



# **An Inquiry Report on Business School Actions to Combat Climate Change**

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# Foreword

In collaboration with the Teaching and Learning Network, we identified the focal points of each of the ABDC member business schools that are current signatories of the Principles for Responsible Management Education (PRME) Australia and New Zealand Chapter. We have undertaken a bifurcation approach to understanding the pros and cons of developing a climate-inclusive curriculum for both students and academic staff in ABDC business schools. In particular, we have conducted two surveys: 1) Students' Values Survey identifying student attitudes to climate change inclusive curriculum in business education; and 2) Staff Perceptions Survey consisting of a series of structured Key Informant Interviews (KIIs), with selected focal points amongst ABDC business schools. This report provides a situation analysis of how ABDC member business schools are incorporating Sustainable Development Goal 13 (SDG 13) *Take urgent action to combat climate change and its impacts* into the curriculum and propose *best practices* for ABDC member business schools. Hence, this project facilitates further development of a climate-inclusive curriculum that will produce a committed new generation of sustainable business professionals endeavouring to successful transitions to a low carbon economy.

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# Executive Summary

To demonstrate commitment to the *2030 Agenda for Sustainable Development*, the Australian Business Deans Council (ABDC) has supported this investigation to understand how ABDC member business schools are incorporating SDG 13, *Take urgent action to combat climate change and its impact*, in their curriculum, and to generate best-practice recommendations for business schools to further climate action and educate students on the role of business in mitigating and adapting to climate change.

Students and academic staff were surveyed to uncover their perceptions of climate change and its integration into business school teaching, and curriculum documentation was analysed to explore the genuine inclusion of climate change and related environmental issues in the core learning outcomes of business courses.

Our approach revealed that references to climate change were lacking in critical components of course documentation such as unit or course learning outcomes and appeared only in broader areas of course documents, and in other themes related to climate change such as sustainability. Students report that they lack the confidence and knowledge to act as climate champions, and they desire greater incorporation of climate change issues throughout their degree. Staff also perceive the need for a sustained, university-led approach, and both staff and students presented their preferred approaches for effective solutions.

From these suggested approaches, we recommend that ABDC members should embed climate change into curricula through a “train the teacher” approach and develop compulsory learning modules for staff and students. These approaches should involve experiential learning as a strategy to establish confidence and experience amongst students. Schools should connect with industry champions for student fieldwork opportunities, events, sessions, and talks that explore how businesses can mitigate and adapt to climate change. Finally, ABDC schools need to lead by example in reducing their carbon footprint by introducing sustainability practices that demonstrate a genuine commitment to combatting climate change and its impacts.

# Abbreviations

ABDC	Australian Business Deans Council
B. Com	Bachelor of Commerce
CLO	Course Learning Outcome
CRAE	Centre for Research in Applied Economics
KII	Key Informant Interview
MLO	Major Learning Outcome
PRME	Principles for Responsible Management Education Australia and New Zealand Chapter
SAEF	School of Accounting, Economics and Finance, Curtin University
SDG	Sustainable Development Goal
ULO	Unit Learning Outcome

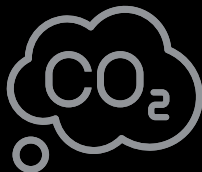


# Key Findings

Less than

**1 in 3**  
students

think climate change has been incorporated in their degrees



**99%**

of students

have heard of climate change



The average score of their self-rated level of understanding of climate change is

**6.5 out of 10**

which is below the competent level of 7 out of 10



Fewer than

**1 in 7**  
students

have ever attended a consultation, meeting, or school/university session on climate change

**Nearly 2 in 3 students**

expressed either a strong or moderate desire to learn more about climate change in their studies at university



**Nearly 3 in 5 students**

feel that at least 3 units in a business curriculum must address the climate change issue



The majority of students and academic staff believe climate change issues should be “distributed in units throughout the course” rather than as a standalone unit

## Number of ABDC universities with keyword references (39 members in total)





# SECTION 1. Introduction

To transform the world, a shared plan of action for people, planet and prosperity known as the *2030 Agenda for Sustainable Development* was adopted by all United Nations Member States in 2015. In this agenda, as an urgent call for action by all countries in a global partnership, 17 Sustainable Development Goals (SDGs) have been formulated. **This inquiry report is presented as part of the investigation supported by the Australian Business Deans Council (ABDC) to gain a deeper understanding of Australian business school activities in meeting *SDG 13: Take urgent action to combat climate change and its impacts*.**

This research is critical in many aspects. Climate change is arguably a pivotal challenge in the twenty-first century and one that can be addressed through better informing the next generations in our communities. **Our future workforce plays a critical role in shaping trailblazing sustainable business practices.** This research facilitates an inquiry into the integration of SDG 13 in the curricula of ABDC Member Business Schools. Further, the research delves into the best practices for aligning business school curriculum to SDG 13 to educate students on the role of business in the mitigation and adaptation to climate change.

In particular, this research focuses on the following three objectives:

- To investigate how ABDC member business schools are incorporating Sustainable Development Goal 13 *Take urgent action to combat climate change and its impacts* in the curriculum.
- To identify the best practices for aligning business school curriculum to SDG 13 to further climate action and educate students on the role of business in mitigation and adaptation.
- To assess the importance of SDG 13 relative to other SDGs as evidenced by strategies to incorporate the goal in the business school curriculum.

We have executed a bifurcation method to understand the pros and cons of developing a climate-inclusive curriculum for both staff and students in ABDC business schools. We have obtained the data by conducting surveys with two important groups to apprehend: i) perceptions of staff; and ii) perceptions of students about climate change, environment, and sustainability. Further, to investigate the genuine pervasiveness of integration of climate change elements into the curriculum in a recognised context, we have examined the unit guides/outlines/syllabi by searching the websites of the respective universities for the keywords: 'environment', 'sustainability' and 'climate change'. This comprehensive approach allows us to uncover critical insights which are aligned with our three research objectives.

## Key findings

- Less than **1 in 3 students** think climate change has been incorporated in their degrees.
- Fewer than **1 in 7 students** have ever attended a consultation, meeting, or school/university session on climate change.
- Student self-rated climate change understanding is only **6.5 out of 10**.
- Nearly **2 in 3 students** expressed either a strong or moderate desire to learn more about climate change in their studies at university.
- **The majority of students and staff believe** climate change issues should be “distributed in units throughout the course” rather than as a standalone unit.
- Staff want changes in **university facilities to be more climate conscious**.
- Only **9 universities** have included “climate change” in a unit title and only 6 universities included “climate change” in a ULO.
- **We did not find any university used the word “climate change” in their CLOs or the MLOs.**
- **25 and 27 universities** have included “environment” and “sustainability” in a unit title (respectively), with comparable numbers in ULOs.
- **Most universities** included “climate change”, “environment” or “sustainability” in wider course documentation.



The key findings from students' perceptions analysis show that there are compelling grounds to establish a course that persistently develops students' learning knowledge of climate change causes, effects, and solutions. Only 30% of students think climate change has been incorporated into their degree. Results also show that only 13% of students have ever attended a consultation, meeting, or school/university session on climate change. There is thus a substantial gap that can be reduced through providing consultations, meetings, or sessions on climate change at school/university to play the role of mitigating climate change challenges. Students have mainly sourced information about climate change from the "internet", as it is ranked 1 (the highest) compared to "university" which is ranked 4. Whilst 99% of the students surveyed have heard of climate change, the average score of their self-rated level of understanding is only 6.5 (approximately) out of 10. Evidence from the Students' Values Survey shows that 61% of students are either "strongly" or "somewhat" agreed to learn more about climate change in their studies at university. Meanwhile, almost 60% of students feel that at least 3 units in a business curriculum must address the issue to enhance their knowledge and awareness.

On the other hand, the staff perceptions analysis shows that in educating students on the role of businesses to mitigate climate change, academic staff believe the most effective approach is to make changes in university facilities to be more climate-conscious. Further, to incorporate SDG 13 in the curriculum, the most effective approach is to encourage innovation in climate change business solutions. Through the adoption of climate-conscious practices and actively engaging with climate solutions, member schools can lead by example to demonstrate the importance of climate action to their operations and generate more significant buy-in from staff and students who may otherwise perceive some pretence. Engaging with true climate leaders, including those from industry to act as guest speakers was also identified as an effective strategy by staff that could develop stronger networks within the community to achieve SDG 13.

Auxiliary analysis of members' curriculum documentation reveals that **only 6 universities incorporated "climate change" as a keyword in the Unit Learning Outcomes (ULOs) in 34 units.** This is very surprising given that SDG 13 suggests taking *urgent* action to combat climate change and its impacts. When we have expanded our scope to observe the number of units that mention the term "climate change" in its respective unit guide/outline/syllabus, we have found 29 universities incorporated the keyword in 167 units. This result indicates that the keyword "climate change" appears in the unit guide/outline/syllabus, **but by the significant majority it has not been considered sufficiently meaningful to be included in the ULOs.** This poses a substantial gap in assessed importance that should be addressed by all universities to improve their stewardship of accountability to equip future leaders with the appropriate skills and knowledge.

In alignment with the three research objectives it is recommended that ABDC members embed climate change into curricula, that they lead by example in reducing their carbon footprint, that they engage with industry champions to advance climate networks, and that they develop experiential learning activities for students.

The remainder of this report proceeds as follows. Section 2 outlines the research objectives and goals. Section 3 introduces the methodology of sample construction and research design. Section 4 presents the perceptions analysis while section 5 discusses the content analysis. Section 6 proposes recommendations for the best practices followed by a conclusion in Section 7.

## SECTION 2. Research Objectives and Goals

This research focuses on three objectives. First, this inquiry report identifies how ABDC member business schools are incorporating Sustainable Development Goal (SDG) 13 *Take urgent action to combat climate change and its impacts* in the curriculum. Second, this research presents the best practices for aligning the business school curriculum to SDG 13 to further climate action and educate students on the role of business in mitigation. Third, this research focuses on the importance of SDG 13 relative to other SDGs as evidenced by strategies to incorporate the goal in the business school curriculum. Further, this project facilitates further development of a climate-inclusive curriculum that will produce a committed new generation of sustainable business professionals striving towards successful transitions to a low carbon economy.

