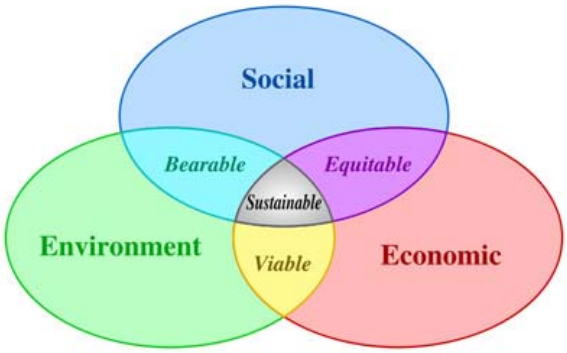
Sustainability within the New Media Industry

By Phillip Shakesby Interactive Multimedia Level 2

Sustainability is broadly defined as meeting the needs of the present generation without compromising the ability of future, so it is pretty important but how do we meet these needs whilst considering the future generation's needs?

Some definitions of sustainability refer to the "three pillars" concept of social, environmental and economic sustainability.

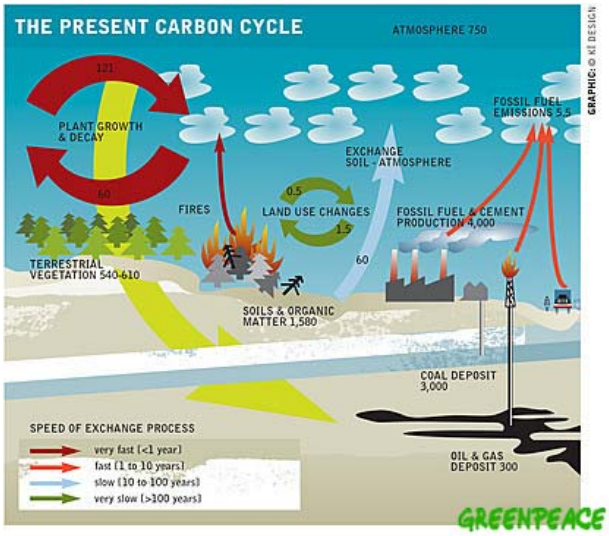


This concept shows a possible model for the usage of natural resources that aims to meet human needs while minimising damage to the environment.

Polices that may be adopted by companies or individuals within the new media industry could be wide ranging. Companies operating offices may choose to use energy efficient appliances, lighting and heating. Recycling of waste is another way of tackling one of the many problems and using locally sourced materials may also be a way forward as this help would reduce carbon footprints.

Carbon Footprint

A carbon footprint is a measure of the impact that our activities have on the environment and in particular climate change. It relates to the amount of greenhouse gases produced in our day-to-day lives through burning fossil fuels for electricity, heating and transportation etc.



When designing products we should be looking at the materials and processes used and thinking is there a better more eco friendly way? Do we really need to do things the same way we have been doing them?

"Design is crucial in moving us towards a more sustainable future. It can help us rethink how we deliver products and their benefits without decimating the world around us"

http://www.designcouncil.org.uk/About-Design/Business-Essentials/Sustainability/

This is echoed by this article from the gamerlimit.com website

"The environmental sustainability of the game industry is one which has largely been ignored. The power required to run the next-gen consoles is staggering and the waste produced from the games themselves is disgusting. A solution needs to be found.

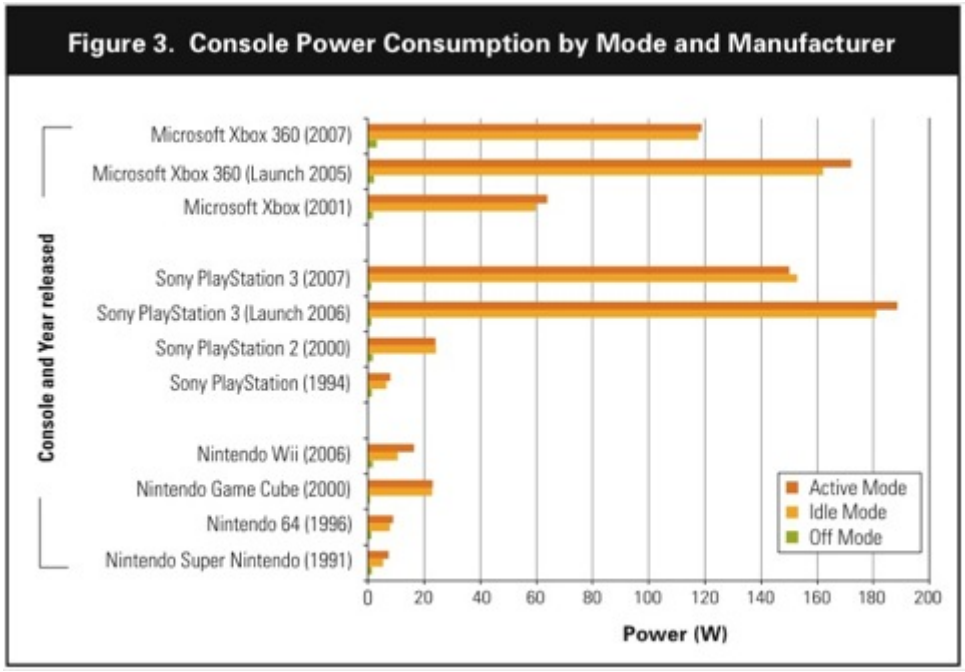
This will be the first of three articles examining what effects gaming has on the environment and what can be done about it. In this first article the carbon footprint of the gaming industry will be examined and brought to light. In the next article the current gaming industry will be compared to that of OnLive to show that there are alternatives and that they need to be taken. Finally, the third article will consist of closing thoughts and suggestions, not only for the industry leaders, but for the individual gamers who drive them.

