

Online Trading Has a New Color

eBay Green Programs and Initiatives

By Anuradha Munshi



Executive Summary

As one of the world's largest online marketplaces eBay is an organization with widespread global reach, industrial knowhow and a very substantial user mind share. With around a hundred million active users today who buy and sell goods online using this trusted brand name, the potential for such a platform to act as a catalyst and drive messages of sustainability and green products within its community is huge.

How does a company like eBay that facilitates online transaction of goods, deploy strategies which help drive green programs? How does it blend these initiatives with its traditional model of online trade in a way that enriches its existing culture and prepares it for the future? This report holistically examines various methodologies that eBay has adopted that lead it on the path of sustainability.

Foremost in its culture is the presence of a self-organized, grassroots and cross-functional group called the eBay Green Team which is responsible for employee engagement and driving various internal and external environment friendly initiatives from eBay. The company has also launched online green programs that encourage reuse and recycling of products by either directly reaching its user base or partnering with other green businesses. The usage of its Paypal service by businesses to transition to paperless transactions is yet another green solution.

On the other end of the spectrum eBay has also been making various green investments in reshaping its infrastructure. This report examines strategies that lead to reducing energy usage in eBay data centers and office campuses. At a corporate level eBay also lends its voice to worldwide initiatives around sustainability. All these efforts come together in defining a green movement at eBay.

Introduction

There are few companies that capture the mindshare of millions of people. In the world of online trading, [eBay](#), one of the world's largest online marketplaces with over 97 million active users who trade online, and with a similar number of users registered on [PayPal](#) making financial transactions, is one such company. With widespread global reach, [eBay's initiatives](#) and commitments towards promoting sustainability have the potential for a significant impact. eBay contains all ingredients that are vital to making this transformation. From a volunteer grassroots team, to partnerships, programs and infrastructural investments, the company is on the path towards a greener future.

The eBay Green Team



At eBay the campaign of going green is led by the eBay Green Team. Made up of volunteers who are eBay employees and users, the green team's focus is to drive various initiatives that center on the idea of promoting and educating sustainability to both its employees and community members [\[1\]](#).

Coming into being - The movement to go green at eBay started in 2007 with a group of 40 like-minded employees who decided to work together to find ways to make the company greener. At its launch, it was called the Eco Team. The idea caught on rapidly and soon became an official group within the company known as the eBay Green Team. Today the team has grown to 2500 active eBay employees representing 28 countries of the world.



In 2009, the green team publicly extended its membership to eBay users around the world based on an assumption that green initiatives would also matter to a larger community. The result spoke for itself; 40,000 people joined overnight and in 6 weeks, membership grew to 100,000. This program has more than 300,000 members today. The [eBay green team](#) is now a large community of volunteers who champion the cause of sustainability within the company.

Initiatives – The Green Team drives concepts unique to eBay such as Green Shopping while helping promote sustainable commerce and environmentally friendly businesses. Some of the local initiatives that the green team has been responsible for at their office include grassroots activities like banning of water bottles on campus, engaging employees in low carbon diet campaigns by collaborating with healthy caterers in their cafeteria, planting community gardens, housing Earth Day, organizing activities like Bike to Work week, organizing events for Electronic Recycling and for brainstorming green ideas from office employees. These efforts aim to generate interest about the environment within the office community.

Along with employee engagement initiatives, the eBay Green team has also been a catalyst for large scale projects like eBay's investment in the construction of its LEED certified green building in San Jose, and the city's largest commercial solar installation, initiatives which reduce carbon emissions by a million pounds per year and save more than \$100K. The eBay green team retains its grassroots appeal while formally enjoying support and commitment of the management as it drives various green programs in the organization. The team has a public [website](#) where it tracks its ongoing efforts.

The eBay Green Programs

At a corporate level, eBay has launched various programs that are aimed at encouraging sustainable and green products. Through its online marketplace, the company enables product recycling through resale, and keeping items in use and out of landfills. Here are some of the most recent online initiatives from their green-program that promote sustainability:

Instant Sale Initiative



The eBay Instant Sale initiative is an [online tool](#) that allows customers to get cash for reselling used or old electronics like smart-phones and other devices, helping prevent these electronic items from entering landfills.

By answering a few questions about their old devices and getting a cash-offer instantaneously, sellers are able to dispose of their old electronic items in a very eco-friendly way – by trade – while eBay through its commercial channels and partners ensures that these goods are traded for reuse and that landfills are avoided.

