

Quick Guide to Using the Laboratory Benchmarking Tool for a Lab Energy Score

[Labs2Zero](#) is a voluntary program sponsored by the International Institute for Sustainable Laboratories (I2SL) that is dedicated to advancing the decarbonization of laboratories globally by scoring and suggesting improvements to labs to save energy, reduce emissions, and improve performance. At the heart of Labs2Zero is the I2SL Laboratory Benchmarking Tool (LBT), through which I2SL launched the first major Labs2Zero offering, the Energy Score, in October 2023.

Through the LBT, a lab building's energy performance is rated from 1 to 100, where 100 represents the highest performance. This is a percentile score, meaning a lab building with an Energy Score of 85 has better energy performance than 85 percent of similar facilities.



The Labs2Zero Energy Score is free! Users just need access to building utility records and facility data. This quick-start guide will walk you through the process of using the LBT to get a lab building's Energy Score and briefly describe the minimum data needed to benchmark a lab building in the LBT.

Note: The I2SL Lab Energy Score is currently in a pilot phase, and I2SL welcomes feedback from users to improve accuracy and usability. Let us know what you think by emailing lbt@i2sl.org!

Setting Up an Account

Go to <https://lbt.i2sl.org> and create an account [here](#) or by clicking on the "Sign up!" link shown here. Once you sign up, you will receive an email from lbt@i2sl.org or lbtbeta@kw-engineering.com to activate

your account. If not, check your spam folder! Want to know ahead of time what data you'll need? A full list of LBT data fields is available [here](#); the basic data needs are outlined below.



What's the Minimum Data Entry Needed to Get a Lab's Energy Score?

Start entering your building's data via the Your Buildings tab. Click on "New Building" to get started on the first facility. Following are tips for what to enter in the **Building Details** section:

- **Facility Name:** Give your lab building a name you will easily recognize.
- **Year Built:** Use the year of construction, or the most recent gut renovation.
- **Building Status:** Indicate whether it is test data or a real building (existing or in design).
- **Building Address:** Begin typing the address and choose from the dropdown (Google lookup). All worldwide addresses are accepted, and approximate locations (e.g., just the city name) can be entered if needed. *Note—this data will not be visible to others!*
- **Organization Type:** Choose the dropdown option that most closely matches the type of organization that occupies the building.
- **Predominant Lab Use Type:** Choose the dropdown option that most closely represents the type of work done in the facility's labs. If multi-purpose, choose the most prevalent.
- **Occupied Hours per Week:** Enter the number of hours per week when the building is occupied at normal levels (do not include occasional overnight use).

You'll also be asked for the total gross square footage of the building, the total lab area, and the square footage of specific lab components; use the definitions on the next page.

Gross Floor Area: Total area of the building (i.e., gross square footage). Exclude open spaces such as parking garages.

Total Lab Area: The spaces in which conditions such as tight temperature control and high ventilation rates are required. This includes open labs and support spaces such as equipment rooms, procedure rooms, vivarium holding rooms, physics labs, maker spaces, and cleanrooms, which may include recirculated air. *Non-lab areas*, which are NOT in the lab space total, include language labs, computer labs, office space, and utility space. The total lab area must be less than the total building area (and is also less than the net assignable area of the building).

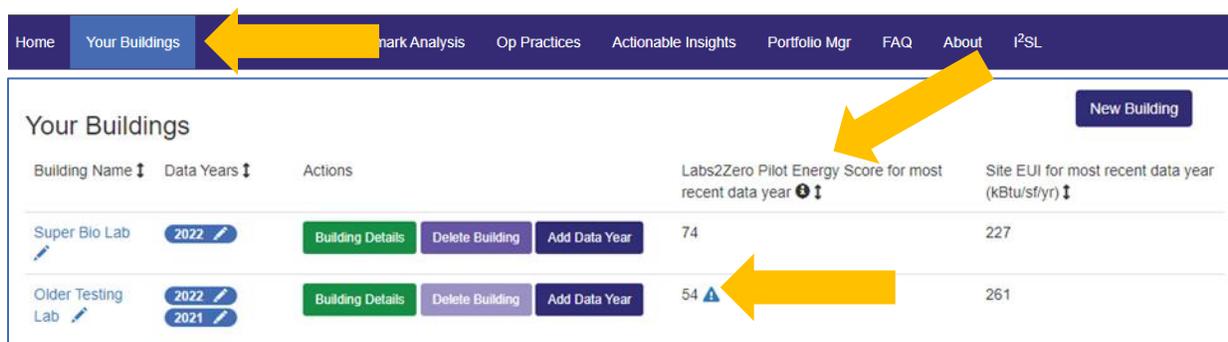
Component Lab Areas: Enter the breakdown of lab space between different types of labs, which include biology, chemistry, physics/engineering, vivarium, makerspace/workshop, and other. The total equals the total lab area.

Sample LBT Data Field Inputs	
Data Field	Example
Facility Name	Super Bio Lab
Year Built	2000
Building Status	Existing
Building Address	2300 Wilson Blvd, Arlington, Virginia
Organization Type	Commercial: Biotech
Predominant Lab Use Type	R&D: Basic Research
Occupied Hours Per Week	80 hours
Number of (Lab) Buildings	1
Floor Areas	Gross Area: 200,000 square feet (sf) Total Lab Area: 80,000 sf Biology Area: 60,000 sf Vivarium Area: 20,000 sf
Number of Ducted Fume Hoods	20
Annual Utility Data	Data year: 2022 Electricity: 6,000,000 kWh Natural Gas: 250,000 Therms

In the **Building Systems** section, users must enter the total number of ducted fume hoods in the facility. Ducted fume hoods are those connected to the building’s exhaust system, and an approximate number is acceptable.

Finally, in the **Utility Usage** section, enter the year for which utility data applies, along with whole-building energy use data by fuel type using meter data, utility bills, or tracking systems. If you have data in ENERGY STAR® Portfolio Manager, use the “Portfolio Mgr” tab to import it!

Once this basic data entry is completed, the lab building’s Energy Score can be viewed in the **Your Buildings** tab. During the pilot, warnings are provided for Energy Scores that may not be accurate. Warnings could indicate that a specific building type is not yet well-represented in the LBT database, or they could be the result of a problem with data entry or with obtaining weather data for a site. Users can click on the triangle icon shown below for more information.



Questions or concerns? During the Energy Score pilot phase, I2SL is collecting feedback from users. Please send your feedback, questions, or error reports to lbt@i2sl.org.