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## SECTION 3. Methodology

### 3.1 Perceptions Surveys: Students and Staff

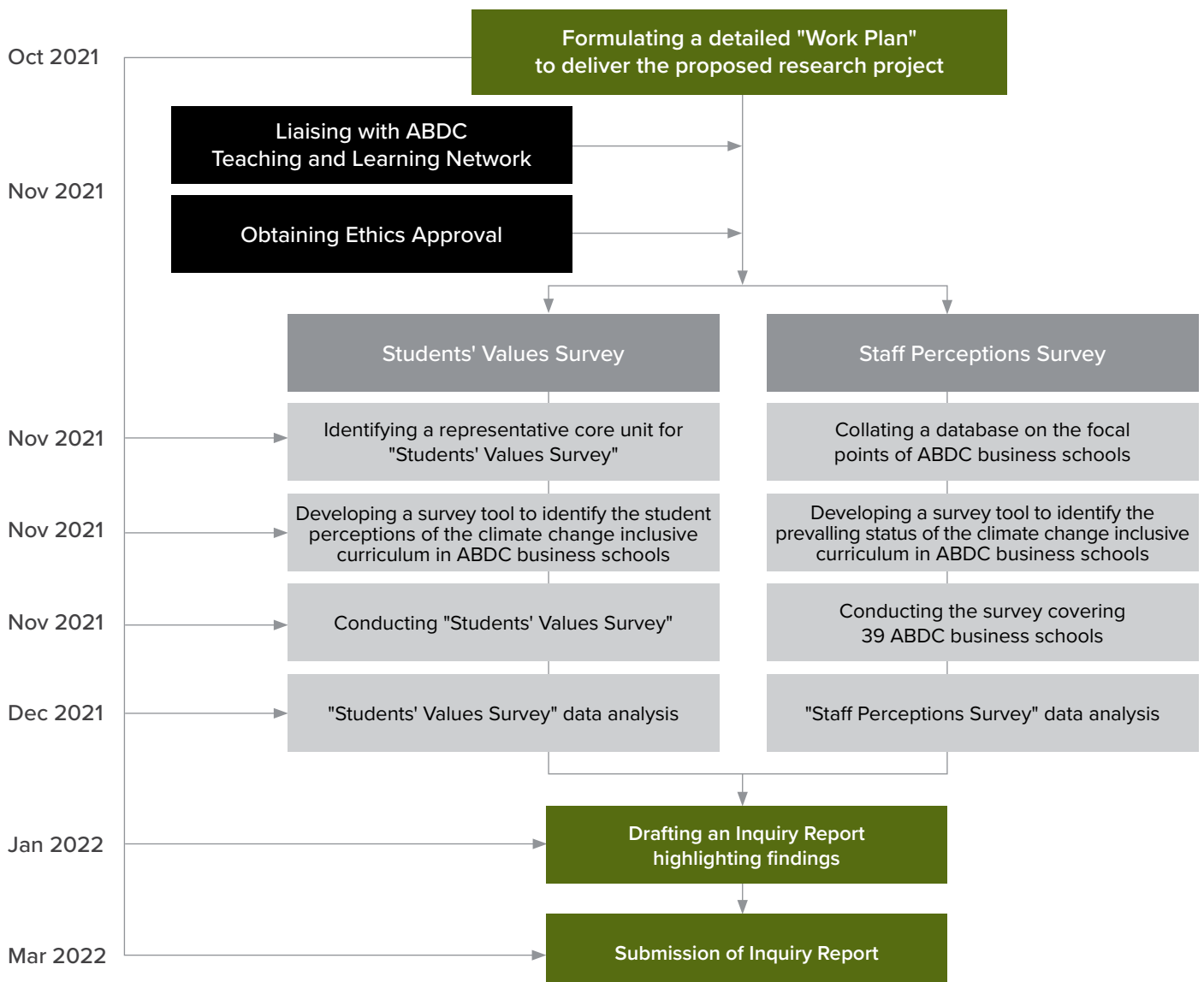
We have undertaken a bifurcation approach to understanding the pros and cons of developing a climate-inclusive curriculum for both staff and students in ABDC business schools. We have obtained the data on perceptions about climate inclusive curriculum in business school by conducting two surveys: i) Staff Perceptions Survey and ii) Students' Values Survey.

In collaboration with the Teaching and Learning Network to identify the focal points of each ABDC member business school that are current signatories of the Principles for Responsible Management Education (PRME) Australia and New Zealand Chapter, this research has conducted a "Staff Perceptions Survey". This survey consists of a series of structured *Key Informant Interviews (KIIs)*, with the focal points of the selected 27 ABDC business schools. With a low

response, we have obtained 11 Staff Perceptions Surveys from the focal points of the selected 27 ABDC business schools.

To identify student attitudes to climate change inclusive curriculum in business education, a Students' Values Survey was conducted for B. Com students in a face-to-face classroom environment during Semester 2, 2021 at the Faculty of Business and Law, Bentley campus, Curtin University. This Students' Values Survey resulted in 296 valid responses out of 300 participants. '192' of the respondents identified as Male, 100 as 'Female', 2 as 'Other', and 2 respondents chose not to disclose demographic information. Just over 75% of participants identified with 'European' and/or 'Australian' ethnicity. Just over 80% of respondents were between 17 and 22 years old. Most of the respondents were in their first year of study at the undergraduate level. Figure 1 presents the overall Project Implementation framework including the two perceptions surveys:

FIGURE 1:



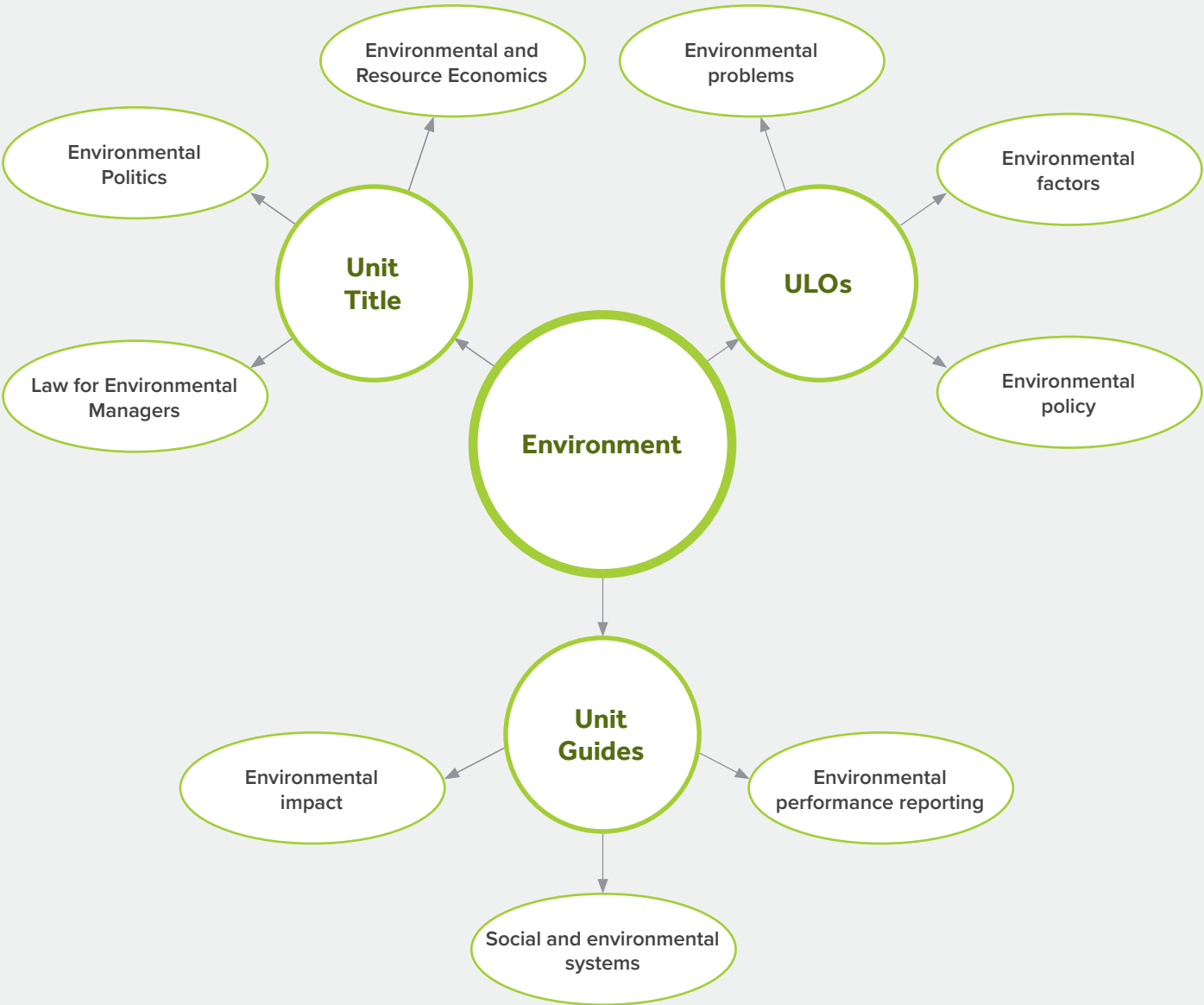
3.2 Administrative Data:  
Content Analysis

To uncover the authentic inclusion of SDG 13 aspects in university curriculum, we have examined the unit guides/outlines/syllabi by searching the websites of the ABDC accredited 39 network member universities for the three keywords: ‘environment’, ‘sustainability’ and ‘climate change’ in business school units. Data were hand-collected after manually searching the keywords on the website of the respective university. If one of the three keywords was found in any unit, this unit is also counted as including the relevant “keyword” in its respective unit guide/outline/syllabus. Critical aspects of SDG 13 are captured by following a “structured data template” (see Appendix 1) to collect data by searching the

websites of the 39 ABDC network member universities. Broadly, the structured data template includes a range of information related to *Course Learning Outcomes (CLOs)*, *Major Learning Outcomes (MLOs)*, *Unit Learning Outcomes (ULOs)*, *emphasising different aspects of SDG 13 in Unit titles and coverage of unit to incorporate those aspects of SDG 13*. There are some limitations to the absolute nature of the data, for example certain members do not make unit learning outcomes or unit outlines publicly available online. As such the figures should be taken as representative of structural themes.

For example, see Figure 2 as a non-exhaustive example of variations on the word “environment” which were included in the content analysis:

FIGURE 2:



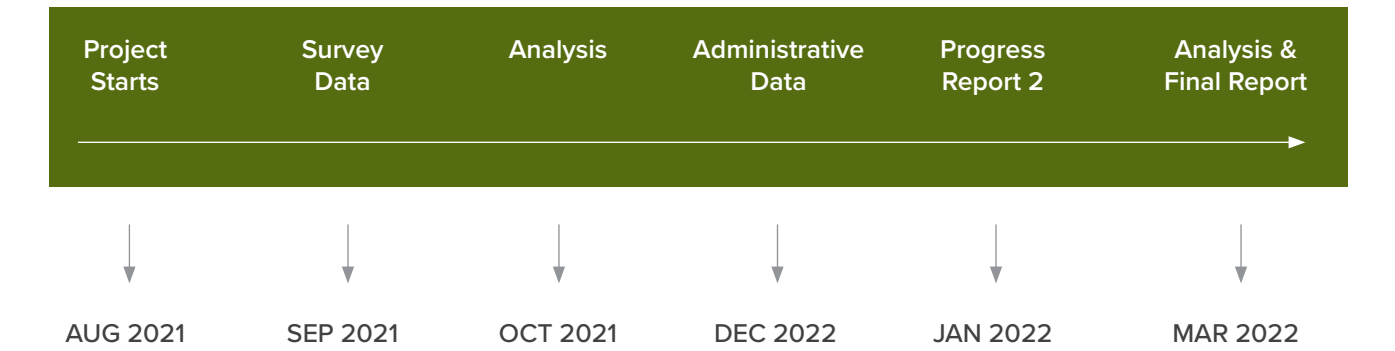


During the keywords search, it has been observed that there are several instances in the unit title and contents of the CLOs/ ULOs/Unit outlines for which variants of keywords are relevant to the research context, such as “environmental” as a variant of “environment”, and “sustainable” as a variant of “sustainability”. To ensure completeness of the data, the variants are also collected where the words are relevant to the research context (with links to climate change). The keyword is not considered for data collection in the case where the meaning of the keyword is irrelevant to

the research context. For instance, the keyword “environment” is found on several occasions such as business environment, legal environment, marketing environment, economic environment, oligopoly environment, information environment, political environment, competitive environment, digital environment, regulatory environment, working environment, etc. Such examples have been disregarded due to their lack of relevance.

### Project Timeline

The following timeline outlines the key phases of overall project implementation:



## SECTION 4. Results: Perceptions Analysis

It is important to obtain insights from both students and staff on the extent to which they think climate change is incorporated into the business curriculum. Much more can be achieved when students and academic staff are working together toward shared educational goals. Current ABDC business schools see ‘students as partners’; a student’s unique voice on matters of learning, teaching, and assessment are valued collaboratively with staff. Engagement through partnership is a key process and naturally has co-benefits of more effective student learning. In this section, we will first explore student perceptions. Secondly, we will explore the staff perceptions in the context of the findings from students to establish shared points of reference and common language to shape and review SDG 13 synthesis into the business curriculum.

