**Green Impact - Queen's University - Labs**

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| **Criteria Theme - Lighting** |
| L023  | There is maximum use of natural lighting.  | Natural light has proven benefits for health and productivity compared to artificial light, and of course uses no additional energy. However, some labs have blinds drawn and artificial lighting on for much of the year. Whilst glare is a significant issue, there are other ways of dealing with this than completely blocking daylight.  | Visual inspection: blinds are raised or curtains are open in rooms with windows and lighting can be adjusted so that it is not on in all areas of the room during bright periods. Interview with lab user(s).  | Blinds raised – except when required to reduce glare – use of shading on windows when appropriate |
| L024  | All luminaires are high efficiency ones, e.g. compact fluorescent lamps for task lighting, LED or T5 fluorescent lights (rather than T8 or T12s) for overhead lighting.  | Lighting can consume up to 15% of laboratory electricity. Lights are often left on (sometimes all night) when areas are not being used whilst original lighting specifications. Replacing fixtures with high efficiency ones can reduce energy consumption significantly.  | Confirmation by Estates for fixed lighting fixtures. Visual inspection.  | Confirmation received from estates |
| L025  | The lab has examined replacement of mercury with LED low energy lighting for scientific tasks and is doing this whenever possible, e.g. in growth chambers, microscopy and plant growth rooms.  | LED lighting for scientific tasksis not only more energy efficient, but in many cases may be better for the science because it can be more easily tuned to specific wavelengths.  | Visual inspection. Interview with lab user(s). NB LED room/corridor lighting covered by previous criteria.  | Considered as part of GI initial survey |
| L026  | Room/corridor lighting is always turned off or down when not required, and when compatible with safety. If this is not the case, and requires Estates action, lab users have them aware of the opportunities.  | Leaving lights on unnecessarily wastes considerable amounts of energy.  | Visual inspection – lights are off when room is empty for extended period or at end of day. Evidence of action, e.g. stickers on light controls, assigned responsibility for lighting switch off.  | Program is in place to have PIR installed in all corridors and selected labs |
| L027  | Illumination is appropriate to tasks. If this is not the case, and requires Estates action, lab users have them aware of the opportunities.  | Lighting design specifications for labs are sometimes too high for subsequent uses. The US LabRATS programme has removed many luminaires where they are not necessary. Task lighting of a small area can also be more beneficial to users, and energy efficient, than general lighting of a much larger space.  | Interview with lab user(s). Visual inspection, especially in corridors and little used spaces.  | As part of the training and induction program |