Aston University
BIRMINGHAM UK

Sustainable Laboratory Procurement

SUPC & LUPC Responsible Procurement Group
Jiteen Ahmed, Head of Technical Services at Aston University

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Introduction

- Jiteen Ahmed
- Head of Technical Services at Aston University
- Chair of SUPC Laboratory Group
- Chair of STEMed National Procurement
- Radiation Protection Supervisor
- More than 20 years in the labs!

End User v Procurement View

End user View

- Procurement is seen as the red tape or ‘getting in the way’
- Cheap is best but meeting spec is also important
- Feeling that end user isn't considered when it comes to purchasing equipment
- Sustainability is very important
- Resultant feeling is that they are paying more for the equipment than they wanted to…

Procurement View

- Regulations and HE policy guidance needs to be complied with
- Value Added Services need to be considered
- Risk!
- Sustainability
- Responsible Procurement

Both agree on the same point though…

Sustainability matters!

Factors that need to be considered before purchasing the equipment

- Materials being used to manufacture equipment. Are they using rare minerals? The source of the material are the workers being treated fairly?
- Consumables – disposal of material - costs and carbon emissions?
- Chemicals being used - how do we dispose safely and in a manner which wouldn't harm the environment
- Engineers – are they local or do we need to ship the equipment abroad for repairs? If new equipment is replacing current equipment, how do we dispose of current equipment? would supplier be willing to take the old equipment away?
- Supply chain issues – how long would it take to get the spare parts for the equipment (if maintenance is performed onsite by technical staff)
- Use of batteries – how do we dispose them safely and in a manner which wouldn't harm the environment
- Energy efficiency

Why does this matter ?

- Gel Imager – Brand new equipment purchased – failed in 6 months.
- Supplier suggested an engineer inspection
- Send the equipment to Germany
- University had to organize courier
- Led to a delay of 3 months!

Imagine the carbon emissions! Consider using a supplier who has a local engineer base, even then ask the question – are they using electric vehicles?

What other pieces of equipment could be used to help with regards to sustainability

University of Edinburgh

- Rotor Evaporators – used in Chemistry labs to evaporate organic solvents
- Uses a heck of a lot of water!
- Chillers connected to reduce the amount of water being consumed for the equipment
- Chillers saved 4,320m3 of water, enough for 26 x four person households for the whole year, saving £8,700 in water costs
- Cost of electricity to power chiller is £320, resulting in saving of £8430 per year!

Drying Cabinets – a lot of hot air?

University of Bristol

- Drying Cabinets being used to dry glassware, however they leak heat everywhere!
- Replaced 78 units
- Saved £54,000 of energy and 396 tonnes of carbon dioxide
- When purchasing drying cabinets consider insulated cabinets
- Consider purchasing a cabinet with an inbuilt timer

Consumables – Take Bake Schemes

- Some suppliers do take-bake schemes
  - Promega -Package return –all boxes have a pre-paid label that can be used to post polystyrene boxes back to Promega for recycling
  - Winchester recycling scheme - some suppliers such as Fisher, VWR and SLS offer Winchester recycling schemes
  - Suppliers such as Starlab and Greiner offer recycling schemes for pipette boxes

  Not just consumables, some suppliers also recycle gloves too!

Consumables

University of Edinburgh

- Single use Lab Plastics
- Plastic materials such as cuvettes, petri dishes and falcon tubes are recylced via a process which involves soaking in 5-10% Distel over a period of time, replacing with fresh solution regularly every two days or earlier if necessary
- Only works with material in contact with Hazard Group 1 Organisms or inert chemicals such as buffers etc

Chiller – Responsible Procurement

- End user requested to purchase a chiller for a chemistry research facility
- End user had identified a cheap chiller from china
- Sent the website to colleagues suggesting instead of using a well known and reputable brand
- Not only were Terms and Conditions unfavorable
- Working conditions were shocking

Equipment Disposal – Unigreen Scheme

- Unigreen Scheme
- Equipment is taken away, with either the whole or part of equipment being sold on
- Proceed of which are split between Unigreen and University
- Aston University has participated in the scheme which has resulted in the below:
  - Over 6,800 kg of redundant equipment has been sold so far, with a further 2,605kg in stock.
  - That has saved 52,163kg of CO2e so far - which is equivalent in impact to planting 869 trees, or taking 23.7 cars off the road for a year.
  - Our work has also created 1.78jobs FTE at UniGreenScheme - and there will be indirect job creation in the wider economy as well.

So how do we work on this?

- Liaise with stakeholders including hidden ones!
- Include Technical staff who have a wealth of knowledge and experience
- Look at holistic approach – don’t just look at buying the equipment but consider how do we dispose of it in the end, how does the equipment we purchase benefit not just research but everyone?
- In terms of the holistic approach consider consumables, how are they being recycled, what alternatives are out there?
- Chemicals – do we really need to purchase such hazardous chemicals? Can we get away with safer alternatives which do not cause harm to the environment
- Do we really need this equipment? More often than not there already is that piece of equipment in the institution, just a matter of asking!

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Thank you

Any Questions?

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