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Student Switch-Off Project Proposal

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Word Count: 1,729

1 Background -

The following is a project proposal, provided by Godden and Co, to Koi Merebark at the UWTSD Sustainability Team, in which a proposal is put forward for a student switch off.

The SA1 campus building and student accommodation (operated by private stakeholders) has encountered spending issues relating to poor energy efficiency (as seen in a similar case in Technium 1, figure 1), despite being relatively new constructions.

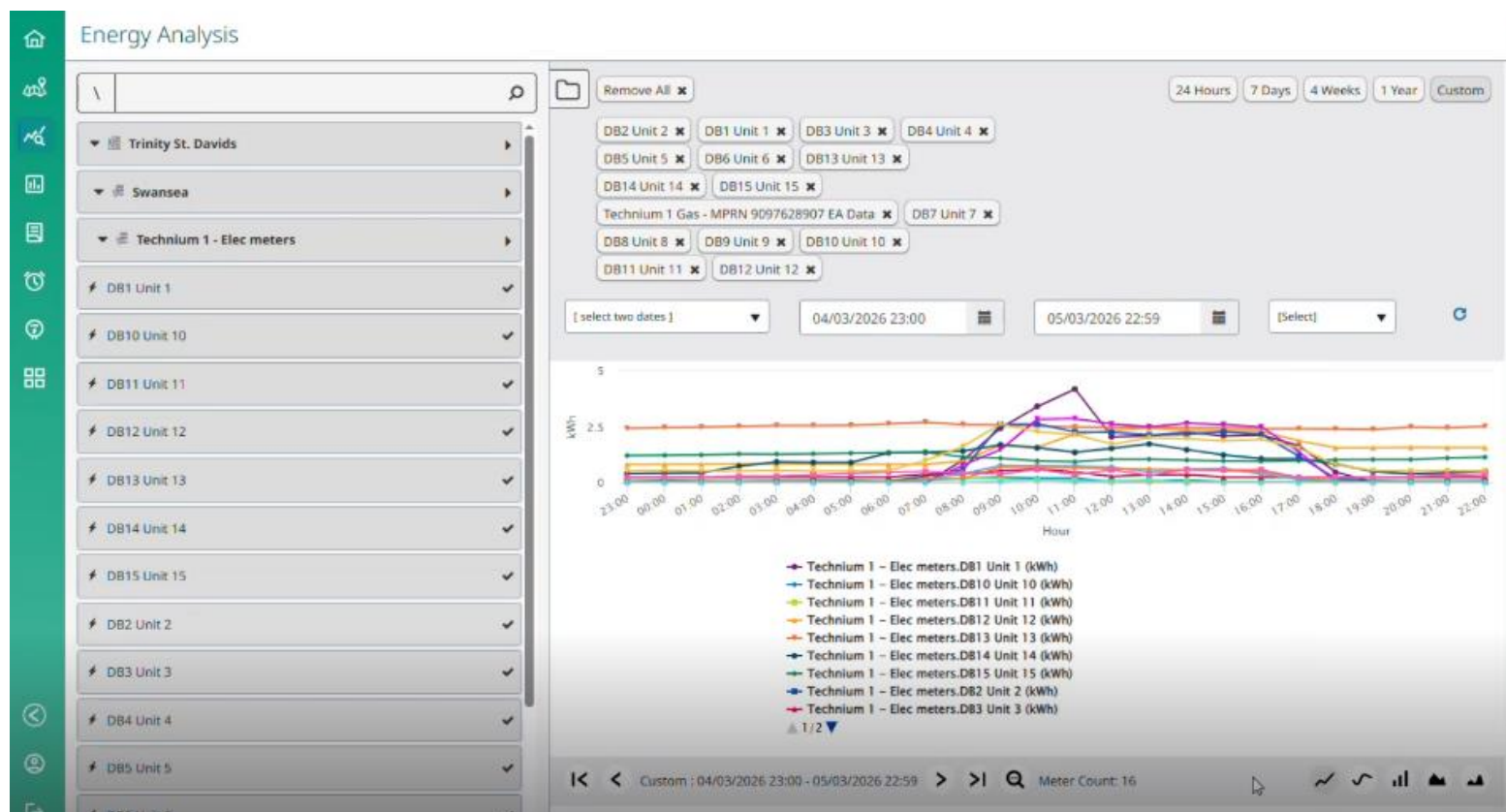


Figure 1: Energy usage overview of Technium 1 (Merebark, 2026)

The IQ campus (figure 2) covers 10,107 square metres, including a construction and engineering space, which is managed in

partnership with CWIC (Construction Wales Innovation Centre) (NEC, 2018).



