

Uptake of resource efficiency measures among European small and medium-sized accommodation and food service providers

Author

Becken, Susanne, Dolnicar, Sara

Published

2016

Journal Title

Journal of Hospitality and Tourism Management

Version

Accepted Manuscript (AM)

DOI

[10.1016/j.jhtm.2015.11.001](https://doi.org/10.1016/j.jhtm.2015.11.001)

Rights statement

© 2016 CAUTHE - Council for Australasian Tourism and Hospitality Education. Published by Elsevier Ltd. Licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International Licence (<http://creativecommons.org/licenses/by-nc-nd/4.0/>) which permits unrestricted, non-commercial use, distribution and reproduction in any medium, providing that the work is properly cited.

Downloaded from

<http://hdl.handle.net/10072/99581>

Griffith Research Online

<https://research-repository.griffith.edu.au>

Uptake of resource efficiency measures by small and medium-sized accommodation and food service providers

Susanne Becken and Sara Dolnicar

Reference as: Becken, S. & Dolnicar, S. (2015). Uptake of resource efficiency measures among small and medium-sized accommodation and food service providers. *Journal of Hospitality and Tourism Research*, 26, 45–49.

Abstract

Increasing environmental performance in tourism is of critical importance. Supporting accommodation and food providers in the implementation of resource efficiency measures helps reduce utility costs and leads to a range of other benefits. A subset of the Flash Eurobarometer data (N= 601) are used to investigate resource efficiency measures now and in the future, including barriers and drivers, and future support required. This research concludes that small and medium-sized Western accommodation and food service providers are highly engaged in resource efficiency, and, given appropriate support measures, are likely to continue investing in measures that further increase resources efficiency.

Keywords

Resource efficiency; accommodation; food providers; barriers; investment

1 Introduction

The tourism industry, and its key sub-sectors of tourist accommodation and food services, is an important user of resources, such as energy, water and materials (Becken, 2014; Gössling, 2002; McLennan, Becken & Stinson, 2015). Accommodation providers, in particular, have a high environmental footprint. Based on 2005 data, it has been estimated that accommodation generates 21% of tourism's total greenhouse gas emissions (Scott et al., 2008). In a context of global environment change and increasing concern about the planet's ability to satisfy resource needs, the global tourism industry is increasingly interested in enhancing resource efficiency (Mattera & Melgarejo 2012; Nikolaou et al., 2012; Hathroubi, Peypoch & Robinot, 2014). Accommodation and hospitality businesses spend up to 10% of their operational budget on energy and water alone (Becken, 2013; Bohdanowicz & Martinac, 2007) and, in combination with rising utility costs and carbon prices, investments into resource efficiency provide a measurable financial return. The Green Hospitality Programme in Ireland, for example, resulted in an average annual saving of €30,000 for members due to improved waste management, reduced energy and water use, and through more efficient purchasing (Green Hospitality Programme, 2012).

In addition to the key motivator of reducing operating costs (Becken, 2013; Blanco, Rey-Maqueira & Lozano, 2009; Bohdanowicz, 2006), environmental initiatives have been linked to strong environmental values by individual managers or corporations (El Dief & Font, 2010; Garay & Font, 2011). Carasuk et al. (2013) found that altruistic (as opposed to economic) motivations of environmentally certified tourism businesses in New Zealand led to the greatest commitment and investment into these initiatives. Benefits go beyond improved

business performance and productivity of hotels (Molina-Azorin et al., 2009), and include better compliance with legislator requirements (Morrow & Rondinelli, 2002), improved image and positioning in the market (e.g. through certification schemes), and increased staff loyalty and retention (Molina-Azorin et al., 2009; Chan & Wong, 2006). Benefits of investing in resource efficiency reflect those made in business cases for Corporate Social Responsibility (CSR) more broadly (Coles, Fenclova & Dinan, 2013; Levy & Park, 2011). Tracking progress amongst accommodation and food providers and support needed to encourage uptake of resource efficiency measures is important to further increase adoption rates over time. The aim of the present paper, therefore, is to gain insight into the types of measures that accommodation and food providers invest in. Specifically, data from the Flash Eurobarometer (European Commission, 2013) on small and medium sized (SME) companies are used to investigate the following research questions:

- (1) What measures do small and medium-sized accommodation and food service providers in Europe and the USA implement to increase resources efficiency – now and in the future?
- (2) How satisfied are they with their investment into resource efficiency, and is satisfaction associated with higher levels of future intended uptake?
- (3) What support can be offered to stimulate future implementation of resource efficiency measures?

