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RESEARCH ARTICLE



## The unsustainability of academic aeromobility in Australian universities

Andrew Glover<sup>a</sup> , Yolande Strengers<sup>b</sup>  and Tania Lewis<sup>a</sup> 

<sup>a</sup>School of Media and Communications, RMIT University, Melbourne, Australia; <sup>b</sup>School of Global, Urban and Social Sciences, RMIT University, Melbourne, Australia

### ABSTRACT

This article analyzes how certain forms of unsustainable hypermobility – primarily air travel – are embedded in the institutional orientations of Australian universities, and hence, into the professional practices of academics in the country. Academic air travel is commonly recognized as a key component of a scholar's ability to cultivate and maintain international collaborations, achieve high-impact journal publications and win large research grants. Despite the environmental sustainability implications that regular international and domestic air travel entails, a normative system of 'academic aeromobility' has developed. We discuss the results of a qualitative textual analysis of Australian university-sustainability policies as well as research and internationalization strategies. We find that the ambitions of academic institutions to reduce carbon emissions from air travel are discordant with broader policies and strategic orientations around international mobility. These findings foreground the paradoxical relationship between many university-sustainability policies and the sector's broader strategic aims of internationalization and mobility of staff and students, suggesting the limits to piecemeal approaches to organizational policy and practices pertaining to sustainability. We conclude by discussing the role of technology and 'slow scholarship' as a means to reduce academic aeromobility.

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Air; travel; mobility; university; internationalization; sustainability; Australia

### Introduction

The environmental impacts of air travel are increasingly recognized as an issue for sustainability. At a global scale, aviation is calculated to account for between 3.5% and 4.9% of the increased radiative forcing – which includes emissions, contrails and increased cloudiness from aircraft flight – responsible for climate change (Lee et al. 2009). International aviation-industry forecasts expect annual growth in the number of passengers of 4.9% through 2026 (Airbus 2007). Air travel is, therefore, a high-impact form of mobility with an anticipated appreciable rate of growth. Future technological 'fixes,' such as more efficient aircraft, are unlikely to achieve significant emissions reductions before 2030 (Bows and Anderson 2007).<sup>1</sup>

Australia is no exception to the expanding reliance on air travel. Indeed, with state capital cities and regional centers that are separated by large distances, and a lack of high-speed rail infrastructure, domestic air travel has become the preferred way to move around the country. Accordingly, the flight corridor between Australia's two largest cities – Sydney and Melbourne – is now the world's fifth busiest air-travel route (Amadeus 2013). The country's geographical remoteness from the rest of

the world also means air travel is all but necessary for international mobility. Australians high reliance on air travel is anticipated to continue into the future. Domestic growth in the airline industry, as measured by passenger/kilometers, is forecast to average 3.5% annually between 2014 and 2021 and international airline passenger growth in the country is forecast to grow at a similar yearly rate of 3.4% (Delarue and Zaru 2015).

For academics, particularly those concerned about sustainability and the effects of anthropogenic climate change, this presents a difficult dilemma, since international collaboration is an increasingly central requirement for promotion and career success. Arguably, this is particularly the case for Antipodean scholars for whom presenting solely at domestic conferences tends to be frowned upon, while events in the United States, United Kingdom and Europe are associated with higher levels of prestige and social capital. Like business and corporate travel (HBRAS 2009), academic mobility is viewed as a necessity for forging, cultivating and maintaining remote collaborations and partnerships (Urry 2007; Storme et al. 2017).

As is the case in other sectors, the normalization of air travel as central to academic professionalism

has persisted despite the availability of ways to communicate remotely in real time, such as through videoconferencing. Indeed, some researchers claim that rather than offering an alternative to connecting via air travel, advanced telecommunications has resulted in an expansion of mobility rather than travel substitution (Bergström 2010; Räsänen et al. 2010). As options for connecting at a distance via the Internet and other means have improved, so too has air travel, with the availability of cheap, direct air-travel routes between two locations being demonstrated to increase the level of collaboration between academic researchers at either end (Catalini, Fons-Rosen, and Gaule, 2016). In these ways, air travel can be seen as increasingly integral to the contemporary academic research process itself, with many universities pushing for global connectedness and collaboration as a performance norm across disciplines.

However, Australian universities (along with many of their peers worldwide) are also attempting to reduce their environmental impacts and carbon emissions to make their institutions more sustainable. This may involve a number of measures from individual institutional commitments to broader tertiary sector agreements, such as the Talloires Declaration (TDISL, 2016) which entails general commitments to sustainable development principles, awareness raising and environmental education. In fact, for some Australian universities, the drive to pursue sustainability has involved significant investments in 'greening' the campus environment and in embedding sustainability into curricula across the disciplines. In the United Kingdom, universities are even ranked according to their green credentials in a sustainability league table (People and Planet 2017), although no equivalent yet exists in Australia. Paradoxically, this greening has occurred at the same time when most Australian universities are pushing for more global connectivity and knowledge flows, often measured and manifest through the transnational movement of academic bodies, both staff and students.

