A **Greenest Host** White Paper

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Greening the Internet and Its Environmental Implications:
The Case to Reverse a Growing Trend

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Introduction

"Each and every one of us can make changes in the way we live our lives and become part of the solution [to climate change.][1]"

Al Gore, Nobel Prize Winner and 45th Vice President of the United States

Very seldom is the power consumption of the Internet and its related applications brought up as a major cause of global warming. However, The Internet is a communication network powered by energy consumption-hungry computers, network switches, firewalls, networking hardware, and various other hardware that use vast power resources.

Increasingly people are becoming aware that the Internet and computing as a whole are largely impacting worldwide energy consumption and its associated environmental impacts are growing. Companies large and small are making commitments to green their IT infrastructures as part of larger corporate strategies.

In 2007, we are on track to see roughly 40 million new websites created. The market is the strongest it has ever been for new development. Additionally, companies with existing websites ranging from small businesses to the world's largest, including Wal-Mart and investment firm Goldman Sachs are making radical shifts to become green and pledging to make tangible changes that go beyond the public relations-oriented "green washing" of years past.

In another major shift, some big companies are even asking that they be regulated on greenhouse gas emissions, arguing that it is the only way for them to plan for how to deal with the rising threat of global warming. A coalition of businesses and environmental groups earlier this year formed a partnership called the U.S. Climate Action Partnership aimed at doing just that. While Europe is leading the way with governmental regulations mandating carbon footprint targets for business, the U.S. and its state governments are closer than they have ever been to enacting sweeping environmental legislation to govern energy consumption and its resulting pollution.

Companies are increasingly realizing that going green could be a new way for them save and also make money — "turning green into gold." Leading-edge companies are implementing exciting new strategies to maximize profits and to mitigate risk. Greenest Host believes that decisions to become greener are as much driven by financial concerns as by the desire to be responsible corporate citizens.

The Hidden Cost of the Internet

The scientific evidence overwhelmingly shows that Internet usage and the demand for power hungry applications is one of the fastest growing areas of energy consumption. That energy consumption today mostly comes from non-renewable sources that both deplete our natural resources, and also add greenhouse gases like CO^2.

Over the last five years the increase in use of IT related data systems and the power and cooling infrastructures that support them have doubled energy use to 61 billion kilowatt-hours (kWh) of electricity. By 2011, electrical consumption by datacenters is projected to nearly double to 100 billion kWh, costing more than $7.4 billion.

U.S. data centers contribute as much pollution annually as 4.7 million cars or 5.3 million U.S. households electricity usage[ii]. Internet computing around the globe produces the same greenhouse gases as 22 million cars[iii].

Worldwide, powering of the Internet contributes more than 2% of the world's total carbon emissions or roughly the same as the entire aviation industry[iv]. It's widely accepted by many scientific sources that the industry is on track to double its energy consumption in the next 4 years.

In fact, internet computing power consumption and its reliance on non-renewable sources is now at a point where an second life avatar (a digital representation of one's self in the 3D virtual world at SecondLife.com) actually contributes more atmospheric pollution annually than a real citizen in Brazil[v]. Imagine: the digital representation of you may be doing more harm to the environment than the real world you!

Less Effective Options

There are many thousands of web hosting companies today, hosting more than 125 million websites. Many are smaller hosting companies offer little differentiation and have turned the web service provider business into mostly a commodity service, relegated to compete on price and common features. There are a few "name brand" web hosts who have emerged as the leaders in the space. However, few have taken a values-based approach to building partnerships with their customers that translate their Internet strategies into a technology extension of their ethical values and commitments to their employees, their customers, and their stewardship of the planet.

Most "green" web hosts today run their data centers with traditional, utility-connected electricity and server configurations and then offset their pollution output by purchasing renewable energy credits (RECs). The cost of their renewable energy credit purchases is then built into the price of the web hosting plans they offer.

Greenest Host Solution

Greening your hosting and data center operations is a simple, low cost and effective way of saving money and saving energy. It is superior to renewable energy credit purchasing (also called carbon offsetting) and it's incredibly easy for people and companies to do. Best of

all, it's no more expensive than non-green services. In fact, it generally saves money in the long run.

