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SHARINGS 1.0

ORGANISED BY

Landscape Architecture Seminar (LAN653)
Semester October 2023 – Feb 2024
Bachelor Degree in Landscape Architecture
UiTM Seri Iskandar Campus

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ACTIVE ENGAGEMENT OF UNIVERSITY'S STUDENTS TOWARDS GREEN CAMPUS INITIATIVES: ASSESSMENT STUDY OF UTILIZATION

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ABSTRACT

A campus's contribution towards a sustainable development for future will be always continue, driven by the support and awareness from the community and its perceptions. Green campus is an initiatives program to answer these challenges. The establishment of sustainable campus in UiTM Perak Branch is to realize the idea of sustainable development. Participation of students in each university's programs really pitch in a sense of responsibility to the student themselves especially as they take up the key roles in education in the area of sustainable development. In this context, the assessment study being carried out to the engagement of university student in UiTM Perak towards Green Campus initiatives. This article aims to come out with an evaluation of student's response to the applications of green initiatives. This includes to develop a survey to gain the response from the students and analyse to come out with a new approach to promote this concept. The data gained were based on quantitative supported with qualitative approach which is spread out the questionnaires to students inside the campus. The overall findings revealed that students in UiTM Perak were actively engaged in these sustainable practices. However, there are difference in the result due to some obstacle as the involvement of activities are vary. The most significant finding is the 3R practices where it become their habit in their routine. The university's administration also plays important roles in encouraging the students to engage in their green initiatives.

Keywords: green campus, green initiatives, green utilization, UiTM Seri Iskandar Campus

1.0 INTRODUCTION

The movement for sustainable development posed a serious test to governments, organisations, businesses, and institutions, especially higher education institutions (HEIs), to raise awareness of their responsibilities for sustainability (Safarkhani & Örnek, 2022). Universities serve as laboratories for conducting research and putting sustainable green initiatives into practice while developing the knowledge and abilities needed to support their campus communities. Universities have the ability to open doors for innovations and ground-breaking discoveries to be applied to a variety of additional built environment applications (Safarkhani & Örnek, 2022). As a result, colleges now have a long-term campus development plan or, better yet, sustainable development (Abd-Razak et al., 2011).

Higher education institutions (HEIs) must therefore develop green initiatives to meet sustainability goals for waste reduction, energy efficiency, water usage reduction, healthy working environments, and clean indoor air (Anthony Jnr, 2021). This can create a better quality of life in campus. To achieve a sustainable development in the campus, however, this calls for experts and practitioners to support comprehensive green solutions, including technical approaches. The students' knowledge and initiative in regards to sustainable development may be improved by this implementation. Another crucial element for sustainability within HEI policies is community interaction on campus or throughout learning development. The most important step in creating a sustainable green campus is to foster engagement and acceptance among all members of the campus community, but notably among the students. In particular, the effectiveness of green campus projects depends on student attitude (Pereira Ribeiro et al., 2021). With the implementation of green projects on campus, more realistic encouragement and campaigns might be investigated and run.

The study aims to focus on student's evaluation toward UiTM Seri Iskandar Campus green initiatives.

2.0 LITERATURE REVIEW

2.1 Definition of Green Campus

Green campus is defined as a place where ecologically responsible practice and education coexist and where environmentally responsible beliefs are

upheld. Campus greening initiatives support the idea of sustainable development (SD), implement function practices in accordance with a system-wide culture of environmental sustainability, and balance campus function and design with available and anticipated resources. The Green Campus institution serves as a hub for reflection, testing, and application. It is a role-model environmental community where people, academic programs, businesses, and operations work together to benefit the institution in both a theoretical and practical way. The key participants in this process are university students, who serve as a link between scientific understanding and common sense (Pereira Ribeiro et al., 2021). Green campuses can help institutions seek sustainability. Note that the words "green campus" and "sustainable campus" are sometimes used interchangeably in the literature on sustainability in HEIs. It is important to keep in mind that while green and sustainability share several study areas, particularly with regard to university campuses, they also have some differences (Safarkhani & Örnek, 2022). At last, universities are places that promote change because they have knowledge-producing researchers and critics of development standards within their staff (Mazon et al., 2020).