With this solution launched in 2010, eBay tries to address the problem of redundancy of electronic items in the market today. Their solution helps in keeping e-waste out of landfills and reduces the need for new manufacturing. Even if the item listed for sale has no value, eBay still provides a pre-paid shipping label so that their partner can recycle the product based on the rigorous [e-stewards](#) certification. This encourages recycling of products via a channel that most people are accustomed to for trading products. In essence with the Instant Sale Initiative program the company helps recycle products for users and rewards them for it.

In 2011, eBay calculated that through the number of used iPhones alone that were traded in via this program 1,040 tons of CO2 were offset, resulting in energy saved that could power 85 homes per year in the U.S [\[2\]](#). The challenge for the Instant Sale initiative is to quickly become a role model so that items other than electronic goods can enter eBay's recycle-and-get-paid methodology. With over 4.3 million offers having been made to date on this initiative, the program today has been expanded to address local markets outside the U.S, in Germany and Canada.

The eBay Box



Packaging and shipping are essential parts of online transactions, and when eBay offers Green packaging with its [eBay box](#), it opens doors to new opportunities for a greener environment. Announced in September 2010, the eBay Box program brought 10,000 recyclable and durable boxes to buyers and sellers across the country.

These packaging boxes enable an environment friendly option for packaging. According to the company, if every such box gets re-used at least 5 times, that would be the equivalent of protecting 4000 trees, saving 2.4 million gallons of water, and conserving enough energy to power 49 homes a year [\[3\]](#). eBay has also worked with the United States Postal Service to extend their green package solution to a broader community. In 2007 eBay introduced an environment-friendly Priority Mail packaging in collaboration with USPS. These “cradle-to-cradle” certified packages are available for free today to users at eBay.com in [its USPS shipping hub](#).

The eBay Dwell on Design program



eBay also promotes the green movement by regularly showcasing green home products from its top green sellers. This solution encourages brand recognition of individual green sellers.

An example is the company's promotion of the ["Dwell on Design"](#) green designer home that it regularly sponsors in Los Angeles. Presented by EcoFabulous and Electrolux, the green home showcases top luxurious green interior design and lifestyle choices, and features green products that are also available on eBay.

The items that are showcased in these walk-through green designer homes include energy efficient appliances, water saving faucets, rapidly renewable cork flooring and various other renewable materials. This promotes and incentivizes both green sellers and buyers. Through its "eBay Giving Works" program, the company also helps in auctioning the designer green home to the community.

Recycle Bank



[Recycle Bank](#) is a green loyalty program that eBay has teamed up with, to reward its consumers for recycling and reusing existing products. This program grants points to eBay users based on how much they are able to recycle. These points can then be redeemed at various stores and outlets. Another option is for people to donate these points to the Recycle Bank Green Schools Program, which offers grants for environmental education locally. Today this program serves over a million eBay customers in the U.S., continues to grow internationally, and has received prestigious awards from the U.N

Promoting Green Businesses

As one of the world's largest online marketplaces with a global supply chain distribution and industry know-how, eBay as a platform brings an opportunity to other green businesses to collaborate and expand on their sustainable ideas. This section highlights a few real life examples of eBay collaborations with other green businesses that promote sustainable ideas in the market place.

Knetgolf: Collaborating with eBay



eBay has helped many people rapidly expand and flourish their green businesses. For example, Canadian eBay seller Shaun Shienfield converted a business opportunity of collecting and selling lost or used golf balls into [knetgolf](#) - a \$20 million business today – by being able to successfully sell online via eBay [\[4\]](#) and growing his business.

This is a green business model since by cutting down the need for new golf balls, knetgolf also cuts down large amounts pollution, oil-derived plastics and adhesives that would have resulted in manufacturing new golf balls.

Knetgolf this year will sell 10 million of these “recycled” balls on eBay alone. Besides hosting knetgolf on its marketplace, eBay also recognizes and promotes such green initiatives; in 2009 Knetgolf received the 2009 Entrepreneur of the year award from eBay Canada [5]

Patagonia: Common Threads Initiative



eBay has partnered with [Patagonia](#), the maker of outdoor apparel in promoting the durability and reuse of clothes. The [Common Thread Initiative](#) store brings Patagonia’s pre owned clothing and gear to the eBay marketplace. Users can buy pre-owned Patagonia clothes and gear, while sellers can have their used Patagonia clothing section listed on Patagonia.com if they take the [Common Thread Pledge](#) online.