Figure 2: Front of IQ Campus (UWTSD, 2019)

Being a multi-purpose building with several departments (construction, engineering, munitions etc.), electricity usage is both higher than average and more complicated to identify. This creates unique conditions for a switch off project, which, as opposed to traditional examples, must address the specific demands and limitations of each sector. For this reason, it is a crucial step to consult with and gain insight from each head of department before carrying out the event.

2 Project Scope -

Accurate scope definition is critical to the success of a project, serving as a contract between the project manager and

customer, ensuring their needs are fully met and the project is completed within an agreed timeframe and budget (Carroll, 2016).

Energy loss attributed to poor management of building energy systems is a common cause of what is referred to as the "energy performance gap" in large institutions (Ali, Motuzienė and Džiugaitė-Tumėnienė, 2024). Higher energy efficiency is not only beneficial financially, but also lowers GHG emissions and carbon footprint, key contributors to global warming (Fathi, 2024). In this capacity, energy audits and regular monitoring provide a strong baseline for efficient management and demonstrate, from a reputation perspective, commitment to sustainable practice.

In The Autonomous University of San Luis Potosí, Mexico, a level two audit was carried out (figure 3), and evaluated using the electricity consumption index (ECI) (Álvarez Macías et al, 2025). This study identified a potential 21.17% energy saving per year by transitioning to LED technology and implementing power factor correction measures.

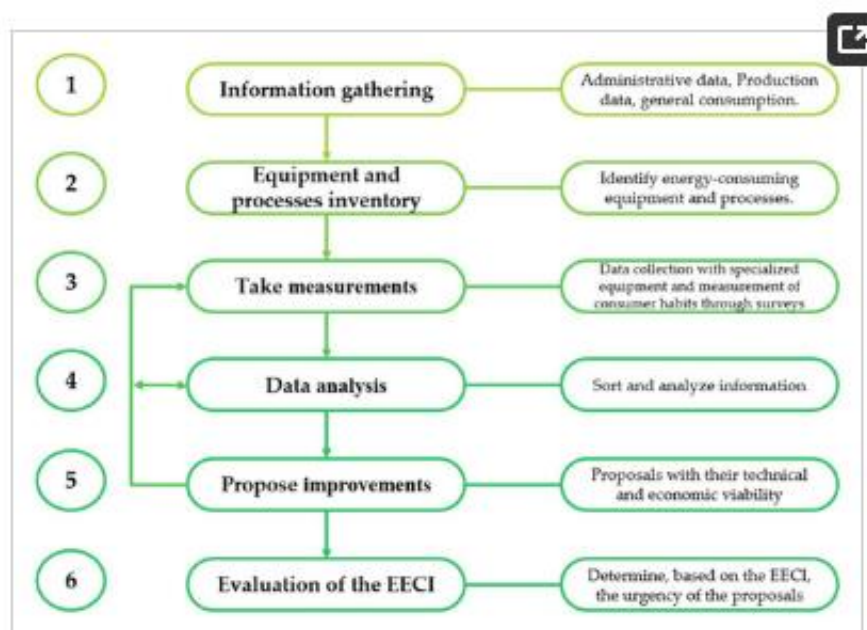


Figure 3: Level 2 energy audit carried out by UASLP (Álvarez Macías et al, 2025)

In a similar vein, university and polytechnic campuses in Singapore have benefitted from the gradual migration to open-protocol BMS systems (OPS), which saves energy by predictive maintenance and AI-driven analytics (Teo et al, 2026).

These changes have assisted these educational institutions with national sustainability goals, such as the “Singapore Green Plan”.

Energy usage in the UWTSD Waterfront Campus is critical to running costs, as well as being central to the university's sustainability ethos (UWTSD, 2024). In the IQ building, BMS systems are used to monitor consumption but are isolated at the meters, meaning usage across the building cannot be assessed without manually collecting data from each meter.

This project, as agreed with the customer (appendix A), will aim to assess general inefficiencies across the building, with particular attention to energy use outside of hours (which has been identified as an issue). The key focus is on differentiating what's required vs what's unnecessary, consulting with CBM (accommodation on site - private stakeholder), IT and the lead technical demonstrator to identify these.