In this article, we are interested in examining how the institutional ambitions of Australian universities toward sustainability stack up against the increasing internationalization and mobility of professional academic practices. Drawing on a qualitative textual analysis of a range of university policy documents and strategies covering sustainability, research quality and impact and institutional internationalization, we show how air travel is implicitly normalized and encouraged in much of university policy.

First, we discuss how sustainability policies intended to reduce air-travel emissions are limited in scope and impact, a finding described by

Hopkins et al. (2016) in their review of three universities in New Zealand. Explicit reduction strategies are uncommon, but where they exist there is an assumption that the activities for which academics undertake air travel can be substituted by videoconferencing or can be otherwise 'greened.' This narrative is consistent with a framing of academic air travel – as with air travel more generally – as an individual 'choice' to fly. Such an approach may characterize academics (particularly those whose research objectives are involved in climate change and sustainability) as 'hypocrites' who should modify their own behavior to fly less. Maniates (2001) refers to this phenomenon as the 'individualization of responsibility,' which is present across many aspects of sustainability thinking and fails to recognize the institutional power and priorities for why academics often feel compelled to fly. This type of analysis goes some way to explaining the 'attitude-behavior gap' so widely described in studies of activities with environmental impact (Higham, Reis, and Cohen, 2016). One contribution of this article, then, is to add to the growing body of literature that deemphasizes the importance of environmental moralizing in individual decision making (Moloney and Strengers 2014), instead focusing on understanding and identifying ways to intervene in the everyday practices for which air travel is deemed to be a necessary activity (Strengers 2015).

Second, we show how university-sustainability policies that seek to reduce air-travel emissions are isolated from the broader strategic directions of the institution, which are commonly configured toward internationalization—particularly in the Australian context. This impetus for global connectivity is explicitly bound up in a suite of practices, which necessitate or prioritize air travel, and in which academics are expected to participate to become 'successful.' These activities include presenting their work at international conferences, publishing in internationally renowned journals, being awarded international research grants and generating opportunities for international student engagement. We contend that the strategic direction of internationalization has expectations for air travel embedded within it, with both academic staff and student mobility positioned as desirable and necessary. While our focus is primarily on academic staff-mobility practices, these are clearly intertwined with student-mobility practices, such as international student exchanges, study tours and teaching activities, carried out at international campuses.

Our analysis draws attention to the competing priorities – sustainability on the one hand, and internationalization on the other – of many Australian universities, and how these facilitate or expand the 'need' for air travel. These priorities are

**Table 1.** University strategic and internationalization policies reviewed.

University	State	Policy Title
Bond University	Queensland	Strategic Plan 2013–2017
Central Queensland University**	Queensland	Engagement Strategy 2011–2014
Federation University**	Victoria	Strategic Plan 2016–2020
Griffith University	Queensland	Strategic Plan 2013–2017
James Cook University**	Queensland	Internationalization Strategy 2014–2017
La Trobe University	Victoria	Statement of Strategic Intent
		Future Ready Strategic Plan 2013–2017
		Internationalization Plan 2014–2017
Macquarie University	New South Wales	Internationalization at Macquarie University
RMIT University	Victoria	Internationalization Plan 2011–2015
		Research and Innovation Plan 2011–2015
		Strategic Plan 2015
University of Adelaide*	South Australia	Beacon of Enlightenment–Strategic Plan 2013–2023
University of Canberra	Australian Capital Territory	Breakthrough: The University of Canberra's Strategic Plan 2013–2017
University of New South Wales*	New South Wales	2025 Strategy
University of Sydney*	New South Wales	2011–2015 Strategic Plan
University of Western Australia	Western Australia	2020 Vision: Strategic Plan 2014–2020
Victoria University	Victoria	Strategic Plan 2012–2016

\*Denotes Group of Eight University.

\*\*Denotes Regional University.

difficult to reconcile because of the nature of air travel as an intensively carbon-emitting activity. We argue that proposed solutions to the reliance on air travel must entail challenging conventions of academic aeromobility as being central to the practices involved in producing a successful academic career. We conclude by speculating on what this could involve, such as finding ways to create more meaningful interactions through digitally mediated co-presence and/or shifting the priorities and practices of academic careers to emphasize more localized connections that do not require air travel. These findings raise questions of whether universities can be global in their impact without being globally mobile via air travel.

## Policy analysis

This article draws on a qualitative textual analysis (Fairclough 2003) of Australian university websites and online documents with respect to two types of policy documentation. In the first analysis, we reviewed sustainability policies and action plans from all 43 Australian universities with specific reference to policies, goals and procedures that seek to address air travel as a source of carbon emissions. These documents were thematically coded and analyzed to understand how the environmental impact of air travel by academic staff was acknowledged in university websites, policy documents, sustainability reporting and sustainability action plans. Where the environmental impact of this air travel was recognized, we sought to understand the goals for emissions reduction in this area, and how such goals were intended to be achieved.

