

The University of Iowa



Photo credit: University of Iowa Communications & Marketing

“Replacing paper towels with nearly 400 Dyson Airblade™ hand dryers is projected to save \$1M over five years in paper towel costs and reduce our hand drying carbon footprint by 86%, cutting 528 tons of CO₂.”

Liz Christiansen
Director of the Office of Sustainability

Established in 1847, the University of Iowa is a leading public academic institution with over 20 programs – such as healthcare and medical research – ranked in the top 10 among the nation’s public universities. The University of Iowa has 1,700 faculty, 13,000 staff members, and more than 30,000 students enrolled annually.

The Challenge

The University of Iowa was seeking a new hand drying solution to overcome several challenges: visitors were unhappy with ineffective hand dryers, limited custodial resources, and a desire to be more sustainable.

Decreased Visitor Satisfaction

Warm air hand dryers had originally been installed on the University of Iowa campus, but visitors regularly complained about their ineffectiveness. The traditional hand dryers took too long to dry hands and were loud. “Visitors just stopped using hand dryers and would wipe their hands dry on their pants,” commented Dan Heater, Director of Building and Landscape Services. “We knew that the older warm air dryers

were energy-hungry and inefficient... people simply don’t wait the 30-40 seconds it takes to dry hands,” remarked Heater. Frustrated, Heater began putting paper towels in the restrooms as a convenience for visitors.

Limited Custodial Resources

Custodial staff had been reduced by 15% due to tightening budgets, early retirement, and overall attrition. With an expanding campus, providing custodial services with a smaller staff was a challenge. Heater saw a better hand drying solution as an opportunity, “if we could find an effective hand dryer, we could eliminate paper towel waste and reduce the time custodial staff spends cleaning up paper towel mess, moving trash and re-stocking towels.”

With an effective alternative hand drying solution, the custodial staff could focus on ensuring restroom health and safety. Importantly, the University of Iowa would be able to cut paper towel expenses, Heater explains, “We would save money by not purchasing paper towels, reducing the labor associated with replenishment and maintenance (e.g. clogged toilets), and disposal.”

Sustainability Goals

The University of Iowa’s mission is to “integrate sustainability into all aspects of the university enterprise – academics, operations, and outreach.” As part of its Vision 2020 Sustainable Campus Initiative, the university adopted a series of sustainability targets such as decreasing waste production and reducing carbon impact. With almost 130 major buildings on 1,700 acres that require daily cleaning, Heater was determined to be a part of the solution.



“With 45,000 people on campus every day, we knew that paper was bad for the environment – we were sending over 36 million paper towels to the landfill yearly,” alleged Liz Christiansen, Director of the Office of Sustainability. Eliminating paper towels would help meet the waste diversion goal, and replace energy-intensive hand dryers with the most energy efficient machines, helping the university address its conservation goal.

“Through the Office of Sustainability’s approach to waste and carbon reduction, hand drying and paper towel usage was scrutinized. The hand drying options in place presented a particular dilemma.”

Liz Christiansen
Director of the Office of Sustainability

The Solution

The University of Iowa began researching new hand dryer technologies. Familiar with Dyson vacuums, and having used the Dyson Airblade™ hand dryer, Heater was intrigued by the technology. To test the Dyson Airblade™ hand dryer, the University conducted a trial in the Dental Sciences building. “Dental Sciences receives over 200,000 visitors per year,” said Heater. “If it worked there, it would be work for the rest of the campus.”

“User feedback was excellent. The Dyson Airblade™ offered a solution that worked. It dried hands in just 12 seconds – versus 25 to 27 seconds with our existing traditional hand dryers (based on internal University testing),” observed Heater. “The longer dry time makes a difference,



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it’s enough for people to get impatient and leave the restroom frustrated, with wet hands,” Heater said.

The financial savings were equally positive. The Office of Sustainability worked with Custodial Services on a cost



Dental Science building
Photo credit: University of Iowa Communications & Marketing

analysis of replacing paper towels in the University Services Building. "We needed to verify the numbers, to ensure that the business case was robust," noted Heater.

"As well as cutting running costs, we were very interested in the environmental benefits of the Dyson Airblade™ hand dryers," added Christiansen. In comparison to paper towels, the Dyson Airblade™ hand dryers emit 3.4g of carbon per dry - 70% less carbon than paper towels.¹

¹For calculations, visit <http://airblade.dyson.com/calcs>.

The Results

The hand dryer purchase was planned in time to take advantage of the end of the year funding for energy conservation under the American Recovery and Reinvestment Act of 2009 (ARRA). The University of Iowa purchased nearly 400 Dyson Airblade™ hand dryers to be installed in existing campus buildings and specified for any new

campus construction or renovation projects. Installation of the Airblade™ hand dryers and removal of paper towels has been prioritized in buildings with heavy traffic.

When assessing the short and long term cost benefit of Airblade over paper towels, costs associated with supplies such as the paper towels themselves, garbage can liners, and the labor were included. Based on University of Iowa's calculations, the university would save over \$1M over five years by replacing paper towels with about 400 Dyson Airblade™ hand dryers.

"The University of Iowa has also been able to add the reduction of our hand drying carbon footprint and paper towel waste to our list of sustainable initiatives," noted Christiansen. Over five years, Christiansen calculates that the University will reduce its hand drying carbon footprint by 86%, cutting 528 tons of CO₂.² "When viewed as

a contributor to our sustainability campus initiative, the replacement of paper with Dyson Airblade™ hand dryers is significant," added Christiansen.

According to Heater, the overall reaction to the Dyson Airblade™ hand dryers has been extremely positive. "There really wasn't a viable hand drying alternative for the University that worked, was cost effective, and sustainable until I found the Dyson Airblade™ hand dryer," concluded Heater.

²Source: University of Iowa internal calculation utilizing T. Montalbo, J.Gregory, R.Kirchain. Life Cycle Assessment of Hand Drying Systems. Dyson commissioned study 2011.

Paper towels vs. Dyson Airblade™ hand dryers¹

| | Paper towels | Dyson |
|-------------------------------------|---------------------------|------------------------|
| Annual paper towel usage/hand dries | 36,000,000 ² | 90,000 |
| Cost per paper towel roll | \$5.75 | n/a |
| Annual operating cost | \$307,614.37 ³ | \$6,840 ⁴ |
| Cost over 5 years | \$1,538,072 | \$463,800 ⁵ |

¹Data taken from the University of Iowa internal calculations.

²For a campus population of 45,000, assumes 2 restroom visits a day over 200 days and 2 paper towels used during each visit.

³Includes materials (paper towels, trash can liners) and associated labor costs (e.g. replenishing paper towels, changing trash can liners, etc.).

⁴Includes electricity cost of .00038 cents electrical cost per hand dry (as of July 2012).

⁵Includes average purchase price of Dyson Airblade™ hand dryers.

"The Dyson Airblade™ offered a solution that worked. Not only does it dry hands in just 12 seconds, it offers a cost-effective, sustainable way of drying hands."

Dan Heater
Director of Building and Landscape Services



dyson airblade

To try the Dyson Airblade™ hand dryer or for more information call or visit:

1-888-DYSON-AB
www.dysonairblade.com

