



Achieving Gold

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1. Purpose

The purpose of this document is to provide guidance on answering the questions in the LEAF gold award criteria. Each section of this document explains what should be considered when answering the questions. If any questions are not suitable for your area than 'Not applicable' along with an explanation can be written in the answer box. Any sustainable activities carried out in your area that are not captured by the framework can be captured in the 'Open Initiatives' section at the end of the questions.

2. Scope

This guide is for laboratory users who have been nominated to carry out LEAF in their area and are filling out the criteria for the gold award.

3. Procedure

3.1. Waste

34. The lab has implemented some form of reuse of materials, e.g. reuse of consumables which has led to a measurable reduction in waste produced. The procedures, along with how to suggest new opportunities for waste reduction are communicated to all users who know where to access this information and share their ideas.

- The lab has assessed its use of consumables, and this has implemented some form of reuse or reduction in consumable use.
- This will have reduced the amount of waste produced in the lab.
- Lab users are aware of the practises that have been implemented and there is a forum where lab users can share ideas.

3.2. People

35. The lab has implemented at least one action to reduce travel and adopted low-carbon travel policies where possible.

- environmental impacts of travel have been considered and minimised where feasible. – this is not about commuting.
- Is there a travel policy available?

48. The lab has taken action to address the sustainability of corresponding office spaces. This may be through a programme, or by taking individual actions.

- Sustainability in corresponding office spaces has been assessed.

3.3. Equipment

36. LEDs have been considered for use in equipment used for research illumination applications and purchased where feasible.

- Feasible options for LED lighting in research applications i.e. microscopy have been identified and implemented.

37. There is a process in place for excess equipment and materials in the lab to be shared, repaired locally, or sold. Lab users are made aware of relevant schemes and where to find further information about them.

- Excess equipment and consumables are repaired/shared/donated or sold – such as offering out to other laboratories or using [UniGreen Scheme](#).
- There are procedures in place for this which are communicated to all lab users.

38. Where water is used for cooling, it is recirculated. When new equipment requiring cooling is purchased, where feasible, water-cooled options are included.

- Tap to drain/single pass-through cooling water is not used where this regularly leads to large volumes of water wastage.

3.4. IT

39. The energy impacts of inefficient computational analysis techniques have been minimised by optimising computing code and the number of storage clusters has been optimised according to the task or schedule of tasks being executed. Staff competent in developing the codes have been identified and provide support to those who are unfamiliar with best practice.

- **This only applies to labs with significant data storage.**
- Optimisations have led to a faster more energy efficient operation
- Storage clusters use minimum server space.
- users should be using either Barkla or the SRF system for computational work as well as the storage systems mentioned in Silver Q25.
- The SRF system is designed for this problem.

3.5. Sample and Chemical management

40. There is a system in place to promote the use of existing data, and/or existing samples from biobanks (where data protection will not be affected), as opposed to always generating novel data or sourcing new samples. Details of the data/samples and associated data protection/ethical approvals for their usage are communicated to all lab users.

- The lab makes use of shared external inventories for samples/data/chemical and material acquisition where possible.
- The lab makes its resources available to other external laboratories.
- Details of this are communicated to all lab users.

41. At least 85% of samples and chemicals are being actively used, or being stored and are easily identifiable. No more than 15% should be uncatalogued.

- Chemicals are organised and catalogued on an inventory (either an in house document or a purchased system).
- Samples are also managed.
- Unused or out of date items are disposed of periodically.

47. No solvents are being evaporated into the atmosphere. Solvent selection has been considered for 'greenness'. Solvent recapture/recycling has been assessed for feasibility and implemented where possible.

- Any vapour from solvent evaporation is captured and not released.
- Where feasible captured solvents are reused.
- The lab has reviewed the [Chem21 Green Solvent guide](#) and have substituted solvents accordingly.

3.6. Research quality

42. The lab has adopted laboratory management software, or has reviewed the options and provided a reason why this isn't appropriate.

- A laboratory management system is used where required – this includes the use of SafetyNet and the Asset management system.

43. Sterilisation and cleanliness methods have been reviewed to ensure the appropriate method is being used and is not excessive for the particular application of its use. This includes but is not limited to: autoclave methods, UV sterilisation, and cleaning rotas. Any revisions to methods have been communicated to users, are documented and those responsible have received appropriate training.

- The lab has reviewed its use of sterilisation/cleaning methods for opportunities to reduce so that waste is not being over-treated.
- Having cleaning rota's help prevent items being over treated.
- Any revisions in cleaning methods are communicated to lab users and training is provided.



3.7. Ventilation

44. Where possible, the lab has engaged and implemented actions via estates on lowering: fume cupboard flow rates, air change rates, and/or removing unnecessary extracts from safety cabinets to become recirculating.

- Where possible extract and ventilation is optimised, ensuring safety whilst maximising energy efficiency.

3.8. Water

45. A procedure has been devised and implemented to ensure the appropriate use of sinks and drains for the discharge to laboratory waste. The procedure should take into account spills and emergencies. The procedure should be communicated to all lab users and your response should indicate how this has been achieved.

- Labs are aware of procedures for using drains for the discharge of lab waste.
- Guidance for effluent waste is displayed and communicated to all lab members.

3.9. Teaching

46. Environmental impacts have been reduced through the design or revision of experimental procedures for taught laboratory courses. "Teaching" can also include undergraduate and master students summer projects or new PhD projects. *Where there is no teaching, simply input "No Teaching"

- Evidence that teaching experiments have been revised or redesigned to include sustainable practises e.g. using smaller tubes, smaller sample sizes, using less toxic reagents.
- This should include undergraduate and masters project students and new PhD projects.

4. Changes to the procedure

Version	Reason for change	Date
2.0	Change to section 3 for criteria update	November 2024