

accounting for sustainable aviation

Sustainability is key for the global aviation industry and Chartered Accountants have a vital role to play.

Story Professor Roger Burritt CA, Professor Stefan Schaltegger and Joanne Tingey-Holyoak

With the world of aviation changing more rapidly than ever before and fuel surcharges being a growing concern, accountants and their clients need to be familiar with the shifting political and cost bases, economic beliefs and technological developments of major industry players globally. More than 2.2 billion passengers flew in 2010 generating 32 million jobs and contributing to nearly 8 per cent of world turnover. Sustainability of the industry is critical for all stakeholders and exploration of the accounting professions' role is paramount for the future of aviation.

The aviation industry is one of the fastest growing contributors to climate change, globally creating more than 700 million tonnes of CO₂ per year. Despite the impact of the aviation industry on emissions and the recognition of a global need to change, it was not that long ago that the idea of alternative fuel sources for aviation was completely foreign. But now the tough years of technological and regulatory shifts are making sustainable aviation a reality.

The main concern for sustainable air travel is the future potential for reduction of aircraft emissions in the face of the fact that cargo and passenger air miles continue their long-term upward trend. The altitudes at which CO₂ emissions from air travel are released are a significant environmental problem, with more impact on the ozone layer than emissions released on the ground. When commercial flights were halted during the 9/11 crisis in 2001, the earth's temperature was observed to be 1-2 degrees celsius cooler.

Not only will accountants be faced with bureaucratic changes such as European Union (EU) emissions trading for airlines, but the new set of challenges mean they

will have to account for and communicate the issues faced by sustainable aviation for key stakeholders. Airlines, customers, governments, fuel supply chains and the agricultural community will all dramatically shift their strategies and thinking.

AIRLINES

In financial terms, fuel costs are highly variable and a large part of an airline's operating costs. Virgin Australia only recently announced an increase in fares resulting from its cost of jet fuel rising 46 per cent since the company's last across-the-board fuel surcharge in August 2004. To increase certainty of future fuel costs and reduce variability, biofuels will in years to come be an integral part of continuing operations of many airlines. Furthermore, airlines want to trim carbon dioxide emissions as the EU is set to levy an airport carbon tax from 2012. The industry has expressed objections to the EU scheme, with estimates that operators will have to pay \$US456 million a year by 2020. Airlines have already launched reforms to limit carbon emissions by using biofuel. Qantas is directly addressing the issue by forming partnerships with both waste and algal-based biofuel manufacturers in order to continue toward its goal of accelerating the commercialisation of drop-in type sustainable fuels as a way of reducing emissions.

CUSTOMERS

Customers too will ultimately drive changes to aviation. Unlikely to pay more for flights with biofuels, the shift will need to be based on sales points other than customer value and the brand personality at stake. In March 2011 the UK World Wildlife Fund reported that 47 per cent of companies have reduced their business flights in the last two

years and nearly all companies who have reduced their flying say it is possible to stay profitable and competitive while flying less. The Centre for Accounting Governance and Sustainability (CAGS) at UniSA and the Centre for Sustainability Management (CSM) at Leuphana University Lueneburg and Yale University in the US are undertaking a project that will help all stakeholders, particularly airline customers, to understand better the sustainability of biofuels, while also providing data to governments and environmental organisations throughout the world.

ALTERNATIVE FUEL SUPPLIERS

In financial terms fuel costs are on average about 25 per cent of variable costs. The aviation industry is sending market signals to biofuel manufacturers that it is a willing buyer and thus these fuels will continue to become more competitive further driving demand. A reduction in the costs of non-fossil fuels as the market grows will improve the relative advantage of non-fossil fuels through economies of scale. The need for reducing fuel supply uncertainty is gearing the industry towards non-fossil fuels.

REGULATORS

Ultimately, regulators could act at multiple stakeholder levels to increase airline sustainability. At the level of fuel production, there needs to be incentive programs for sustainable agriculture to produce these crops. Supply chains for agriculture will be a critical component. Factors such as crop insurance, land availability and sustainable transport of fuels will have a dramatic impact on the future of sustainable air travel and regulators will need to take many stakeholders into account when factoring these issues into future and current planning.



At the airline level, Qantas is currently urging the federal government to help establish an aviation biofuels industry in Australia in order to remove the capital cost and supply chain pressures off individual airlines. Furthermore, regulators could act at the customer level to create tax and other incentives to encourage staff to hold more virtual meetings.

AGRICULTURE


Biofuel production utilises a variety of feedstocks, including canola and cottonseed, which can account for up to 75 per cent of the cost of production for biofuels. Australia on average produces between 2-to-3 million tonnes of oilseed crops each year. Biofuel production in Australia is commercially viable but is unsustainable if constrained by domestic feedstock availability and feedstock could otherwise be used to support food production for humankind. In addition, biokerosene production requires a considerable volume of water – a concern not only for farmers already accommodating increased prices for water but for the environment which is already under stress. In addition, there is some concern over dedicating agricultural resources to air travel, causing agriculture to come under increasing strain merely to satisfy humanity's basic food and energy needs. There is also the basic trade-off problem of biofuels and biokerosene. There are no net carbon emissions when burnt but the production of plant oil also causes carbon emissions and other environmental and social problems.

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However, there are opportunities for creation of agricultural manufacturing clusters if supported by regulatory strategies that could provide security and growth for rural Australia when using crops which are grown on marginal lands which otherwise would be unproductive.

Despite the obvious benefits to alternative fuels for aviation, there is a lot of unease with considerations such as food-pricing and land and water use dominating first generation biofuels considerations. The progression has been such that lifecycle assessments have indicated more than a 70 per cent improvement in fuel efficiency and dramatic improvements in reliability and consistency of pricing. All stakeholders, especially governments, need not only take seriously the potential for alternative fuels but also quickly eliminate any supply chain barriers, such as unsustainable road transport of fuels. In the face of the potential for a carbon tax in the near future, the future of accounting for sustainable aviation depends on these advances.

Clear accounting for the benefits to variable and fixed costs and revenues faced

by airlines, suppliers, customers, farmers and regulators is a necessary means to global sustainable aviation. This is something to which Australia (with its large land mass and previous sentence to the tyranny of distance) should grasp as a commercial opportunity, supported of course by a clean and green focus by the accounting profession. Furthermore, accounting for sustainability performance is a critical aspect. If biokerosene production systems prove to be unsustainable there could be great detriment to airlines forced to alter and rectify technology constancy. 

Professor Roger Burritt CA, director of CAGS at the University of South Australia is working with Professor Stefan Schaltegger, director of the CSM at Leuphana University Luneburg (Germany) and also Associate Professor Rob Bailis from Yale University (USA), to develop a sustainable platform for biokerosene through investigation of stakeholder pressures across the globe, thereby leveraging shared experiences and highlighting opportunities and challenges when accounting for sustainable aviation. Please contact Joanne Tingey-Holyoak for further information: joanne.tingey@unisa.edu.au