Results contribute to an increased understanding of drivers and barriers of adopting resource efficiency measures. As such, the findings are of both theoretical importance and practical value as they point to approaches policy makers could take to encourage the adoption of resource efficiency measures by accommodation and food service providers. In addition, this research note illustrates how additional and sector-specific analysis of large secondary

databases can generate new academic insights and add value to existing investments (i.e. the Eurobarometer). Such an approach is beneficial for the knowledge domain of tourism which is ‘captured’ in other databases, for example on investment, events or transport.

2 Method

Secondary data from European countries and the USA, collected for the Flash Eurobarometer in September 2013 were used. Eligible companies (for more detail see European Commission, 2013) were called by phone and the general manager, financial officer or owner was interviewed. Businesses were identified from an international business directory in addition to information from local sources. Quotas were applied to both company size and sector (retail, services, industry and manufacturing). The answers reflect self-reported behaviour; accuracy information (e.g. an external audit of implemented energy savings measures) is not available.

A subsample of 5.4% (727 respondents) containing tourism businesses (accommodation and food service providers¹) was selected. Of those, all businesses which also provided a response to the question “*Overall, are you very satisfied, fairly satisfied, fairly dissatisfied or very dissatisfied with the return on the investments you have made on resource efficiency?*” were included, leading to a final sample of 601 businesses. As a consequence of the selection of a small subsample of businesses operating in tourism, it cannot be ensured that the sample analysed here is representative of all small and medium-sized accommodation and food providers in Europe and the USA. The findings are still of value because they paint a general picture of uptake and preference for certain resources efficiency measures over other. The

¹ Including: Hotels and similar accommodation, Holiday and other short-stay accommodation, Camping grounds, recreational vehicle parks and trailer parks, Other accommodation, Food and beverage service activities, Restaurants and mobile food service activities, Event catering and other food service activities, Event catering activities, Other food service activities, Beverage serving activities

analyses based on the association of uptake and future uptake intention with satisfaction does not require a representative sample.

A total of 38 countries were represented, with eighty-three percent of the businesses employing less than 50 employees (Table 1). Smaller size is also reflected in turnover in the year before the survey was conducted: 19% of those who provided an answer to this question had a turnover of less than 100,000 Euro, and only two percent had a turnover of more than ten million. Fifteen percent of companies have been operating for up to 10 years, 31% have been in business between 10 and 20 years and the remainder have operated for over 20 years. Data was analysed using descriptive statistics.

TABLE 1 HERE

3 Results

3.1 Implemented measures

The majority of businesses (96% of the sample) stated that they had invested in resource efficiency measures. Figure 1 illustrates which measures were taken by these businesses, as well as which measures they are intending to take in the future in addition to existing ones. As can be seen, measures aimed at saving energy have the highest adoption rate, followed by water saving measures, waste reduction, saving materials and recycling. Intentions for future measures follow similar patterns, with the exception of investments into renewable energy that companies plan to increase over the next two years.

FIGURE 1 HERE

Looking at response options chosen by respondents when asked what the main reasons were for taking resource efficiency action, the highest agreement level is achieved for “environment is one of the top priorities of your company” , followed by cost savings , financial and fiscal incentives. Demand from customers is mentioned only by about one fifth of businesses. Lower agreement levels than consumer demand are expressed for “creation of a competitive advantage or business opportunities” , “anticipation of future changes in legislation”, “anticipation of future professional or product standards” and “catching up with main competitors” . Multiple answers to this question were allowed. The latter three reasons tend to be agreed to by the same businesses as does the first set of listed reasons.

