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Google Bay Area Waste Case Study

Challenge

At Google, operating our business sustainably has been a core value since the beginning. Our commitment to reducing environmental impact extends across our global company. In 2008, we calculated a landfill diversion rate of 63% at Google's Bay Area campuses. With 37% of the waste produced at Google's Bay Area campuses still going to the landfill, Google needed to reduce waste generation and ensure the proper disposal of recyclable materials, all while accommodating a growing staff, new building development, and an expanding food program.

This case study summarizes the approaches Google has taken to reach a landfill diversion rate of 86% in 2015 and explores current strategies being employed to drive continued improvement.

Action

Since 2008, Google has made a concerted effort to increase the landfill diversion rate throughout its Bay Area campuses. Google has adopted new programs, increased training of cafe and janitorial staff, and implemented behavior change tactics to limit the amount of waste that goes to the landfill.

Opportunity in Compost

Prior to 2009, all of the compostable materials produced at Google's Bay Area sites ended up in the landfill. Understanding the need to divert these organic materials from the landfill, Google urged the city to authorize a compost program for its Mountain View campus. Through these efforts, Google became the first company in Mountain View to pilot a compost program. The compost program pilot led to a significant change in Google's Bay Area landfill diversion rate, increasing from 63% in 2008 to 75% in 2010.

"Convincing the City of Mountain View to allow Google to pilot a commercial compost program in 2009 was our biggest accomplishment to date. This led to the eventual expansion of a full fledged composting to other Mountain View companies in 2012, which was a bigger win for everyone. It was a team effort from conception (Jennifer Mattimoe, the original program manager before I took over in 2010) to implementing the programs internally with the support of all our partners and externally by building our relationship with the City of Mountain View."
-Mark Krzysik, Regional Program Manager

By training staff to sort waste properly, Google maintained a contamination rate under 5% for the compost stream (no other waste besides compost in the compost stream) throughout the pilot. By adhering to the city of Mountain View's contamination rate requirements, the composting pilot was able to transition into a full fledged program in 2011. The compost program has enabled the diversion rate at Google to increase each year, with a growing amount of compostable materials being diverted from the landfill. In 2013, the plastic bags used in the compost bins were switched to compostable bags. This substitution has prevented 5 million plastic bags from reaching the landfill annually.

More Options to Recycle at the Desk

In 2013, Google identified an opportunity to increase office space recycling by focusing on improving the existing desk area recycling rate of 10%. When looking at the waste stream breakdown at the office space, the team identified a majority of the waste was composed of compostable and recyclable materials while the rest of the stream was made up of paper and landfill. The team decided to expand to a 4-stream desk side bin and sized them accordingly to accommodate the waste stream. The 4-stream desk-side bins allowed Googlers to sort waste into designated bins for landfill, compost, mixed recycling, and paper. By influencing a greater amount of correctly sorted waste, the landfill diversion rate dramatically increased from 10% (2-stream desk side bins) to 78% (4-stream desk side bins). Implementing the expanded desk side bin system has also eliminated the need to line the bins with plastic bags - millions of plastic bags continue to be diverted from the landfill because of these efforts.

Training & Behavior Change

Training and behavior change tactics have also been realized as a method to increase the landfill diversion rate at Google's Bay Area campuses. Starting in 2013, the cafe teams received bilingual guidance explaining how to properly sort waste. This guidance was accompanied by lunch-meeting presentations aimed at clarifying the proper usage of each waste receptacle. Regular meetings also allow the senior chef to be briefed on waste diversion strategies.

Food Optimization

Google is not only striving to reduce the amount of waste going to landfill, but is also implementing strategies to eliminate waste generation at the source. Cafe teams, for example, have been coached to use every edible piece of food that is being prepared, with whole fish utilization strategies and knife work tactics to cut produce as close to the rind as possible. They

are also trained to use reutilization strategies to eliminate food waste generation. This includes using stale bread to make croutons for salads and using chicken carcasses to make soup bases for different meals.

Signage

Signage is another key educational piece aimed at training Googlers on how to sort their waste properly. Descriptive signs have been placed at each waste receptacle throughout the Bay Area campuses. These signs use pictures to note which materials belong in each waste receptacle. Educational pieces are also incorporated into the Googler Orientation so that each new Googler learns about waste diversion.

