Received: 11 June 2020 | Revised: 23 September 2020 | Accepted: 6 October 2020

DOI: 10.1002/bse.2668

RESEARCH ARTICLE

Business Strategy and the Environment

WILEY

Above and beyond? How businesses can drive sustainable development by promoting lasting pro-environmental behaviour change: An examination of the IKEA Live Lagom project

Patrick Elf[1,2] | Amy Isham[2] | Birgitta Gatersleben[3]

[1]Centre for Enterprise and Economic Development Research (CEEDR), Middlesex University Business School, London, UK

[2]Centre for the Understanding of Sustainable Prosperity (CUSP), University of Surrey, Guildford, UK

[3]School of Psychology, University of Surrey, Guildford, UK

Correspondence
Patrick Elf, Centre for Enterprise and Economic Development Research (CEEDR), Middlesex University Business School, The Burroughs, Hendon, London NW4 4BT, UK.
Email: p.elf@mdx.ac.uk

Abstract

Current global changes require new business approaches driving sustainable development on all fronts. To date, most business approaches have focused on sustainable marketing and corporate social responsibility initiatives. In this field study, we examine IKEA's Live Lagom project, a 3-year behaviour change initiative that aimed to explore how to go above and beyond conventional approaches demonstrating how businesses could support sustainable development by supporting their customers' attempts to live more sustainable lifestyles. We examined the effectiveness of the project involving multifaceted behaviour change interventions, testing for behavioural changes both during and after the project period. In addition, we explored changes in participants' attitudes towards the company. Findings show that the extensive set of interventions led to changes in pro-environmental behaviours across all three participant groups with potentially positive impacts on the customer–company relationship. The article thus provides a call for further businesses to engage in similar behaviour change projects that would allow citizens to engage in more sustainable lifestyles and behaviours across contexts.

KEYWORDS

behaviour change, IKEA, intervention, pro-environmental behaviour, responsible business, retailer, sustainable lifestyles

1 | INTRODUCTION

To avoid catastrophic climate change, resource depletion and species extinction, substantial and sustained engagement across sectors is required to reduce carbon emissions and resource overconsumption (Clarke, Corner, & Webster, 2018; IPCC, 2018). Yet although the need to adopt more sustainable ways of living is widely acknowledged, progress is slow and new approaches are urgently needed to ensure that sustainable development is possible.

The private sector is in a unique position to make significant contributions to sustainable development with its strong influence on both actual consumption behaviours as well as suppliers and consumers' attitudes (Hazen, Mollenkopf, & Wang, 2017; Heikkurinen, Young, & Morgan, 2019). However, to date, most industry responses can be categorised under sustainable marketing (McKenzie-Mohr, Lee, Schultz, & Kotler, 2012; Peattie & Peattie, 2009) and corporate social responsibility (CSR) initiatives (Carroll, 1999; Tetrault Sirsly & Lvina, 2016). Initiatives under these approaches often include charitable giving,

participation in fair trade schemes and actively trying to improve labour policies within the organisation to support employee well-being, to name a few (Mullerat, 2009). Other approaches in turn focus more on the production phase aiming for eco-efficiency (Dyllick & Hockerts, 2002) or involving supply chain and labour issues (Wolters, 2003). Finally, most research into how businesses can aid sustainable development has focused on the direct impact of their practices on the environment (Greve, Palmer, & Pozner, 2010). Examples include the decarbonisation of business processes including supply chain emissions and efficiency gains (Sullivan & Gouldson, 2017).

Although these actions will undoubtedly play an important role in fuelling sustainable development, one further, but less examined means through which businesses could contribute to sustainable development is by actively encouraging customers to adopt more pro-environmental behaviours (PEBs) and sustainable lifestyles through an extended business-customer relationship that goes beyond a pure exchange relationship. Based on this notion, IKEA UK & Ireland (hereafter referred to as IKEA) created the Live Lagom project. Following a cocreational approach, the project applied multifaceted behaviour change interventions with the aim to encourage their customers to adopt more PEBs in their pursuit to live more sustainable lifestyles. Thus, the field studies' objective is to examine the project on the basis of analysing (i) if the interventions applied during the Live Lagom project are effective in changing behaviours (Studies 1–3), (ii) if project participants changed their behaviours more than a control group that was not exposed to the set of interventions (studies 2 and 3) and (iii) if behavioural changes are maintained over an extended period of time (Studies 2 and 3). Moreover, we assessed whether businesses can improve their own brand by promoting sustainability.

1.1 | Pro-environmental behaviour

Environmental problems such as climate change and environmental degradation occur on a global level, but their initial causes are partly situated in everyday behaviours of individuals and households (Dubois et al., 2019). According to the Department for Environment, Food and Rural Affairs in the UK (Defra), around 17% of UK carbon emissions arise directly from households (Defra, 2016). When indirect emissions are taken into account, this number rises to nearly three-quarters of UK carbon emissions (Druckman & Jackson, 2009; Hertwich & Peters, 2009). Helping to change the behaviours of consumers is therefore key to help tackle climate change (Clarke et al., 2018).

PEBs can be understood to include 'the commission of acts that benefit the natural environment and the omission of acts that harm it' (Lange & Dewitte, 2019). Much research considers PEBs to include the intention to doing something beneficial for the environment (Kollmuss & Agyeman, 2002), but less environmentally costly behaviours such as reusing products or buying less can also be motivated by factors such as frugality or thriftiness (Gatersleben, Murtagh, Cherry, & Watkins, 2019).

PEBs cover a wide variety of behaviours. The way people choose to travel, the type of products they consume, and how they use energy within their homes can all have significant environmental consequences (Ivanova et al., 2017; Wynes & Nicholas, 2017). Dietz, Gardner, Gilligan, Stern, and Vandenbergh (2009) noted that behaviours within the home that could potentially generate rapid carbon emission reductions included using more energy-efficient appliances, not leaving items on standby and driving less. People thus can adopt a variety of different behaviours across the consumption and use cycle ranging from relatively easy PEBs (e.g., switching-off lights) to PEBs that require more significant changes in lifestyles (e.g., not eating meat, not driving a car). Although not all PEBs are relevant to this study due to IKEA's focus on the household level as home retailer, to appreciate that sustainable lifestyles cover household, consumption and travel behaviours, amongst others, this study aims to assess the effects of the Live Lagom behaviour change interventions on a range of different PEBs.

1.2 | Can business support the adoption of PEBs?