In terms of the extent of investment, about one third of businesses invested less than one percent of annual turnover, another third between 1-5% of annual turnover, about one tenth between 6-10% and less than five percent invested 11% or more of turnover (19% did not provide a response). There were no statistically significant differences for number of employees. The vast majority of businesses (70% of the sample) relied on their own financial resources; about one fifth relied on external support to implement efficiency measures. For some SMEs, there was a clear financial return from resource efficiency investments: more than half state that resource efficiency investment has decreased production cost. Figure 2 shows that positive financial outcomes were particularly achieved by the larger businesses.

FIGURE 2 HERE

3.2 Satisfaction with investment into resource efficiency

The vast majority of businesses were satisfied with the return on resource efficiency investment (ROI). Less than one fifth reported that they were not satisfied (note that original four response options were collapsed into 'satisfied' [N= 509] and 'not satisfied' [N= 92]). Importantly, satisfaction with ROI was associated with intentions to further invest in resource efficiency in the future, with the exception of renewable energy which was not linked to satisfaction (Table 2).

TABLE 2 HERE

Because of the link between satisfaction and future investment, it is beneficial to explore what factors are associated with high levels of satisfaction related to resource efficiency initiatives. For example, and not surprisingly, reductions in overall production costs as a result of improved resource efficiency are positively related to satisfaction levels ($X^2 = 22.295$, $df = 5$, $p < 0.001$). Moreover, businesses appeared more satisfied with their investment into resource efficiency when the company's turnover generally increased ($X^2 = 31.781$, $df = 4$, $p < 0.001$), indicating either a positive (hence 'satisfied') assessment of the company's performance more broadly, or synergistic effects between resource efficiency investments and reduced production costs on the one hand and increased turnover on the other hand.

In addition, higher satisfaction with the return on investment into resource efficiency was also related to the key motivators for efficiency initiatives, as well as companies' self-assessment of degree of compliance with environmental regulation. Businesses that stated that the

environment is one of their top priorities were more likely to be very or fairly satisfied with their investment compared with those who did not perceive the environment to be a priority ($X^2=8.483$, $df=1$, $p=0.002$). Similarly, companies that indicated that their activities go over and above environmental compliance were more likely to be very or fairly satisfied with their resource efficiency initiatives. In contrast, those companies that reported to be merely complying (or struggling) with environmental regulation were more likely to be not satisfied ($X^2=27.499$, $df=5$, $p<0.001$).

Finally, the data showed that larger companies were significantly more satisfied with their resource efficiency investment than smaller ones ($X^2=18.178$, $df=2$, $p<0.001$). In fact, about one fifth of businesses with less than nine employees reported dissatisfaction, whereas less than five percent of businesses with over 50 employees were not satisfied.

3.3 Future support

When asked which difficulties the businesses had encountered, businesses pointed to costs and the complexity of administrative or legal procedures (29% and 28%, respectively). About one fifth each reported difficulties in choosing the right resource efficiency measure and lack of specific environmental expertise. A similar proportion of respondents experienced difficulties to adapt legislation to their company, and technical requirements of the legislation not being up to date.

The results from this survey are helpful in terms of pointing to possible actions that could be taken to stimulate and increase in the adoption of resource efficiency measures. The respondents themselves – when asked what would help them – most frequently (40%) mentioned grants or subsidies, indicating that money is still a key barrier in the adoption of

environmental measures by businesses. Thirty per cent said they would benefit from consultancy on how to improve resource efficiency, over one fourth of SMEs want advice on funding possibilities for resource efficiency measures. Over one fifth require demonstrations of new technologies or processes, and a slightly smaller proportion wish for more cooperation between entrepreneurs or would benefit from a database with case studies that show the benefits of these kinds of investments. Finally, a group of SMEs (16% of the sample) would like to have a tool to self-assess how resource efficient their business. The more advanced support schemes, such as dedicated consultancies, demonstration projects, and self-assessment tools ranked significantly higher amongst those companies that were satisfied with their previous investment ($X^2= 9.402$, $df=2$, $p=0.009$).