As the direct cause of more than 2% of the world's pollution (and a problem that's on track to double in size in just 4 years), switching data center operations from reliance of non-renewable energy to renewable energy will stop needlessly adding to the problem.

Greenest Host's data center, network, and servers were designed from the ground up to use the lowest amount of energy possible using the latest green design techniques; including deploying all new AMD Opteron powered servers, which use sixty percent less energy and generate fifty percent less heat than other data centers' servers.

In addition, our servers are powered by one of the most state-of-the-art data center designs and are located just 90 miles northeast of San Diego. The center is powered by 120 solar panels and year-round sun – **that means the servers use 100% renewable energy 100% of the time and create zero carbon emissions in their operation.**

Greenest Host was founded on the principle that, in addition to being the ethically superior choice, "going green" can also provide customers with better performance and better value. There no longer has to be a trade-off between making the right choice for the environment and having the absolute best quality of service at a market competitive price.

It's Easy

Greenest Host's solution is like turning the lights off when you leave a room -- very easy! But the impact of **utilizing zero emission data centers is like taking 22 million cars off the road or removing the atmospheric CO^2 equivalent of all aviation pollution worldwide.**

It Makes Financial Sense

Greening the Data Center is a simple, low cost and effective way of saving money and saving energy. Outsourced solutions like those offered by Greenest Host utilize the latest technologies to reduce power consumption, generate 100% renewable energy, and save money. **Most solutions are actually less expensive than leading non-green solutions.** It is superior to carbon offsetting and saves the need to purchase renewable energy credits period, because no pollution emissions are produced in the first place.

It is a highly visible and effective demonstration of Corporate Social Responsibility.

Few would argue that good ethics are good for business. Consumers do not wait until something is regulated before they act out of conscience. Information systems are now so powerful that opinions are shaped by social opinion leaders much more quickly than by political leaders.

Those companies who embrace Green and ethically superior options will reap the rewards.

In research conducted by the Natural Marketing Institute, more than 63 million LOHAS consumers (a consumer market segment representing interested in Lifestyles of Health and Sustainability) support businesses that share their commitment to natural living and the health of their families, communities and environment. This market is desirable and largely untapped with an estimated **$208 billion in market spending on goods and services that promote health, the environment and sustainable living**[vi].

Meanwhile, companies who choose to wait until they are regulated into compliance may suffer heavy losses and damage to their reputation as

a result of media exposure and public consumer boycott.

Implementation

Greenest Host offers easy ways for companies and individuals to convert their web hosting to a zero emissions, renewable energy powered solution. The company offers customers free IT support and strategic transition plan consulting that, in most cases, results in a fast and easy transition.

Greenest Host offers a menu of services including web hosting, web design, internet marketing, ecommerce and full outsourcing of your website. We also offer a new service called Greenest Business Builder which helps organizations become more sustainable, green their brands and increase their revenues.

Summary

Everything we do has a footprint, and one of the simplest ways we can reduce our footprint is to reduce our computing energy. It is hard to change our lifestyle – to use public transport; to live without heating or air conditioning; to buy local organic food. It far easier to change one's web host. This simple first step shows that you care about saving energy, and starts you on the path to making a positive difference to the environment.

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[i] Albert Gore, "An Inconvenient Truth", 2006.

[ii] U.S. EPA Report on Data Center Energy Consumption and Greenest Host calculations based on total carbon emissions. http://www.energystar.gov/ia/partners/prod_development/downloads/EPA_Report_Exec_Summary_Final.pdf

[iii] Climate Savers Computing Initiative http://www.climatesaverscomputing.org

[iv] Gartner Research. http://www.news.com/Computers-as-environment-unfriendly-as-planes/2100-11392_3-6180528.html

[v] Nicholas Carr. Avatars consume as much electricity as Brazilians. 5 December 2006. http://www.roughtype.com/archives/2006/12/avatars_consume.php

[vi] LOHAS. http://www.lohas.com/about.htm