In the past, the majority of business's pro-environmental strategies have been implemented out of a need to comply with legal requirements. More recently, however, a growing number of organisations have started to voluntarily adopt non-compulsory proactive environmental strategies. Reviewing different drivers of environmental proactivity, research by González-Benito and González-Benito (2006) showed that stakeholder pressure is a central determining factor, thus placing consumers as central agents for change with potentially far-reaching influence on business strategy and businesses' behaviours.

Approaching the question of corporate responsibility from the side of the business, Heikkurinen et al. (2019) argue that private sector actors can contribute to sustainable development by extending their business strategies. Through the adoption of extended eco-efficiency approaches, that is, actively influencing the customer to consume better, and extended eco-sufficiency strategies which aim to motivate the customer to consume less, businesses can go beyond supply chain improvements and proactively improve consumption patterns.

However, although a wide range of studies have examined interventions to promote PEB (Abrahamse, 2019; Steg & Vlek, 2009), the majority of these interventions are conducted at research institutions or in cooperation with environmental non-governmental organisations (Arts, 2002). Only a small number have involved businesses themselves. For instance, Young, Russell, Robinson, and Chintakayala (2017) conducted an intervention with a major UK supermarket retailer to test which form of information provision had the greatest effect on customers' food waste behaviour. The results showed that combined communication channels and repeated messaging strategies significantly reduced the food waste of customers, even when they were not able to recall that they have seen the messages. Further, Verfuerth, Jones, Gregory-Smith, and Oates (2019) conducted a field study with a medium-sized internet service provider in the United Kingdom to determine whether workplace interventions to encourage sustainable dietary choices (meat avoidance) in employees could also influence dietary choices at home. Comparison of pre-intervention and post-

intervention interviews showed that the intervention was successful with reductions in consumption of meat at home.

Together, these studies demonstrate that corporate actors can play an important role in supporting PEB change. However, so far, these studies have focused on specific behaviours only rather than broader lifestyle changes. In the Live Lagom intervention, we aim to close this gap by testing whether an intervention can lead to changes in a wider range of PEBs that compose lifestyles. In addition, the existing interventions have only tested consumers' PEBs immediately following the intervention or at follow-up a couple of months later. In this research, we aim to examine the extent to which any changes in PEBs are sustained over longer time periods following the completion of the intervention. This is important to determine because it can provide urgently required insights concerning whether interventions need to be repeated with the same participants over time or whether just one exposure in enough to lead to sustained increases in PEBs.

1.3 | Can businesses' PEB interventions influence customer attitudes towards the company?

The primary aim of any business's PEB interventions should be to promote more environmentally friendly behaviours among their customers. However, businesses' uptake of such interventions may be greater if there are positive outcomes for the company too. Any engagement in CSR such as donating money to environmental causes is often publicised in a way that stakeholders and customers are aware that businesses are attempting to improve their environmental performance (Brulhart, Gherra, & Quelin, 2019). It appears that businesses therefore intend for their engagement in CSR to have a positive impact on customer perceptions. Indeed, research has shown that a company's engagement is CSR is positively associated with favourable consumer attitudes towards that company (Smith & Langford, 2009; Vahdati, Mousavi, & Tajik, 2015). In the present study, we therefore also test whether participants attitudes towards IKEA changes as a result of the intervention.

1.4 | The IKEA Live Lagom project

This paper draws on data collected during a 3-year project initiated by IKEA and carried out in cooperation with Hubbub and the University of Surrey. The project ran from 2015 to 2018, during which time three empirical studies plus a follow-up study were conducted as shown in Figure 1.

The project employed a cocreative approach between different sectors and IKEA's customers to facilitate behavioural changes (Clark & Dickson, 2003). That is, it actively involved project participants and made changes to the project according to customer feedback that was collected and analysed at the end of each respective year. Changes included new interventions such as updated or additional workshops as well as changes to the incentives participants received as part of their project participation (see Table 1).

The project involved a number of interventions following both antecedent and consequence strategies (Abrahamse, 2019; Abrahamse, Steg, Vlek, & Rothengatter, 2005) and are summarised in Table 1. Antecedent strategies are introduced *before* the behaviour

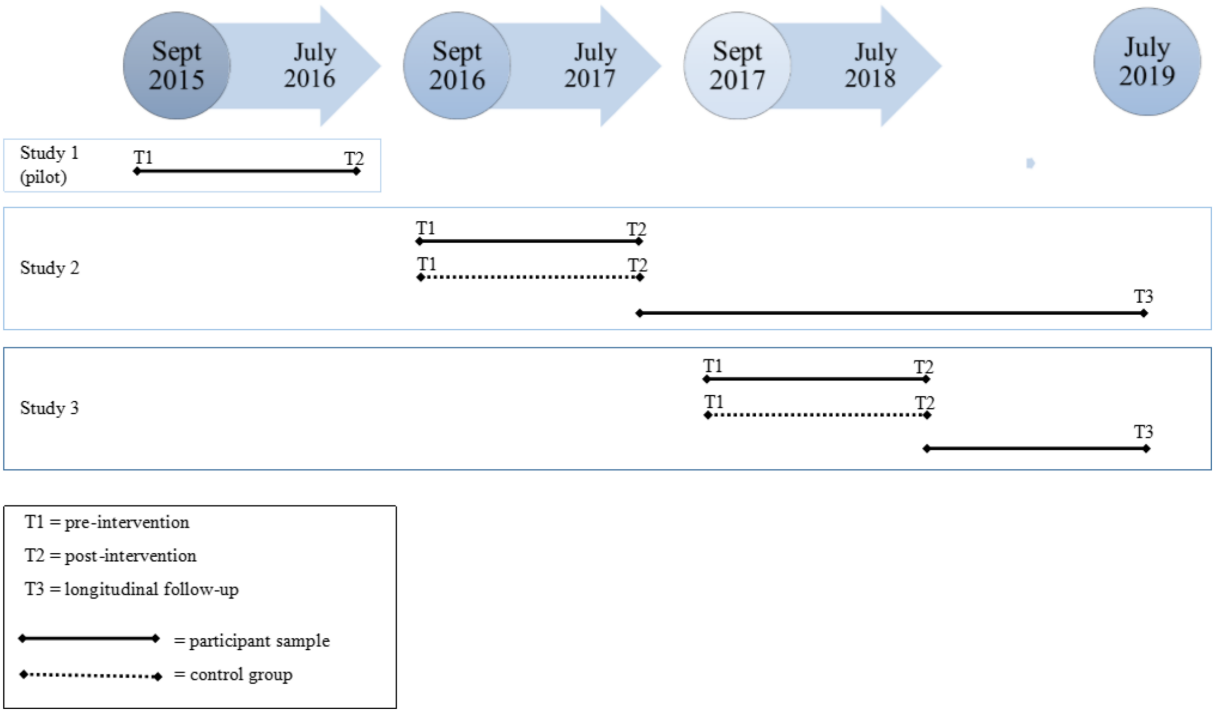

FIGURE 1 Timeline presenting all studies [Colour figure can be viewed at wileyonlinelibrary.com]