4 Discussion

The Flash Eurobarometer data show that accommodation and food providers are highly engaged in resource efficiency measures. Almost all of the companies have invested at least in one area, typically to achieve savings in energy and water use, but also to reduce waste and material usage and increase recycling. Some companies have invested substantially, with 10% having spent between 5-10% of turnover and four percent between 10 and 50%. Intentions for future investments are somewhat lower, but still substantial with more than half of businesses planning to invest into energy, water, waste and material use efficiency. The highest intentions have been expressed for investment into renewable energy – possibly driven by strong media discourse and policy incentives in Europe (Uusi-Rauva & Tienari, 2010). Indeed, when asked about motivators for resource efficiency initiatives, almost a third of businesses reported financial and fiscal incentives as drivers.

Compared with other sectors in the Flash Eurobarometer, accommodation and food providers reported considerably stronger environmental motivations. Whilst for all companies in the survey, the environment was only a top priority for 28% (compared with ‘cost savings’ as a key motivator for 63%) (European Commission, 2013), the businesses analysed in this hospitality-focused research put environmental priorities ahead of financial benefits (37% compared with 33%). Whether this reflects stronger environmental values in the tourism sector compared with other industries, or simply a different set of practices, should be investigated further.

While found to be a significant driver for investment into environmental technology of companies in Slovenia (Murovec, Erker & Prodan, 2012), customer demand was only a key motivator for a fifth of accommodation and food providers in this study. Possibly this is due to the industry’s understanding that customers are increasingly aware of environmental issues and may even prefer ‘green products’ (Dolnicar & Ring, 2014), but are not willing to pay extra for them (Manaktola & Jauhair, 2007). Thus, green branding opportunities may exist but not necessarily translate into financial returns.

Investment into resource efficiency often leads to considerable financial savings (Becken, 2013; Coles et al., 2013; Green Hospitality Programme, 2012). This was also reflected in this research, with 55% of interviewed SMEs stating that they achieved reduced production costs due to their investment into resource efficiency. The business case for environmental investments and the benefits of CSR implementations more generally (Levy & Park, 2011), continues to be the subject of substantial research, mainly because it still appears that there are perceptions that sustainability initiatives are not always compatible with maximising profitability and company value. This notion was supported in this research, with many companies still reporting that the financial cost of implementing environmental measures are

a barrier. A large number of respondents stated they would benefit from financial support for future initiatives in resource efficiency. Promoting those initiatives that have proven to generate cost savings should therefore be encouraged by hotel and hospitality associations or private sector companies (e.g. Becken et al., 2014).

Importantly, there appears to be a positive feedback loop in that companies that have successfully invested into resource efficiency are more likely to continue to do so in the future (Table 2). This finding is in line with other research that established a link between past investment in environmental measures and future uptake (Murovec et al., 2012). Larger businesses appear to be in a better position to benefit from environmental investments (see also Coles et al., 2013), with smaller companies having been less satisfied with their investment into resource efficiency measures. This deserves further attention in the development of environmental support programmes and policies to ensure that the smaller companies receive adequate support. For example, it is possible that the complexity of administration (identified as one of the main barriers) is particularly prohibiting for smaller companies that lack the human resources to satisfy additional tasks. Future research should focus on owner-operated and micro-scale businesses to identify in more detail how resource efficiency measures can be promoted and supported (e.g. Chan et al., 2013 for a technical study that focuses on small hotels).

Importantly, companies that reported higher levels of satisfaction with their investment indicated that they will also benefit from more advanced support programs, for example self-learning or reporting tools. This possibly indicates a process of differentiation, whereby leading companies with successful resource efficiency programs are demanding increasingly sophisticated support systems, whereas laggards are still in need of basic advice on technical options and funding mechanisms. Thus, in conclusion, accommodation and food service

providers in this study are already highly engaged in resource efficiency, and due to positive reinforcement effects – and with tailored support – this is likely to continue in the future.