2.2 Importance of Green Campus among Communities

The green campus idea is crucial for enhancing sustainability, promoting it, and working with others to put sustainable development into practice. It confirms human well-being by fusing social equality, environmental preservation, and economic feasibility. As a result, the maintenance costs and productivity advantages for the campus's occupants will be reduced (Fissi et al., 2021).

The phrase "carbon footprint" is now well-established in everyday speech, where it frequently serves as an ideogram for a variety of worries about environmental deterioration (Hrasky, 2012). The carbon footprint on campus is an important component of many green campus assessment standards. The strategy for a green campus includes improving electrical energy management. This covers the use of fresh renewable energy on campuses. A successful load management strategy demands dedication, the proper approach from college administration, as well as student cooperation. Results of load management have an impact on preserving a reasonable energy consumption to population ratio, minimal carbon pollution, and campus ecosystems (Busaeri et al., 2021).

An extensive understanding and information on green campuses can be obtained through education on green initiatives. Additionally, education for sustainable development equips people with the knowledge, skills, and abilities necessary to make decisions on how to behave locally, internationally, or both that will increase their own personal pleasure without endangering the environment (Mohd Isa et al., 2021).

2.3 Challenges on Implementing Green Campus

The greatest barriers to achieving a low-carbon campus include a lack of financing or budget to invest in green and energy-efficient technology, the high cost of green and energy-efficient technology, as well as compact development and crowded space on the campus (Mustaffa et al., (2022). The causes of these issues included the inability to depart from customary practises and technologies as well as the inability to motivate and persuade the campus community to take part in low-carbon and sustainability activities. Another barrier to successfully adopting a low-carbon campus is a lack of enthusiasm in environmental development and a lack of understanding of the significance of energy and emissions reduction and their benefits.

2.4 Student's Engagement towards the Green Campus Initiatives

Every university or institution of higher education has expanded its commitment to and knowledge of sustainable practices. In order to promote sustainable practices in the fields of landscaping, construction, energy, waste management, food production, and transportation, student organizations and special events have formed. The fundamentals of sustainability, however, are not widely known throughout academics. Some academics believe that understanding sustainability is essential for putting sustainable practices into practice on college campuses (Emanuel & Adams, 2011).

Seeking sustainability in higher education is one of the key ways for strengthening society, particularly in communities where social elements, economic equality, and a healthy environment are taken into account through teaching, research, and dissemination practices. Additionally, putting sustainability into practice might increase their capacity for creativity on and off campus. Providing for the wants and expectations of the many stakeholders and taking them into consideration in strategy and operations allows organizations to fulfil their core responsibility to society of ensuring existence. Therefore, higher education institutions must work to improve communication so that people may learn about the sustainability practices being used (Correia et al., 2020).

3.0 METHODOLOGY

The case study was conducted at UiTM Perak Branch, Seri Iskandar Campus by using a quantitative and qualitative methods to collect all the data needed. The campus was selected to support the campus' concept which is 'Kampus Hijau'. It is a synergy of environmental-friendly practices and education to promote sustainable and environment-friendly practices among university

residents. The concept gives the campus an opportunity to implement and cultivate sustainable environment through holistic green practices within the university.

Questionnaire is used as instruments to collect the data used in this survey. Additional items are used for qualitative data that support the related quantitative data. The study took place inside the campus which was limited to the student only. These questionnaires are open to all students inside the campus. 91 respondents have participated in this online survey that range from College of Creative Art and College of Built Environment, UiTM Perak Branch. The purpose of spread the questionnaires through online platform is because of limitations of time from each student. The student mostly on their electronic devices like smartphone all the times, so it is very convenience and save the time for the students to fill the survey anytime as the form requiring them to tick one answer and fill a short answer. Adding to this, it is about the initiatives to reduces the paper usage to print out the form.

The purpose of the online questionnaire is to obtained student's feedback about their engagement on green campus initiatives. Subjects for this method were students who used a lot of campus facilities and practice green lifestyle. The student's feedback provides important perspective for an educational setting. Feedback from students is much needed to ensure that their perspective was taken into action for another planning stage.