### 4.1 Student Perceptions Analysis

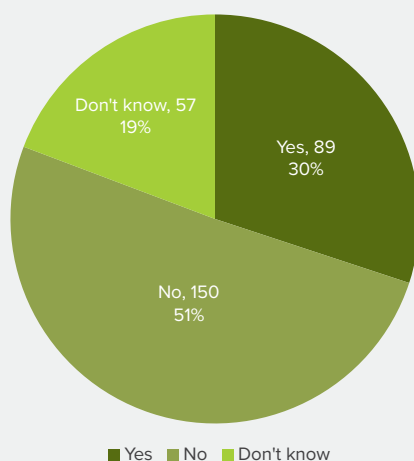
#### Key findings: Student Perceptions

- Less than **1 in 3 students** think climate change has been incorporated in their degrees.
- Fewer than **1 in 7 students** have ever attended a consultation, meeting, or school/university session on climate change.
- Student self-rated climate change understanding is only **6.5 out of 10**.
- Nearly **2 in 3 students** expressed either a strong or moderate desire to learn more about climate change in their studies at university.
- The majority of students believe climate change issues should be “distributed in units throughout the course” rather than as a standalone unit.

#### A. Climate change in the degree/course experience at university

The Students’ Values Survey indicates that **only 30% of students think climate change has been incorporated in their degree** (see Figure 3). These findings constitute compelling grounds to develop courses that have a persistent, recognisable impact on students’ learning experience of climate change themes.

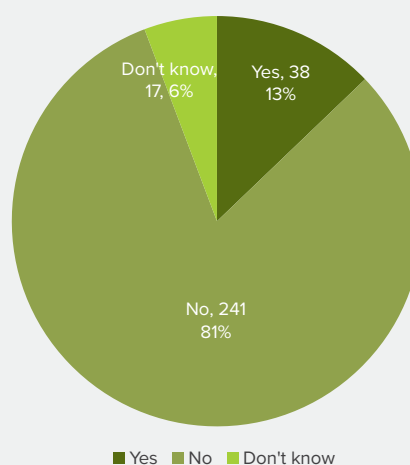
**FIGURE 3:**  
CLIMATE CHANGE INCORPORATED IN DEGREE



Consistent with the perception that climate change has not been incorporated in their degree, **only 13% of students have ever attended a consultation, meeting, or school/university session on climate change** (see Figure 4).

This result suggests that there is a substantial gap that can be reduced through providing consultation, meetings or sessions on climate change at school/university to play the role of mitigating climate change challenges.

**FIGURE 4:**  
EVER ATTENDED ANY SESSION ON CLIMATE CHANGE



## B. Sources of information about climate change

99% of students have heard of climate change before this survey.

Intuitively, students may familiarise themselves with climate change through various media. The Students' Values Survey results reveal that the primary source of information for students is the "Internet" (see Table 1). "University" as a source of information about climate change is ranked 4th by students, below the "Internet", "TV", and "Friends/family". This

represents a significant opportunity for ABDC members to take an increasingly active role in disseminating information about climate change, not least owing to the variable level of reliability that can be associated with diverse sources of information. It is also relevant to note the preferences of students for engaging with information, and business schools can engage with students through various media including digital footprints, given that students have identified the internet as their most preferred source of information.

TABLE 1:  
RANKING OF THE SOURCES OF INFORMATION ABOUT CLIMATE CHANGE

Rank (Highest to lowest)	Source of information	Mean	No of students who responded "YES"	No of students who responded "NO"	Total
Rank 1	Internet	0.90	267	29	296
Rank 2	TV	0.72	214	82	296
Rank 3	Friends/family	0.49	146	150	296
Rank 4	<b>University</b>	<b>0.43</b>	<b>126</b>	<b>170</b>	<b>296</b>
Rank 5	Publication/ academic journal	0.34	102	194	296
Rank 6	Newspaper	0.29	87	209	296
Rank 7	Radio	0.27	81	215	296





Of course, the sources of information are interconnected. The internet is used in complementary ways to all media from which students have obtained information about climate change. For example, only 3% of students who reportedly sourced information from “University” did not also select the “Internet” as a source. Similar correlations between the “Internet” and “TV”, “Friends/family”, “Publication/academic journal”, and “Newspaper” are noted.

Perhaps a more important question posed in the survey is the extent to which students trust the source of information. Table 2 reports the average trust score out of 5 that students assign to sources of climate change information. Students indicated that they tended to trust information about climate change when they heard it from “a scientist,” “a university academic”, or “an

environmental organisation” more than if they heard it from “the government”, “a family member/friend”, or “the media”. The trust for university academics is reassuring for an increasingly sceptical audience, as evident in their relative distrust of the media. Trust levels are relatively strong in the higher education sector and can be fortified with an effective ‘student as partners’ approach. The fact that students trust academics more than other sources, but do not identify them as a top source of information presents a robust case for academics to engage with a student audience who value and depend on universities to provide accurate and comprehensive information. It can be inferred that students do not feel that they are receiving suitable information (which is also reflected in their self-reported understanding scores as per section C).

**TABLE 2:**  
TRUST IN THE SOURCE OF INFORMATION ABOUT CLIMATE CHANGE

Rank (Most trusted to least)	Source of information	Mean (out of 5) (Higher scores indicate greater trust)
Rank 1	A scientist	4.6
= Rank 2	<i>A university academic</i>	<i>4.2</i>
= Rank 2	An environmental organisation	4.2
Rank 4	The government	3.5
Rank 5	A family member or a friend	3.0
Rank 6	The media	2.6



### C. Level of understanding about climate change

99% of students expressed that they have heard of climate change, but they have acknowledged the average score of their *level of understanding about climate change is below the assessed competency level 7, at roughly 6.5 out of 10*. This result provides another insight that universities can address to bolster students' level of confidence in their climate change expertise.

An important consideration for curriculum development on climate change is to explore students' pre-existing knowledge of climate change. In the Students' Values Survey, we asked students to

write down as per their understanding the 3 *main causes* and 3 *possible future effects* of climate change.

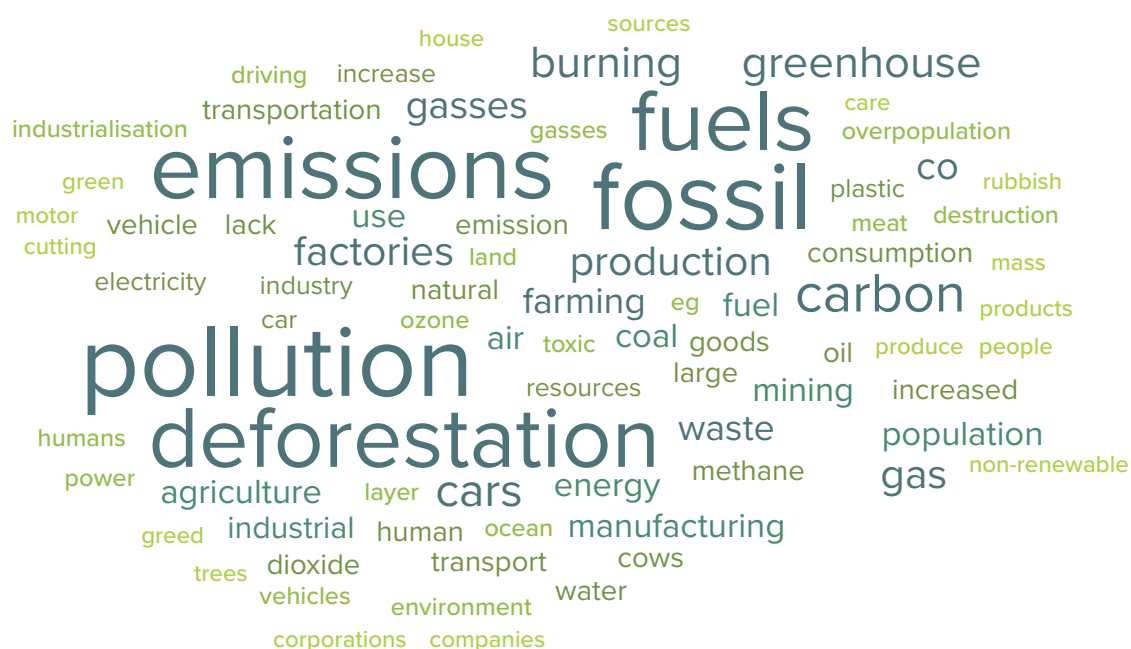
#### Main Causes of Climate Change

As seen in the word cloud in Figure 5, out of a total of 840 individual responses (up to 3 per student) the words students most frequently used when identifying causes of climate change include 'pollution' (100 mentions), followed by 'fossil' (96), 'emissions' (89), 'fuels' (84), and 'deforestation' (82).

We then arranged the individual responses into ten overarching themes, with examples for clarity, as seen in Table 3.

FIGURE 5:

STUDENT BELIEFS OF MAIN CAUSES OF CLIMATE CHANGE





**TABLE 3:**  
KEY THEMES IN STUDENT-IDENTIFIED CAUSES OF CLIMATE CHANGE

Key Theme	Example Responses of Causes of Climate Change
<b>Emissions</b>	CO <sub>2</sub> pollution, greenhouse gases, carbon emissions, air pollution, burning of fossil fuels, pollution, fossil fuels, methane gas, oil, burning wood, greenhouse effect, using non-renewables, carbon footprint
<b>Vehicle Emissions</b>	Cars, car pollution, transport, air travel
<b>Industrial Activity</b>	Industrialisation, manufacturing and machinery pollution, technology, the industrial revolution, technology, business activity/development, factories, factory worker, inefficient production, cement, cement production, buildings, big corporations, top 100 corporations
<b>Agriculture</b>	Cows, farming, meat industry, the meat industry (methane gas), cows emitting methane, CO <sub>2</sub> from the breeding industry, diet (meat-based)
<b>Deforestation</b>	Destruction of natural land, destroying ecosystems, altering land
<b>Humanity</b>	Greed, humans, people, overpopulation, lack of restrictions on businesses, waste (of resources), overconsumption, capitalism, overproduction, lack of personal responsibility, poor government regulation (especially in the developing world), poor care for the environment, over development, lack of understanding, lack of economic policy (internalise production costs of emitting firms), lack of environmental planning, lack of education, corruption, lack of accountability, coordination failure, extreme economic growth post the 1900s, laziness, materialism, misuse of resources (water, food, energy), globalisation
<b>Mining</b>	Coal mining, taking resources out of the earth
<b>Other (important)</b>	Energy use, air conditioning, over fishing
<b>Natural processes</b>	Obliquity (Earth axial tilt), changes in Earth's composition, earth orbit change
<b>Other (less important)</b>	Cigarette smoking, plastic waste, effects of climate change noted as causes (e.g., global warming, ocean acidification)