References

1. Becken, S. (2013). Operators' perceptions of energy use and actual saving opportunities for tourism accommodation. *Asia Pacific Journal of Tourism Research*, 18(1-2), 72-91.
2. Becken, S. (2014). Water Equity – Contrasting Tourism Water Use with that of the Local Community. *Water Resources and Industry*, 7–8, 9–22.
3. Becken, S., Garofano, N., McLennan, C., Moore, S., Rajan, R. & Watt, M. (2014). From Challenges to Solutions. 2nd White Paper on Tourism and Water: Providing the business case. Griffith Institute for Tourism Research Report Series, No. 1. Griffith.edu.au/Griffith-institute-tourism.
4. Blanco, E., Rey-Maqueira, J. & Lozano, J. (2009). Economic incentives for tourism firms to undertake voluntary environmental management. *Tourism Management*, 30, 112 – 122.
5. Bohdanowicz, P. (2006). Environmental awareness and initiatives in the Swedish and Polish hotel industries – survey results. *International Journal of Hospitality Management*, 25, 662-682.
6. Bohdanowicz, P. and Martinac, I. (2007) Determinants and benchmarking of resource consumption in hotels – case study of Hilton International and Scandic in Europe. *Energy and Buildings*, 39, 82-95.

7. Carasuk, R., Becken, S. & Hughey, K. (2015). Exploring values, drivers and barriers as antecedents of implementing responsible tourism. *Journal of Hospitality & Tourism Research*, doi: 10.1177/1096348013491607.
8. Chan, E.S.W. & Wong, S.C.K. (2006). Motivations for ISO 14001 in the hotel industry. *Tourism Management*, 27, 481-492.
9. Chan, W., Yueng, S., Chan, E., & Li, D. (2013). Hotel heat pump hot water systems: impact assessment and analytic hierarchy process. *International Journal of Contemporary Hospitality Management*, 25(3), 428-446.
10. Coles, T., Fenclova, E. & Dinan, C. (2013). Tourism and corporate social responsibility: A critical review and research agenda. *Tourism Management Perspectives*, 6, 122-11.
11. Dief, M. E., & Font, X. (2010). The determinants of hotels' marketing managers' green marketing behaviour. *Journal of Sustainable Tourism*, 18(2), 157-174.
12. Dolnicar, S. & Ring, A. (2014) Tourism marketing research: Past, present and future. *Annals of Tourism Research*, 4731-47. doi:10.1016/j.annals.2014.03.008
13. European Commission (2013). Flash Eurobarometer 381. SMEs, Resource Efficiency and Green Markets. Conducted by TNS Political & Social at the request of the European Commission, Directorate-General for Enterprise and Industry. Retrieved from (16/06/15) http://ec.europa.eu/public_opinion/flash/fl_381_en.pdf
14. Garay, L. & Font, X. (2011). Doing good to do well? Corporate social responsibility reasons, practices and impacts in small and medium accommodation enterprises. *International Journal of Hospitality Management*, 31(2), 329-337.
15. Gössling, S. (2002). Global environmental consequences of tourism. *Global Environmental Change*, 12, 283–302.

16. Green Hospitality Programme (2012). Resource Efficiency in the Hospitality Sector: Case Studies. Environmental Protection Agency. Retrieved from (15/06/15)
<http://www.ghaward.ie/ghaward/userfiles/file/Case%20Studies/GHP%202012%20Case%20Study%20Booklet%20v1.pdf>
17. Hathroubi, S., Peypoch, N. & Robinot, E. (2014). Technical efficiency and environmental management: The Tunisian case. *Journal of Hospitality and Tourism Management*, 21, 27-33.
18. Levy, S.E. & Park, S. (2011). An Analysis of CSR Activities in the Lodging Industry. *Journal of Hospitality and Tourism Management*, 18, 147-154.
19. Manaktola, K. & Jauhari, V. (2007). Exploring consumer attitude and behaviour towards green practices in the lodging industry in India. *International Journal of Contemporary Hospitality Management*, 19(5), 364-377.
20. Mattera, M., & Melgarejo, A. (2012). Strategic Implications of Corporate Social Responsibility in Hotel Industry: A Comparative Research between NH Hotels and Melia Hotels International. *Higher Learning Research Communications*, 2(4), 37-53.
21. McLennan, C.L., Becken, S. & Stinson, K. (2015). A Water Use Model for the tourism industry in the Asia-Pacific Region: The impact of water saving measures on water use. *Journal of Hospitality and Tourism Research*. DOI: 10.1177/1096348014550868
22. Molina-Azorin, J.F., Claver-Cortes, E., Pereira-Moliner, J. & Tari, J.J. (2009). Environmental practices and firm performance: an empirical analysis in the Spanish hotel industry. *Journal of Cleaner Production*, 17, 516-524.
23. Morrow, D. & Rondinelli, D. (2002). Adopting Corporate Environmental Management Systems: Motivations and Results of ISO 14001 and EMAS Certification. *European Management Journal*, 20 (2), 159-171.