Alongside the primary goal of energy usage reduction, student and staff awareness should also be promoted as part of a wider campaign on energy saving.

The event will be student led, although members of the estates and sustainability team will also be required to assist with the

task. The switch-off itself will include free food and drink for students, acting as a social event in conjunction with the aims of the project.

The project will span across two months of term time – 1st of October to the 19th of November. This placement allows enough time to plan and prepare resources for recruitment, as well as ample time for initial data collection (Carroll, 2013). It also falls in winter term time, where energy usage (and waste) will be most apparent.

Initial communication should include direct engagement with student groups (biggest historic difficulty), advertisement on social media, digital screens (generated media), and the bulletin board (printed posters).

Whilst a manual switch-off will prove the case, the ultimate goal will be to implement automatic energy saving systems across the university (this may manifest in new technologies or further development of existing systems, such as motion sensor LED lighting). Accurate data collection is therefore the factor which dictates the overall success of the project. The larger the quantity of surplus energy usage identified to be reduced, the more effective the project will have been.

Project Targets:

- Assess energy efficiency (create an account of energy wastage across IQ, identify leaks, surplus usage)
- Promotion of energy saving mindsets
- Pave the way for automated systems

- Liaise with stakeholders to gain a better understanding of the requirements of each department
- Reduce spending on electricity bills
- Promote sustainability

Further Details:

- Distribution boards are isolated (separate metres), wide potential for improvement, especially with peak loads outside of hours
- Manual switch off proves the case (ultimately automated is best)
- Heating is managed almost exclusively through AI, and many lighting systems are on motion control (and therefore not a priority)
- Students and staff carry out the project voluntarily with free food and drink
- Key areas include lighting, heating (HVAC systems), server rooms, miscellaneous construction equipment (compressors, etc.)
- In-house print and design teams may assist with financing advertisement materials

3 Stakeholders -

- UWTSD students who use the SA1 campus
- CBM private business stakeholder managing accommodation
- Construction innovation centre on site (CWIC), working in partnership with the university

- Munitions department
- IT department
- Engineering department
- Architecture, construction and environment department (ACE)
- Catering (Caffi Tawe)
- Cleaning
- Maintenance

Stakeholder engagement, particularly with heads of department, is a critical stage in the planning phase of the project. This will consist of an initial round of kick-off meetings on the 12th of November between the sustainability team and relevant members of staff to summarise the project and act as a platform for any queries.

4 Proposed Solution -

In order to resolve the current data gap, a switch-off project will be used to provide a breakdown of energy usage across the entirety of the IQ building. This will begin with an initial monitoring period, where four groups of ten students (each led by a member of staff), will carry out and record meter reads. Once completed, the switch off event will be undertaken by the same groups, followed by subsequent monitoring to collect data on the effect it's had.

To promote energy saving mindsets amongst students and staff, dual purpose advertisements (posters) will be displayed around the university for three weeks before the event. This will sit within

the recruitment phase of the project, where additional email advertisement (digital poster) and in-person recruitment will occur. Following the completion of the event, data collected from the meters will be formed into a written report containing the data from the meter reads and highlighting where energy savings could be made (as well as their relative significance). This can then be distributed to university staff and students via email.

5 Timeline -

Beginning 1st October 2026, ending (predicted) 19th November (carried out over 50 days) (figure 4).

The ultimate deadline for this project will be the week before the beginning of the winter holiday (1st of December), as student numbers will drop rapidly after this point.