The Patagonia Common Threads Initiative is eBay’s first ever branded storefront that features pre-owned listings from sellers. eBay further incentivized this effort by offering gift certificates for reselling Patagonia clothing online. This type of a business model with Patagonia is another example of how eBay’s marketplace can enable trade of sustainable articles and how sellers of green products can collaborate with eBay’s marketplace and with a large user base to promote green businesses.

WorldOfGood: Promoting a Social and Environmental Marketplace



In 2005 eBay teamed up with [WorldOfGood.com](#) to create one of the world’s largest marketplaces for ethically sourced eco-friendly products.

As a channel for local artisans and entrepreneurs from all over the world to sell their products online, WorldOfGood.com realized it’s potential by joining hands with eBay. This brought one of the largest online marketplaces with global distribution, supply-chain know-how and industry credibility to a business that promotes local artisans who create ethical and environment friendly products.

Today eBay’s WorldOfGood.com website provides a trusted platform where individuals as part of a global community can create positive change through commerce. In 2010, eBay acquired WorldOfGoods.com [6], and in 2011, eBay’s WorldOfGood.com was the winner of the prestigious “Nobel of Sustainability” award promoted by the U.K. based charity firm Katerva [7]. eBay was selected from a list of 150 nominees worldwide each of whom had been evaluated based on feasibility, marketability, scalability, originality and impact.

Online Green Shopping

eBay provides its users a [webpage](#) through which they can specifically purchase green products. This page is dedicated to green buying and selling, or “green shopping”. Products like energy efficient light bulbs, EnergyStar™ appliances, and various recycled goods can be located at this URL. Green shopping makes it easy for both buyers to look for the latest green products and for sellers to sell and ship their green products through eBay.

Going Paperless with PayPal



A unique way in which eBay's PayPal service helps the environment is when third party programs use it to reduce paper statements in their business models.

As an example, [Parago](#), a provider of innovative reward programs for promoting brand loyalty, announced in 2010 that it would use PayPal for offering rebate payouts and awards to loyal customers [\[8\]](#). This collaboration with eBay helped Parago replace its paper based model with PayPal's paperless transaction model that had a pre-established mind share within its user base.

The PayPal service today reaches more than 100 million active accounts and enables paperless financial transactions leading to a large number of trees that are saved as a result. eBay also extends their paperless solution with PayPal X, an open platform that enables green sellers and developers to build payment solutions on multiple platforms and devices while reaping the benefits of a paperless transaction system.

Greening Buildings at eBay

Another way by which eBay promotes sustainable solutions is by investing in its own infrastructure to implement energy efficient renewable solutions. Over the years eBay has been redesigning its office campuses as well as its data centers in order to use renewable energy and to implement industry best practices to reduce Green House Gas (GHG) emissions. The company has been judiciously measuring all Scope 1 and Scope 2 GHG emissions of their inventory, and a portion of Scope 3 emissions have also been evaluated. eBay has set a target of reducing greenhouse gas emission levels by 15 percent in 2012 over 2008 emission levels. This section highlights some real life examples of infrastructural initiatives by eBay that are aimed at reducing carbon footprint and bringing in energy efficient solutions.

Greening Data Centers



For a company that thrives on online transactions, backend infrastructure like data centers plays a key operational role. Data centers can cost a lot to any company in the amount of electricity that gets consumed, especially for a company like eBay whose operations are very data intensive. To address this problem, the company's data centers are often optimized for using alternate renewable energy sources like solar, while newer data centers are built with green-innovation in mind, reducing the carbon footprint.

A good example is eBay's data center in Denver, where it has invested about 100kW of renewable solar energy that it expects to payback within 3.5 years, thanks to local tax rebates and incentives [\[9\]](#). The solar power derived from this data center is used to run non-critical loads like supplying office space power for desktops used by its 35 employees.

The solar array which takes approximately 18,000 square feet of the roof can produce up to 500 kWh a month in peak summer months. The excess energy produced is sent back to the electric grid and eBay gets credit from the local power company for that power. Even with 2 inches of snow-cover the solar array is able to produce around 196 kWh per month during winter [\[10\]](#).