24. Murovec, N., Erker, R.S. & Prodan, I. (2012). Determinants of environmental investments: testing the structural model. *Journal of Cleaner Production*, 37, 265-277.
25. Nikolaou, I., Vitouladitis, H., & Tsagarakis, K. (2012). The willingness of hoteliers to adopt proactive management practices to face energy issues. *Renewable and Sustainable Energy Reviews*, 16, 2988-2993.
26. Scott, D., Amelung, B., Becken, S., Ceron, J.P., Dubois, G., Gössling, S., Peeters, P. & Simpson, M. (2008). *Climate Change and Tourism: Responding to Global Challenges*. Madrid/Paris: United Nations World Tourism Organisation and United Nations Environment Programme.
27. Uusi-Rauva, C. & Tienari, J. (2010). On the relative nature of adequate measures: Media representations of the EU energy and climate package. *Global Environmental Change*, 20, 492-501.

Table 1 Overview of sample

Variable	Categories	Frequency	Percent
Country	France	46	7.7
	IE – Ireland	46	7.7
	Greece	45	7.5
	GB - United Kingdom	37	6.2
	US - United States of America	32	5.3
	PT – Portugal	25	4.2
	AT – Austria	25	4.2
	IT – Italy	24	4.0
	BE – Belgium	20	3.3
	Other	301	50.1
Number of employees	1 to 9 employees	239	39.8
	10 to 49 employees	259	43.1
	50 to 249 employees	95	15.8
	DK/NA	8	1.3

Turnover last year	Less than 100,000 euros	111	18.5
	More than 100,000 to 500,000 euros	164	27.3
	More than 500,000 to 2 million euros	136	22.6
	More than 2 to 10 million euros	62	10.3
	More than 10 million euros	10	1.7
	Not applicable	11	1.8
	DK/NA	107	17.8

Table 2 Future investments into resource efficiency by satisfaction level (top and bottom two original satisfaction levels merged)

Over the next two years additional measures will be implemented to...	Satisfied	Not satisfied	Pearson Chi-Square (df= 1)	Asymp. Sig. (2-sided)
Save water	63%	45%	10635	0.001
Save energy	73%	54%	12.457	0.000
Use predominantly renewable energy	30%	30%	0.395	n.s.
Save materials	60%	36%	17.692	0.000
Sell scrap material	29%	13%	10.253	0.001
Minimise waste	61%	47%	6.083	0.01
Recycling	52%	20%	32.260	0.000