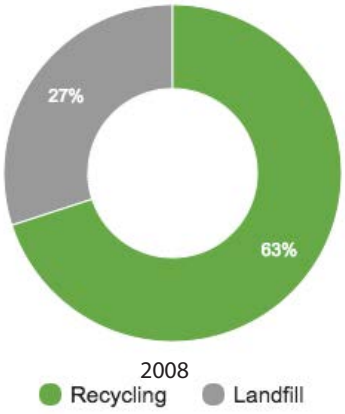
LeanPath

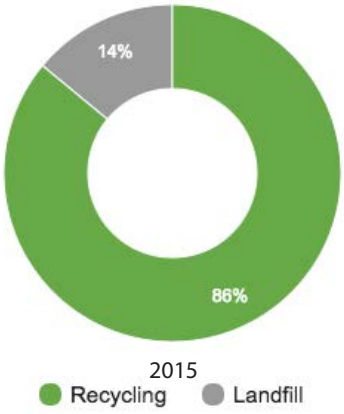
In 2011, Google began performing regular waste audits to analyze its waste streams. These waste audits have provided valuable data regarding the materials that are being placed in each waste receptacle at each site in the Bay Area. Each waste audit plays an integral role in determining the next steps to take to increase the landfill diversion rate. In 2014, Google also started using LeanPath, a program that tracks the amount of food waste produced in the Google cafes. By providing data on the amount and source of wasted food, Google has been able to significantly reduce the waste coming from the cafes with the LeanPath program.

Google has also utilized programs that creatively prevent organic materials from being discarded. The Food Team's imperfect produce initiative is a way that Google has helped prevent thousands of pounds of produce from being wasted. This program allows Google to purchase healthy, nutritious produce that might not be used otherwise because of stringent cosmetic requirements. Similarly, Google has started using Coffee Flour, a product that repurposes parts of a coffee plant that are traditionally discarded after harvesting coffee beans. As of July 2015, Google has helped to limit this type of waste by using 1,060 pounds of Coffee Flour in its Bay Area cafes.

Results

By implementing new programs and increasing training, Google's Bay Area campuses reached a landfill diversion rate of 86% in 2015 from its 63% in 2008. During this period, the pounds of landfill waste per person has decreased by 32.8%. Google has also had an impact on waste diversion outside of the campuses. For example, the Food Team's imperfect produce initiative has utilized 330,000 pounds of produce in the Bay area that would have gone to waste, in turn wasting the land, water, oil, and other resources necessary to develop that produce. Google's actions have also impacted other companies within the technology community, especially in the Bay Area. Google is raising the bar for expectations regarding waste diversion and other aspects of sustainability. Some companies throughout the Bay Area have started to adopt the methods Google is using to increase the landfill diversion rate.





Future Action

Google's newly adopted programs, behavior change tactics, and training have led to a significant increase in the landfill diversion rate across its Bay Area campuses. As an organization that is committed to reducing its environmental impact, Google recognizes the need to continue strengthening the landfill diversion rate. With this in mind, Google is committed to implementing new strategies, and leveraging existing tactics, to increase landfill diversion from 86%.

Google is actively investigating new methods of reducing waste generation at its Bay Area campuses. Centralized waste receptacles may be among the opportunities to increase operating efficiency as well as ensure proper sorting of waste materials. A study of centralized waste bins is underway, allowing Google to identify the most effective strategies of sorting waste on site.

Google is also exploring new tactics of increasing zero-waste education and implementing behavior change strategies. Expanding informative signage to new places in the back of house will allow Google to strengthen knowledge of proper waste sorting techniques. Diversifying audiences to encompass both waste generation and disposal is a key strategy in increasing the landfill diversion rate. A recently launched sustainable hydration campaign is an additional plan of action to reduce waste generation through behavior change by encouraging Googlers to choose sustainable options like reusable cups and mugs in the cafes and micro kitchens.

Waste audits are a strategy that allows Google to understand waste stream metrics and identify next steps for waste diversion. Google regularly performs waste audits to actively look for methods to reduce the amount of waste generated on site. In addition, Google is working with source partners to purchase products that do not come with wasteful packaging.

Innovation and education are key factors in increasing Google's environmental stewardship practices. With health and sustainability at the forefront, Google is constantly taking strides to improve its landfill diversion rate and will continue to do so over time.