

BEYOND ZERO

CARBON OFFSETTING IN INTERNATIONAL EDUCATION



Carbon footprints might be the elephant in the room for international education. But taking responsibility for our environmental impact need not be a burden, writes **Rob McDonald**.



The benefits of international education are well known. Beyond the pure economic benefits, it enhances Australia's international standing and promotes a shared understanding between people and cultures. But what about the associated costs... particularly when it comes to the environment?

International education by its very nature promotes air travel. Recruitment teams and academics fly around the world encouraging students to fly to other parts of the world. All of this contributes to global greenhouse gases and the carbon footprint of the entire international education sector.

As the Associate Director of International Marketing and Recruitment at CQUniversity, I am responsible for sending staff overseas to encourage students to fly to Australia. With this on my conscience, I began to review the environmental impact for which I am accountable.

A larger picture soon emerged when I factored in not only recruitment staff, but international student air travel as well.

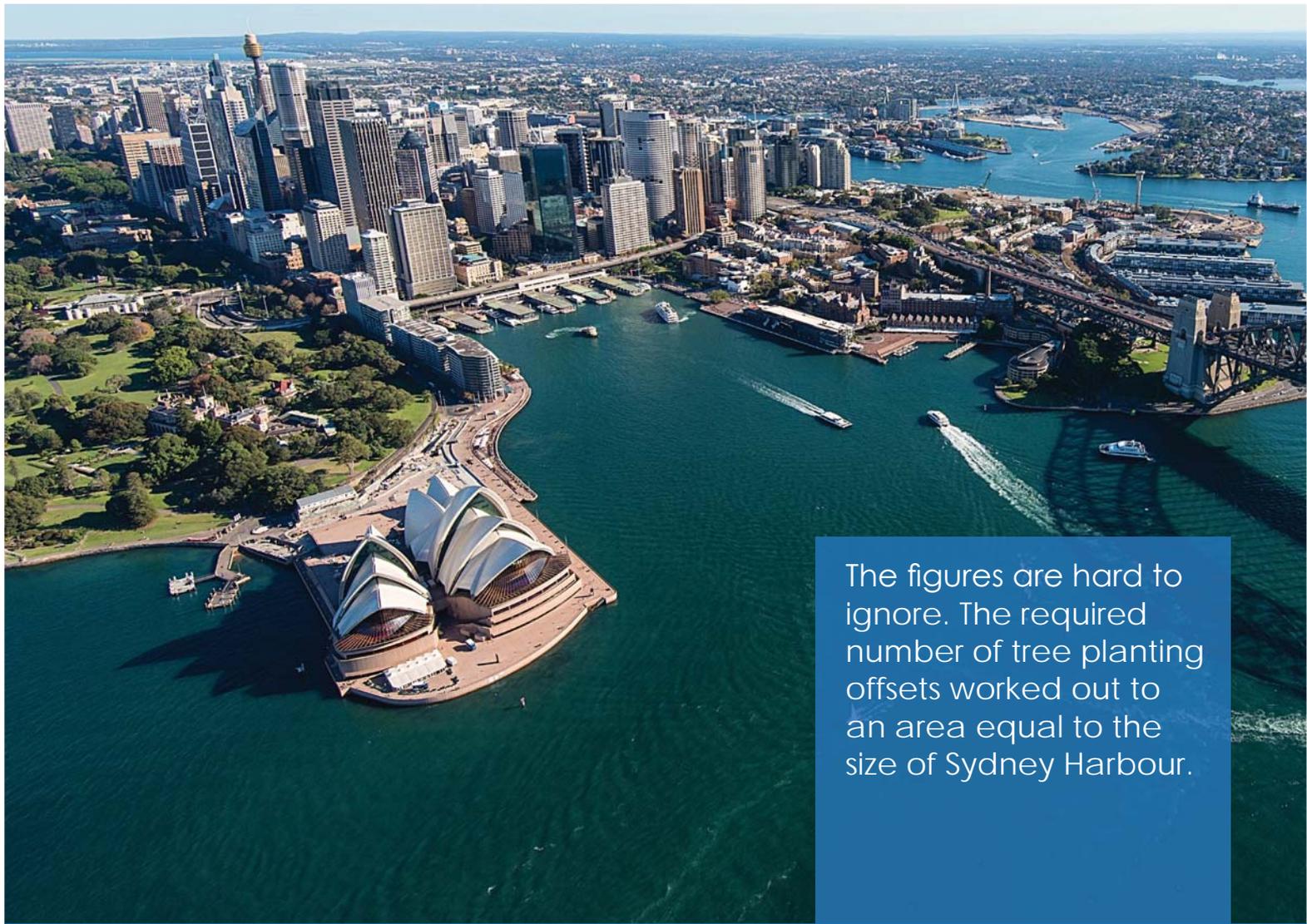
Most institutions bundle in staff travel as part of their organisation's overall carbon footprint. However, responsibility for offsetting the travel of the thousands of international students (on which the industry relies) seems to be devolved to student themselves.