The second analysis, forming the main thrust of this article, reviewed a sample of Australian university-strategic plans and internationalization strategies.

These documents articulated each university's strategic priorities and typically extended several years into the future. Internationalization strategies were either contained within the strategic plan or separate from it, focusing on how each university intended to internationalize its reach and impact, through teaching and research. These documents were reviewed in order to understand how the broader suite of policies that universities are pursuing might carry tacit expectations for air travel. In particular, we were interested in the air travel-dependent practices these strategic documents implicitly or explicitly encourage, such as forms of international networking and collaboration reliant on physical mobility. In undertaking this analysis, we aimed to understand the impact that policies seemingly unrelated to sustainability can nevertheless have on a university's environmental agenda. A sample of fourteen Australian universities was selected for this review (Table 1), including both city and regional campuses in different states and territories, and universities both within and outside the prestigious 'Group of Eight' (a network of the older, larger, research intensive) academic institutions. This approach ensured that the analysis did not unintentionally focus on certain types of universities that were more or less concerned with internationalization than was typical for the sector.

Where available, documents were downloaded for review. Where downloads were not accessible, relevant university websites were captured and reviewed offline. In both cases, documentation was imported into NVIVO qualitative analysis software. Using NVIVO, we coded the documents for material that was explicitly or implicitly related to air travel, internationalization and staff and student mobility more generally. Textual analysis was undertaken by reading and analyzing documents in full, as well as

conducting targeted word searches including the terms ‘air travel,’ ‘business travel,’ ‘flights,’ ‘plane travel,’ ‘virtual,’ ‘international,’ ‘global,’ ‘mobile’ and ‘mobility.’

Where these terms occurred, an initial evaluation was made about whether they were used in the context of a policy or strategy that involved air travel. Policies and strategies that did not do this – for example, those that discussed travel and mobility on a local scale in the context of commuting rather than flying – were set aside. Specific instances of policies and strategies prioritizing practices likely to require air travel were then clustered into broad policy areas, which inform the structure of the remainder of this article. In our analysis below, we reference specific academic policy and strategic documents to illustrate our findings about the embeddedness of air travel in university strategic plans and the disconnection with university-sustainability policies to reduce greenhouse-gas emissions.

### **Sustainable air travel – a siloed approach**

Information about sustainability was a common feature of Australian university websites. Nearly, all of these institutions had at least some information about initiatives, projects, policies or reports pertaining to environmental sustainability. The exception to this general characterization was some of the smaller, private universities such as Torrens University, Carnegie Mellon University, and University of Divinity, which lacked any reference to, or information about, their sustainability policies. It is therefore unclear whether these universities had a sustainability or environmental policy at all. The remaining institutions were all pursuing environmental sustainability to some degree, although they did this with varying degrees of comprehensiveness.

In most cases, sustainability information could be easily accessed by a direct link from the front page, by a quick website browse or by searching for relevant terms within the university website. Most university websites had distinct sections dedicated to environmental sustainability, often with separate sections devoted to energy, water, waste, transport and so forth. Some institutions also published a sustainability report, either as part of the general university annual report, or as a dedicated sustainability or environmental performance report.

Within these websites and documents, air travel was often overlooked entirely, with over half (22 out of 43) of Australian universities not explicitly recognizing it as a sustainability issue. Typically, in these cases, the transportation section of the sustainability website focused on issues like commuting, cycling initiatives, public transportation use and reducing the emissions of the university’s vehicle fleet.

Recognition that air travel was a source of emissions for which the university maintains a responsibility was relatively common in university-sustainability reporting and planning, but specific commitments toward reduction – such as a percentage reduction over a defined time – were rare. For instance, a university may have committed to ‘decrease the carbon footprint from domestic air travel’ (QUT 2011), but not identify how such a decrease would occur.

In the remaining (21 out of 43) university-sustainability policies that did recognize the climate-change impacts of academic air travel, generally one of two strategies was proposed for its reduction: (a) purchasing carbon offsets for air travel undertaken by staff or (b) increasing the use of videoconferencing to substitute for air travel. The viability of offsets as a long-term strategy for dealing with climate change has been extensively questioned (Fuss et al. 2014) and will not be dealt with in this article.<sup>2</sup> Importantly, this approach does not involve challenging the assumed need for flying; but is focused on making existing flying activity less objectionable.

