Experts in air filtration for the protection of laboratory personnel since 1968

Case Study: Bristol Community College

PROJECT PROFILE:

Type:
New Construction

Location:
Fall River, MA

Filtered Fume Hoods:
(13) AMS Green Solution Hoods featuring Erlab's GreenFumeHood Filtration Technology

Statistics:
July, 2016 Completion

Gross Square Footage: 50,600

Building Cost: $29.5M, $582/ sq.ft.

Building Energy Use Intensity (EUI): 51 kBtu/sf-yr (all electricity from PV)

Architect:
Sasaki Associates

MEP Engineer:
BR+A Engineers

Construction Manager:
BOND Brothers

THE SCOPE

The new John J. Sbrega, Health and Science Building brings together programs from across campus, including chemistry, biology and medical and dental education. The design needed to comply with a 2050 campus goal of carbon footprint reduction. At the same time, the lab building could not consume all of the on-site power generation from recently installed PV arrays. So, a goal of achieving Zero Net Energy (ZNE) was set for this teaching lab and the design team embarked on a journey to find solutions to this complex equation.

Image credit: Air Master Systems

greenfumehood technology
A Global Solution For Green Buildings.

Image credit: Erlab (Ken Crooks)

THE CHALLENGE

Achieving ZNE is very challenging in the Northeast climate (zone 5). Doing so with a lab building containing fume hoods is extremely challenging. The initial high performance design achieving LEED Silver Plus, would have consumed over half of the recently installed PV arrays and still not come close to achieving ZNE. A new design solution was needed and the amount of exhausted air was identified as the main culprit.

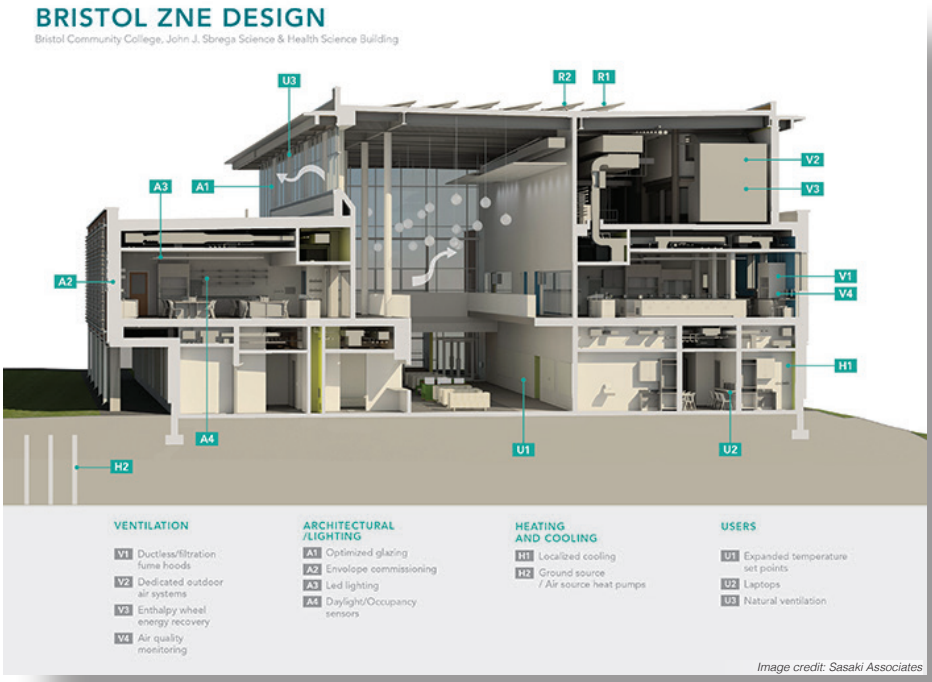

Image credit: Sasaki Associates

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THE SOLUTION

While many technologies were ultimately chosen to help achieve ZNE, the linchpin technology are the (13) filtered fume hoods.

Drastically reducing the make-up air requirement down to 24,000cfm from an original design of 70,000cfm allowed a combination of ground-source and air-source heat pumps, enthalpy heat recovery wheels, fan coil units, centralized IAQ monitoring, natural ventilation and a high performance envelope to become viable components of the overall ZNE design.

The reduction in MEP equipment size provided a cost reduction allowing for the integration of these technologies and reduced the mechanical space to just 14% of the GSF.