The method in the madness

To estimate the carbon footprint for international student air travel, I used Australian Education International (AEI) 2014 commencement data. I then got out my trusty carbon footprint calculator and worked out the air travel carbon emissions (CO₂-e) by tonne.

I made the following assumptions:

- Air travel was based on a return ticket (as per immigration requirements for Genuine Temporary Entrants)
- Largest airport (by volume) was selected for each country. A weighting system was applied for China and India, based on their top five airports.



The figures are hard to ignore. The required number of tree planting offsets worked out to an area equal to the size of Sydney Harbour.

Tree for a tree?

To help visualise the data, I used tree planting as the carbon emission offset model. However, it is important to note there are many different projects available to offset carbon. The number of trees required to sequester 1 tonne of CO₂-e can vary, so for the purpose of my study I used the conservative values below:

- 6 trees per tonne of CO₂ (can vary from 4-15 depending on site, terrain and rainfall)

- 2,000 stems per hectare (tree density can vary between 500-2000 stems per hectare)

From my research, the dollar amount per tonne can vary greatly depending on the type of offsetting model chosen and the companies used. For the financial cost of paying for the bulk offsets, I used a mid-range figure of \$15 per metric tonne of CO₂-e.

Table 1: The cost of offsetting the air travel emissions of Australia's international student commencements in 2014

	 Tree planting offsets	 CO ₂ e Tonnes	 Cost
CQUniversity International staff	876	146	\$2,190
CQUniversity International staff and students	28,911	4,978	\$74,670
Australia-wide	8,667,244	1,444,4512	\$21,668,115



Image: Brian Raisbeck (Stock)

Using these assumptions I was able to get an approximation of the carbon footprint for Australia's international student commencements in 2014.

Findings

I started by calculating the carbon emissions from air travel for my international recruitment team. This worked out to 876 tree planting offsets for 2014. This seemed like a reasonable number of trees that could be planted by staff on their engaged service leave day, or by students with a potential partner like Conservation Volunteers.

However, this was only part of the story. The aim of that staff travel was to recruit international students. What about the carbon emissions of those students who consequently flew to Australia for their studies?

When factoring in the CQUniversity commencing student cohort for 2014, the numbers started to grow considerably. This led me to calculate the environmental impact for all international student commencements across Australia in 2014. The figures are hard to ignore. The required number of tree planting offsets worked out to an area the size of Sydney Harbour.

Carbon accounting

Large as these figures were, this only represents commencing international students for 2014, which accounted for just 60 per cent of the total international student cohort. Never mind the remaining students, as well as family and friends who came to visit. In a study by Davidson et al (2010), over 70 per cent of international students are visited by an average of at least two friends and two family members during their study, which adds up to even more emissions.

The numbers keep increasing when you consider that Australia is just one destination country with only 6 per cent share of total global mobile students. Internationally mobile students have doubled from 2 million in 2000 to 4 million in 2012 and this trend doesn't appear to be slowing down (UNESCO Institute of Statistics 2015).

Even if the sector achieves a carbon neutral footprint there would still remain a legacy debt from more than 3 million international students who have already flown to Australia and returned home (Department of Education and Training, 2015). To address carbon offsetting for both past and present air travel, we would need to leap frog carbon neutral and aim for carbon negative solutions.

Where to from here?

The question of who bears ultimate responsibility for the sector's carbon footprint remains undecided. We could do nothing and leave it up to individual students. Or we could take a national, sector-wide approach and upscale current efforts towards addressing our legacy carbon debt and generating a negative carbon footprint.

From these initial findings, it is recommended that further research be undertaken to assess the full environmental impact of Australia's international education sector and to understand what is already being done to counter our collective carbon footprint.

Potential solutions could include opportunities to collaborate with indigenous Australia, engage with other industries such as tourism and aviation, as well as working with our students using social innovation. Whatever the cost, it would be relatively minor for the billion dollar sector that is international education.

Let's hope the Australian International Education Conference (AIEC) 2015 theme, 'International education: global, responsible, sustainable', ends up describing a sector to which others can aspire.

Rob McDonald is Associate Director of International Marketing and Recruitment at CQUniversity.

References

Davidson, M, Wilkins, H, King, B, Hobson, P, Craig-Smith, S, Gardiner, S (2010), *International education visitation – tourism opportunities*, CRC for Sustainable Tourism Pty Ltd, Gold Coast, Qld.

Department of Education and Training (2015), *Research snapshot: International students in Australia up to 2014*, Australian Government, June 2015, Canberra, ACT.

UNESCO Institute of Statistics (2015), *Global flow of tertiary-level students*, UNESCO Institute of Statistics, viewed 12 September 2015, <http://www.uis.unesco.org/Education/Pages/international-student-flow-viz.aspx>