With regard to the second strategy for reducing air-travel impacts, our analysis of university-sustainability policies indicated a relatively simplistic understanding of how substitution between air travel and videoconferencing might occur. The general assumption was that by providing videoconferencing facilities, air travel will ‘naturally’ be reduced. For example, the University of Canberra stated its intention to reduce the impact of international travel through ‘use of virtual technologies to attend long distance meetings.’ Further, it claimed that its greenhouse-gas reductions could be measured by calculating the carbon dioxide (CO<sub>2</sub>) avoided by undertaking meetings virtually (University of Canberra 2011, 41) – although no specific reduction goals were made. No further reference was made to how this transition from face-to-face communication to telecommunication might take place and this is typical of the policies that we reviewed. While some university-sustainability policies did specify measures for increasing the use of videoconferencing – such as increasing the number of bookings for dedicated teleconference facilities (RMIT University, 2010) – such ambitions were not accompanied by supporting strategies for academic staff to facilitate such a change. There was also little sense of how academics are already increasingly using a range of digital forms of networking (e.g. e-mail, social media) and other nonflying modes of engagement in their professional work and how flying alternatives might be linked to these kinds of practices – many of which are embedded in people’s everyday lives outside of the institutional setting.

University-sustainability policies thus tended to hold to a rather limited understanding of how



technologies or alternative practices might challenge expectations regarding flying, with many policy documents implying that videoconferencing can functionally replace air travel to a significant degree. However, many researchers (e.g. Urry 2004; Storme et al. 2017) argue that videoconferencing tends to *supplement* rather than *substitute* for academic (and other forms of) air travel – demonstrating how virtual technologies enable academics to initiate, cultivate and maintain extended networks of professional connections supplemented by periodic air travel for face-to-face collaboration. In this sense, the policy of replacing air travel with videoconferencing could actually *expand* the range of collaborative practices and international connections which demand air travel rather than offer genuine and effective alternatives for global interaction and exchange.

In all of the sustainability policies that we reviewed, no university had a detailed or coherent strategy for reducing air travel. In part, this may be due to air travel being classified as ‘Scope 3’ emissions which are those releases that arise from indirect activities not owned or controlled by the university itself.<sup>3</sup> Australian university-sustainability policies and action plans tended not to question the need for air travel. Instead air travel was by and large taken for granted as a fully normal and intrinsic part of academic life, with sustainability policies formulated to minimize its impact rather than challenge its centrality within the culture of the contemporary Australian university.

In some cases, academic institutions proposed specific reduction targets for air-travel emissions. In most instances, though, these were moderate, such as Federation University’s aim of curtailing the atmospheric effects of long-distance travel for all staff by 10% between 2013 and 2015 (Federation University 2014). Minor emissions reductions such as this were frequently met through year-to-year fluctuation in air travel anyway, without any deliberate change in policy or practice. In other cases, targets for emissions reductions from air travel were more ambitious, but they lacked an accompanying strategy that could deliver these reductions. Alternatively, a university might have cited an ambition to reduce air-travel emissions but encountered a situation whereby its staff flew more in recent years rather than less. For example, air travel by staff at Swinburne University increased 36% from 2013 to 2014 (from 7384 metric tons of CO<sub>2</sub> equivalent to 10,040 metric tons). The university’s 2015 sustainability report acknowledged the difficulty in reducing staff air travel given the expanding national and international reach of the university. The document specifically notes, ‘Reducing staff air travel proves to be an ongoing challenge for the University

with a growing international presence in Asia (including Sarawak campus in Malaysia) and partnership projects across Australia’ (Swinburne University 2015, 29).

This concession draws attention to the central tension faced by contemporary Australian universities: the ambition to become more sustainable but to also internationalize. In the following section, we explore how sustainability interventions that seek to reduce staff air travel are separated from other university policies, such as strategies that expand universities’ activities overseas or those that encourage the establishment of relationships with distant partners. In doing so, we highlight the absence of critical engagement with broader approaches that make air travel a perceived necessity for academic staff.

### The international imperative

When navigating to the website for the 2025 Strategic Plan of the University of New South Wales (UNSW), the front page – as of July 2017 – had the following text: ‘Australia’s Global University.’<sup>4</sup> The page invites the user to view a video entitled ‘UNSW, A Day in the Future,’ which depicts a futuristic university experience. A faux news headline scrolls across the screen: ‘News Update: UNSW research draws the world to Sydney creating new “quantum harbor.”’ The video then cuts to a view of the Sydney skyline, showing nine different national flags, alluding to the international travelers that have come to witness the UNSW innovation. In the following segment, a UNSW staff member is shown participating in development work, with the message ‘Sharing our Knowledge with the Developing World.’ In another scene, the video boasts that students will have the opportunity to engage in ‘A Fully Interactive Global Learning Experience’ and depicts a virtual classroom where students from Myanmar, Nigeria, Nepal and India are viewing an underwater scene on a coral reef.

Such examples are indicative of how internationalization is an increasingly core objective for the strategic positioning of Australian universities in a competitive domestic and global context. However, as the UNSW video also illustrates, the term ‘internationalization’ is often adopted in broad, undefined ways. For instance, Central Queensland University’s Engagement Strategy 2011–2014 defines internationalization as a ‘valued and enabling concept,’ that builds an ‘inclusive university culture, which endorses the importance of intercultural understanding, multicultural diversity, international perspectives and interaction between international students and their communities’ (CQU 2011, 20).