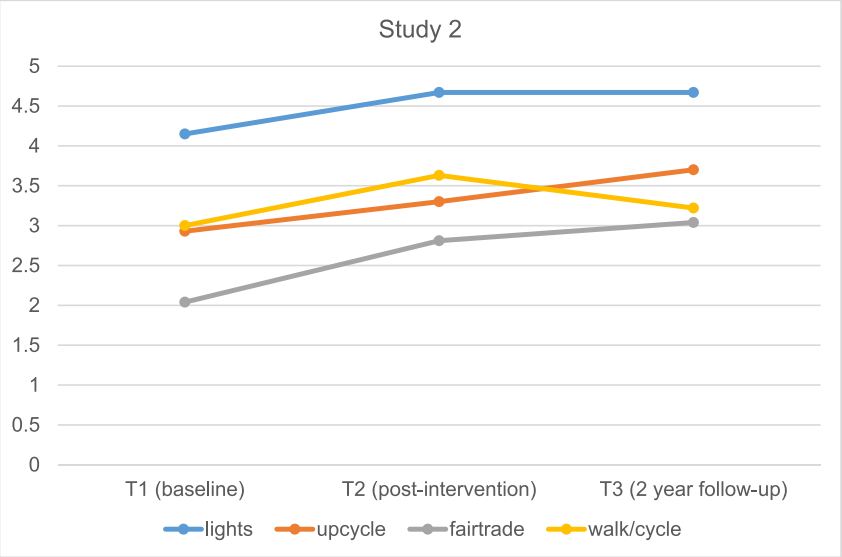

FIGURE 2 Pro-environmental behaviour scores across the three time points for individuals in the intervention group (N = 27) in Study 2 [Colour figure can be viewed at wileyonlinelibrary.com]

TABLE 1 Intervention overview including objective of intervention

Project year	Type of intervention	Description	Timing of intervention
1, 2 and 3	Goal setting	Participants were asked to set themselves clear goals they want to achieve during the Live Lagom project participation and to make a pledge to achieve these. This aimed to strengthen their commitment to the set goals.	Start
1, 2 and 3	Live Lagom Leader	IKEA in-store person served as a point of contact to build trust, organise workshops, steer capacity building and continuously provide feedback on progress.	Throughout project
1 and 2	Live Lagom Brochure	A brochure was developed to provide information and raise awareness about environmental issues and aimed to showcase how products can operate as tools supporting the participants' effort to live sustainable lifestyles at home.	Start
1, 2 and 3	Financial incentive	A project voucher was provided as incentive and aimed to reduce barriers, create capabilities and encourage PEBs. The value differed between the studies.	Start
1 and 2	Home visit	An initial home visit served to understand existing behaviours, build trust and provide initial information and feedback for areas of improvement.	Start
1, 2 and 3	Workshops	Participants were invited to attend workshops to increase their knowledge and awareness of how to live more sustainable lifestyles at home, report back and exchange ideas between participants.	Several occasions throughout project
1	Online Energy Q&A	An online question and answer session with an energy expert was held to increase awareness and stimulate action	Mid-point
1, 2 and 3	Closed Facebook group	All participants were invited to join a closed Facebook group to exchange and discuss ideas and provide comparative feedback on their progress.	Throughout project
1, 2 and 3	Reflective blog writing	As part of their participation participants were asked to write three blog posts that allowed them to reflect on personal progress during the project and share it with others.	Start, mid-point and end

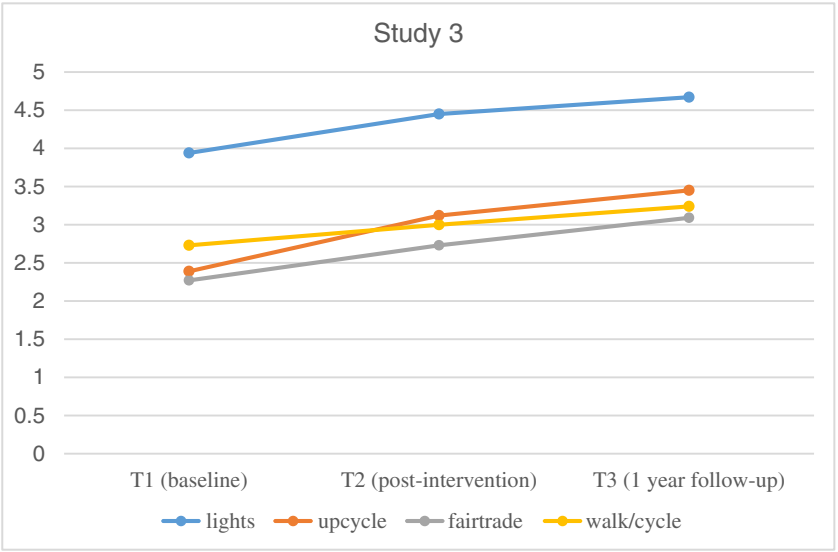

FIGURE 3 Pro-environmental behaviour scores across the three time points for individuals in the intervention group (N = 33) in Study 3 [Colour figure can be viewed at wileyonlinelibrary.com]

change. This includes goal setting, which involves setting clear goals and making plans to achieve those goals (Gollwitzer & Sheeran, 2006), information provision strategies and environmental education (e.g., Hinchliffe, 1996), as well as modelling which involves showing how others carry out the desirable behaviours and how products can support behavioural changes (Abrahamse et al., 2005). Consequence strategies are introduced *after* a behaviour or initial behaviour change and aim to reinforce the desirable behaviour. Examples involve the provision of financial incentives to encourage 'desirable' or discourage 'undesirable' behaviours (for a recent meta-analysis reviewing different types of financial incentives, see Maki, Burns, Ha, & Rothman, 2016) and feedback to show people how far they have come to achieving their goals (Abrahamse, Steg, Vlek, Rothengatter, & Rothengatter, 2007). During the Live Lagom project, feedback was provided by IKEA and between project participants in person during workshops and online. Although most studies employ only a single type of intervention, research has found that behaviour change interventions are most effective when combining antecedent and consequent strategies (Abrahamse et al., 2005). The Live Lagom project is based on this notion and includes multiple elements tackling a range of different underlying motives to help promote lasting lifestyle change across behavioural domains (Moore & Boldero, 2017).