A more intrinsic example is the LEED Gold Certified data center called **Topaz** that eBay developed in Utah where industry best practices for power management have been deployed [11]. In May 2010, eBay opened this state of the art data center that utilizes industry leading practices like natural cooling and real time energy usage adaption, techniques that help lower energy consumption from the grid. The center also showcases innovativeness in the data center's green design and operation. The data center's power and infrastructure management earned it the [Environment Project of the Year Green IT award](#) by Green IT magazine. The award winning features include the following among others:

- **Hot Aisle Containment** – Separating the hot air that comes out from the servers from the cold air that goes into them was a key feature for increasing energy efficiency that was deployed by eBay in Topaz. The detail to design was inherent during the building of the data center itself; this design was experimented with full scale mockups among other designs before choosing the optimal architecture for placing their servers.
- **400V Power Distribution** – Conversion losses that are typical when converting electricity from the grid were reduced by powering up the servers to 400V instead of the typical 208V. This design decision allowed eBay to save on 2-3% of typical conversion losses, and added up to their savings.
- **Server Power Instrumentation** – For evaluating the cost of the lifetime of its equipment including servers, eBay calculates the exact energy used by the equipment over its lifetime, including its one time purchase cost. This methodology helps in understanding the true cost of equipment for accounting purposes.
- **Granular Temperature Instrumentation** – Cabinet level temperature measurements were carried out and used in Topaz for precisely engineering the hot and cold air separation and temperatures. This technique helped eBay avoid unnecessary cost and energy of buffering the whole data center.
- **Overhead power distribution busway** - Putting the numerous power supply cables over the server cabinets helps not only in removing complicated mazes of cables on the floor or over the sides, but also is a very efficient way of allowing the flow of cool air throughout the data center. This technique was adopted in the Topaz data center.



Project Mercury—eBay had been using leased facilities in many places for its data centers which inhibited its ability to optimize energy savings. The company also wanted to consolidate many of its data centers in order to create a state of the art data center for managing its next generation of online data storage and searching capabilities.

The newest data center from eBay in Phoenix Arizona, dubbed Project Mercury, was created to address both these problems.

The project consolidates 11 data centers into 3 locations, moving out of leased facilities into ones where eBay can own and control the energy usage. Developed with guidance from The Green Grid [\[12\]](#), eBay's Phoenix data center implements many of the current and future best practices proposed by the Green Grid's Data Center Maturity Model (DCMM) released in February 2011 [\[13\]](#). Here are some key features used in development of this data center:

- ❖ **Efficient Cooling Designs:** By efficiently designing the center, free year-round cooling is provided for the entire computing environment even at desert temperatures that reach 119F. The water-side economizer cooling works 100% of the time with chillers utilized only for backup, despite desert temperatures.
- ❖ **Modular architecture:** The data center is built on a modular and scalable design that can handle five generations of future technologies. Another benefit of a modular design is that multiple RFPs could be issued to different vendors which increased competition for data center efficiency.
- ❖ **Server Optimizations:** Individual server models are optimized for low power consumption and software is deployed to dynamically change a server's CPU clock frequency to match workload demands. Other server optimizations include dense rack deployments as well as optimizations in the server-rollout process for both rack-at-a-time and container-at-a-time systems to support rapid scalability.
- ❖ **Choice and deployment of metrics:** Green Grid's PUE (Power Usage Effectiveness) metric was used as a key design element during the design phase of the data center instead of only using it as a metric to measure efficiency after the center was built. Another metric used was the Total Cost of Ownership (TCO) metric which calculates the total energy usage by eBay per equipment's lifespan [\[14\]](#).

The stated goal of project Phoenix was to achieve a PUE of 1.2. eBay reported that the average PUE on the site was 1.35 during one week in January 2012, with a 1.26 at its best. Partial PUEs of 1.04 also have been reported by the company. With data centers accounting for nearly 50% of eBay's global power usage, measures like these are critical to managing its greenhouse gas emissions footprint and protecting itself against rising costs of conventional energy sources. These infrastructural investments around sustainability are designed to benefit eBay in the long run.

Greening its Campus



The eBay headquarters at San Jose is served by Fuel Cell technology from Bloom Energy - a strategy that has yielded savings in electricity consumption since these were installed. More than \$100,000 has been saved since installation of 5 fuel cell boxes in Feb 2010, as of August 2011 [\[15\]](#). These Fuel Cell Boxes take 15 percent of the campus energy needs off the grid completely.



eBay has also invested in a 650 kW solar PV array at its San Jose campus. 3,248 panels, equivalent to the size of a football field, cover eBay's roof space [16]. These panels provide renewable solar energy and additionally remove about 18 percent of the campus' energy completely off the grid.