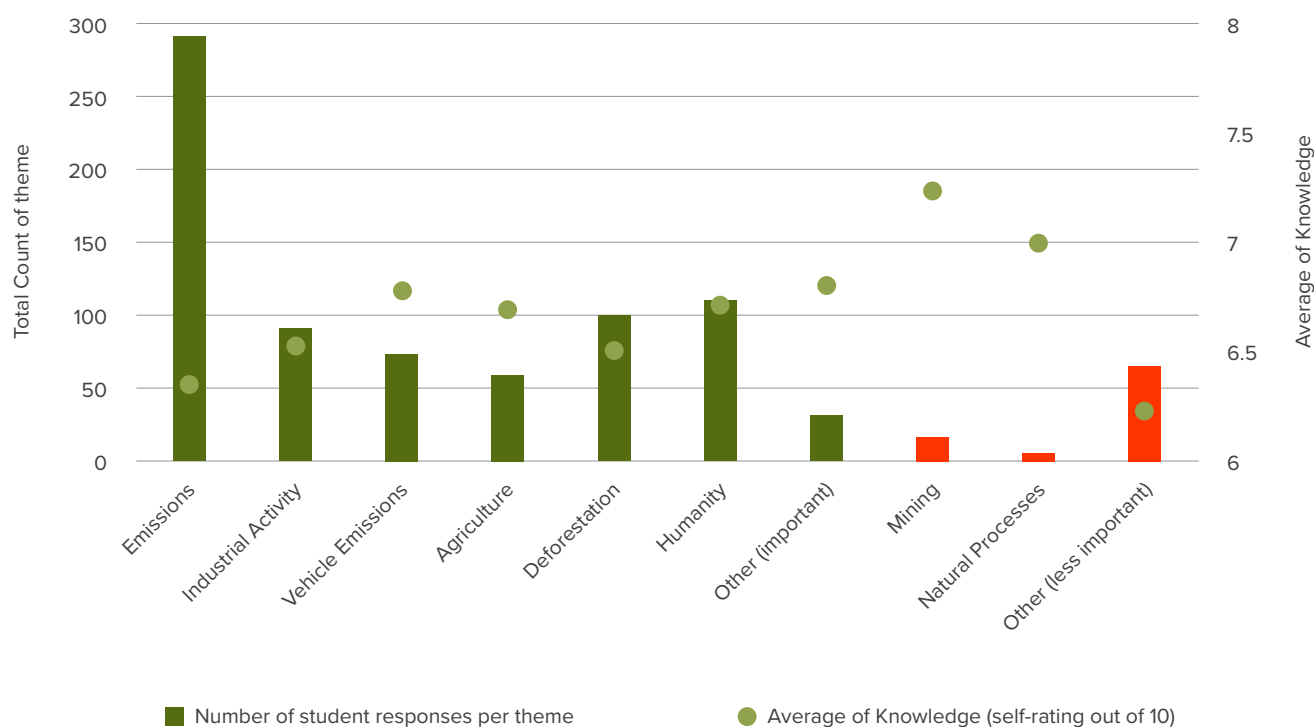


Figure 6 shows the relationship between the causes of climate change and self-reported knowledge, from the Students' Values Survey. In the figure we observe two points of interest: i) the number of times a student mentions each theme as a perceived primary cause of climate change out of the total of 884 responses, and ii) the mean self-reported knowledge of climate change on a scale of 1-10 for the respondents who identified the relevant theme.

Students primarily identified general “emissions” as the cause of climate change, which aligns with the literature. But unexpectedly, students who identified general emissions as the main cause

ranked themselves as having less knowledge on the subject matter; it ranked as one of the lowest amongst these themes. Other types of emissions by sector are also common in the responses, such as emissions due to industrial activity, vehicle or transport emissions, and agricultural emissions. In the first seven themes identified (which are all assessed as valid responses), students appear to be somewhat reserved in their self-rating, giving themselves a range of 6.4 to 6.8 out of 10. Climate change is a complex topic, so more formal educational training on climate change and its causes may support greater confidence levels for our students.

**FIGURE 6:**  
CAUSES OF CLIMATE CHANGE BY THEME VS. KNOWLEDGE







The top 5 words contained in a total of 852 student responses include 'rising' (128 times), 'sea' (116), 'levels' (101), 'melting' (66), and 'weather' (63). We then arranged the individual responses

into the following nine overarching themes with examples for clarity, as seen in Table 4.

**TABLE 4:**  
KEY THEMES IN STUDENT-IDENTIFIED FUTURE EFFECTS OF CLIMATE CHANGE

Key Theme	Example Responses of Causes of Climate Change
<b>Rising Sea Level/Ice Melting</b>	Coastal erosion, decrease in landmass, melting ice caps, Antarctica melting
<b>Biodiversity Effects</b>	20% of animal species going extinct, affect plant growth, destroying marine food chain, affects marine life, altered oceans, coral bleaching
<b>Agricultural Effects</b>	Crop issues, agricultural damages, trouble farming
<b>Natural Disasters</b>	Bad bushfire seasons, catastrophic weather events
<b>Weather Effects</b>	Changes in weather, changes in annual weather patterns, Average temperature rise, warming, climate change, really hot
<b>Human Impacts</b>	Change of lifestyle for humans, changes to quality of life, climate-induced refugees, high financial cost to solve the problem
<b>Other Effects</b>	Broad statements (i.e., affects all areas of life), atmospheric disruption, decreased air quality, environmental degradation
<b>General Improvements</b>	Better climate, better growing conditions in northern areas
<b>Unsuitable Responses</b>	Mistaking causes for effects (i.e., added pollution, CO <sub>2</sub> emissions, coal usage), affects ozone layer, declining sea levels, colder weather, destruction of the earth, human extinction



**FIGURE 8:**  
EFFECTS OF CLIMATE CHANGE BY THEME VS. KNOWLEDGE

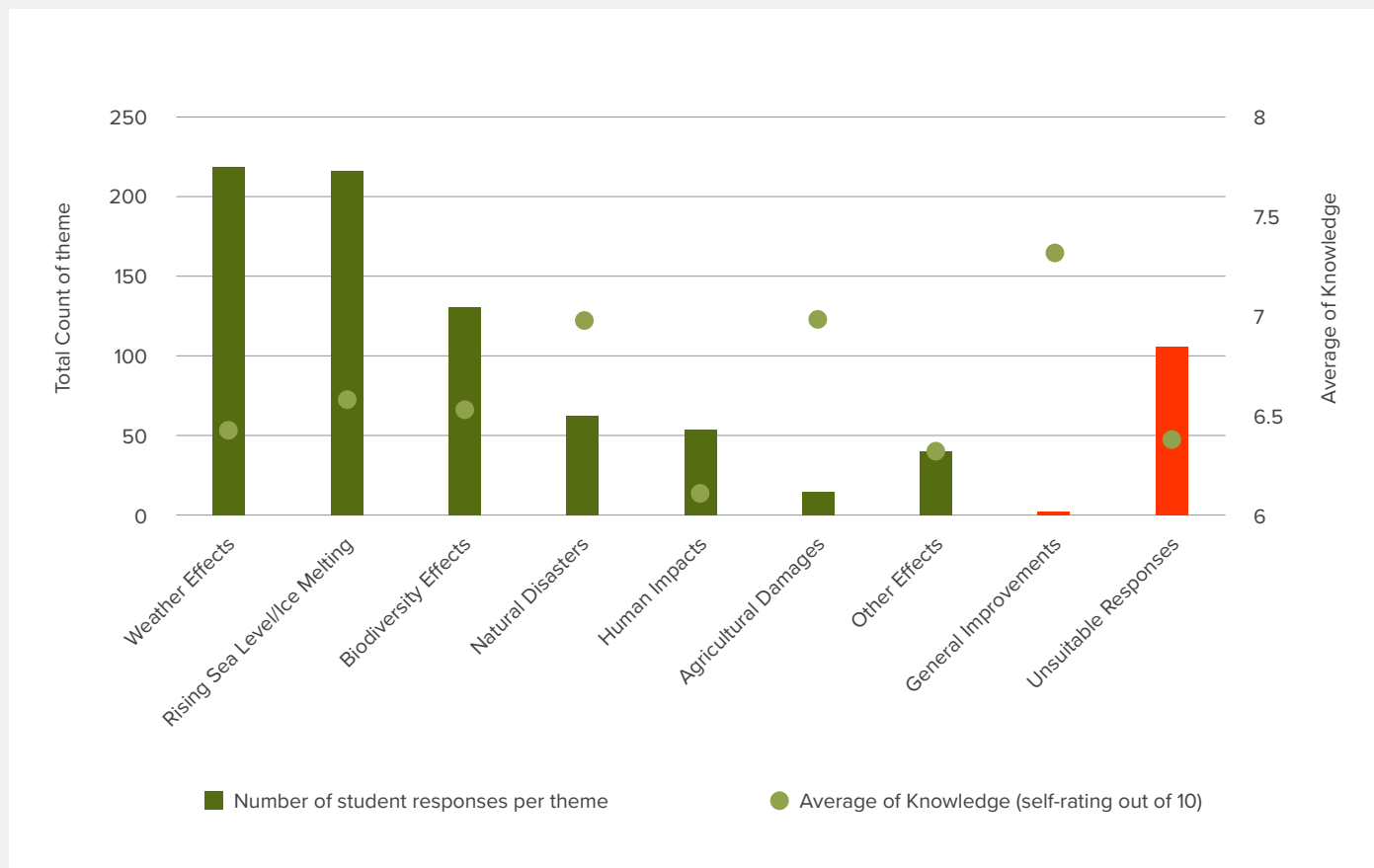


Figure 8 shows the number of responses per theme on the effects of climate change, and the associated average self-reported level of knowledge appears as a dot point. Of the total 849 responses, the leading themes were weather effects (219 responses), rising sea level/ice melting (217), and biodiversity effects (131). 107 responses did not fit into the reasonably expected effects of climate change, as indicated by the red bar labelled ‘unsuitable responses’.

One notable set of responses concerns mass extinction and/or the destruction of the Earth. 76 students referenced extinction (or a related term) or the end of the world, including animal species extinctions. Of those students, 20 refer to complete global destruction including “the Earth’s surface becoming destroyed”, “[e]nd of the World”, “[c]ould wipe out 80% of humans”, and “[m]ay have to leave [the] planet”. Prominent scientists argue that there is no tangible evidence of climate change scenarios that would lead to human extinction. This is a strong motivating factor to encourage the establishment of a more precise source of climate change information for students in the academic setting, where students can also be equipped with the skills to critically engage with the topic and to challenge falsehoods when encountered.

On the one hand, as was found with cause identification, there is also an erroneous amalgamation of the effects of distinct environmental issues and climate change effects, with 21 students identifying damage or depletion of ozone as an effect of climate change, and 2 students referencing acid rain as an effect of climate change. On the other hand, there is evidence of a nuanced understanding of climate change issues within some student responses. For example, one student identifies a potential future effect of climate change as “[f]looding and rising water levels (increasing inequality)”. The specific reference to the disproportionate effect of climate change on poorer people is reflected in the evidence on climate change in the literature. Providing a controlled environment for the well-informed students to interact and share their knowledge with other less-informed students would also be a benefit of the integration of climate change topics into the curriculum.



## D. Enthusiasm to learn about climate change at university

Our evidence from the Students' Values Survey shows that **61% of students "strongly" or "somewhat" agreed to learn more about climate change in their studies at university** (see Table 5).

**TABLE 5:**  
ENTHUSIASM TO LEARN ABOUT CLIMATE CHANGE AT UNIVERSITY

Criteria	% of total response	No. of response
Strongly Disagree	4.4%	13
Somewhat Disagree	12.8%	38
Not Sure	21.6%	64
Somewhat Agree	40.5%	120
Strongly Agree	20.6%	61
Total	100.0%	296

On the other hand, **only 17% of students "strongly" or "somewhat" disagreed to learn more about climate change in their studies at university**. Just over 21% of students are "not sure" if they wish to learn more about climate change, which could be indicative of a low level of understanding of climate change and its importance to everyone. Their opinion may be influenced once they realise the weight of SDG 13 and comprehend, more concretely, the causes and effects of climate change.

When students were asked about their view towards the effective distribution of the units with the topic, about 2 in 5 students believe that it should be in the first-year units where the issue should be communicated effectively, whereas just over half of students suggested them to be distributed throughout the course.

*I would find ways to relate each individual unit back to climate change and provide discussion around the past and future, in relation to the topic. This can be done by either small components spread throughout a unit, or designate 1 or 2 modules per unit.*

[a student's view from our survey]

Almost 1 in 5 students feel that at least 3 units in a business curriculum must address issues of climate change to enhance their knowledge and awareness.