Due to online survey, it was administered in the context of online platform using Google Form where the survey link was shared through online by WhatsApp or by scanning QR code where the students were approached physically. The period of data collecting is about 2weeks before starting the analysis process. The responses were divided into two types of data which are nominal such as in Likert scale and thematic analysis which the requirement is in a short answer for a deeper analysis of related question. The four-point Likert scale was used as a rating tool to obtain student responses and feedbacks: 1 (strongly disagree), 2 (disagree), 3 (agree), and 4 (strongly agree).

4.0 RESULT AND DISCUSSION

Abide to the time limit for conducting this research, therefore 91 respondents among the student in UiTM Seri Iskandar was collected and being analysed into 3 categories; Part A: Knowledge Related to Green Campus, Part B: Green Lifestyle Practice, and Part C: Student's Engagement towards Green Campus Initiatives.

4.1 The Knowledge Related to Green Campus

The question explains on how to measure student's understanding on green campus concept. It is to evaluate on the effectiveness of green approach taught in their program syllabus. It also asked whether the knowledge that gained through it shall be applied or not.

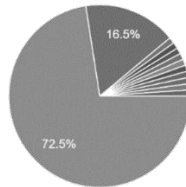


Figure 1.1: Pie chart on percentage of green campus understanding.

Figure 1.1 shows that 76 respondents (83.5%) responded 'Yes' and 15 respondents (16.5%) responded 'No'. Only 10 respondents stated their understanding in the questionnaire. The terms 'lot of trees', 'evergreen plants', 'greenery' and 'environment friendly', 'environmentally friendly' are giving the related terms which can be

concluded that green campus is having a green infrastructure including tree planting while doing daily campus routines without giving any harmful to the environment inside the campus.

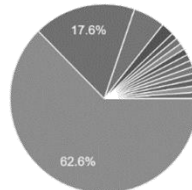


Figure 1.2: Pie chart on percentage of green approach topic.

For figure 1.2 shows that 71 respondents (82.4%) responded to 'Yes' and 20 respondents (17.6%) responded 'No'. Total of 11 respondents gave an answer for stating their course code that taught environment or green approach topic. Majority of the further response for Question 2 are from the same course which are AP148 (Diploma in Landscape Architecture) and AP248 (Bachelor Degree in Landscape Architecture), showing a related syllabus content to the concept of green campus. The syllabus including environmental and green approach towards the design.

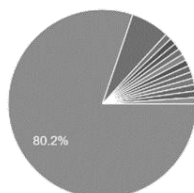


Figure 1.3: Pie chart on percentage of green campus activities/initiatives of program syllabus.

Figure 1.3 shows that 85 respondents (93.4%) responded to 'Yes' and 6 respondents (6.6%) responded to 'No'. Eleven respondents were collected for Question 3 about the knowledge that gained through your program syllabus should be applied and they stated the activities they participate to gained the knowledge. This includes the faculty activities which are tree planting, collect the trash support with conference video for environmental effects and some exhibition regarding the topic. Electric saving is the main concern to protect the air and prevent climate change while reduce expenses which can be used for another beneficial program.

4.2 Green Lifestyle Practices

This part was to discussed from the measures of the percentage of green lifestyle practices by student of UiTM Perak. Total of five questions in Likert scale and one short answer for the respondent's own answer regarding the question were in this part. This purposely to improve the facilities to encourage the student to practice the green lifestyle frequently.

In order to aim for a sustainable green campus, students are encouraged to practice 3R activities. This includes a focus on three important actions. The first is to minimise the amount of waste we create, secondly, we need to reuse or repurpose items instead of purchasing new ones. And lastly, we need to recycle our wastes. Majority of the student inside the campus frequently went to buy the food at food store inside the campus as the food delivery's charge are quite costly. They prefer to dine in instead of takeaway to support the campus green approach to reduce plastic container for food packaging. As for the drink, some of the respondents are using their own water bottle to be refilled, as each hostel and the faculty provide the water dispenser. The trend of Tumbler usage (see Table 1) has become wide among students and this is a good approach towards green campus theme. The result of energy saving habit among the respondents explained their awareness towards the climate change issue. Majority of the buildings inside the campus were not designed to be energy efficient and have outdated infrastructure and equipment that

contribute significantly to higher energy consumption. This can be support with deploying renewable energy sources while reducing carbon footprint. Further, energy storage systems can help campuses utilize excess clean energy for other utilities such as charging electric scooter that has become new mode of transport.