In other instances, internationalization is defined as a theme that cuts across all university activities:

Comprehensive Internationalization is a commitment, confirmed through action, to infuse international and comparative perspectives throughout teaching, research, and service missions of higher education. It shapes institutional ethos and values and touches the entire higher education enterprise... It is an institutional imperative, not just a desirable possibility (La Trobe University 2013, 4).

Some key Australian universities captured in our analysis appeared to be particularly concerned with branding themselves in global terms, such as RMIT University. With the goals of 'Global, Urban, Connected,' RMIT's Internationalization Plan involves 'extending our physical and virtual presence through international campuses and partnerships' (RMIT University 2011, 5). While all university policies that we reviewed arguably emphasized their extensions and influences beyond the boundaries of their local physical campuses, RMIT University's strategy does so more explicitly than most. It is difficult to envision how such a globally oriented institution could realize this vision of physical extension to international campuses without staff undertaking extensive air travel. Indeed, a number of Australian universities have established branch facilities in parts of Asia, Europe, and the Middle East, primarily for the purposes of expanding their outreach and facilitating student exchange (Lane 2011). This strategy often requires academic and university staff to undertake air travel for teaching and promotion to international student markets.<sup>5</sup>

Despite the pressure to internationalize, some Australian universities had a more regional focus rather than being explicitly international. While it has a campus in Singapore, James Cook University, for instance, has campuses in Townsville and Cairns—both of which are located in remote coastal regions of northeastern Australia. Based on its significant presence in tropical Queensland, this academic institution has positioned its research and impact as focusing on issues facing 'the tropics' worldwide, including environments, economies, societies and health (JCU 2013, 1). This strategy is more implicitly international, although the relative geographic isolation of this university's Australian campuses, together with its international campus in Singapore, still suggests an expectation of frequent air travel to fulfill its research ambition.

The importance of internationalization is also visible more broadly in the use of global university ranking tables in institutional promotional materials and higher education discourses. The QS Top Universities ranking states that its aim is to 'enable motivated people around the world to achieve their

potential by fostering international mobility, educational achievement and career development (QS 2016). Likewise, the Times Higher Education (THE) ranking is based on 'teaching, research, knowledge transfer and international outlook' (THE 2016). In 2016, Australia ranked second overall on the THE ranking in terms of internationalization of universities, which measures 'each institution's proportion of international staff, international students and proportion of research papers published with at least one co-author from another country' (Universities Australia 2016).

There has been a long-term tendency in Australia for academics and universities alike to privilege international conferences and publishers as key sites and outlets for validating and legitimating the quality of Australian research. Such a trend is consistent with the view that the country is part of a global 'south,' with regard to the centers of knowledge production that exist in the global north of North America and Europe (Connell 2007). More recently, however, this 'cultural cringe' has been greatly compounded by growing pressure to internationalize across teaching and research, with universities increasingly attempting to position themselves as global players. Aside from the global push for university to internationalize, Australia's high internationalization ranking likely reflects a particularly Australian preoccupation with a perceived geographic (and associated intellectual) marginality and hence a drive to be internationally connected.

Global rankings of journals such as those generated by databases like SCOPUS and the Web of Science also reinforce the notion that current understandings of academic performance and university competitiveness are linked to the extent to which institutions are internationalized. In this context, Australian universities are seen to be operating in an increasingly globally competitive market, both in terms of teaching and research. Internationalization, viewed as an institutional imperative, escalates the importance of international mobility, and particularly aeromobility given the country's geographic location. In the following section we focus on how these strategies are also linked to the growing internationalization of teaching and educational practices.

## Internationalization of teaching and students

A key aspect of the internationalization of universities in Australia is the growing importance of attracting and enrolling international students at both domestic and international campuses. In the face of decreasing government funding for the higher-education sector, Australia's universities have become heavily reliant on revenue from

international student fees, which are among the highest in the world (HSBC 2014). International students are a particularly lucrative market for Australian universities to capitalize on, with numbers increasing from 57,661 in 1999 to 328,659 in 2014 (Shanka, Quintal, and Taylor, 2006; Australian Education Network 2016). This trend amounted to 25% of the total university-student cohort in 2014 and education has now become the most valuable export in the state of Victoria (Ziguras and McBurnie 2015). Of these international students, a high proportion of them come from Southeast Asia due to proximity to home and the quality of education available (Shanka, Quintal, and Taylor, 2006). It is no surprise then that our analysis found that international student enrollments tended to be recognized as highly valuable in the strategic plans of Australian universities.