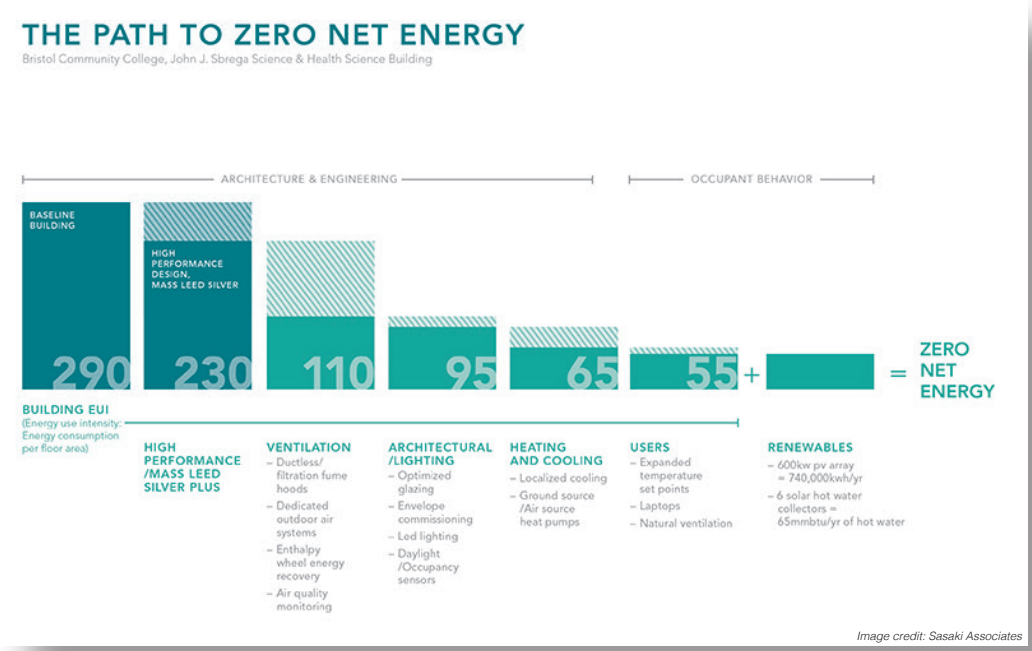

Image credit: Sasaki Associates

THE RESULT

The first Zero Net Energy laboratory building in the Northeast's challenging climate zone!

- ZNE for $0 additional cost,
- EUI of just 51 kBtu/sf-yr,
- More usable square footage for the occupants,
- Annual operating cost savings equivalent to (50) students' tuition, including the solar PPA savings
- A blueprint for future lab buildings!

Erlab above

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Erlab above

CLIENT LIST: EDUCATION

Abington High School
Antioch College
Auburn University
Bay Path Regional Vocational Technical High School
Bristol Community College
Broward College
Butler University
Carmel Christian School
Central Piedmont Community College
Clemson University
College of the Desert
Columbia University
Crowder College
Daytona State College
Eng. & Science Magnet School
Framingham State University
Grand Prairie Regional College
Greenwood School
Harvard University
Ivy Tech Community College
Manteca High School
Marietta College
Marywood University
McMaster University
MIT
Morgan School
Mount Royal University
Murray State College
Muskegon Community College
Nashoba Valley Technical High School
Pasco-Hernando Community College
Paul Smith's College
Princeton Unified School District
Purdue University
Riverside STEM High School
Rock Valley College
Roosevelt High School
Sacred Heart
SEED School of Maryland
Southern Illinois University
Southwest Texas Junior College
St. Cloud State University
St. Joseph's College
St. Louis County School
St. Norbert College
Stevens Institute of Technology
SUNY Oswego
Texas A&M University
Tusculum College
University of Chicago
University of Florida
University of Maryland
University of Michigan – Dearborn
University of Oklahoma Health Sciences Center
University of Rochester
University of Texas – Austin
University of Waterloo
Utica College
Virginia Commonwealth University
Washington State University
Washington University
Yukon College
Xavier University

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Erlab above

2018 Celebrating 50 years of innovation in filtration

About Erlab

We provide safety, we protect your health

Erlab invented the ductless fume hood in 1968. With more than 50 years of experience in the field of chemical filtration and protection of laboratory personnel; we know the formula for safety. With Erlab, you will never have to wonder or worry if our products are safe. We build each one of the following 7 ingredients into our products, and without all of them, your health and safety will be compromised.

1 Erlab R&D Laboratory

The engineers and chemists in our state-of-the-art R&D laboratory understand molecular filtration. We are committed to designing products that are safe and of the highest quality, strive to improve our products, and continuously develop new products that provide greater protection in the laboratory.

2 Strict Safety Standards

We hold ourselves to the highest standard and adhere to the strict AFNOR NF X 15-211: 2009 filtration safety standard as endorsed by ANSI Z9.5-2012.

3 A Published Chemical Listing

It all begins here. Without this listing, we are not compliant with AFNOR NFX 15-211. Our in-house laboratory tests, as well as independent testing, to verify the retention capacity of over 700 chemicals for our filters.

4 Independent Testing

Erlab filters have been independently tested multiple times at various concentrations guaranteeing that our safety solutions all adhere to the strict performance criteria of the AFNOR NF X 15-211:2009 standard assuring that the emission concentration at the filter exhaust will always be lower than 1% of the TLV.

5 Application Questionnaire (Valiquest)

Our laboratory specialists will recommend the appropriate filtration fume hood, type of filter, and personalized advice.

6 Certificate of Validation for the chemicals used in the hood

A certified PhD chemist issues a Certificate of Validation with a list of the chemicals approved for use in the hood.

7 Our Safety Program

We back up our products 100%. This program includes your specialized chemical evaluation, validation of your hood upon installation, and a filtration safety specialist at your service to ensure that your hood is operating to its full potential.