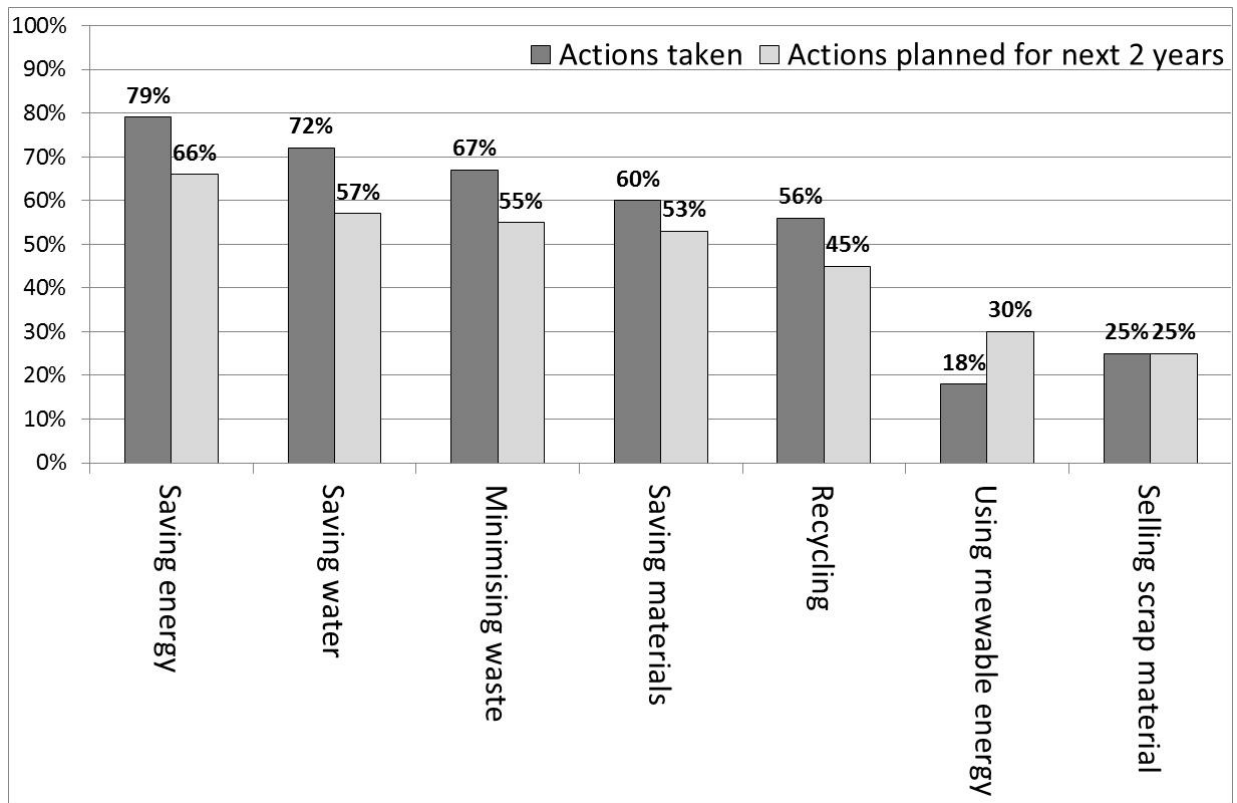


Figure 1 Resource efficiency initiatives implemented now and in the future.

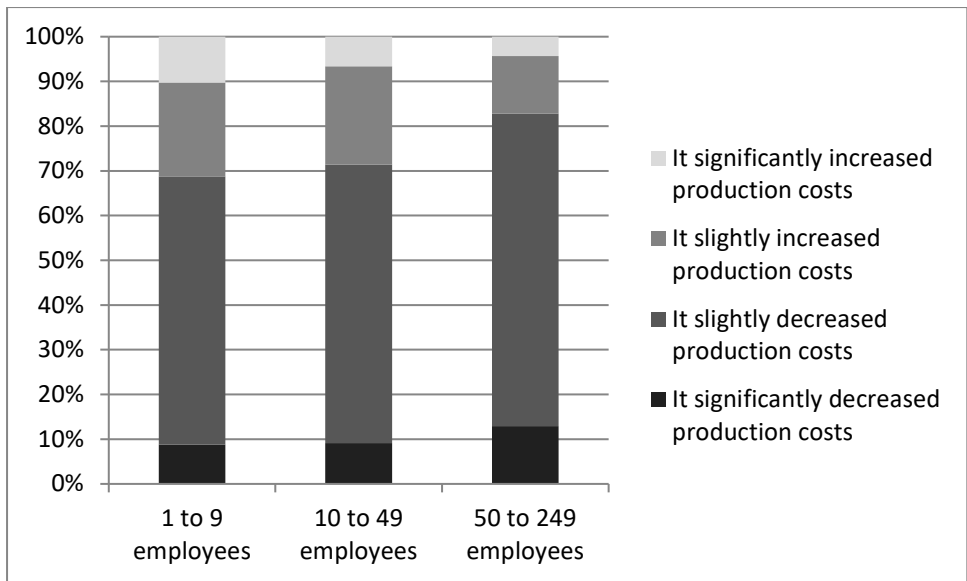


Figure 2 “*What impact have the undertaken resource efficiency actions had on the production costs over the past two years*” by company size ($X^2=22.464$, $df=10$, $p<0.013$).