## 4.2 Staff Perceptions Analysis

### Key findings: Staff Perceptions

- Staff want changes in **university facilities to be more climate conscious**.
- Staff want to **encourage innovation in climate change business solutions** developing curriculum, assessment, learning modules and compulsory training.
- Staff feel “**distributed throughout the course**” fits best for the university to embed climate change issues.
- Staff believe “**the more the better**” when considering the number of units that should incorporate the concept of climate change.

We invited students to imagine themselves as a Dean of the Business School, and asked them the following open-ended question, “what steps would you take to educate your students on the role of businesses in mitigating climate change?” We reviewed the student responses and categorised the 7 different views under two main themes: how to educate students on the role of businesses in mitigating climate change, and how to incorporate SDG 13 into the curriculum. We then asked the key focal points from selected ABDC business schools to rate the effectiveness of these views for each key theme. The Key Informant Interviews (KIIs) reveal interesting results, as discussed below in Parts A and B:

### A. Educating students to mitigate climate change

Academic staff believe there are key strategies that are important for educating students on the role of businesses in mitigating climate change (see Table 6).

**TABLE 6:**  
RANK AND RATING BY STAFF OF STUDENT-PROPOSED STRATEGIES FOR EDUCATING STUDENTS ON THE ROLE OF BUSINESSES IN MITIGATING CLIMATE CHANGE

Rank of Effectiveness (Highest to lowest)	Average Rating out of 10	Strategy (Identified by students)
<b>Rank 1</b> (most effective)	6.9	Hold a couple of sessions/events/talks on climate change throughout the year, e.g., have guest speakers from environmental organisations.
<b>Rank 2</b>	6.7	Run extra-curricular workshops that are real-life, practical, and fun (with food) on the causes and effects of climate change.
<b>Rank 3</b>	6.5	Make changes in university facilities to be more climate-conscious, e.g., having activities that support the environment.
<b>Rank 4</b> (least effective)	5.5	Raising awareness in short-simple ways via infographic posters around campus of: (a) long-term consequences; (b) effects on how business is done; (c) solutions to slow down climate change, lowering carbon footprint.



Out of the four student-proposed views, **staff believe that “holding a couple of sessions/events/talks on climate change throughout the year” is the most effective strategy in educating students on the role of businesses to mitigate climate change.**

We observe that staff deem the first three views in Table 6 as satisfactory (on average above 6.5 out of 10). These approaches involve more active engagement, interaction, and opportunity for discussion. The view “raising awareness in short-simple ways via infographic posters around campus” received a lower rating of 5.5 out of 10 by the staff interviewed. While students have indicated they value this approach, staff appear to have lower confidence in this method of engagement, which may be associated with prior knowledge of information overload on campus with large numbers of posters and messages competing for student attention which could lead to desensitisation. The academic staff as teaching and learning experts are also committed to the principles of experiential learning, and their expertise is reflected in their preference for formats of engagement that consistently produce stronger learning outcomes. The key lesson here is that **working together as staff and students will contribute to a stronger impact on raising awareness of businesses in mitigating climate change.**

Staff perceptions suggest that it is not only about teaching climate change but also about the universities demonstrating sustainable practices. Emphasising this point further, **staff proposed that all universities need to be carbon neutral and demonstrate good practices by adopting 21st-century policies and procedures.** The staff we interviewed think that universities are expected to engage with climate-conscious suppliers to develop a more sustainable supply chain (e.g., paper sourcing, food waste, etc.).

**Staff believe that it is also important to provide practical and specific examples of how businesses are mitigating climate change.** It is important to highlight how businesses are investing heavily in sustainable initiatives (including those without a specific environmental focus). This would permit positive engagement with effective solutions and would avoid the potential pitfall of solely emphasising the negative contributions of certain businesses. Staff also believe it is important for students to understand the links between our socio-economic model and the environmental crisis. This clear understanding is a prerequisite to introducing how the business world can prepare for the environmental transition. If these foundations are not provided, it could lead to a continued critique of the business community as only proposing to “greenwash” corporate identities while avoiding meaningful action to address systemic issues.

**ABDC schools must be visible as responsible leaders in society, commerce, and trade. Staff emphasised those in leadership roles as pivotal to educating students on the role of businesses in mitigating climate change.** They feel discipline leadership and faculty leadership need to embed SDG 13 in meaningful ways. In addition to initiatives like virtual and physical study tours that focus on energy futures and sustainable futures, staff reflect on social events that spur on students’ active engagement to raise awareness of climate change issues. Staff feel participation in social events is equally important as having study tours. For example, involving students through student clubs and societies to organise and participate in events such as tree plantations, and clean up days are regarded by staff as awareness-enhancing actions in combating climate change.





## B. Revamping curriculum

Our investigation reveals that staff deem wide-ranging themes as important for the business school to incorporate SDG 13 in the curriculum. **There appears to be common ground between staff and students on revamping the curriculum.** As shown in Table 7, staff rated the potential effectiveness of all three student views on how best to integrate SDG 13 into the curriculum—research assessments, compulsory learning modules, and research competitions—above 7.5 out of 10. As students and staff jointly approve of these strategies, there is an exciting opportunity to realise genuine progress.

Innovation in climate change business solutions, targeted assessments, and compulsory learning modules are the critical points to incorporate SDG 13 in the curriculum as outlined in Table 7. Assessments should include projects on sustainability, reviewing data, conducting research, and case studies in class. Student competitions to identify innovative solutions to reduce and mitigate climate change are also valuable.

<b>= Rank 1</b> (most effective)	7.9	Include a research assessment on mitigating climate change or corporate social responsibility, for relevant units.
<b>= Rank 1</b> (most effective)	7.9	Incorporate compulsory learning modules in relevant units covering examples of good, and bad, sustainable business practices held by various companies that benefit either society, or their own profits.
<b>Rank 3</b> (least effective)	7.5	Encourage innovation in climate change business solutions, e.g., research competitions for final years.



Staff propose that curriculum development should incorporate class activities focusing on students' personal experiences, knowledge, and feelings concerning climate change. Providing those experiential learning opportunities are more likely to leave a lasting impression. This could include climate change simulations to demonstrate the real-time impact of actions and decisions. Further, some staff emphasise implementing carbon literacy training, student symposium on regulating and reducing emissions, promoting renewable energy, and recurring talks from guest speakers from sustainability-focused organisations.

An important factor for staff in incorporating SDG 13 in the curriculum is student placement alongside, and engagement with, business professionals. This idea includes the provision of internships focused on business engagement with the SDGs, which could be a catalyst to shape student perspectives about climate change and the realities faced by businesses. ABDC members need to be proactive by engaging with business professionals who work in the realm of 'sustainability' to deliver authentic business solutions that advance the climate change agenda.

ABDC schools must partner with industry and student alumni by hosting industry guest lectures on climate change and the role of business, climate justice, and the challenges and opportunities of climate change. Organising a 'Hackathon'-style event consisting of students across a range of disciplines, and with industry involvement concerning climate action is another suggested approach. Virtually all students in our survey strongly agreed with the statement that "industry and business should be doing

more to tackle climate change"; however, students can be part of the solution, as expressed here:

*I would try to get students thinking about ways we can change how big business work on [mitigating] climate change. Students will always end up at a big company and having ideas on how to help climate change from a big company perspective would be good.*

[a student's view from our survey]

Staff endorse embedding climate change issues into almost every subject/unit. Some staff also expressed the belief that simply teaching about climate change is insufficient unless it is embedded in all courses across the university. Others suggest that there should be provision for a reward for students who participate in climate change learning activities, as students are often time-poor and will be unwilling to participate in additional activities for no reward. An example incentive is for academics to embed climate action assessments/projects as graded components of units, which would encourage all students to engage with the concepts, including those who are focused only on material that generates marks that contribute to their overall unit grade.

### C. Relative importance of SDG 13

The importance of SDG 13 is multifaceted to other SDGs as evidenced by strategies to incorporate the goal in business school curriculum. We view SDG 13 as complementary to, rather than a substitute for, other SDG. This is mainly because SDG 13 is interrelated and value-enhancing to other SDGs.

## SUSTAINABLE DEVELOPMENT GOALS





Results from the Staff Perceptions Survey show that the importance of SDG 13 relative to other SDGs is substantial as **the average importance score staff assigned to SDG 13 is 8 out of 10**. In deciding the relative importance of SDG 13, we have categorised the remaining 16 SDGs into two groups: i) direct value-add; ii) indirect value-add, being the effect that SDG 13 has either

on directly or indirectly facilitating the achievement of the other SDGs. In both cases, SDG 13 plays a crucial role to achieve the remaining 16 goals by easing the targets and providing synergies between the goals. Table 8 outlines the relative importance of SDG 13 whether it has a direct or indirect value-adding relationship towards the other SDGs.

<b>GOAL 1: No Poverty</b>	Direct value-add
<b>GOAL 2: Zero Hunger</b>	Direct value-add
<b>GOAL 3: Good Health and Well-being</b>	Direct value-add
<b>GOAL 4: Quality Education</b>	Direct value-add
<b>GOAL 5: Gender Equality</b>	Indirect value-add
<b>GOAL 6: Clean Water and Sanitation</b>	Direct value-add
<b>GOAL 7: Affordable and Clean Energy</b>	Direct value-add
<b>GOAL 8: Decent Work and Economic Growth</b>	Direct value-add
<b>GOAL 9: Industry, Innovation and Infrastructure</b>	Direct value-add
<b>GOAL 10: Reduced Inequality</b>	Indirect value-add
<b>GOAL 11: Sustainable Cities and Communities</b>	Direct value-add
<b>GOAL 12: Responsible Consumption and Production</b>	Direct value-add
<b>GOAL 14: Life Below Water</b>	Direct value-add
<b>GOAL 15: Life on Land</b>	Direct value-add
<b>GOAL 16: Peace and Justice Strong Institutions</b>	Indirect value-add
<b>GOAL 17: Partnerships to achieve the Goal</b>	Indirect value-add

### (i) The direct value-add of SDG 13

By including SDG 13 in business school curriculum, it supports and facilitates achievement of the other goals through the successful implementation of its targets. Certainly there are positive relationships between SDG 13 and the other SDGs, for example, greater success in implementing SDG 13 will influence greater success in achieving SDG 7: Affordable and Clean Energy. Likewise, SDG 13 directly facilitates in achieving the targets associated with **GOAL 4**: Quality Education, **GOAL 6**: Clean Water and Sanitation, **GOAL 11**: Sustainable Cities and Communities, **GOAL 12**: Responsible Consumption and Production, **GOAL 14**: Life Below Water, and **GOAL 15**: Life on Land.

### (ii) The indirect value-add of SDG 13

By including SDG 13 in business school curriculum, it helps to achieve other SDGs indirectly as the implementation of SDG 13 might work as a precondition in achieving those goals. For example, for progress to occur on SDG 9: Industry, Innovation and Infrastructure the students of today, being the workforce of tomorrow, will need to be well equipped with strong understanding of the elements of SDG 13 in order to ensure climate-friendly industry is advanced. Therefore, SDG 13 brings synergies to achieve the other SDGs such as, **GOAL 8**: Decent Work and Economic Growth, **GOAL 9**: Industry, Innovation and Infrastructure, **GOAL 16**: Peace and Justice Strong Institutions, and **GOAL 17**: Partnerships to achieve the Goal.

Staff also perceive that the SDGs are interrelated, and they suggest that **we need to incorporate, and 'live', all the sustainable development goals**. A part of 'living' the goals is resolving the nexus between individual (self-assessed) and organisational objectives. Once the pandemic subsides, staff mention the need for innovative and practical ways to balance between 'flying' (travel) and other means to connect or network. Incorporation of an organisational pledge as a commitment to SDG 13, similar to the 'Panel Pledge' supporting women in organisations, is an example policy that could address this aspect of staff-proposed improvement. Exemplifying reductions in one's own carbon footprint helps one to achieve a deeper understanding of mitigation potential in business settings.