2 | THE PRESENT RESEARCH

Three studies were conducted to examine whether the Live Lagom project could effectively promote PEB change in the short and long terms. In addition, the studies examined to what extent engagement with the project changed participants' perceptions of the company.

Study 1 served as a pilot and tested the initial methodology. An updated research design was then used during Study 2. This was eventually replicated in Study 3. Ethical approval was received for each of the studies from the University of Surrey Ethics Committee.

2.1 | Study 1: Pilot

The purpose of Study 1 was to determine whether the intervention was able to have an effect on PEBs. It was carried out between September 2015 and July 2016.

2.1.1 | Method

Participants

As with all samples during the Live Lagom project, participants were recruited by IKEA through the company's own loyalty programme, IKEA FAMILY. As part of the regular newsletter, information outlining the duration and the purpose of the project were communicated inviting members of the loyalty programme to fill in a short application. Potential participants had to be over 18 years old at the time of the application and needed to live within one hour driving time from the respective IKEA. This was deemed to be necessary to make sure that people could participate in in-store workshops and events. No other exclusion criterion was applied. Each participating household received a £500 voucher which they could spend on a range of sustainable products from the IKEA sustainability range.[1] All in all, 125 participants were recruited. One hundred seven responses were recorded at baseline (T1) as well as 83 responses at the end of the project (T2). After data cleaning, 60 participants remained that filled in both questionnaires (48% of overall sample). For these 60 participants, the median age bracket was 26–35 (min = 8–25, max = 66–55). Eight were male and 52 female. Seventy-five percent of participants identified as White British. The remaining 25% identified as a mixture of British Asian, Black British, White Irish, Mixed ethnicities and other

[1]We refer to the IKEA Sustainability range as a selection of products that were identified by the IKEA Sustainability Team as products that can support participants in their goal to live more sustainable lifestyles. For further information, please refer to https://www.ikea.com/gb/en/this-is-ikea/sustainable-everyday/ikea-live-lagom-community-pub8d845141.

ethnic groups. The majority of participants were from a family with children (65.4%) or living with a partner (17.8%).

Measures

To measure PEBs, an existing scale from previous research at the Defra was adopted that clusters people in a sustainability segmentation model (Darnton, 2013; Poortinga & Darnton, 2016).

The PEB questions for this survey were based on an adapted version of the transtheoretical model (TTM; Prochaska & DiClemente, 1984). The model suggests that people transition through five defined stages when changing their behaviours from being unwilling to change, to having never thought about changing (precontemplation), through contemplating change, attempting to change and maintaining change. Engagement in PEBs was assessed by asking participants to report for 32 different PEBs (e.g., home improvements, energy and water usage, product use, cooking and dieting habits and product choice) whether 'I don't really want to do this', 'I haven't really thought about doing this', 'I'm thinking about doing this', 'I've tried doing this but haven't had much success' or 'I'm already doing this and intend to keep it up'. In an additional answer option, participants had the opportunity to indicate that none of the provided answers is applicable or that they do not know ('I don't know/NA').

The data were used to create five new variables, one for each stage of change by adding up the number of times a participant reported to be in each stage of change across the 32 behaviours. For each of the five variables, scores could range from 0 (the respondent did not indicate being in this stage of change for any of the behaviours) to 32 (the respondent indicated being in that stage for all of the 32 behaviours). For instance, Table 2 shows that the average for precontemplation at the start of the project was 1.25 indicating that on average respondents indicated 1.25 times (out of 32) 'I don't really want to do this'. However, they reported 14.63 times that 'I am already doing this and intend to keep it up'.

2.1.2 | Results

A series of paired samples *t* tests were conducted to examine whether there were changes in the extent to which participants reported being in each stage of change from before until after the project. As the variables were not always normally distributed, bootstrapping was applied. There were significant changes for all variables apart from precontemplation. The latter is possibly due to a ceiling effect because a desire to adapt a more sustainable lifestyle was the starting point of the project. Therefore, participants were already interested in changing behaviour, and precontemplation was very low at T1, although the possibility exist that a person only applied due to the offered financial incentive in the form of products.

Table 2 shows that respondents were more likely to report being in the *maintenance stage* at the end of the project (T2) than at the start at (T1). At the same time, participants were less likely to report being in the *contemplation*, *ready for action* and *failed action stages* at the end, compared with the start of the project. Together, these findings demonstrate a shift away from unsuccessful behaviour change (i.e., decrease in *failed action stage*) and the lower stages of behaviour change (e.g., *precontemplation*; *contemplation*), towards executing PEBs more often (i.e. increase in *maintenance of action stage*). The intervention therefore appears to have been successful in increasing engagement in PEBs.

Overall, Study 1 suggested that participation in the Live Lagom project could promote behaviour change. In Study 2, we further explored behaviour change using a different measure of PEBs and including a control group.

2.2 | Study 2

The second year of the Live Lagom project ran between September 2016 and July 2017. The project was largely similar to the one conducted in Year 1 with the following exceptions: (1) the addition of a control group, (2) a reduced incentive for the new participant cohort and (3) a different measure of PEBs. Moreover, in July 2019, a follow-up questionnaire was send out to all participants of Study 2 who took part in the intervention, 2 years after the end of Study 2 in July 2017 (T3, Figure 1) to test the extent to which any changes in PEBs were maintained over time. In addition, project participants were also asked about their perceptions of IKEA to assess whether businesses can improve their own brand by promoting sustainability.

TABLE 2 Paired samples statistic for bootstrap

Paired samples statistic						
Bootstrap						
	Before (T1)	**After (T2)**	**Difference**	***t***	***df***	***p***
Precontemplation (SD)	1.25 (1.67)	1.15 (1.83)	−.1	0.4	59	.693
Contemplation (SD)	5.95 (3.52)	3.32 (3.06)	−2.63	5.27	59	.000
Ready for action (SD)	5.08 (3.06)	4.02 (2.76)	−1.06	2.49	59	.0.16
Failed action (SD)	4.28 (3.07)	2.72 (2.09)	−1.56	3.68	59	.001
Maintenance of action (SD)	14.63 (5.91)	19.35 (4.53)	4.72	−8.44	59	.000

Note: *n* = 60.