Table 1. List of percentage of Green Lifestyle Practices in Part B.

| Green Lifestyle Practices | Percentage (%) | | | |
|---|-------------------|----------|-------|----------------|
| | Strongly Disagree | Disagree | Agree | Strongly Agree |
| | (1) | (2) | (3) | (4) |
| Taking notes electronically | 3.3 | 15.4 | 46.1 | 35.2 |
| Having own water bottle | 3.3 | 3.3 | 26.4 | 67 |
| Practicing 3R | 4.4 | 3.3 | 13.2 | 79.1 |
| Turning off electric appliances after using | 4.4 | 1.1 | 19.8 | 74.7 |
| Walking to the class | 4.4 | 24.2 | 28.6 | 42.9 |

Table 2. List of further answer for the 'Yes' responses for other Green Lifestyle Practices in Campus.

| Green Lifestyle Practices | Frequency | Percentage (%) |
|---|-----------|----------------|
| Practicing dine-in | 2 | 2.2 |
| Using own food box | 11 | 12.1 |
| Using electric scooter | 7 | 7.7 |
| Saving energy for electrical appliances | 3 | 3.3 |
| Planting indoor plant | 4 | 4.4 |
| Using public transport | 1 | 1.1 |
| Maximizing full-page paper | 1 | 1.1 |
| Using e-book | 1 | 1.1 |

4.3 Student's Engagement towards Green Campus Initiatives

In this last part of the survey were to define percentage of student's engagement towards the initiatives. For this section, the finding highlights on the student's participation towards the green activities planned by universities' administration. This is to deepened the knowledge regarding the approach for

a better green initiatives application practice and further encouraged them towards the green approach. University's students are mature community that able to well response to global issues like the climate change and prevention actions that mitigate the issue for the sake of future generation. At the university's level, the administration in terms of management system is very systematic and very easy to work with. Having a different course at the campus can help for the students to exchange opinion and ideas regarding the approach. This is because different syllabus that were taught sometimes have the same intuition towards the environment but in different scope of work and task. In question 2, highlighted in Table 3, each respondent was given multiple choice of answer selection to choose their top three favourite green campus activities. The findings in Table 3 depict that the majority of the choices are the 'Micro mobility: E-scooter' which selected from 51 respondents followed by the '3R Program' from 45 respondents, 'Green Areas for Study' from 43 respondents, 'Planting Trees in Campus' from 39 respondents, 'Digital Notes: E-access' from 26 respondents, and 'Green Roof' from 25 respondents. The frequency of the student's engagement in green initiatives showing a result of high participation of respondents. This is important because participation from it can improve their lifestyle to be healthier while living in clean environment while achieve campus green theme. Furthermore, the respondents thought that practice the initiatives can gain a deep knowledge and adding more information where it is a new thing to the respondents. As a future leader, this step is very important which is to have enough encouragement to lead while spread the awareness about these initiatives. Further analysis for 8 respondents who answered 'Yes' about influence of the surrounding environment were come out with general theme. Most of the responses said that attending or participating this kind of activities sometimes seem a lot of fun and interesting, especially involving the participation of many people from different faculties where the respondent can exchange opinions and gain new knowledge from new friends. This supported with little-by-little changes have taken place to encouraged green practices among respondents while to provide comfort for a conducive learning environment.