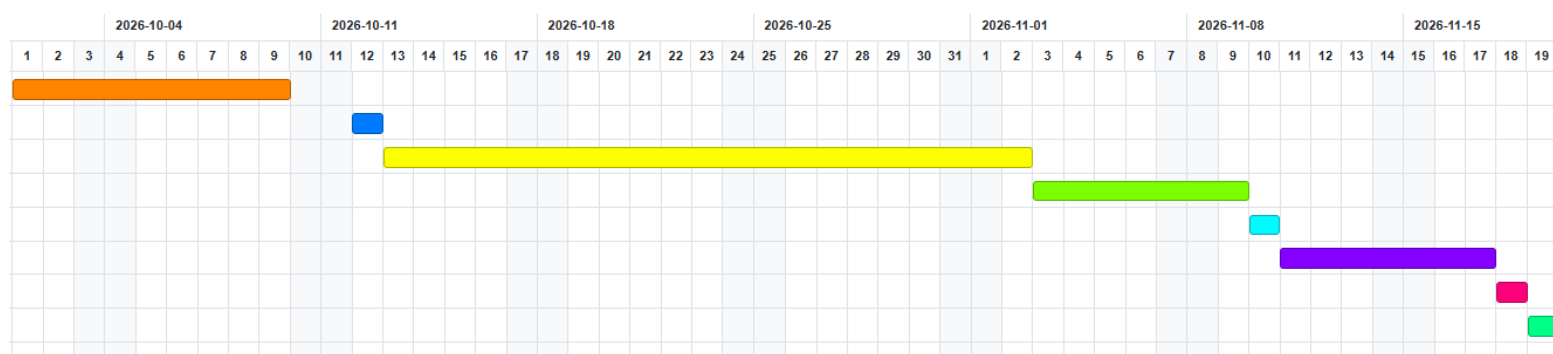


Figure 4: Gantt chart for project tasks (Online Gantt, 2025)

Tasks (in sequential order, from beginning to end) -

1. Managed by sustainability team:

Using the UWTSD marketing department, create posters advertising the switch-off campaign with an energy saving theme in preparation for student recruitment. Arrange staff kick-off meetings to broach project.

2. Managed by sustainability team:

Carry out meetings with relevant staff / stakeholders – address any issues, ensure everyone is on board

3. Managed by sustainability team:

Send out switch-off advertisement via mailing lists to all university emails (digital poster), obtain volunteers for direct recruitment in the lobby area, pin posters to noticeboards across IQ. Gather responses and assign student groups (1 member of staff per group).

4. Managed by relevant staff members:

Deploy student groups around the university to take meter reads (requires estates member for access card)

5. Managed by sustainability team and relevant staff members:

Having recorded performance across a five-day period, student groups will be assigned to systematically going through IQ and shutting off all electrical utilities (excluding any components specified) in an evening session (21:00 – 00:00). Food and drink will be provided during this event.

6. Managed by relevant staff members:

Using groups already set up, carry out a second set of readings around the university to record data displaying the results of before and after.

7. Managed by sustainability team:

Write up conclusions from data (analysis), distribute results via email to students and staff

8. Managed by sustainability team:

Finalise project with final stakeholder meetings, store relevant data for next steps (wrap up project, reward staff / students involved).

6 Budget and Cost Breakdown -

Project Budget: £3000 (ideal - £1500)

Materials -

- Food and drink (supplied for staff and students at the switch-off event) - £150
- Posters (design and printing) - £50

Salaries -

- Project manager wage (planning time) - £25 per hour (16hrs, £400)

7 Risk Assessment and Proactive Mitigation Strategies -

Whilst risk is inevitable in any project, ensuring it is managed appropriately reduces the likelihood of delays and general issues arising (Cunningham, 2026). As a result, a risk assessment has been provided based on the risk matrix concept (appendix B).

Factor	Likelihood	Severity	Risk	Priority
Lack of student recruitment	5	3	15	1
Staff access card faulty	4	2	8	4
Slips trips and falls	3	4	12	2
Access to meter points is prohibited	3	2	6	5
Staff / student illness	4	3	12	2
Damage to university property	2	3	6	5
Delays in planning	4	3	12	2
Interruption due to unforeseen events (e.g. fire alarm, bad weather, etc.)	2	3	6	5
Staff / student absence	5	1	5	6
Conflict with stakeholders	3	3	9	3

Table 1: Risk assessment of switch-off event

Mitigation Strategies:

- Lack of student recruitment – ensure ample time in the recruitment phase (potential to carry out recruitment directly from classes if numbers are low), use multiple methods of contacting students (posters, emails, confrontation in-person), offer incentives (free food and drink)
- Staff / student illness / absence – over-recruit if possible, with backup staff and students in reserve (potential to merge groups if numbers are lower than expected)
- Slips, trips and falls – ensure a first aid kit is nearby (or preferably with) each group
- Delays in planning – breakdown tasks into distinct groups with specific deadlines (a margin of flexibility has been incorporated into the suggested timeline)
- Conflict with stakeholders – work within the parameters of what's been discussed in the stakeholder meetings (brief students on what to avoid at the beginning of the event)

- Faulty access card – ensure each member of staff tests their card before the event (if one fails during the event, two groups can merge to share one)

8 Reference List -

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9 Appendices -



Sam Godden (2420076)

To: 🟡 Koi Merebark

Cc: 🟡 Alisdair Cunningham



Reply



Reply all



Forward



Fri 20/03/2026 21:53



1

 Student Switch Off Project Sc...
394 KB

Hi Koi,

Hope you're well.