This solar system, a partnership of eBay and SolarCity, is one of the largest installations in San Jose and will offset 37 million pounds of CO₂ over the next 3 decades. With an estimated annual renewable energy production of 888,061 kWh the installation has helped save the company around \$100,000 in the first year of installation in 2008. The San Jose campus building is **LEED Gold Standard** certified and it was the first building in the city of San Jose to receive the LEED Gold standard certification from the US Green Building Council.

Advocating Green Policies

Lending its voice to various green policies and initiatives around the world, eBay also participates in worldwide environment policy and legislature. In 2007 it signed on the Bali Communiqué on Climate Change, followed by the 2008 Ponzan Communiqué on Climate Change, and the 2009 Copenhagen Communiqué on Climate Change. All such initiatives call upon the United Nations to develop a comprehensive, legally binding framework that addresses climate change. eBay also participates in relevant public policy discussions in BICEP (Business for Innovative Climate and Energy Policy) which is a coalition of U.S. consumer brands advocating for aggressive climate policies.

It also collaborates regularly with government entities, non-profit agencies and peer companies through organizations such as Sustainable Silicon Valley, Business for Social Responsibility, CERES, and the World Resources Institute Green Power Market Development Group.

The Green Road Ahead

All of these real world initiatives show how eBay, a leading facilitator of online trade and reuse of products, can reshape a successful online marketplace to catalyze adoption of green practices among its users, partners, as well for itself as a company. Driven intrinsically through its eBay green team, the company seeks innovative solutions to promote a green products marketplace through its online green-initiatives, collaborations with other sustainable businesses and solutions, and by investing in its infrastructure to enable green solutions.

While going green certainly saves eBay money, it also provides a path to contribute towards building a more resilient future by promoting green practices and awareness among its user base. With eBay progressing on this path, the color of online trading promises to change to a better shade of green for tomorrow.

References*

**Please refer online at eBay.com for the latest information on the eBay green programs as the links and information may be subject to change in the future.*

1. [The eBay Green Team](#)
2. [The fight against e-waste](#)
3. [eBay debuts the eBay box](#)
4. [The eBay Knetgolf store](#)
5. [eBay Canada recognizes top online entrepreneurs](#)
6. [eBay acquires WorldOfGood](#)
7. [eBay WorldOfGood.com wins prestigious Nobel of Sustainability award](#)
8. [Parago leverages Paypal to extend greener customer promotions](#)
9. [eBay's solar installation in Denver data center](#)
10. [How investing in Solar helps eBay](#)
11. [eBay data centers employ industry best practices](#)
12. [How eBay built its new energy efficient data center](#)
13. [Green Grid DCMM Model](#)
14. [Green Grid White Paper on eBay Data Center](#)
15. [eBay uses renewable fuel cell energy at campus](#)
16. [Solar City white paper on eBay San Jose campus project](#)

Contact Info

eBay

J.D. Norton
eBay Green Team
Community Engagement Manager
eBay Inc.
2065 Hamilton Avenue
San Jose, CA 95125
www.ebay.com
inorton@ebay.com



SUSTAINABLE SILICON VALLEY

Anuradha Munshi
Energy Lead
Sustainable Silicon Valley
900 Lafayette Street, Suite 100
Santa Clara, CA 95050
www.sustainablestv.org/ecocloud
amunshi@sustainablestv.org

Marianna Grossman
Executive Director
Sustainable Silicon Valley
900 Lafayette Street, Suite 100
Santa Clara, CA 95050
www.sustainablestv.org
mgrossman@sustainablestv.org

Sustainable Silicon Valley is a consortium of over 120 business, government, academic and non-profit institutions working together to build a sustainable economy, a healthy environment and an engaged community. Partners are innovators from all sectors who are creating a nationally recognized model for regional collaboration on sustainability and accomplishing breakthrough results for environmental, economic and social resilience.

900 Lafayette Street, Suite 100, Santa Clara, CA 95050 | 650-318-3638 x100 |
info@sustainablestv.org | www.sustainablestv.org

eBay Green Programs and Initiatives