expand the size of their houses excessively, and as a result, an exceeding amount of construction materials are wasted. Every second, urban sprawl and the ecological footprints of humans are taking over more and more space in nature. Thus, there is a solution called a tiny house.

Tiny houses are minimized family homes sizing from roughly 10 to 40 square meters, built with wooden or steel boards, and basically all furniture has multiple functions to store things and provide space to work, eat or rest. Moreover, changing policies could encourage this housing choice by lowering income taxes for citizens who decide to live in tiny houses. In addition, establishing more solar farms enables more citizens to live in tiny houses, which can reduce their ecological footprint. Despite the general preference for large houses, tiny house projects supported by policy changes will mitigate the problem of large ecological footprints.

2. Tiny houses minimize the construction materials used

The majority of family houses cause a considerable amount of construction waste, even apartments that are considered to be more sustainable (Pilkington, Roach, & Perkins, 2011) cause roughly seven tons of wood and concrete construction materials for each floor. However, according to studies conducted by the National Associations of House Builders in 2017, the average cost of construction for each family house was US$ 237,760 (Ford, 2017), whereas each

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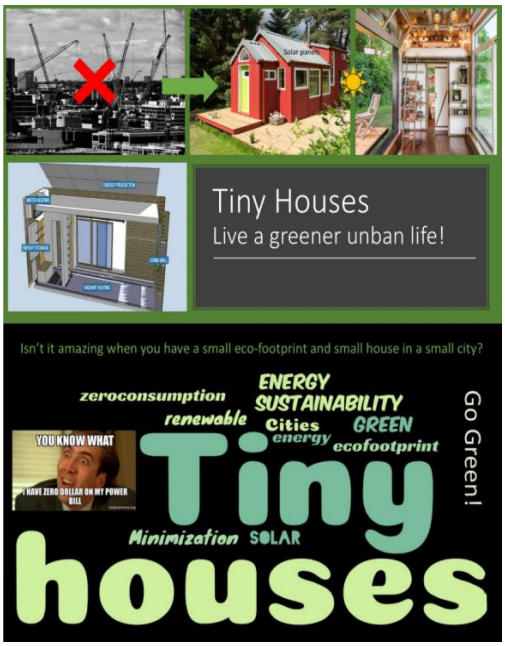
tiny house (10ft*8ft) costs roughly US$ 10,000, including the whole construction and power systems (Ford & Gomez-Lanier, 2017). The main concern for this point is that building houses for every family is not practical enough in megacities (populations over 10 million) because the population density and limited area fit better in the solution of living in apartments. Nevertheless, the tiny houses can still be implemented in a great number of cities that are not over-crowded, helping with resource minimization, space efficiency, and money saving[1.2].

3. Tiny houses are suitable for a clean and renewable energy systems

Since tiny houses are physically smaller, it is more practical to install and implement a solar power system. For each tiny house, all the electricity can be provided by solar panels on top of the roof (Solar Today 2016-17 Winter). When there is extra solar energy produced, the battery or energy storage can store the extra energy for future use during extreme weather (Blakers, 2015). Also, solar farms can provide and transport electric power to areas lacking sunlight, so more areas can have access to solar power, and tiny houses can provide benefits on a wider scale.

In order to reduce the ecological footprint of human civilization by minimizing construction waste and energy consumption, the idea of the tiny house community should be broadly implemented in less populated cities. Decreased ecological footprints bring more sustainability and beauty of nature.



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