### D. The best fit in course duration

Staff perceptions indicate that *"distributed throughout the course"* fits best for the university to embed climate change issues (SDG 13) into the B. Com program of study. Interestingly, no staff suggested that climate change issues are "only for first-year units". This result signifies the urge for a persistent approach that favours a long-lasting learning experience, contributing positively to climate change issues rather than a limited endeavour that perhaps may not sustain change in the long run. Our investigation shows that one staff member believed there should be at least 2 core units, whilst **no staff members suggested that "only 1" unit should incorporate the concept of climate change**. In summary, the majority view held by staff is **"the more the better"** when considering the number of units into which schools should incorporate the concepts of SDG 13 to enhance the knowledge, attitude, and behaviour of students toward climate change.

A key preliminary conclusion is that there needs to be an emphasis placed on training both staff and students. While curriculum integration is the most desirable outcome, some extra-curricular programs may also provide effective contributions to student and staff climate literacy. For example, The UQ Business School is currently offering the 'UQ Carbon Literacy Program' and in 2021, Curtin offered two study tours to their undergraduate students: 'Sustainable Futures' and 'Technology Futures'. ABDC business schools can offer a non-credit unit on the SDGs which would be available to all staff and students housed on the Learning Management System. The level of awareness on climate change issues varies greatly, which is one of the first barriers to the implementation of any initiatives in this space. Training business educators themselves on climate change challenges and solutions is the first major step.





## SECTION 5. Results: Content Analysis

### Key findings: Content Analysis

- Only 9 universities have included “climate change” in a unit title and only 6 universities included “climate change” in a ULO.
- We did not find any university used the word “climate change” in their CLOs or the MLOs.
- 25 and 26 universities have included “environment” and “sustainability” in a unit title (respectively), with comparable numbers in ULOs.
- Most universities included “climate change”, “environment” or “sustainability” in wider course documentation.

As discussed in *Section 3.2* under methodology, we have examined unit guides/outlines/syllabi by searching the websites of the ABDC accredited 39 network member universities to reveal the concrete inclusion of SDG 13 aspects into curriculum objectives. In particular, we investigated the following items on current websites or the most recent available versions of course documentation:

- Emphasising aspects of SDG 13 in **unit titles**.
- Incorporating aspects of SDG 13 in the **Unit Learning Outcomes (ULOs)**, **Course Learning Outcomes (CLOs)**, and **Major Learning Outcomes (MLOs)**.
- **Wider coverage in course documents** incorporating aspects of SDG 13.

It is important to note, the data demonstrates a trend; however, some of the universities which appear as having 0 keyword references do not make course items such as ULOs available online, so their content was unable to be assessed. Additionally, as course documents were hand reviewed, the opportunity for error is present.



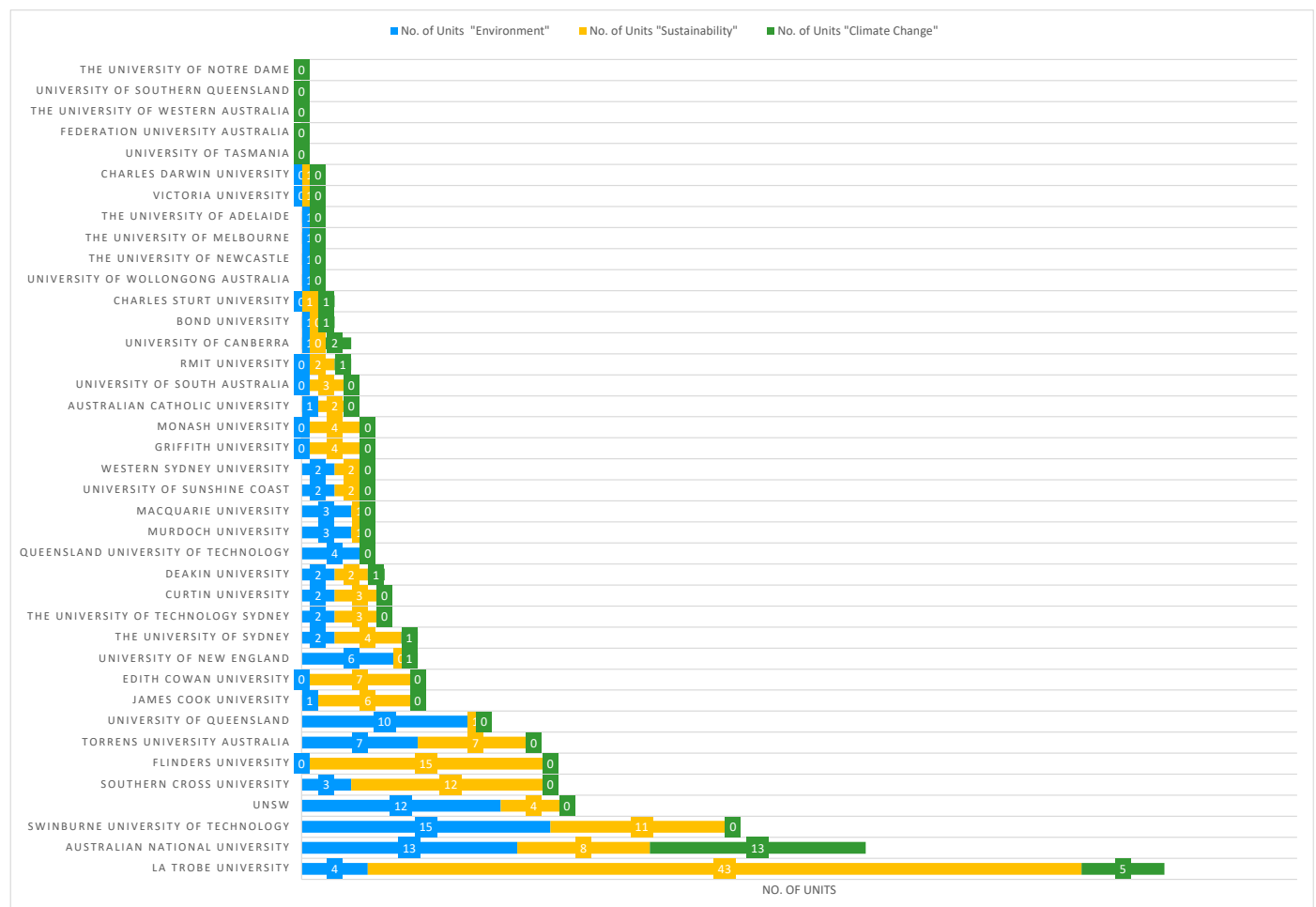
## 5.1 Aspects of Climate Change Embedded in Unit Titles

We are specifically interested in ‘climate change’ as it is the core of SDG 13, but we also in the interconnected terms such as the ‘environment’ and ‘sustainability’. In this section, we are interested in the occurrence of such terms in the unit titles, as seen in Figure 9. **We found that only 9 universities have included “climate change” in the unit title** (across 29 units in total), or just over 20 percent of ABDC members. Inclusion of ‘climate change’ in the unit title would appear to be the strongest indication of a genuine emphasis on SDG 13 in the business curriculum.

When we widen the scope of investigation the story becomes more encouraging. We have found a relatively higher number of universities that have included the word or variant of the word “environment” in the units’ title. Figure 9 shows that **25 universities have incorporated the word “environment”, or a variant of the word, in the unit title** (161 units in total). Interestingly, we have found even a higher number of universities that have included the word or variant of the word “sustainability” in units’ titles. Figure 9 shows that **27 universities have incorporated the word “sustainability”, or a variant of the word, in the unit title** (186 units in total). This is a positive indication that universities, some more than others, are featuring interrelated aspects of climate change within their units offered to students at the undergraduate level.

FIGURE 9:

LIST OF UNIVERSITIES THAT INCLUDED CLIMATE CHANGE, ENVIRONMENT & SUSTAINABILITY IN THE UNIT TITLE





## 5.2 Aspects of Climate Change Embedded in Learning Outcomes

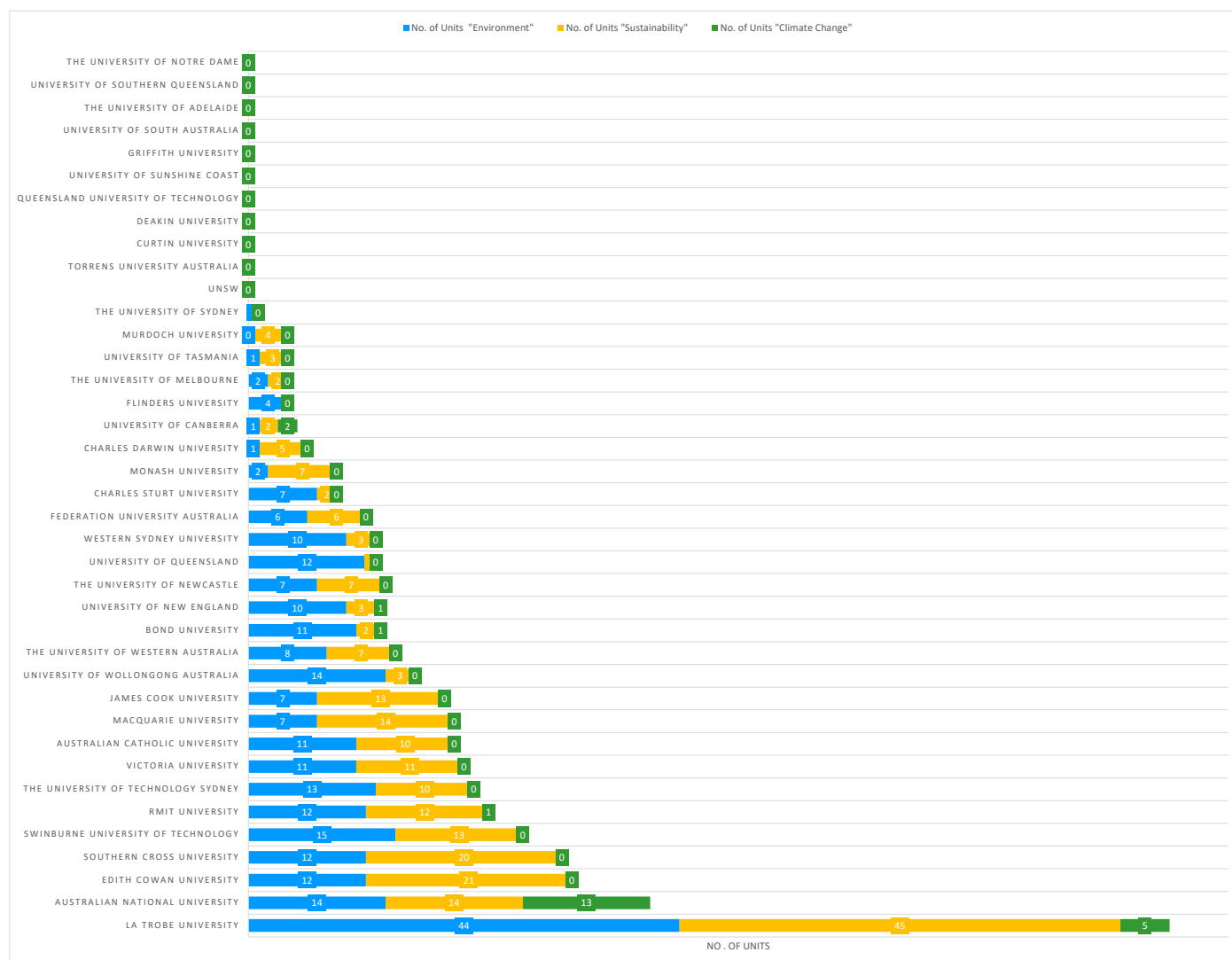
We have found there are only 6 universities that include “climate change” in their ULOs (see Figure 10). Of those 6 universities, the range of units offered with climate change mentioned in the ULOs is between 1 and 21 per university. We have found a

relatively higher number of universities incorporated the word or variant of the word “environment”, which is a related aspect of climate change.