Other than that, influence from previous successful program has encouraged the participation of the respondents. The encouragement from surrounding community like friends, lecturers, and staff has been agreed from 71 respondents while disagreed from 20 respondents. This includes the green activities like tree planting, 3R program and public transport usage like buses. The result shows that 77 respondents responded to 'Yes' and 14 respondents responded to 'No'. A total of 9 respondents stated their reason on the willingness to participate in the green activities for the benefits of themselves. It explained that the respondent thought that they should start the initiatives first for other people to follow while being a good example and responsible

towards the environment. Some of the explained that they must participate to save the money, for example by applying the 3R lifestyle. Another reason is they want to live in healthy lifestyle, both physically and mentally. The respondents gave their reason why they participate in the green campus activities for the benefits to community and environment. The result explained that this participation can help to create wide scale for environment awareness for future generation's well-being. Furthermore, some the students practice the sustainable activities as their daily basis. The Table 3 result shows that 75 respondents responded to 'Yes' and 16 respondents responded to 'No'. The question were further explained by 9 respondents about their daily activities including the practise of 3R habit like recycle any plastic materials after their shopping at the store, practicing energy saving like always turn off electric appliances after being used, for example switch off the desk lamp after finish doing the assignment or using for a long time but not frequently like ironing the outfit for the whole week at one time and another term that has been frequently mentioned which is CFC prevention. Most of the students nowadays, in UiTM Seri Iskandar campus has practice electric scooter as their new mode of transport replacing the vehicles that burning gasoline. The electric scooter can be used to move around inside the campus without release any pollution that can harmed other person. It shows that 82 respondents were agreed and 9 respondents were disagreed with the question regarding the utilisation of electric scooter. The question asked whether the universities' administration should improve the planning for students' participation in the campus. The result explained about the respondents' suggestion towards the improvement. It suggests that the university's administration should actively promote the activities through all their network. Being green is not only about how big or spacious that campus is, it is about creating the awareness among students and spirit to reduce impact on the climate through a continuous effort, strategy and how the administration can steer the mindsets towards student green living lifestyles. The initiatives can be a big success if the university's administration doing a joint or collaborate with any non-government agencies that were expert in this field. This includes collaboration in fashion field with other fashion expert to produce new fabric from the recycled fabric. The exchange of opinions and research by the students about green initiatives with any organization should be supported. Another suggest is to giving the reward as a sign of appreciation towards the participation of green activities.

Table 3. List of further answer for Green Campus Initiatives.

| Green Campus Initiatives | Yes (%) | Total Respondent | No (%) | Total Respondent | Theme |
|---|---------|------------------|--------|------------------|-------|
| Student should be actively participating in green activities/initiatives planned by the | 88.9 | 81 | 11.1 | 10 | |

| | | | | | |
|--|------|----|------|----|---|
| universities' administration | | | | | |
| Student did participate in any green campus activities/initiatives done in Seri Iskandar campus | 63.7 | 58 | 36.3 | 33 | <ul style="list-style-type: none"> • 3R Program, 45 respondents (49%) • Micro mobility: E-scooter, 51 respondents (56%) • Planting Trees in Campus, 39 respondents (43%) • Digital Notes: E-access, 26 respondents (29%) • Green Roof, 25 respondents (27%) • Green Areas for Study, 43 respondents (47%) |
| Students are frequently engaging with the green campus activities/initiatives | 97.8 | 89 | 2.2 | 2 | |
| Student are aware that the green campus activities/initiatives done in Seri Iskandar campus reflects the campus theme | 84.4 | 76 | 15.6 | 15 | |
| Student find it effective to attend this kind of activities/initiatives | 82.4 | 75 | 17.6 | 16 | |
| Student think that surrounding environment influence you to participate in green campus activities/initiatives | 76.9 | 70 | 23.1 | 21 | |
| Student think that surrounding community (friends, lecturers, UiTM staff or your own observations) encourage you to participate in green campus activities/initiatives | 78 | 71 | 22 | 20 | |
| Student are willingly participating the activities/initiatives for the benefits of yourself | 84.6 | 77 | 15.4 | 14 | |
| Student did participate in the green campus | 72.5 | 65 | 27.5 | 26 | |

| | | | | |
|---|------|----|------|----|
| activities/initiatives for the benefits to community and environment | | | | |
| Student often practice the sustainable activities/initiatives as your daily basis | 83.5 | 75 | 16.5 | 16 |
| Student think that the universities' administration should improve the planning for student's participation in the campus | 90.1 | 82 | 9.9 | 9 |

5.0 CONCLUSION

The results of this assessment include important implications for university's administration and decision-makers who seek to improve student's perceptions towards these green initiatives. Questionnaire (online survey) is used as instruments to collect the data used in this survey. Additional items which are short answer are used for qualitative data that support the related quantitative data. The findings resulted a high participation from student towards UiTM Seri Iskandar green initiatives where it achieves the study aims.