2.2.1 | Method

Participants

For Study 2, 100 new project participants were recruited in 19 different locations across the United Kingdom and Ireland according to IKEA's store locations. Eighty participants completed both baseline and follow-up questionnaires. Following feedback from the previous participant cohort, the value of the voucher provided as incentive was reduced to £300. A control group was then recruited by a market research company which was matched to the participant sample. In total, 1000 people in the control group completed the baseline survey, but only 152 respondents completed both baseline and follow-up survey and were eventually included in the analyses reported here. The participant group consisted of 76% female participants whereas the control group contained 72% female individuals. In both groups, the median age was 35–45 (min = 18–24, max = 55+) with a median household income band (before tax) of £20,000–£39,999. No data on educational level and ethnic background were collected.

Measures

PEBs: Six PEB items were included in the questionnaire employed, which were also covered as part of Study 1. In line with IKEA's expertise as a home retailer, these covered PEBs that occur on a household level such as switching-off lights and appliances, repairing or upcycling as well as hiring, sharing or lending products to others, and consuming fair trade and eco-labelled products. In addition, one question measuring changes in sustainable transport behaviours (i.e., 'I walk or bike instead of taking the car cycling for short journeys') was included to allow for additional insights and comparison with a behaviour that occurs exclusively outside the household realm. Participants were asked to indicate how often they engaged in each of the six behaviours on a scale from 1 (*never*) to 5 (*always*).

Sustainability of PEB change: Four out of the original six PEB items described above were included at the follow-up stage (T3). Three additional questions were also included at T3 to gain further information about the longevity of changes in behaviour. These were 'Since your participation in the Live Lagom project, have the behaviours you might have changed during the project resulted into adopting additional sustainable behaviours?', 'Since your participation in the Live Lagom project, have you changed any behaviours that might have increased the carbon footprint or environmental impact of your household?' and 'Are you still committed to living a sustainable lifestyle at home?' All three questions required a yes/no response, and space was given for participants to provide further details for the first two items.

Attitude towards IKEA: Participants in the intervention group were asked 'How has your perception towards IKEA changed' at the post-intervention testing phase (T2). They responded on a scale from 1 (*much worse*) to 5 (*much better*).

2.2.2 | Results

Effect of the intervention of PEBs

A series of 2 (condition: intervention or control) × 2 (time: pre-intervention or post-intervention) mixed ANOVAs with repeated measures on the second factor compared behaviour scores taken before and after the intervention period for both groups. Significant interaction effects were found when examining all six behaviours: lights ($F(1,230) = 11.11$, $p = .001$, $\eta p^2 = .05$), appliances ($F(1,230) = 12.76$, $p = .009$, $\eta p^2 = .05$), upcycling ($F(1,230) = 5.26$, $p = .004$, $\eta p^2 = .04$), fair trade ($F(1,230) = 10.85$, $p = .000$, $\eta p^2 = .09$), hiring ($F(1,230) = 11.80$,

TABLE 3 Descriptive statistics and paired samples *t* tests examining changes in behaviour from before to after the intervention period for both the intervention and control groups in Study 2

	Pre-intervention (T1)		Post-intervention (T2)		
	M	SD	*M*	SD	Paired-sample *t* tests
Intervention group					
Switch off lights	4.08	0.84	4.59	0.61	$t(79) = -5.55$, $p = .000$, $d = .62$
Switch off appliances	2.70	1.20	3.31	1.12	$t(79) = -5.16$, $p = .000$, $d = .57$
Repair or 'upcycle'	2.78	1.09	3.62	0.94	$t(79) = -4.18$, $p = .000$, $d = .81$
Fair trade and eco-labelled	2.21	0.90	2.99	0.96	$t(79) = -7.17$, $p = .000$, $d = .81$
Hire, share or lend products	1.91	0.72	2.39	0.72	$t(79) = -4.65$, $p = .000$, $d = .52$
Walk or bike instead of car	2.91	1.12	3.31	0.99	$t(79) = -3.67$, $p = .000$, $d = .41$
Control group					
Switch off lights	4.32	0.97	4.39	0.93	$t(151) = -.88$, $p = .382$, $d = .07$
Switch off appliances	3.45	1.23	3.52	1.28	$t(151) = -.72$, $p = .475$, $d = .06$
Repair or 'upcycle'	2.89	1.27	2.93	1.21	$t(151) = -.42$, $p = .674$, $d = .04$
Fair trade and eco-labelled	2.07	0.93	2.20	0.95	$t(151) = -1.68$, $p = .096$, $d = .13$
Hire, share or lend products	1.89	0.86	1.90	0.83	$t(151) = -.16$, $p = .872$, $d = .01$
Walk or bike instead of car	3.21	1.38	3.24	1.51	$t(151) = -.36$, $p = .723$, $d = .03$

p = .001, ηp^2 = .05) and walking and cycling for short journeys (F (1,230) = 5.97, p = .015, ηp^2 = .03). Paired-sample t tests shown in Table 3 demonstrated that the intervention group significantly increased their scores on these behaviours from pre-intervention to post-intervention, whereas those in the control group did not display significant changes in these behaviours across the testing period.

Longevity of changes in PEB

Further analysis was conducted using only those 27 individuals (34% of the original 80 participants) in the intervention group who completed the follow-up questionnaire 2 years later (T3). A series of one-way repeated measures ANOVAs demonstrated significant differences across time points for all four behaviours taken from the original questionnaire: lights (F(2,52) = 10.64, p = .000, ηp^2 = .29), upcycling (F(2,52) = 11.09, p = .000, ηp^2 = .30), fair trade (F (2,52) = 15.02, p = .000, ηp^2 = .37) and walking/cycling (F(2,52) = 5.27, p < .01, ηp^2 = .17). Post hoc pairwise comparisons with Bonferroni correction showed that scores at T2 (post-intervention) were higher than at T1 (pre-intervention) for all behaviours. More importantly, scores at T3 were significantly higher than at T1 for all behaviours apart from walking/cycling. This shows that the increases in PEBs as a result of engaging in the intervention tend to be sustained over a two-year period once the intervention is over. Scores at T3 did not significantly differ from those at T2.

Examination of the responses to the three further questions included at follow-up revealed that 100% of individuals felt that they had adopted *additional* sustainable behaviours as a result of the intervention. These included avoiding single-use plastics, recycling all food and household waste, using rechargeable batteries and growing their own food and herbs. Furthermore, 13% noted they had adopted behaviours that might increase their carbon footprint following the intervention. These behaviours involved getting a second dog, shopping at discounter where food often is packaged in plastic and getting a bigger car. All Live Lagom project participants said that they were still committed to living a sustainable lifestyle at home.

Attitudes towards IKEA

All 80 respondents reported that their perception of IKEA either stayed the same or got better (M = 4.48, SD = .57). In total, 52% of participants stated that their perceptions of IKEA was 'much better' and 44% stated that their perceptions of IKEA were 'somewhat better'. The intervention therefore appears to have been largely effective in improving customer perceptions of the store.