Figure 10 shows that 27 universities have included the word “environment”, or a variant of the word, in the ULOs for 579 units. Similarly, in our investigation, we have found that 26 universities included “sustainability” in the ULOs for 508 units.

**FIGURE 10:**

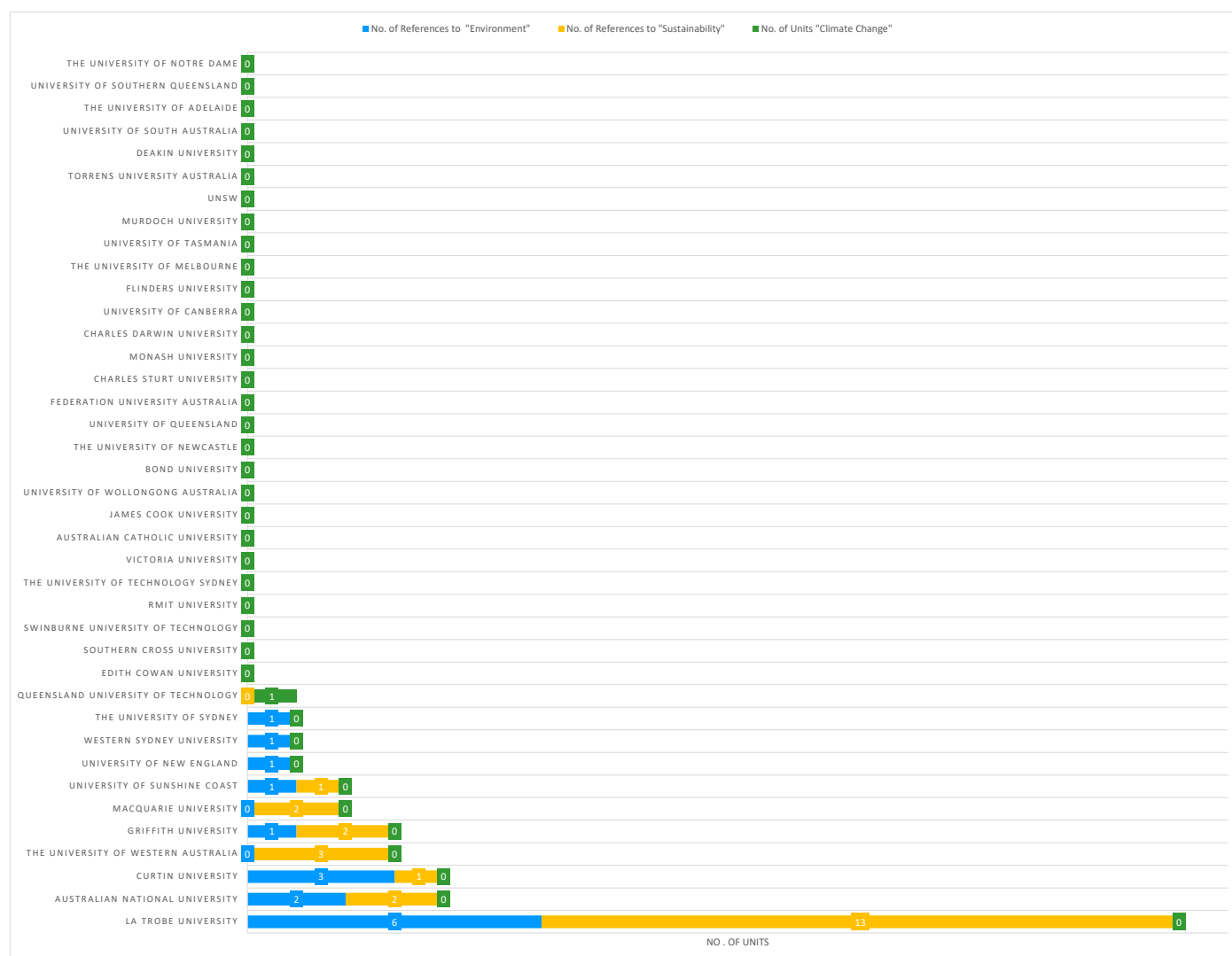
LIST OF UNIVERSITIES THAT INCLUDED CLIMATE CHANGE, ENVIRONMENT & SUSTAINABILITY IN THE UNIT LEARNING OUTCOMES (ULOs)



However, we found only one university has incorporated the word "climate change" into their MLOs, and none have included it into their CLOs. This scenario reveals a substantial amount of work that needs to be accomplished to include "climate change" in the structure of learning outcomes in the course/major. We have found 8 universities have included the word, or variant of the

word, "environment", and 7 universities have included the word, or a variant of the word "sustainability" in their MLOs as shown in Figure 11. We have found 5 universities have included the word, or variant of the word, "environment", and 10 universities have included the word, or a variant of the word "sustainability" in their CLOs as shown in Figure 12.

**FIGURE 11:**  
LIST OF UNIVERSITIES THAT INCLUDED CLIMATE CHANGE, ENVIRONMENT & SUSTAINABILITY IN MAJOR LEARNING OUTCOMES (MLOs)

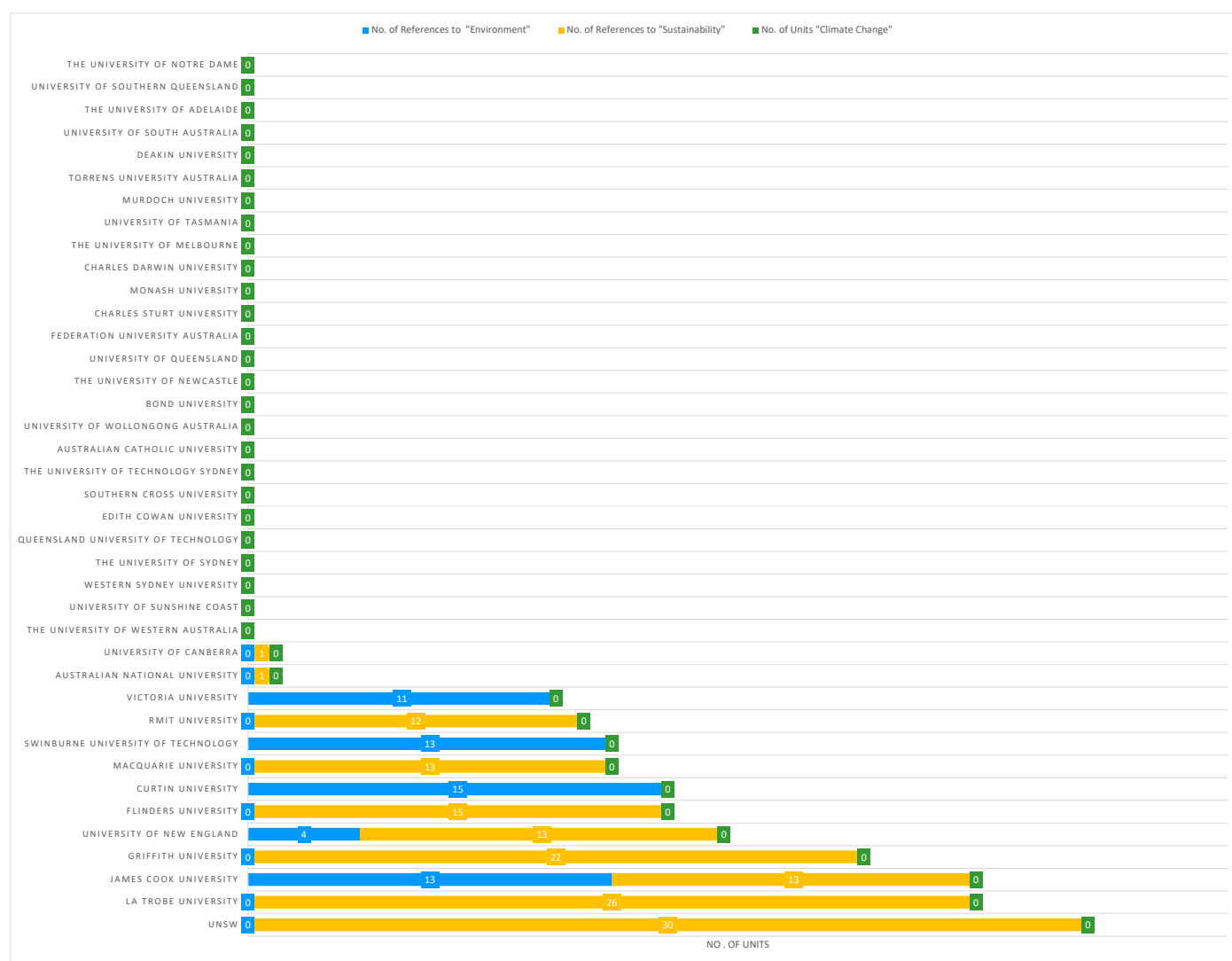


The data indicate that ABDC schools have undertaken initiatives in relevant contexts of environmentalism and sustainable development, even though they have not explicitly included the

word “climate change” in the CLOs and MLOs. This practice by the universities might imply that SDG 13, and any relationship to the other SDGs, is likely to be addressed indirectly.

**FIGURE 12:**

LIST OF UNIVERSITIES THAT INCLUDED CLIMATE CHANGE, ENVIRONMENT & SUSTAINABILITY IN COURSE LEARNING OUTCOMES (CLOs)



## 5.3 Aspects of Climate Change Embedded in a Wider Range of Documents

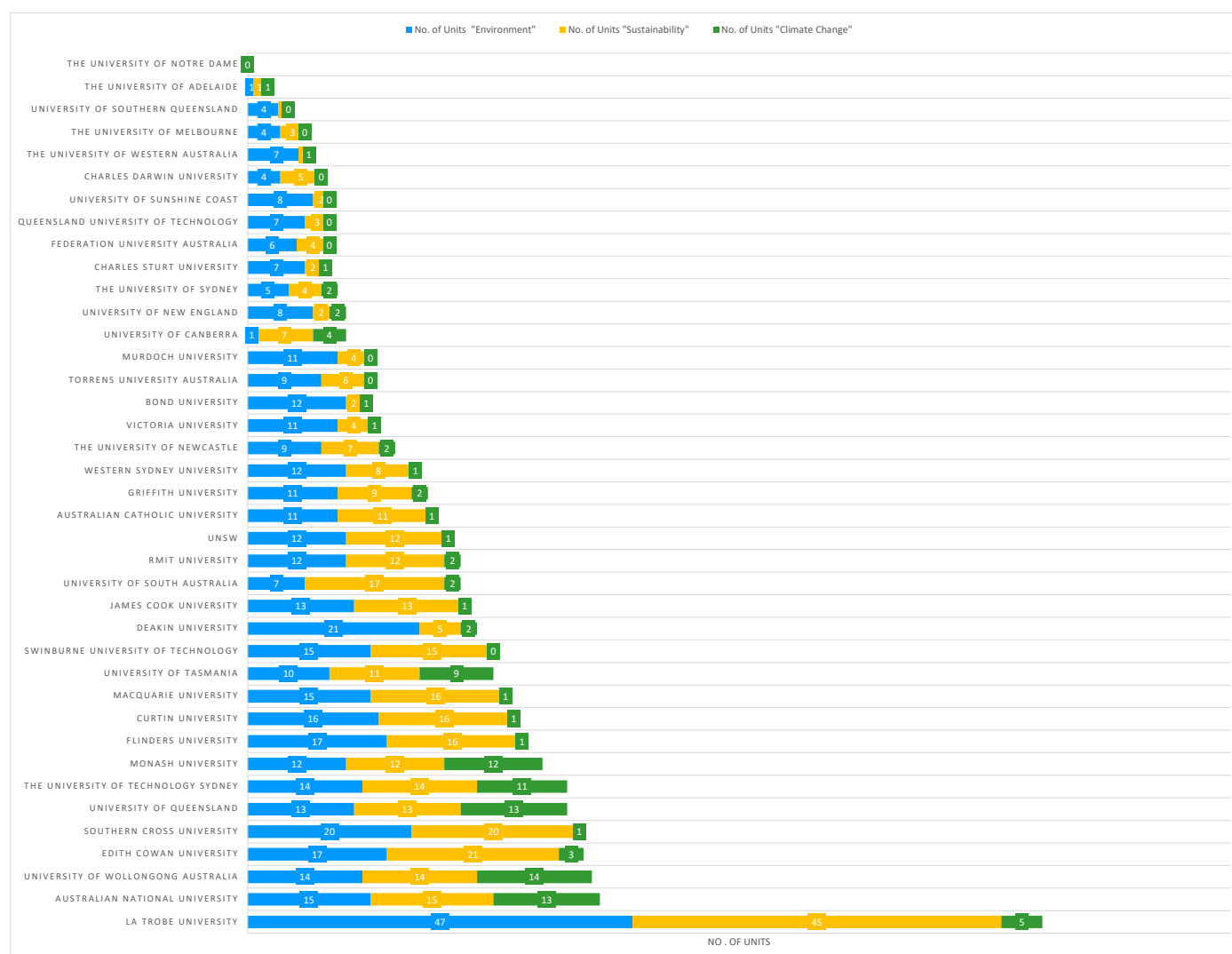
When we investigated a wider range of course documents—such as the unit guides/outlines/syllabi—we found more universities have incorporated the word “climate change” in the units that the student studies.