The initiatives about green campus and its utilization in the academic section have been insert into their syllabus where some part of the profession needs environmental care including works requires carbon emission where it become worrisome due to the pollution that has occur. UiTM Perak Branch is the first campus to initiate this initiative, which is the deployment of electric scooters by a non-government agency.



Figure 2: Micro Mobility program using the electric scooter (source: <https://news.uitm.edu.my/lawatan-penanda-aras-micro-mobility-e-scooter-ke-uitm-seri-iskandar/>)

The university functionally as a central for knowledge gain where a great discussion and innovation can be happening result from the action taken. these results showing that the actions of university can lead to students who have sufficient tools to develop green activities and initiatives. Some more, give an example of student bringing their own scooter and use them daily in campus. This demonstrate that students were being motivated to participate directly on electric scooter initiative. However, only a good understanding and strong proactivity can give a confidence for the action to be taken. The encouragement needs to be from the top-down approach including the efforts from lecturers to assist in spreading awareness, since the establishment of initiatives alone by administration does not guarantee enhanced green practices awareness of the students. It needs a helping hand from the close individual like lecturers

A green campus can be defined as one that promotes and implements sustainability practices in teaching, research, waste and energy management, land use through an ongoing commitment to monitoring and sustainability. Such an approach could improve the accountability of individuals and promote the expansion of sustainability practices within the society. To be mentioned here, UiTM Perak is among the leading campus for UiTM in general regarding the implementation of green initiatives. As a result, UiTM Perak is the champion for Anugerah Kampus Lestari Hijau UiTM 2021 that was organized by UiTM Green Centre (UGC). This achievement showing a high participation of the community inside the campus regarding the sustainable activities.

Students' lifestyle or daily habit of green initiatives shows a major engagement in it. The main initiative is practicing 3R where it is a wide-culture practices among students. This is one of the most successful approaches towards the concept. The usage of 'Reduce', 'Reuse', and 'Recycle' terms were ease to be practiced as it was being used as daily routine like reduce the plastic usage by using own container for food packaging for takeaway. Furthermore, this practice was upgrade in the form of competition purposely to encourage more innovation ideas made from recycle, reuse and reduce materials including the design approach for example like 3R Upcycling Competition and Exhibition organized by Green Campus committee. These approach also can reduce the cost for waste management and minimize the waste disposal work. Electronic devices for academic purposes like using tabs for taking notes electronically can decrease the forest destruction caused by cutting down trees to obtain a bunch of paper. This can help to save the earth and reduce global warming and the trees absorb the carbon emission.

The results showing that the engagement of the students is at satisfaction level. This was showed through high percentage of participation in green initiatives. The encouragement in terms of facilities has influence the campus community to practice this green lifestyle as the physical planning of the campus are well-planned. This includes well-operated of the strategy for green campus development where it needs a complete understanding of key of the applications to have an excellent and continuous practices.