In summary, Study 2 demonstrated that the intervention was effective in increasing PEBs, which did not happen in a control group. Increases were seen across all six behaviours measured and appeared to be largely maintained 2 years after the intervention took place. Customers' perceptions of IKEA also seemed to largely improve, suggesting that businesses can benefit both their own brand and the environment by promoting sustainable behaviours.

2.3 | Study 3

To follow up on findings from Study 2 and test their reliability, another study was conducted. Study 3 aimed to replicate the results of Study 2. Data were collected during the last year of the Live Lagom project between September 2017 and July 2018. It follows the same design and procedure as Study 2, with the exception that the follow-up assessment for the intervention group was carried out 1 year after the intervention in July 2019. Appreciating that the behavioural measure is only subjective, a further measure of PEBs was also included. This required participants to indicate the extent their resource consumption (e.g., electricity) had changed.

2.3.1 | Method

Participants

All in all, 141 participants were recruited in the same way as in Study 2. In the intervention group, 92 individuals (64.54% of the initial participant group) completed the pre-intervention and post-intervention measures. In the matched control group, 125 individuals completed both measures. Six participants were male (5%) and 119 female. Similarly, 91% in the participant group were female. The median age in both groups was 35–45 (min = 18–24, max = 55+). The majority of participants identified as *white* or *white other* (86% of project participants and 89% in control group). The remaining participants identified as a mixture of Asian/Asian British, Black/African/Caribbean/Black British, Mixed ethnicities and other ethnic groups. In both groups, the median household annual income band (after tax) was £30,000–£39,999 and the median level of education received was a Bachelor's degree or equivalent. As in the previous year, following feedback from the previous participant cohort the financial incentive was reduced to a voucher of the value of £100.

Measures

The same six PEB items were used as in Study 2. In the intervention group, participants were also asked to estimate the percentage change in their consumption of electricity, gas, water and their food waste, waste (general) and recycling (from −100, indicating a decrease of 100%, to 100, indicating an increase of 100%). Both measures used to examine the sustainability of PEB change and attitude towards IKEA were identical with those in Study 2. Lastly, four of the original six PEB items were also included at the follow-up survey (T3) 2 years after the official end of the second year along with the three new questions, as outlined in Study 2.

2.3.2 | Results

Effects of the interventions on PEBs

A series of 2 (condition: intervention or control) × 2 (time: pre-intervention or post-intervention) mixed ANOVAs with repeated

measures on the second factor compared behaviour scores were taken before and after the intervention period for both groups. Significant interaction effects were found when examining the behaviours of lights ($F(1,215) = 11.14$, $p = .001$, $\eta p^2 = .05$), appliances ($F(1,215) = 8.52$, $p = .009$, $\eta p^2 = .03$), upcycling ($F(1,215) = 10.73$, $p = .001$, $\eta p^2 = .05$) and hiring ($F(1,215) = 8.24$, $p = .005$, $\eta p^2 = .04$). Paired-sample t tests (see Table 4) demonstrated that the intervention group significantly increased their scores on these behaviours from pre-intervention to post-intervention, whereas those in the control group did not display significant changes in these behaviours across the testing period.

Moreover, no significant interaction terms were found for choosing fair trade products ($F(1,215) = 2.45$, $p = .119$, $\eta p^2 = .01$) or walking and cycling for short journeys ($F(1,215) = .27$, $p = .604$, $\eta p^2 = .00$). However, there was a significant main effect of *Time* for both the fair trade ($F(1,215) = 16.34$, $p < .001$, $\eta p^2 = .07$) and walking/cycling ($F(1,215) = 29.78$, $p < .001$, $\eta p^2 = .12$) behaviours. Examination of the paired-sample t tests demonstrated that there was a trend for these two behaviours to increase in both the intervention and control groups across the testing period. The size of these effects was greater in the Live Lagom project intervention group.

In terms of the intervention groups estimates of their percentage changes in their consumption behaviour, on average, individuals felt that the amount of materials they were able to recycle had increased by 32% (SD = 40). In addition, both electricity ($M = -14\%$, SD = 18), gas ($M = -12\%$, SD = 19) and water ($M = -13\%$, SD = 22) consumption were all reported to have decreased. The greatest resource savings were recorded with regards to the amount of food waste ($M = -35\%$, SD = 32) and general waste (M = −29%, SD = 29).

Longevity of changes in PEBs

Further analysis was conducted using only those 33 individuals (23.4% of the original sample) in the intervention group who completed the follow-up questionnaire 1 year later (T3). A series of one-way repeated measures ANOVAs demonstrated significant differences across time points for all behaviours: lights ($F(2,64) = 20.95$, $p = .000$, $\eta p^2 = .40$), upcycling ($F(2,64) = 18.332$, $p = .000$, $\eta p^2 = .36$), fair trade ($F(2,64) = 14.252$, $p = .000$, $\eta p^2 = .31$) and walking/cycling ($F(2,64) = 4.18$, $p = .02$, $\eta p^2 = .12$). Post hoc pairwise comparisons with Bonferroni correction demonstrated that scores at T2 (post-intervention) were significantly higher than at T1 (pre-intervention) for all behaviours apart from walking/cycling. Scores at T3 (follow-up) were significantly higher than those at T1 for all behaviours. Scores at T2 and T3 did not significantly differ from one another. In line with findings from Study 2, the behavioural gains from the intervention therefore appear to be sustained 1 year after the intervention has finished.

Providing further evidence for the continuous impact of the behaviour change project, 93% of the participant group reported adopting additional sustainable behaviours as a result of the intervention. These included using rechargeable batteries, growing own food, switching to LED light bulbs and buying fewer new clothes. Only 8% of individuals noted that they had adopted behaviours that may have increased their carbon footprint. In all cases, this was highlighted as taking flights. All respondents stated that they were still committed to living a sustainable lifestyle at home following their participation in the Live Lagom project.

Attitude towards IKEA

The majority of participants stated that their perceptions of IKEA had improved following the Live Lagom intervention ($M = 4.24$, SD = .78).

