UCLA Sustainability

Freezer Sustainability Certification Pilot Program

Certification Goals

Ultra-Low Temperature **(ULT) freezers are often the number one source of energy consumption in a laboratory**. UCLA Sustainability encourages laboratories to improve their green practices by adopting measures to increase the energy efficiency of their ULT Freezers, which has a large potential for financial savings while also extending equipment longevity. To incentivize these practices, Green Labs will award laboratories with an annual **Freezer Sustainability Certification** based on the action items they complete.

Types of Certification

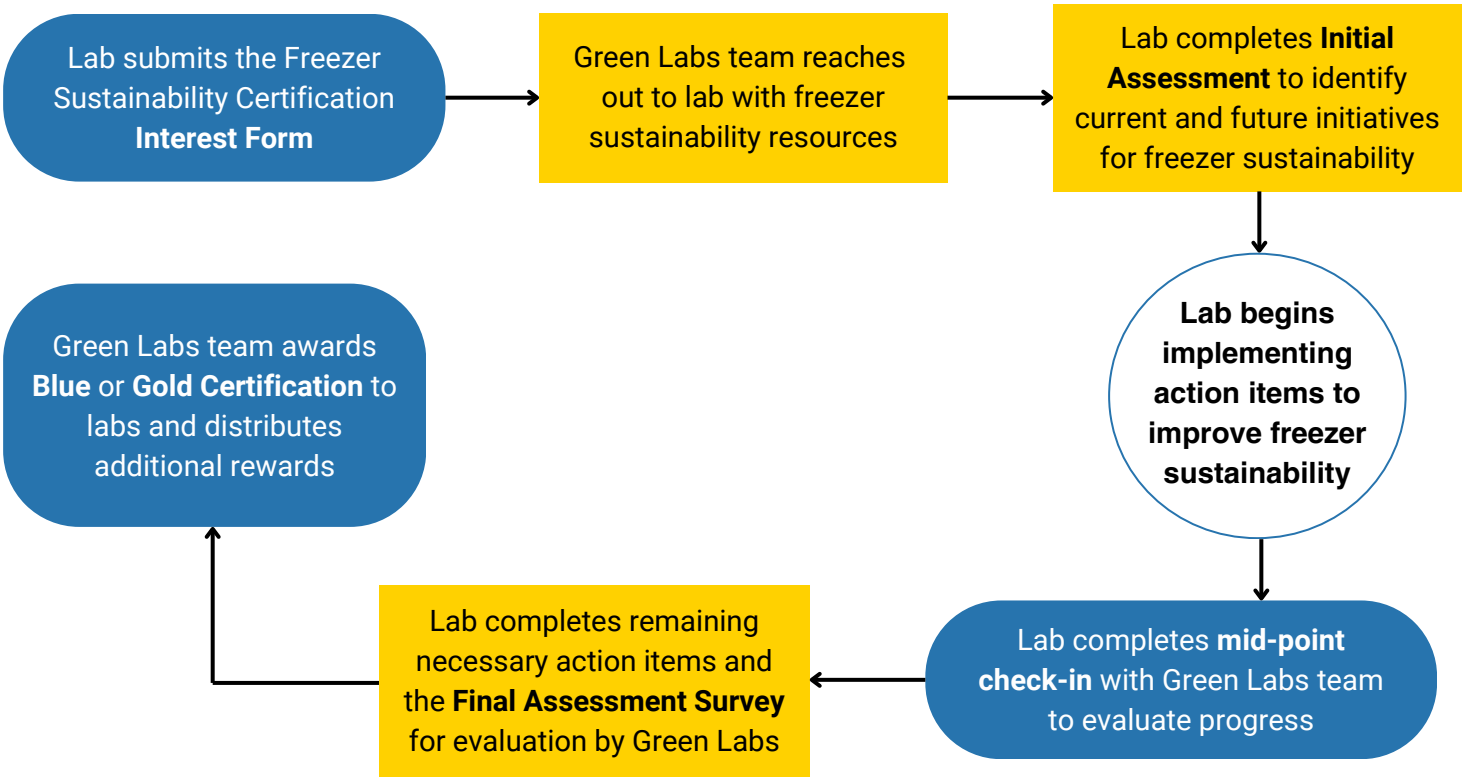
Blue Certification:

Awarded to labs that complete all possible items from Action Category 1: General Maintenance, and Action Category 2: Temperature, Sample Management, and Sample Loading.

Gold Certification

Awarded to labs that complete all possible items from Action Category 1, Action Category 2, and any Gold Star Practices outlined in Action Category 3.

Process Overview



For more information, please visit: https://www.sustain.ucla.edu/green-labs/

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Blue Certification

Action Category 1: General Maintenance

Commit to placing all freezer units on an annual defrosting schedule.
- Green Labs will perform a check-in to ensure that the schedule has been followed.

Place all freezer units on a monthly maintenance schedule; at least once per unit:
- Remove frost from freezer interior
- Remove dust from intake and coils
- Check filters to ensure proper working condition
- Check seals and gaskets to ensure proper working condition

Keep surrounding area of all freezer units well ventilated to avoid heat accumulation
- Allow for clear space behind and above all freezer units

Action Category 2: Temperatures and Samples

Set freezer temperatures to -70°C rather than -80°C
- Maintains sample integrity while reducing energy consumption

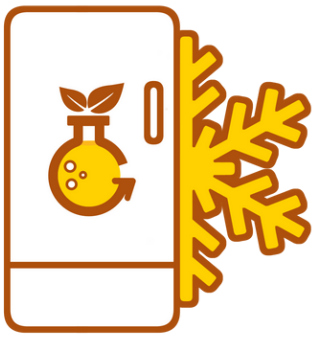
Optimize sample organization within freezer
- Clearly label samples, maintain inventory with previous temperature and usage records
- Place more highly used samples towards front of freezer
- Minimizes open-door time

Fill empty spaces with polystyrene ice; avoid large, empty spaces in freezer
- Polystyrene ice acts as insulation

Implement or commit to implementing high-density storage and vertical rack systems
- Use 13x13 dividers and/or smaller tubes to increase storage capacity
- Reduces empty space, provides insulation, and increases unit capacity

Clear out unneeded samples at least once per freezer
- Increases unit capacity

Gold Certification



Implement all possible Blue Certification action items, and one or more:

Action Category 3: Gold Star Practices

Unplug unneeded or unused freezer units
- Reduces total energy consumption of the lab

Implement a barcode inventory system
- Assists in sample tracking; reduces open-door time

Implement room temperature sample storage (RTSS) for applicable samples
- RTSS can apply to DNA, RNA, plasmids, reagents, and diagnostic kits
- Increases storage capacity for other samples

Share cold storage space with another lab if possible
- Optimizes unit space usage throughout UCLA