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7.0 REFERENCES

- Abd-Razak, M. Z., Mustafa, N. K. F., Che-Ani, A. I., Abdullah, N. A. G., & Mohd-Nor, M. F. I. (2011). Campus sustainability: Student's perception on campus physical development planning in Malaysia. *Procedia Engineering*, 20, 230–237. <https://doi.org/10.1016/j.proeng.2011.11.160>
- Anthony Jnr, B. (2021). Green campus paradigms for sustainability attainment in higher education institutions – a comparative study. In *Journal of Science and Technology Policy Management* (Vol. 12, Issue 1, pp. 117–148). Emerald Group Holdings Ltd. <https://doi.org/10.1108/JSTPM-02-2019-0008>
- Busaeri, N., Giriantari, I. A. D., Ariastina, W. G., & Swamardika, I. B. A. (2021). Energy management strategy in campus towards a green campus through promoting carbon footprint and energy efficiency index improving. *International Journal of Energy Economics and Policy*, 11(4), 374–382. <https://doi.org/10.32479/ijeep.11310>
- Correia, E., Conde, F., Nunes, R., & Viseu, C. (2020). Students' perceptions of HEI regarding environmental sustainability – a comparative analysis. *International Journal of Sustainability in Higher Education*, 21(4), 629–648. <https://doi.org/10.1108/IJSHE-10-2019-0320>
- Emanuel, R., & Adams, J. N. (2011). College students' perceptions of campus sustainability. *International Journal of Sustainability in Higher Education*, 12(1), 79–92. <https://doi.org/10.1108/14676371111098320>

Fissi, S., Romolini, A., Gori, E., & Contri, M. (2021). The path toward a sustainable green university: The case of the University of Florence. *Journal of Cleaner Production*, 279. <https://doi.org/10.1016/j.jclepro.2020.123655>

Hrasky, S. (2012). Carbon footprints and legitimization strategies: Symbolism or action? *Accounting, Auditing and Accountability Journal*, 25(1), 174–198. <https://doi.org/10.1108/09513571211191798>

Mazon, G., Pereira Ribeiro, J. M., Montenegro de Lima, C. R., Castro, B. C., & Andrade Guerra, J. B. S. O. de A. (2020). The promotion of sustainable development in higher education institutions: top-down bottom-up or neither? *International Journal of Sustainability in Higher Education*, 21(7), 1429–1450. <https://doi.org/10.1108/IJSHE-02-2020-0061>

Mohd Isa, H., Singh Sedhu, D., Suzila Lop, N., Rashid, K., Mohd Nor, O., & Iffahd, M. (2021). STRATEGIES, CHALLENGES AND SOLUTIONS TOWARDS THE IMPLEMENTATION OF GREEN CAMPUS IN UiTM PERAK. In *Journal of the Malaysian Institute of Planners* (Vol. 19).

Mustaffa, N. K., Kudus, S. A., & Aziz, M. F. H. A. (2022). Key drivers, challenges and strategies towards successful low-carbon campus: the case of UiTM Shah Alam campus. *Journal of Facilities Management*. <https://doi.org/10.1108/JFM-10-2021-0121>

Pereira Ribeiro, J. M., Hoeckesfeld, L., Dal Magro, C. B., Favretto, J., Barichello, R., Lenzi, F. C., Secchi, L., Montenegro de Lima, C. R., & Salgueirinho Osório de Andrade Guerra, J. B. (2021). Green Campus Initiatives as sustainable development dissemination at higher education institutions: Students' perceptions. *Journal of Cleaner Production*, 312. <https://doi.org/10.1016/j.jclepro.2021.127671>

Safarkhani, M., & Örnek, M. A. (2022). The meaning of green campus in UI GreenMetric World University Rankings perspective. *A/Z ITU Journal of the Faculty of Architecture*, 19(2), 315–334. <https://doi.org/10.5505/itujfa.2022.22566>

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Tuan,

**PERMOHONAN KELULUSAN MEMUAT NAIK PENERBITAN UiTM CAWANGAN PERAK
MELALUI REPOSITORI INSTITUSI UiTM (IR)**

Perkara di atas adalah dirujuk.

2. Adalah dimaklumkan bahawa pihak kami ingin memohon kelulusan tuan untuk mengimbas (*digitize*) dan memuat naik semua jenis penerbitan di bawah UiTM Cawangan Perak melalui Repositori Institusi UiTM, PTAR.

3. Tujuan permohonan ini adalah bagi membolehkan akses yang lebih meluas oleh pengguna perpustakaan terhadap semua maklumat yang terkandung di dalam penerbitan melalui laman Web PTAR UiTM Cawangan Perak.

Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

nar

Setuju.

27.1.2023

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