

# **Environmentally Sustainable Design of Buildings Report**



Kai Chen  
60020466

# Table of contents

Environmentally sustainable design of buildings report.....	1
Table of contents.....	2
Pollution from construction (Dust pollution) .....	3
Water pollution, noise pollution.....	4
Green building (Definition, green building function) .....	5
Application in the future.....	6
References.....	7

# Pollution from construction



(Oregon Environmental Council website, 2016)

The construction industry is the main source of pollution, causing about one-twentieth of particulate emissions, more water pollution accidents than any other industry, and thousands of noise complaints every year (Gray, 2018).

## Dust pollution



(Magicbricks website, 2018)

In the process of engineering project construction, the generation of dust is inevitable, is not only cause serious pollution to air quality, air pollution will affect people's health if big, to people's life caused great distress, dust pollution is the most serious problems in the construction of the building, the dust in the garbage in the construction is mainly from the construction in the process of construction materials, lime and sand, etc., these materials in the process of transportation, will cause a lot of dust into the air, and into the surrounding air, air quality is affected.





## Water pollution (Nationwide

Consulting LLC, 2016)

the domestic wastewater of the construction workers. The construction water is still wasted because many of the water supply during the construction process is temporarily built and temporary. To a large extent, it is not taken seriously, so many of them are dripping, and there is a lot of accumulation. There will be a flooding phenomenon on the construction site. Because sewage treatment will cost a lot of money, many companies will reduce the construction process. For sewage treatment, the mixture of sewage and mud is directly introduced into the sewer to carry out pollution of the sewer, which makes the environmental pollution more serious.

## noise pollution (city of swan

website, 2018)

The construction site produced a lot of noise, mainly from vehicles, heavy equipment and machinery, but there were also people shouting and the radio was too loud. Excessive noise is not only annoying and distracting, but can also cause hearing loss, high blood



pressure, sleep disturbances and extreme stress.

Studies have shown that high noise levels can disrupt the natural circulation of animals and reduce their available habitat.

# Green building

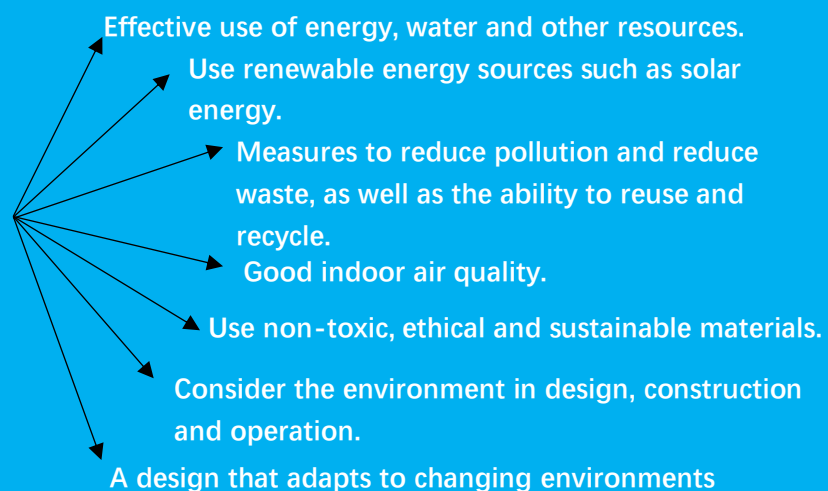


(ZURELI website, 2005)

## Definition

Green building refers to the building that saves resources to the greatest extent in the whole life cycle of the building, including energy saving, land saving, water saving, and material saving, protects the environment and reduces pollution, provides people with healthy, comfortable and efficient use space, and lives in harmony with nature. Green building technology focuses on low consumption, high efficiency, economy, environmental protection, integration and optimization.

## Green building function (World Green Building Council website, 2016)





# Application in the future



School (inhabitat website, 2011)



House (NO.9 website, 2018)



Office (LafargeHolcim  
Foundation websites, 2008)



Building (Seasia website, 2017)

---

# Rationale

In my report, my topic is Environmentally Sustainable Design. Therefore, my headline is Environmentally Sustainable Design of Buildings. Because I think this headline is very clear. When the audience see your report, it is easy to know what you will explain and your topic in your report. Then, I use two pictures about the environmentally sustainable buildings in my cover page. Moreover, I use blue and green in my whole report. Because green represents the environmental protection and blue represents the future. I think these two colors suit my theme very well. On the other hand, in the color design, green represents peace, which makes people have a sense of peace, tranquility and gentleness. And there's only one title and a couple of pictures in every page. Because in primary principles need to create order and oneness, but support principles need to create variety, emphasis and visual hierarchy. Therefore, I think my order in the report can clearly express my key information. Finally, I use white and black font and the audience can see clearly.

---

# References

Gray, J. (2018). Pollution from Construction.

Retrieved from: <http://www.sustainablebuild.co.uk/pollutionfromconstruction.html>

McNally, C. (2017). How Does Construction Impact the Environment? Retrieved from:

<https://www.initiafy.com/blog/how-does-construction-impact-the-environment/>

World Green Building Council website. (2016). What is green building? Retrieved from:

<https://www.worldgbc.org/what-green-building>

Seasia website. (2017). Top 5 Green Building Stories in 2017. Retrieved from:

<https://seasia.co/2017/12/28/top-5-green-building-stories-in-2017>

LafargeHolcim Foundation websites. (2008). Office building with green hypercore. Retrieved from:

<https://www.lafargeholcim-foundation.org/projects/office-building-with-green-hypercore>

NO.9 website. (2018). GREEN BUILDING DESIGN. Retrieved from: <http://www.no9.ca/green-building-design/>

inhabitat website. (2011). 6 Exceptional Eco Schools. Retrieved from: <https://inhabitat.com/6-exceptional-eco-schools/>

ZURELI website. (2005). People are less likely to fall sick in green buildings, study finds. Retrieved from:

<https://www.zureli.com/ritmonio-in-black-white/>

Oregon Environmental Council website. (2016). REDUCING DIESEL POLLUTION. Retrieved from:

<https://oeconline.org/our-work/policy/reducing-diesel-pollution/>

Magicbricks website. (2018). UP pollution control board recommends hefty fines on construction sites for air pollution. Retrieved from: <https://content.magicbricks.com/property-news/delhi-ncr-real-estate-news/up-pollution-control-board-recommends-hefty-fines-on-construction-sites-for-air-pollution/96655.html>

Nationwide Consulting LLC. (2016). Common Pollutants on the Construction Site: Problems, Solutions.

Retrieved from: <http://www.nationwideconsultingllc.com/common-pollutants-on-the-construction-site/>

city of swan website. (2018). Noise. Retrieved from: <https://www.swan.wa.gov.au/Services-support/Public-health/Noise>