



Windmill, Butterfly

By CK Wong 2005.12.22

<http://www.ck-wong.ca/technologies/windmill%20butterfly.pdf>

Introduction

On the newspaper, there was a feature that reports windmill's turbine generate heat. When a lot of turbine combined together, it could accelerate the global warming although the study was not conclusive.

This reminds me an ancient Chinese story. It goes like this. A lazy man watches the sky. He could see the cloud. He could see the star but clearly there is nothing to support it. He worries that one day the sky will fall. From his universe there is no explanation. We could laugh this man but should we?

Butterfly Effect

Within the meteorology field, it takes side effect very seriously. When a butterfly flutters its wings on the east hemisphere, it could create a storm on the west hemisphere. Based on this, the heat created by the win turbine could very possible have a measurable effect on the global warming. I would give you this.

There is also several effect that wind turbine could create undesirable consequence to the ecology system. The first one is the electromagnetic waves created could distract the migration of birds because the magnetic field could interfere with the bird's magnetic sensor in the brain. The second is the blade could attract the bird or bat and kills them when they get too close. The third is specific to bat. It may fail to detect the moving blade and hit on it. The line up of the windmill turbine could also cause visual distraction to migrating birds. All these are legitimate research results and I do not doubt it. However unless we live in a closed environment whatever we do will definitely impact the world. To selective find out the right impact, we have to exercise our judgment to decide and ward off unwarranted worries.

Doubt is Fear

It is living things nature that they fear what they do not understand. Perhaps it all stem from the experience of fire millions of years ago. When they got burn, the genes remember it and pass down generation after generation.

There is a proof for this theory. Before the West Indian knew the power of the fire weapon, they opened their arms to the Spanish.

Fear is a protection mechanism so that it keeps us honest and do not do the extreme (well there is always the fanatics in the society).

However, fear without reason could become superstitious. If we can turn that fear to respect and create curiosity it becomes the driving force of invention or study. When fear is at a very low level, it becomes curiosity because we could control it. When fear at the high end of the spectrum it could kill us. A single emotion at different intensity means different thing. It is true to taste. Taste at different intensity it could provide different sensation. So like spicy hot that represented by 5 pepper but some could take one. Reverse it then it is not enjoyment but torture.

Windmill Threat?

For all those effects on birds and bats, I would say let the Darwin Award¹ for birds and bats handles it. There could be the some effect caused by the low frequencies to the crop of living organism. When there is only one or two turbine the effect could be negligible. For large wind farm that generate half a terawatt could be something that we may consider.

¹ The **Darwin Awards** salute the improvement of the human genome by honoring those who remove themselves from it in really stupid ways. <http://www.darwinaward.com/>