The push to internationalize the student population means that many students are travelling globally as they fly (perhaps multiple times per year) between their university and home (Luzacka 2016). This push also has implications for the types of work academics are encouraged or required to do to attract and educate international students. This was demonstrated in several of the strategy documents that we reviewed. For example, the University of Adelaide's Strategic Plan states its intention to embark on a rebranding and enhanced marketing campaign to 'contribute to our retention of a student profile of high international student enrolment' (University of Adelaide 2012, 15). Similarly, Victoria University's Strategic Plan places an emphasis on 'international reputation as a partner of choice for international students from targeted countries' (Victoria University 2011, 38). The internationalization agenda was also evident in the promotion of international exchange programs for students, both to and from Australian universities. For example, La Trobe University states its aim to increase the number of students who undertake an overseas mobility program as part of their degree to 20% of the graduating cohort (La Trobe University 2013, 6). Likewise, La Trobe has the goal of ensuring '50% of staff have completed at least one professional development workshop related to an aspect of internationalization (e.g. teaching international students, internationalization of the curriculum)' (La Trobe University 2013, 9). This emphasis on international mobility of students encourages further recruitment of academic staff into teaching practices that necessitate air travel.

In some cases, the demand for international travel of academic staff is likely to increase dramatically as Australian universities pursue goals for international student enrollment. For instance, Central Queensland University has an aspirational goal to

increase by 500% the number of international students studying at its regional campuses (CQU 2011, 23). While the sustainability policies of the universities that we reviewed did not generally consider emissions from student flights to be part of their carbon footprint, the pursuit of international students clearly encourages them to engage in air travel, both for immigration and for visitation purposes. This is illustrative of how expectations of air travel expand and circulate to other groups, such as students, which are considered to be outside of the university's realm of responsibility.

It is interesting to note that the common strategy of universities to include percentage targets in relation to increasing the internationalization of their student cohorts and teaching activities and the role of academic staff in achieving this objective. This approach stands in contrast to the mainly absent use of percentage targets to reduce the emissions associated with academic air travel, as discussed earlier in this article. Again, this practice speaks to the lack of sustainable air-travel considerations in the formulation of internationalization strategies and goals.

Our intention is not to be critical of the internationalization of students or universities *per se*. As a number of research strategies articulate, internationalization provides many benefits for the student experience and cross-cultural learning. However, internationalization also promotes the global mobility of staff and students – the expectation of which is likely to entail increased reliance on air travel. We continue this analysis below by reflecting on a final way in which the internationalization of universities encourages air travel, through the practices involved in producing and disseminating globally relevant research.

## Internationalization of research

For Australian universities in particular, we contend that international collaborations and research grants are increasingly seen as integral to a successful academic research career. As we noted earlier, this is not merely a reflection of the desires of academics themselves or the norms of their respective disciplines but is a facet of the broader internationalization agenda of universities in Australia; an agenda that is linked to a range of pressures including a growing emphasis on attracting external funding (Vincent-Lancrin 2006). Domestic university-ranking systems such as the Excellence in Research for Australia (ERA) tend to privilege international outputs as markers of quality. The scoring system exemplifies this with five, the top score, reflecting work that is 'well above world standard' (ARC 2015, 6). Similarly, when recruiting academics, Australian universities tend to assemble a global pool of



candidates, often emphasizing international connections as part of the required criteria for employment. For instance, the University of Adelaide seeks to attract ‘high citation researchers who count amongst the top 1% in the world in their fields’ (University of Adelaide 2012, 12). This same institution’s “Staff Mobility Scheme” has as its key focus the drive to facilitate international movement of staff between partner institutions (University of Adelaide 2012, 13). These measures are indicative of a broader expectation that successful Australian academics will be internationally mobile at all stages of their career.

Linked to this factor is the heavy weight that Australian universities place on international research collaborations, a feature that was reflected in our analysis of university strategies. The University of Canberra, for example, states its specific objective to ‘increase the proportion of publications co-authored with international collaborators’ (University of Canberra 2013, 6). As we have noted, alliances of this kind tend to be initiated by and accompanied through the life of the project in question by air travel, with academic partners traditionally seeing periods of physical co-presence as essential to the collaborative process.

Joint appointments, such as appointing a prominent scholar from the United Kingdom or Europe as an ‘adjunct’ or honorary professor, is an increasingly common strategy adopted by Australian universities and yet another expression of forms of internationalization often entailing air travel. This type of arrangement was also reflected in our analysis. For example, Griffith University seeks to ‘explore the potential for joint appointments with targeted senior researchers in key partner institutions’ (Griffith University 2014, 15). Such appointments usually include a section outlining sources of support for air travel. Less formally, Australian universities provide a range of support for staff exchanges and visiting fellowships, with international travel often encouraged over domestic exchanges.

These activities are meant to enhance the reputation of Australian universities, as well as secure competitive research grants. To support these aims, internal research funding is sometimes specifically allocated on the basis of its support for internationalization. For example, Macquarie University’s internationalization strategy states that it will award seed funding to ‘support new research initiatives that enhance the internationalization priorities at faculty levels and through central funding’ (Macquarie University 2016, 2). Similarly, the University of Sydney’s 2011–2015 Strategic Plan states that the institution will ‘[i]ntroduce a World Fellows Program for short term visits by leading international academics’ and ‘[p]ursue new funding opportunities to build capacity for international

engagement and exchange’ (University of Sydney 2010, 14). Sydney also commits to ‘greater coordination and focus of our international activities at a university wide level’ (University of Sydney 2010, 24). Promotion of short-term visits by international academics and greater focus on global-scale activities clearly implies that academic staff will engage in air travel both to and from the university campus to fulfill certain organizational responsibilities.

