GREENER U

Q&A Transcript

Greening Your Lab

*All answers are shortened and abbreviated for your convenience.
*The time in the video where each question can be heard is located after each question number.
*The full recording of the webinar can be found at this web address: http://youtu.be/hyeyNGdF2zk

Question 1 (39:26)

What are some of the strategies and work that happen during engagement of lab occupants? Dallase Scott, Director of Change Management at GreenerU, will start by talking a little bit about GreenerU's work with WPI.

Dallase Scott: GreenerU's change management approach focuses on a foundation of behavior change theory. We have two main goals during the process of engaging stakeholders. One is to recognize the impact that infrastructure and technology changes might have on occupants and building operators. Small check-ins along the way let us make slight process changes and avoid big barriers. The second is to involve stakeholders. It's important to show respect for them and engage them to find out how each space is actually used. This helps us to address the real issues and provide a full story of what is actually happening in the building, and it makes the entire process much smoother for everyone.

Bill Spratt: It's important to interact with and gain the support of a wide range of stakeholders, and especially those with decision-making power. Also, be concise and thoughtful of stakeholders' time. Those strategies have worked well at WPI.

Brandon Geller: Check-ins are necessary to avoid simply dictating to people what is happening or beginning a project that might be disruptive. We've also tried to use incentives. For example, with Harvard's Shut the Sash program, if labs meet their energy savings goals by shutting their fume hood sashes, they're entered to win a pizza party. Know your audience and choose an incentive that is easy to implement.

Quentin Gilly: We have a monitoring system that enables us to see when fume hoods are open, so we are able to customize goals for each lab based on current usage. Setting reasonable goals makes the system more useful.

Question 2 (45:05)

1. **A participant commented that they decided not to buy a Stirling freezer because it's a new technology and they doubted maintenance and parts would be easy to get.**
2. **Were paybacks at Harvard for Stirling freezers based solely on the cost of the freezer, or did they include a rebate paid by Facilities?**

Brandon Geller: The first question: Harvard ensured that the vendor conducting repairs and coil cleanings on other Harvard freezers was trained to work with Stirlings. We also made sure that the freezer vendor could provide at least one person trained to make Stirling repairs. There's only

been one small issue with a freezer. We did have to wait a few days for the parts, but it was under warranty so there was no cost to the university.

Quentin Gilly: The new technology has fewer moving parts than traditional compressor systems, which helps make it worth the investment. We have faith in it. About the rebate: We give each lab that purchases a freezer $3,000, which covers the cost of the more expensive Stirling engines. $3,000 was reasonable based on our negotiated price with Sterling compared with Harvard's negotiated prices with other freezer vendors. Labs also benefit from extra square footage from the missing freezer. The payback on the freezer covers just our $3000 incentive, not the whole cost of the freezer.

Question 3 (48:45)

What is WPI's relationship with GreenerU, and overall how was the lab project at WPI funded?

Bill Spratt: WPI's lab projects were funded with an investment from WPI. WPI was able to fund the project due to large utilities incentives, a short payback period of less than 3 years, and increased incentives from its partnership with GreenerU and two other colleges in Worcester.

Question 4 (50:20)

Can you talk a little bit more about how making labs greener can make them safer?

Bill Spratt: For fume hoods, too much face velocity can cause turbulence inside the hood. This can lead to some fumes spilling out. Correcting face velocity and air change rate saves energy and ensures that all fumes remain out of the lab.

Question 5 (52:10)

Before moving on to Harvard's response, there is a follow-up question. You've talked about the three levels of exhaust. Can you elaborate on those?

Bill Spratt: The three levels are based on flow. Hoods containing organics often require a lower turnover of air. Hoods with more dangerous chemicals have a higher rate of airflow.

Rob Durning: Floors and areas with heavy chemical use are balanced to a higher minimum flow set point. More biology-based labs operate at a lower minimum flow rate. Fume hoods at different exhaust levels may have the same face velocity, but at their minimum are safely exhausting any volatiles.

Bill Spratt: Hoods are labeled with green, yellow, or red to indicate their exhaust level. These are reviewed each year and adjusted to reflect any changes in the use of the space.

Question 6 (53:57)

Is there anything that Brandon and Quentin want to add to the conversation of lab safety?

Brandon Geller: Sustainability has gone hand in hand with lab safety. One example at Harvard concerns reusable biohazard boxes. Disposable cardboard boxes contribute to waste and tend to leak, so Harvard worked closely with Environmental Health and Safety to pilot sturdier reusable boxes. These reduced the amount of hazardous chemicals leaked into the lab as well as the need for cleanup procedures around leaks.

Quentin Gilly: Another initiative concerns using UV lights for sterilization. They may not provide adequate sterilization. We would like to encourage people to focus on a traditional sterilization solution with 70% ethanol or bleach, which could be more effective and reduce exposure to UV lights.

Brandon Geller: This promotes good lab technique and saves energy by reducing use of UV lighting.

Question 6 (56:40)

Two questions related to the reuse and surplus.

1. **How do you make initiatives systematic among busy people in different buildings, and what would your ideal web functionality be?**
2. **Are there any issues with the reuse of equipment and granting agencies that intended the equipment for a certain location or purpose?**

Brandon Geller: The second question: Harvard checks with many departments and the relevant granting agency before moving any equipment. This underlines the importance of collaboration. We haven't had any complaints, because usually the equipment being transferred is several years old and is more needed in its destination.

The first question: Making initiatives systematic is a challenge. Our approach is to create diverse opportunities to make initiatives accessible to researchers. The Freecycle is a big event that reminds people to clean out. We also have an online program, so researchers can simply photograph materials to be recycled and the materials will be collected. In addition, the Reuse Room is always open, so it is accessible for researchers in the lab at unusual hours. We haven't found a web-based system that is ideal yet.