Figure 13 shows that **29 universities have included the word “climate change” in 167 units.** These findings reveal that the

current practice of the 39 ABDC accredited network member universities is indeed incorporating “climate change” in a wide array of documents. We have found that **38 universities have included “environment” or variant of the word “environment” in 1,373 units.** We have also found **37 universities have incorporated “sustainability” in 1,167 units.** This result is consistent with the previous subsections. These practices also suggest that wider consideration of environmentalism and sustainable development endeavours is underway; however, this may not necessarily be indicative of a focus on SDG 13, rather it could be linked to the other SDGs.

**FIGURE 13:**

LIST OF UNIVERSITIES THAT INCLUDED CLIMATE CHANGE, ENVIRONMENT & SUSTAINABILITY IN UNIT GUIDES/SYLLABI





## SECTION 6. Proposed Recommendations for Best Practice

In this section, we outline the proposed recommendations for the best practice in consideration of the following three research objectives:

- To investigate how ABDC member business schools are incorporating Sustainable Development Goal 13, *Take urgent action to combat climate change and its impacts* in the curriculum.
- To identify the best practices for aligning business school curriculum to SDG 13 to further climate action and educate students on the role of business in mitigation and adaptation
- To assess the importance of SDG 13 relative to other SDGs as evidenced by strategies to incorporate the goal in the business school curriculum.

Table 9 on the following page details the proposed recommendations, and actions that ABDC members can take to achieve these desired outcomes.



**TABLE 9:**  
RECOMMENDATIONS FOR THE BEST PRACTICES AND PROPOSED ACTIONS

Proposed Recommendations	Proposed Actions
<p><b>Recommendation 1:</b> <b>Embed climate change into curricula</b></p> <p>Students and staff agree that for maximum effectiveness, SDG 13 should be incorporated throughout their course of study. At a minimum, the course structure should demonstrate SDG 13 integration in at least 3 units, threaded throughout the course.</p>	<p><b>Action 1:</b> <b>Train the teachers</b></p> <p>Develop a training module for teachers to build their capacities so that they can embed climate change into their respective units.</p> <p><b>Action 2:</b> <b>Design Compulsory Learning Modules</b></p> <p>Compulsory learning modules in relevant units can cover examples of good, and bad, sustainable business practices held by various companies that benefit either society, or their own profits.</p>
<p><b>Recommendation 2:</b> <b>Lead by example in reducing carbon footprint</b></p> <p>It is critical for each ABDC school to champion reductions in their own carbon footprint. This helps staff and students to achieve a deeper understanding of mitigation potential in business settings and promotes genuine commitment to achieving SDG 13.</p>	<p><b>Action 3:</b> <b>Introduce sustainability practices</b></p> <p>Develop a road map to introduce leading sustainability practices in ABDC schools, encouraging both individual behavioural shifts, as well as systemic organisational change.</p>
<p><b>Recommendation 3:</b> <b>Engage with industry champions</b></p> <p>Industry engagement is an increasingly important part of student learning both as preparation for post-study work life, and to connect classroom learning experiences to their tangible applications. ABDC members should promote more leadership and partnership opportunities for students to work alongside staff and industry to develop creative problem-solving skills, and as an effective way to raise awareness of how businesses are already mitigating and adapting to climate change.</p>	<p><b>Action 4:</b> <b>Coordinate fieldwork opportunities</b></p> <p>Connect industry champions with students to demonstrate how business entities can mitigate and adapt to climate change. Examples include having student placements in the final year of study and engagement with business professionals that are aligned with good sustainability practices.</p> <p><b>Action 5:</b> <b>Host industry events</b></p> <p>Provide opportunities for students to attend sessions, events, and talks on the challenges of mitigating and adapting to climate change. These sessions should be hosted by trusted scientists, academics, environmental organisations, current high-achieving students, alumni working as business professionals.</p>
<p><b>Recommendation 4:</b> <b>Develop experiential learning activities</b></p> <p>Providing opportunities for students to engage with, reflect upon, and experiment with climate change through tangible experiences is pivotal to success in building the climate champions of the future. Experiential learning promotes a greater confidence level to sustain a high level of enthusiasm.</p>	<p><b>Action 6:</b> <b>Incorporate experiential assessments</b></p> <p>Schools can develop research-style assessments for students to assess levels of corporate social responsibility and commitment to SDG 13 within an exemplar business.</p> <p><b>Action 7:</b> <b>Introduce extra-curricular activities</b></p> <p>Promote extra-curricular activities (e.g., climate change club) to guide students to become “agents of change” to avert climate change. Schools can host research competitions that encourage innovation in climate change business solutions.</p>

## Conclusion

This research project set out to investigate how ABDC member business schools are incorporating SDG 13, *Take urgent action to combat climate change and its impact*, in the curriculum. We sought to establish the importance of SDG 13 relative to other SDGs, and ultimately to identify best practices for business school curriculum to engage with SDG 13 in furthering climate action and educating students on the role of business in mitigating and adapting to climate change.

The research was undertaken in two complementary parts: first, a survey of staff and a survey of students concerning their perceptions of climate change and its integration into business school curriculum; and second, keyword analysis of curriculum documentation to explore the genuine inclusion of climate change and related environmental issues in the core learning outcomes of business courses.

The survey data revealed many interesting and useful themes that can be explored to develop a strategy to effectively address SDG 13 within the ABDC network. Few students feel that climate change has been incorporated into their degree, and students rate their self-perceived knowledge of climate change issues below target levels. Students have indicated they are interested to learn more, particularly from a reliable source such as their university, as they feel they are currently receiving more information from other sources such as the internet, TV, or family and friends. Students feel that the issue should be contemplated in units throughout their degree, and staff agree that this approach represents the most effective strategy. Staff and students also propose solutions to the incorporation of, and engagement with, SDG 13 which form part of our recommendations.

Keyword analysis in curriculum documents was designed to reveal the true circumstances of the integration of climate change into teaching practice. When exploring the course, major, and unit learning outcomes, as well as unit titles, the majority of

ABDC member schools did not include references to “climate change”. A greater number did include references to related topics including “environment” and “sustainability” which is encouraging, but it is not clear if climate change as a specific topic is being appropriately considered. When expanding the search to wider course documentation including unit guides/ outlines/syllabi almost all schools had units that referenced “climate change”, “environment” and “sustainability” which is again a positive sign. Yet, the inclusion in the documents in less prominent areas than titles or learning outcomes may indicate the need for greater emphasis to be established.

From this analysis, we conclude with recommendations that ABDC members should embed climate change into curricula through a “train the teacher” approach, as well as compulsory learning modules. ABDC schools should lead by example in reducing their carbon footprint by introducing sustainability practices and should engage with industry champions to provide students with fieldwork opportunities and events, sessions, and talks that demonstrate to students how businesses can mitigate and adapt to climate change. Finally, ABDC members should develop experiential learning opportunities that are both incorporated into unit assessments and provided as extra-curricular opportunities that will offer opportunities for students to establish the confidence to be our future climate champions.





# Appendix

The following Table A1 presents the list of the key aspects of SDG 13 captured in the data collection by searching the websites of the 39 universities:

**TABLE A1:**  
THE LIST OF THE KEY ASPECTS OF SDG 13 COLLECTED FROM THE WEBSITE

<b>Emphasising aspects of SDG 13 in Unit titles:</b>
No. of Units that include "Climate Change" in their titles
No. of Units that include "Environment" in their titles
No. of Units that include "Sustainability" in their titles
<b>Incorporating aspects of SDG 13 in the Unit Learning Outcomes (ULOs):</b>
No. of Units that include "Climate Change" in their Unit Learning Outcomes (ULOs)
No. of Units that include "Environment" in their Unit Learning Outcomes (ULOs)
No. of Units that include "Sustainability" in their Unit Learning Outcomes (ULOs)
<b>Incorporating aspects of SDG 13 in the Course Learning Outcomes (CLOs):</b>
How many times the word "Climate Change" is included in the Course Learning Outcome (CLOs)
How many times the word "Environment" is included in the Course Learning Outcome (CLOs)
How many times the word "Sustainability" is included in the Course Learning Outcome (CLOs)
<b>Incorporating aspects of SDG 13 in the Major Learning Outcomes (MLOs):</b>
How many times the word "Climate Change" is included in the Major Learning Outcome (MLOs)
How many times the word "Environment" is included in the Major Learning Outcome (MLOs)
How many times the word "Sustainability" is included in the Major Learning Outcome (MLOs)
<b>Coverage of unit to incorporate aspects of SDG 13:</b>
No. of Units that include "Climate Change" in their respective unit guide/outline/syllabus
No. of Units that include "Environment" in their respective unit guide/outline/syllabus
No. of Units that include "Sustainability" in their respective unit guide/outline/syllabus





# Profile of Project Leads



## **Dr Muammer Wali**

Dr Muammer Wali is a Fellow of Higher Education Academy (FHEA) and Lecturer in the School of Accounting, Economics, and Finance, Curtin University. Currently, he holds the position of Course Coordinator (Finance) for both undergraduate and post-graduate courses. He has an emerging research profile on good practices in education, climate change, and financial impact assessment of various public policies.

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## **Dr Andrew Brennan**

Dr Andrew Brennan is a Senior Lecturer in Economics and the Major Lead for Undergraduate Economics in the School of Accounting, Economics and Finance at Curtin University. His research focuses on getting to the root of the problem in the social and ecological political economy, including critical evaluating measures of social and environmental welfare, Historical specificity vis-à-vis long waves and institutional dynamic, and Systematic Theology in comparing alternative worldviews.

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## **Dr Habib Rahman**

Dr Habib Rahman is the Director of the Centre for Research in Applied Economics (CRAE), and a Senior Lecturer in Economics in the School of Accounting, Economics and Finance at Curtin University. He is an internationally recognised economist conducting research on the crossroad of environment, climate change, natural disasters, and sustainable social policies. He has over 15 years of experience providing technical assistance to governments, international development partners and non-government organisations. His research has informed public policies to the governments of Australia, Bangladesh, Cambodia, Nepal, Thailand, and Sri Lanka.

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