TABLE 4 Descriptive statistics and paired samples t tests examining the changes in behaviour from before to after the intervention period for both the intervention and control groups in Study 3

	Pre-intervention (T1)		Post-intervention (T2)		
	M	SD	*M*	SD	Paired-sample *t* tests
Intervention group					
Switch off lights	3.91	0.98	4.52	.60	$t(91) = -6.86$, $p = .000$, $d = .65$
Switch off appliances	2.79	1.31	3.46	1.11	$t(91) = -5.59$, $p = .000$, $d = .59$
Repair or 'upcycle'	2.53	1.03	3.11	0.96	$t(91) = -4.83$, $p = .000$, $d = .51$
Fair trade and eco-labelled	2.26	0.90	2.70	0.99	$t(91) = -4.87$, $p = .000$, $d = .52$
Hire, share or lend products	2.09	0.79	2.58	1.00	$t(91) = -4.86$, $p = .000$, $d = .51$
Walk or bike instead of car	2.74	1.33	3.23	1.18	$t(91) = -4.50$, $p = .000$, $d = .49$
Control group					
Switch off lights	4.28	0.80	4.38	0.88	$t(124) = -.84$, $p = .403$, $d = .08$
Switch off appliances	3.33	1.22	3.43	1.20	$t(124) = -.60$, $p = .553$, $d = .06$
Repair or 'upcycle'	2.95	1.08	2.86	1.12	$t(124) = .59$, $p = .559$, $d = .05$
Fair trade and eco-labelled	2.31	0.92	2.50	0.96	$t(124) = -1.66$, $p = .099$, $d = .15$
Hire, share or lend products	2.15	0.93	2.16	0.97	$t(124) = -.07$, $p = .948$, $d = .01$
Walk or bike instead of car	2.82	1.34	3.41	1.31	$t(124) = -3.95$, $p = .000$, $d = .35$

That is, 84% stated that their perceptions following their participation in the Live Lagom project were 'somewhat better' or 'much better'.

Overall, Study 3 has further supported the effectiveness of the [name project] intervention on promoting PEBs. As in Study 2, any increases in PEBs appeared to be sustained at 1-year follow-up (T3). Moreover, project participants' perceptions towards IKEA were also largely improved.

3 | DISCUSSION AND CONCLUSION

This paper examined the effectiveness of the IKEA Live Lagom project in changing consumers' PEBs and their attitudes towards IKEA. Across 3 years of testing and three participant groups, the interventions proved to be effective in altering not only PEBs but also customers' attitudes towards the business. Furthermore, our research shows that PEB change extended beyond the duration of the project participation. To this end, this research adds to the growing evidence that companies can go beyond conventional CSR approaches by taking on an active role in supporting behavioural changes of their customers (Young et al., 2017).

As a result, the research advances the understanding of how to implement effective PEB interventions in several ways. First, our findings support suggestions that broad interventions incorporating multiple strategies may be more successful in promoting lasting changes in PEBs (Staats, Harland, & Wilke, 2004; Young et al., 2017). We have demonstrated that the Live Lagom project was able to successfully influence the PEBs of IKEA customers. Second, we add to existing research by documenting that the interventions were able to successfully influence not only a single type of behaviour, but a range of PEBs. They therefore have an effect on wider lifestyles highlighting more wide-reaching benefits than previously documented.

However, our results do partly challenge the suggestion by Young et al. (2017) that consumers need constant reminders to maintain behavioural changes. Although the follow-up sample was mainly self-selective, we found that many participants maintained their behavioural changes and in some cases expanded on them even after the official end of the project. This suggests that exposure to a single intervention period can be enough to encourage lasting PEB changes. One potential explanation for this is that through the intervention participants were able to engage with other fellow project participants. This allowed for an exchange of ideas and progress which facilitated reciprocal feedback potentially enforcing social pressure on each other to stay committed even once the project finished. Consequently, both continuous and additional behavioural changes might have occurred through an increased motivation to live more sustainable lifestyles at home nurtured through the exposure to other PEBs that other participants adopted. In addition, a sense of belongingness to other project participant (Baumeister & Leary, 1995) and a potential creation of a shared identity between them (Elf, Gatersleben, & Christie, 2019) could have fostered a collective effort (Amel, Manning, Scott, & Koger, 2017).

With regard to the provision of financial incentives, one might argue that these triggered responses in favour of IKEA. We believe that the project provided new, important insights because the majority of research projects do not hold the financial resources that private sector business has. It was therefore useful to test how interventions worked in more real-life contexts. In addition, it is important to note that project participants across all cohorts successfully changed their behaviours despite the significant reduction in financial incentive from £500 to £300 and £100 in the last year, lending additional weight to the view that non-financial motivator were more important to the participants to engage in behavioural changes.

The Live Lagom project therefore provided a model that went beyond individual behaviour change alone and enabled peer-to-peer learning while facilitating a wider collective engagement across participants (Grabs, Langen, Maschkowski, & Schäpke, 2016). This supports the proposal that behaviour change initiatives ideally follow longitudinal approaches during which continuous formal and social feedback can be provided (Osbaldiston & Schott, 2012). This may help to trigger further behavioural changes and allow newly adopted behaviours to become part of routines and, eventually, change entire lifestyles. In addition, we found that those PEBs changes targeted by the intervention were not only sustained over time once the intervention had finished, but participants became interested in additional PEBs and began to adopt those. In psychological research, this is sometimes referred to as behavioural spillover effect describing the adoption of further PEBs, outside the initial behavioural domain targeted by the individual (Truelove, Carrico, Weber, Raimi, & Vandenbergh, 2014; Verfuerth & Gregory-Smith, 2018). If interventions such as Live Lagom project are able to facilitate behavioural spillover effects, they might hold the potential to promote pro-environmental lifestyles above and beyond the focus of any specific intervention. Future research is needed to evaluate the real potential further.

One surprising finding from our research was that in Year 3, both the project participant and control groups increased their purchase of fair trade products and reported an increase in walking and cycling behaviours. We are not aware of any additional national cycling or fair trade campaign during that time that could have prompted changes in these behaviours in the control group. However, with the recent emergence of the Extinction Rebellion group and School Strike for Climate movement public awareness about environmental issues is at an all-time high in the United Kingdom (Smith, 2019). This may explain why we are seeing some increases in PEBs in the control group for the most recent study.