The purpose of these articles will not be to argue why the game industry has lagged behind in green policies. Rather, it will be show that gamers finally have a green choice to choose from. As it stands, OnLive is a much more environmentally feasible option to gamers than the competing services of Microsoft, Sony, and Nintendo.

In order to accurately demonstrate the environmental sustainability of OnLive to that of other gaming services, there needs to be a proper analysis of the negative environmental effects of the gaming industry.

To calculate the carbon footprint of the gaming industry, the average power output of the Wii, Xbox 360, and PS3 will be determined and then used to calculate the C02 emissions. Additionally the C02 emissions from creating and transporting hardcopies of these games will also be taken into account.

Looking at the power usage of all three consoles can be quite the eye opener. According to the Natural Resources Defense Council (NRDC) the Wii uses an average of 16 watts, the Xbox 360 uses an average of 119 watts, and the PS3 uses an average of 150 watts. To put these numbers into perspective, the NRDC's study *"found that [consoles in the US] consumed an estimated 16 billion kilowatt-hours per year – roughly equal to the annual electricity use of the city of San Diego."*



As enormous as these numbers may seem, the report does seem to inflate the numbers by making *"the assumption that half of all users leave their consoles on all the time."* This assumption appears to be fairly unfounded. It's no secret that some gamers leave their consoles on for extended periods of time but it is highly doubtful that half of console owners leave them on all the time.

It is from this NRDC number padding, that this article will rework the total kilowatt hours (kW.h) per year on the assumption that gamers generally run their consoles for two hours a day. The actual figure may be something completely different, but taking into account all casual and hardcore gamers who own consoles, a 2 hour per day runtime is fairly agreeable.

That being said, in 2007, there were 9.7 million Xbox 360's, 3.2 million Playstation 3's, and 7.4 million Wii's in the United States using 832 million kW.h, 350 million kW.h, and 84 million kW.h of power respectively.

All of the next-gen consoles combined, outputted approximately 1.3 billion kW.h of power in the United States. This is a drastic decrease compared to the NDRC estimate of 16 billion kW.h per year based on the assumption that half of console owners leave their console on all the time.

Of course, these numbers mean very little without any context, and must be converted into the C02 emissions produced. The trouble which arises from this, is the difficulty in determining the precise carbon footprint of each console because of the different number of energy sources being used through out the United States. For example, according to the EPA, hydro electric power produces 11 grams of C02 per kW.h while dirty coal produces around 980 grams of C02 per kW.h.

It is estimated that 40% of America's energy comes from petroleum, 23% from coal, 23% from natural gas, 8.4% from nuclear power, and 6.8% from

renewable energy such as wind power. Meaning that on average the U.S produces 735 grams of C02 per kW.h, which translates into 955 million kilograms of C02 emissions from next gen console use alone.

What is even more astounding than the emission produced by the next-gen consoles are the emissions produces by physically creating and transporting the games. According to Breed Media, the production and transportation of the standard DVD disc, produces on average 13.76kg of C02 per disk.

It is very difficult to make up a best case scenario for this figure. *Halo 3* sold around 1.8 million copies on its first day, which means that on its first day alone, *Halo 3* produced 25 million Kg of C02 emissions. Multiply this figure by all the games produced in a year, and the number you get is jaw dropping.

What has been shown above is how damaging the game industry is to the environment in terms of emissions produced. The world is at a point were changes need to be made on how we treat our planet. Obviously the game industry is not the sole villain in this area. There is not a country, industry, or citizen on this planet which has not contributed to this problem. No matter what, there will always be pollution and there will always be waste, it's the nature of the system we live in.

The acceptance of pollution is not the acceptance of defeat. Acknowledging the harmful effects of pollution allows us to find ways to manage it down to sustainable levels. We do not have to produce 955 million kilograms of C02 per year because of console power requirements, just as we do not have to produce 13.76kg of C02 per game made. There are always solutions to be found.

The next article on this topic will focus on how OnLive is the first step to this solution. Though gamers may cringe at not being able to physically own their own games, the steaming of video games may be the only solution to limit power consumption, and the waste produced all in the while preserving the industry. Stop by next week."

http://gamerlimit.com/2009/04/the-environmental-sustainability-of-the-games-industry/

Without careful thought when designing, we compromise our future and future generations. Careful consideration needs to be taken, we not only need to look to the future but we should look at ways in which we can change our current methods and practices.

Design has consequences. Not only can it change the way we live our lives in many various ways but it may also be the basis for the long term future of our planet and civilisation.

Our atmosphere, our oceans, our forests and our health have all suffered due to short term design considerations but it’s not too late for us to change.