The production of ‘Internationally-renowned Research’ is one of the University of Western Australia’s 2020 Vision Strategic Goals (UWA 2014, 7). In the foreword to this document, the vice chancellor states that the university’s performance will be compared with the ‘highest international benchmarks and standards’ (UWA 2014, 1). Further, the institution has undertaken to “communicate our research globally through high quality publications, presentations and international conferences, and through social media’ (UWA 2014, 7). The expectation of air travel in this case is quite explicitly referenced in regard to attendance at international conferences, while also flagging other opportunities for achieving impact without flying, such as via social media.

The University of New South Wales is similarly ‘global’ in its orientation for academic research. Within the institution’s first strategic priority of ‘Academic Excellence’ is an ambition to be a ‘world leader’ in research quality, while seeing itself as ‘a magnet for the most talented researchers... and for partnerships with industry, international organizations, governments and other leading universities around the world’ (UNSW 2015, 13). The institution’s objectives are to be ‘recognized by prestigious national and international research awards,’ and for staff to be ‘among the world’s most highly cited researchers’ (UNSW 2015, 13). As we have discussed, international recognition and high citation – both generally necessary for academic promotion – have traditionally tended to also involve being hypermobile. In other words, the practices of academic work presuppose air travel to achieve success and to manifest desirability from the most competitive universities.

The outcome of these policies and strategies is clear: while universities may not specifically mandate air travel – and in some cases actively attempt to replace it with videoconferencing and other means—these practices of research, collaboration, joint appointments and international exchange assume that academic staff will engage in regular patterns of air travel to achieve strategic priorities.

### **Conclusions: reorienting internationalization, reframing mobility**

In this article, we have shown how academic air travel needs to be understood in terms of the

broader institutional orientations of the university sector, which despite increasingly flagging sustainability as a key issue, is at the same time gradually normalizing hypermobility as central to university life. As we have demonstrated, a university's sustainability policy is unlikely to succeed if it is developed and viewed as practically and conceptually separate from the broader strategic direction of the university. Indeed, while some institutions do have sustainable air travel policies, the planning priorities that actually impact on academic aeromobility have been made and continue to be made, outside of these frameworks.

Importantly, we have not only argued that sustainability policies are relatively ineffectual in the face of increased pressure from universities for academics to internationalize their careers. We have also suggested that these internationalization strategies have the effect of recruiting scholars into new and expanded arrays of collaboration, teaching, and research practices that necessitate flying more often. By sidestepping questions about why academics fly, and the routines that flying enables, sustainability policies therefore serve to legitimize the promotion of more flying. They give the impression that universities are 'doing their bit' for sustainability, while effectively allowing these institutions to continue promoting and recruiting academics into practices that require heightened international mobility. The long-term viability of this level of international activity is questionable, given the potential for events such as fuel shortages, climate change or political instability to disrupt the system of air travel that we otherwise take for granted.

With this in mind, university-sustainability policies that seek to reduce air travel must, at the very least, engage with the strategic directions and internationalization policies of universities – where the imperatives that encourage hypermobile practices are actually made. We outline two ways in which this could be done.

First, university administrators need to explore and develop the tools that academics might use to electronically collaborate, to communicate and to connect in ways that do not require or normalize air travel. For instance, there is a growing body of scholarship on how scholars are networking and conducting research via digital means, practices that often extend out of everyday digital media use, such as the use of web cameras and social media (Lupton 2014; Gössling and Stavrinidi 2016). However, currently, the kinds of facilities and modes of engagement offered by universities within the institutional context are perceived by many academics to be retrograde or substandard and therefore unable to replicate the 'conference experience'; or indeed the more agile, everyday forms of digital networking

academics often do through non-institutional sites and fora.

While many researchers have used videoconferencing facilities that allow for a type of remote presence at a conference or meeting setting, these technologies do not appear to offer the capacity for rich, multifaceted interactions where networks can be forged and maintained. In other words, although one can 'attend a conference' online, or interact with colleagues on a screen, academics often perceive this as not being a fair substitute for actually 'being there.' This inadequacy stems not only from insufficiently immersive communications technology, but also due to broader persistent norms in relation to conference sociality (although we acknowledge that these norms may be shifting with the growth of e-conferences and other forms of virtual meet-ups). For Australians, participating in live online conferences can be particularly difficult, given the significant time differences between Australia and Europe or North America. Events scheduled to occur during the day in these locations are generally outside of our business hours, and often at night. Given these difficulties, it is no surprise that the perceived necessity for physical co-presence – and therefore air travel – persists (Nevins 2014; Strengers 2015). Further, as we have shown, such practices are shored up by an array of techniques and technologies of mobility that have become normalized within the university context.