I just wanted to send over a copy of the scope which I gathered together from our meeting (I've copied in Alisdair).

I had three further questions which I was going to ask if possible:

1. Is there a requirement to consult with relevant staff members (Reece from head of infrastructure) to ensure they are happy with what will be turned off (nothing is lost and everything is safe)?
2. Is there a specific period the initial communication to recruit students / staff should run for?
3. Should the initial monitoring period (7 days) include students or be carried out by staff exclusively?

Thanks again for doing this, I appreciate you giving up your time.

Best Regards,

Sam Godden

 Reply

 Reply all

 Forward

Student Switch Off Project Scope:

Budget: £3000 (£1500 ideal)

Timeframe: Beginning November / December 2026, carried out over 45 days

1. Initial communication
2. Seven-day initial monitoring period
3. Switch off event carried out over three days
4. Followed by a week of monitoring
5. Followed by an information campaign for a month
(communicating findings)

Basic Outline:

Project based at IQ to assess general inefficiencies across the building, with particular attention to energy use outside of hours (which has been identified as an issue). Key focus on differentiating what's required vs what's unnecessary (consulting with CBM, IT and the lead technical demonstrator to identify these).

Student groups (led by staff) carry out a manual meter reads to monitor overnight use over the course of three days, with the switch off occurring in the middle (measuring the before and after impact of the blackout)

Initial communication should include direct engagement with student groups (biggest historic difficulty), advertisement on social media,

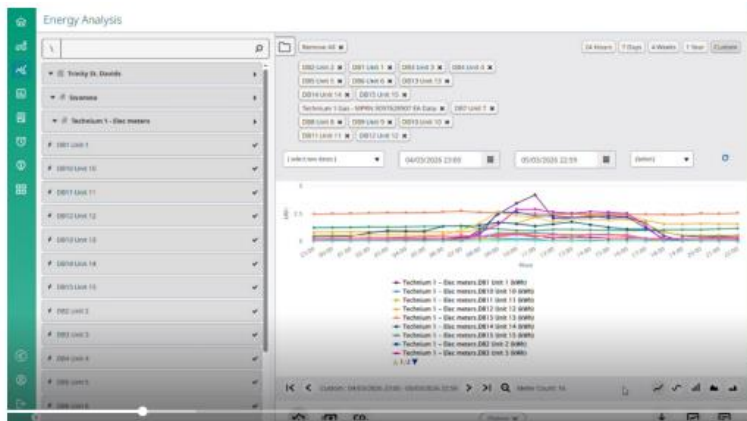
digital screens (generated media), and the bulletin board (printed posters).

After action has been carried out, a case study on the blackout should be developed with the results being distributed to students and staff (again via social media and physical printouts around the university to increase awareness of energy use).

Key Details:

- IQ building is controlled by BMS, but distribution boards are isolated (separate metres), wide potential for improvement (peak loads outside of hours)
- Manual switch off proves the case (ultimately automated is best)
- Heating is set and forget (managed almost exclusively through AI), and many lighting systems are on movement control (not a priority)
- Students are required to be accompanied by staff
- Students carry out the project voluntarily with free food and drink
- Programme should act as an educational piece
- Student groups (led by staff) carry out a manual meter read to monitor use
- Key areas include lighting, heating (HVAC systems), server rooms, miscellaneous construction equipment (compressors, etc.)
- In-house print and design teams may assist with financing advertisement materials

Energy Usage in Technium 1:



Stakeholders:

- Students
- CBM (private business stakeholder)
- QWIC
- Munitions
- Engineering
- IT
- Catering
- Broader Staff

(Appendix A: Scope agreed with Koi)

		Impact How severe would the outcomes be if the risk occurred?				
		Insignificant 1	Minor 2	Significant 3	Major 4	Severe 5
Probability What is the probability the risk will happen?	5 Almost Certain	Medium 5	High 10	Very high 15	Extreme 20	Extreme 25
	4 Likely	Medium 4	Medium 8	High 12	Very high 16	Extreme 20
	3 Moderate	Low 3	Medium 6	Medium 9	High 12	Very high 15
	2 Unlikely	Very low 2	Low 4	Medium 6	Medium 8	High 10
	1 Rare	Very low 1	Very low 2	Low 3	Medium 4	Medium 5

(Appendix B: Risk Matrix (Cunningham, 2026)).