UAB The University of Alabama at Birmingham

From Green Initiatives to Green Savings: How 33 UAB Green Labs saved an Estimated $154,000 in One Year through Mostly Behavioral Changes

Emily Colpack

Learning Objectives

Learn how to do your own energy audit for labs with My Green Lab Impact estimator or on your own at low cost.

Learn how to utilize square footage to compare larger labs to smaller labs on their sustainability efforts.

Be able to complete a lab walkthrough to help labs be more sustainable.

Learn how to turn kWh savings into money savings directly from Green Lab efforts.

UAB Green Labs

- Started in 2016 as a pilot program
- Over 900 participating researchers
- Over 200 labs part of the program

Research & Innovation • August 25, 2025

UAB's Green Labs Program has saved more than $1.4 million

UAB research labs participating in the university's Green Labs Program have saved more than $1.4 million in energy reductions and resource savings since the program began in 2017, according to a new analysis by UAB Sustainability. Nearly $500,000 was saved in 2024 alone.

"This is a great illustration of the combined benefits to the entire UAB research enterprise as well as our individual participating labs," said Emily Colpack, who leads UAB's Green Labs program.

The OB/GYN Research and Diagnostic Laboratory has saved more than 61,000 kilowatt-hours per year through the UAB Green Labs program — the equivalent of 5.5 American homes' worth of electricity. Left to right: Lab members Zenetta Moultrie, Carly Sorrelle, Sarah Patterson, Noureen Ali and

Major energy reductions

Currently, more than 200 UAB labs participate in the voluntary Green Labs Program, which is a partnership between UAB Sustainability and UAB

First Visit

- Take My Green Lab Survey
- Attend Presentation
- Receive Walkthrough

6th Month Follow Up

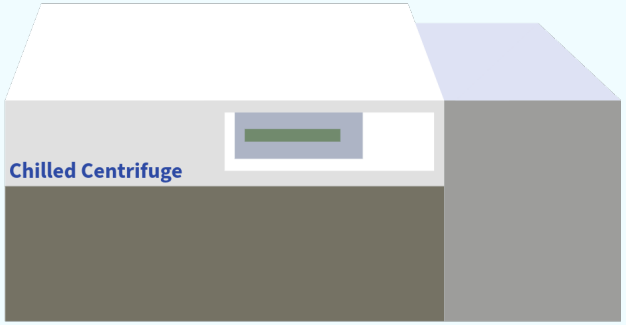
- Receive 2nd Walkthrough and Impact Estimator
- Take Survey
- Attend Presentation

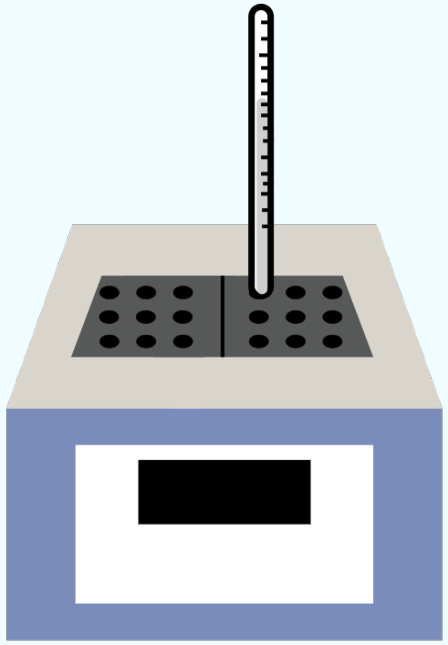
2 Year Recertification

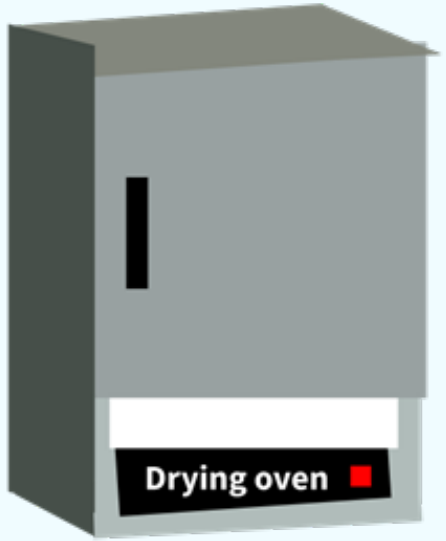
- Receive 2nd Walkthrough and Impact Estimator
- Take Survey
- Attend Presentation

What is a "walkthrough"

- Lab walkthroughs are an in person walk around the lab with the Green Lab Contact.
- Start on one side of the lab and look at items on bench top.
- Things worth noting: mercury thermometers, equipment on and not in use. Are Chilled Centrifuges turned off when not in use?







Do Not be Afraid to CALL THEM OUT!

- To make sure we had a conservative estimate the Green Lab Expert talked to each lab individually and walked around the lab to verify findings.
- If the lab was ever unsure or did not appear to be following what they said they were doing, their estimates were not counted.