It remains to be seen whether more immersive and digitally mediated virtual environments can offer the same rich degree of interaction as bodily copresence. However, the growing emphasis on and investment in digital approaches to teaching and learning suggests that universities see this as more than possible in the student-engagement space (Jukes, McCain, and Crockett 2016). Determining whether digital forms of conferencing and academic networking are possible requires concerted and explicit forms of experimentation by relevant participants that go beyond simply providing the relevant telecommunications technology. Successful implementation involves considering, for example, how a virtual academic conference might replicate or even extend upon the much lauded social opportunities associated with conferences – such as 'morning tea breaks' and the 'conference dinner' – and how this participation can become as 'highly prized' as attending such an event in person. Understanding how academics could forge beneficial connections, establish rapport and collaborate remotely is itself a new form of academic work that needs to be done. These pursuits will likely entail detailed research into these academic practices and a willingness to experiment with new forms of communication and networking. However, there is still the risk that

digital co-presence would continue to supplement air travel rather than substitute for it, thereby reinforcing the need to stay internationally connected by flying (Haynes 2010).

Second, sustainability policies might begin to attempt to recruit academics into practices of teaching, research and collaboration that do not involve flying or international collaboration. This is a more challenging suggestion and one that might involve building upon the drive within many universities to digitize not only teaching and learning but staff and student engagement. Movement in this direction would require dedicated university structures and policies, rather than an attempt to retrofit a lack of air travel onto a system that is otherwise oriented toward it. In the research space, this would require a fundamental shift in the expectations of academic and university practices to “decouple” academic air travel from global impact. As noted earlier, it would involve an embrace and normalization of digital forms of sociality.

Another potentially useful shift relevant here would be toward ‘local scholarship,’ or ‘slow scholarship,’ which would necessitate a significant inversion of priorities centered on issues that are more closely related to a university’s physical location. Movements of this kind – that prioritize the local over the global or at least a located approach to global connections and affiliations (Pink and Lewis 2014) have precedents in other practices related to sustainability, such as slow towns, local food and energy production and local currencies and trading schemes. The ‘slow scholarship’ movement is actually gaining circulation in some academic circles as a way to resist the pressures of an increasingly fast-paced and competitive profession (Hartman and Darab 2012; Harland et al. 2015; Mountz et al. 2015; Bagelman and Bagelman 2016; Evans 2016; Bergland 2017; Carr and Gibson 2017). Implicit here is a call to arms for academics to travel overseas less and to contemplate and connect at home more, suggesting an embedded critique of the normative role of air travel in universities today. However, importantly, this is unlikely to be effective if it is interpreted as an appeal for individual academics to ‘resist’ the internationalization movement – this approach must also be valued and acknowledged institutionally and reflected in policy and promotion practices.

In this article, we have highlighted the unacknowledged conflict between many university-sustainability policies and the sector’s broader strategic aims of internationalization and mobility of academic staff. Even the most ‘advanced’ or progressive sustainability policies to reduce air-travel emissions may – through their expected reliance on videoconferencing and other virtual forms of communication – unintentionally encourage academic staff to fly more rather than

less. Instead, we have argued that sustainability policies must look beyond the narrow framing of ‘sustainability,’ and attempt to engage with broader policies and practices that universities promotes to support internationalization. This reorientation will involve asking fundamental questions about the value of global collaboration and the ways in which it can be achieved in the academic sector.


## Notes


1. Beyond 2030, radical aircraft designs such as ‘blended wing body’ aircraft may reduce fuel consumption by up to 30%. However, as Bows and Anderson (2007) also point out, the long service life of aircraft means that at least two-thirds of the 2030 fleet will comprise aircraft used at present.
2. Fuss et al. (2014, 851) argue that ‘negative emissions’ strategies like carbon offsets face significant uncertainties that include competition with food security and biodiversity, response of natural land and ocean carbon sinks, costs and public acceptance.
3. National Greenhouse Energy Reporting classifies emissions in three ways: Scope 1 emissions are those released as a direct result of an activity at a facility level and Scope 2 emissions are released indirectly, such as using electricity from an offsite power station. Scope 3 emissions are generated from activities in the wider economy, such as the embodied emissions in manufactured goods or air travel. Scope 3 reporting is optional under the NGER scheme (Australian Government Clean Energy Regulator 2015).
4. See <https://www.2025.unsw.edu.au>.
5. University administrators and economists view engagement with Asia as a dominant focus for Australian universities in the coming decades, due to the predicted economic growth and wealth in this region (Australian Government 2012).


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## ORCID

Andrew Glover  <http://orcid.org/0000-0002-5786-0285>

Yolande Strengers  <http://orcid.org/0000-0002-5664-621X>

Tania Lewis  <http://orcid.org/0000-0002-2855-5644>

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