WARNING ETHIDIUM BROMIDE
Drying oven
BIOHAZARD


GREEN CHEMISTRY
Instead of...
Try this Greener Alternative
Why is it more "green"?
ASK
BEFORE TURNING OFF
Drying oven
Shut the Sash
TURN OFF AFTER EACH USE
Faucet Leak?
Call 205-934-9675
A leaky faucet can waste more than 3,000 gallons per year.
That's more than 180 showers!
Don't leave running water unattended!
Contact Green Labs at greenlabs@uab.edu for more tips!
BIOHAZARD
Trash


-75C
Chilled Centrifuge
BIOHAZARD
INFECTIOUS WASTE


-70C
Sample Inventory
UAB
Sustainability
TURN
OFF
AFTER
EACH USE
Chilled Centrifuge
TURN
OFF
AFTER
EACH USE
BIOHAZARD
Trash

What Happens at the Second Walkthrough?

This is where the magic happens!!!


FLAMMABLE
KEEP FIRE AWAY
CORROSIVES
FLAMMABLE
KEEP FIRE AWAY

My Green Lab Impact Estimator

- Has energy estimates for common lab equipment (heating blocks, autoclaves, freezers, etc.).
- Easy to input lab's numbers and get an overall kWh saved based on the design and equipment in the lab. Yay!
- Creates an opportunity to really follow up on sustainable recommendations previously talked about.
  - Example: Ask if they use the autoclaves. Do they do full loads? Why not?
  - Turns out there were facility issues preventing labs from being able to do full loads.
    - See how UAB Green Labs worked with multiple stake holders to make the autoclaves safer, more efficient, and more sustainable in **session I2 on Wednesday between 10:30am-12:00pm**

Second Walkthrough

Check if lab is following the recommendations

This is to see if we can trust their numbers, or if their scores shouldn’t be counted.

Ask how often they now turn off equipment

What equipment was left on before Green Labs and is now turned off? This is a direct impact of Green Lab's recommendations.

Take kWh saved and multiply by building's kWh cost.

Make sure building kWh is an average for the whole year. Different buildings might have different kWh costs

Find square footage of lab space to make numbers comparable.

Take yearly kWh saved and divide lab's square footage. This allows you to see if big labs are actually being sustainable based on their square footage and not overall kWh saved.

How we did the calculations

Red square sare labs we did energy audits with

Q	R	S	T	U	V	W	X	Y	Z	AA	AB
2021	2021 kwh	2021 Savings	2022	2022 kwh	2022 Savings	2023	2023 kwh	2023 Savings	2024.00	2024 kwh	2024 Savings
---	---	---	---	---	---	---	---	---	0.091	49628.00	$4,516.15
---	---	---	---	---	---	0.084	26666.00	$2,239.94	0.091	26666.00	$2,426.61
---	---	---	---	---	---	0.084	26666.00	$2,239.94	0.091	26666.00	$2,426.61
---	---	---	---	---	---	---	---	---	---	---	
---	---	---	---	---	---	0.084	26666.00	$2,239.94	0.091	40934.00	$3,724.99
0.078	26666.00	$2,079.95	0.071	26666.00	$1,893.29	0.084	26666.00	$2,239.94	0.091	28584.00	$2,601.14
---	---	---	0.071	26666.00	$1,893.29	0.084	26666.00	$2,239.94	0.091	7728.00	$703.25
0.078	26666.00	$2,079.95	0.071	26666.00	$1,893.29	0.084	26666.00	$2,239.94	0.091	26666.00	$2,426.61
---	---	---	---	---	---	0.084	26666.00	$2,239.94	0.091	26666.00	$2,426.61
---	---	---	0.071	26666.00	$1,893.29	0.084	26666.00	$2,239.94	0.091	26666.00	$2,426.61
---	---	---	---	---	---	---	---	---	---	---	
---	---	---	0.071	26666.00	$1,893.29	0.084	26666.00	$2,239.94	0.091	26666.00	$2,426.61
---	---	---	---	---	---	0.084	26666.00	$2,239.94	0.091	41311.00	$3,759.30
0.08	26666.00	$2,079.95	0.071	26666.00	$1,893.29	0.084	26666.00	$2,239.94	0.091	26666.00	$2,426.61
0.078	26666.00	$2,079.95	0.071	26666.00	$1,893.29	0.084	26666.00	$2,239.94	0.091	14365.00	$1,307.22
---	---	---	---	---	---	---	---	---	0.091	26666.00	$2,426.61
---	---	---	---	---	---	0.084	26666.00	$2,239.94	0.091	26666.00	$2,426.61

These Dashes are to represent the time the lab was NOT in our program. We have estimates for each year to determine overall impact throughout the years.

Questions?

Email eac16t@uab.edu for slides or questions

UAB The University of Alabama at Birmingham