As well as increasing our understanding of PEB change, our research also has practical implications for retailers in that it shows how companies can benefit from engaging their customers more closely. Retailer can extend their business strategies by actively supporting them to consume better and less, something recently labelled as 'extended eco-efficiency' and 'extended eco-sufficiency' respectively (Heikkurinen et al., 2019). The findings also support previous suggestions that effective communication of sustainable

business activities can lead to improvements in customers' perception of the respective business (Cuesta-Valiño, Rodríguez, & Núñez-Barriopedro, 2019; Mukonza & Swarts, 2019) and strengthen a customer–company identification (Elf et al., 2019; Hur, Moon, & Kim, 2020). Practically, our findings suggest that sustainability approaches applied by businesses should go beyond their traditional boundaries (Heikkurinen et al., 2019; Searcy, 2016). That is, by creating active communication between businesses and customers, the cocreational approach enabled successful PEB change and enhanced positive perceptions of the business. One reason for this might be that by combining tangible products and intangible services, IKEA showed that it can provide better sustainable solutions to its customers that are more attuned to their real needs. Therefore, a more cocreational approach towards PEB changes and entire lifestyles can hold the potential to overcome the divide between businesses and consumers, and different interests can become aligned (Spaargaren & Martens, 2005; Taylor, Vithayathil, & Yim, 2018). Indeed, as shown by Taylor et al. (2018), initiatives that go beyond merely sponsoring good causes can positively contribute to the business's value.

Moreover, existing research suggests that such approaches could also drive innovation (Lozano, 2018; Snyder, Witell, Gustafsson, Fombelle, & Kristensson, 2016), result in the development of new, more sustainable product–service systems (Pieroni, Marques, Moraes, Rozenfeld, & Ometto, 2017; Tukker, 2015), allow for the successful implementation of improved practices as part of sustainable business models (Dentchev et al., 2018; Evans et al., 2017) and connect businesses with citizens to become part of a wider value network (Evans, Norell Bergendahl, Gregory, & Ryan, 2009). In so doing, greater responsibility for environmental and social impacts resulting from the use of products and services might be accepted on both sides (Evans et al., 2017). Consequently, by further aligning efforts, pressure into other areas such as sustainable production (Marchand & Walker, 2008) and service provision (Calabrese, Forte, & Ghiron, 2018), as well as generating implications for policy makers are possible.

A willingness from businesses to engage in experimental learning processes to advance towards more sustainable business models is rare yet urgently required (Elf et al., 2019; McGrath, 2010). Yet besides uncertainty when exploring and piloting new business approaches that include significant financial and non-financial resources, following the Live Lagom project, IKEA has now made it part of their strategy and initiated a roll-out of project findings into their sustainability strategy. The research thus provides evidence that it can be of great benefit for a business, adding to the growing body of research demonstrating the positive link between sustainability and business performance (UNEP, 2014).

A strength of the present study is that it collected real-world data through a collaboration between academic scholars and business practitioners which can be crucial for the effective design and evaluation of real-world behavioural change interventions (Clark & Dickson, 2003). Despite this, there are a couple of difficulties and limitations that should be noted. For instance, longitudinal work with several partners in a fast-paced business environment can mean that the methodology is changed for practical reasons or due to a lack of resources. In our research, we had to alter the measure of PEBs following the pilot study in order to allow for more relevant analyses in line with the objective to evaluate behavioural changes. In addition, we were reliant on the applied sampling strategy which excluded people who were not registered under the loyalty scheme. This means that the participants may not have been representative of the UK and Irish population. For example, it may be that all participants had an interest in adopting more sustainable lifestyles prior to the project. Future research should therefore aim to test whether our findings can be replicated in samples whereby participants do not have an initial interest in sustainable lifestyles.

Furthermore, the research relied on self-reported behaviour, which has shown not to always perfectly correlate with actual behaviour (Kormos & Gifford, 2014). Although ideally actual behaviour are measured, this was difficult to implement in the present study given that the participants were spread across the United Kingdom and Ireland and a large number of behaviours were being targeted. Future research would therefore benefit from collecting additional hard data such as electricity bills and waste measurements, among others, where possible. Future research might also benefit from exploring how the intervention was able to impact upon other aspects of participants' lives. Besides the previously mentioned spillover effect, emerging research shows that engaging in PEBs is association with greater well-being (Isham & Jackson, 2020; Kaida & Kaida, 2016; Venhoeven, Bolderdijk, & Steg, 2013). Therefore, it may be interesting to assess whether participants also experience improvements in their well-being as a consequence of engaging in the intervention and the impact this has on their decision to continue adopting more PEBs.

The research has demonstrated that multifaceted PEB interventions implemented by businesses can have both lasting and positive effects on their customers' sustainable lifestyles and improve the company's image. Our findings should encourage future research to engage in 'sustainability science' involving cocreational collaborations between scholars and practitioners (Clark & Dickson, 2003) and, ideally, customers or communities in longitudinal research approaches. Similar approaches in different areas will need to explore if the type or sector of the company administering behaviour change projects matters. If successful, a greater number of companies embracing more sustainable approaches might want to go above and beyond conventional business practices and operate as what has previously been coined a Lifestyle Change Support System (Elf et al., 2019) allowing for important insights into how businesses across sectors can encourage the widespread adoption of sets of PEBs and lifestyle changes among citizens across time and space.

ORCID

Patrick Elf https://orcid.org/0000-0001-7420-4434

REFERENCES

Abrahamse, W., Steg, L., Vlek, C., Rothengatter, T., & Rothengatter, J. A. (2007). The effect of tailored information, goal setting, and tailored feedback on household energy use, energy-related behaviors, and behavioral antecedents. *Journal of Environmental Psychology*, *27*(4), 265–276.

Abrahamse, W. (2019). *Encouraging pro-environmental behaviour: What works, what doesn't, and why* (1st ed.). Academic Press.

Abrahamse, W., Steg, L., Vlek, C., & Rothengatter, T. (2005). A review of intervention studies aimed at household energy conservation. *Journal of Environmenal Psychology*, *25*, 273–291.

Amel, E., Manning, C., Scott, B., & Koger, S. (2017). Beyond the roots of human inaction: Fostering collective effort toward ecosystem conservation. *Science*, *365*, 275–279.

Arts, B. (2002). Green alliances' of business and NGOs. New styles of self-regulation or 'dead-end roads'? *Corporate Social Responsibility and Environmental Management*, *9*(1), 26–36. https://doi.org/10.1002/csr.3

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–529. https://doi.org/10.1037/0033-2909.117.3.497

Brulhart, F., Gherra, S., & Quelin, B. V. (2019). Do stakeholder orientation and environmental proactivity impact firm profitability? *Journal of Business Ethics*, *158*(1), 25–46. https://doi.org/10.1007/s10551-017-3732-y

Calabrese, A., Forte, G., & Ghiron, N. L. (2018). Fostering sustainability-oriented service innovation (SOSI) through business model renewal: The SOSI tool. *Journal of Cleaner Production.*, *201*, 783–791. https://doi.org/10.1016/j.jclepro.2018.08.102

Carroll, A. B. (1999). Corporate social responsibility: Evolution of a definitional construct. *Business & Society*, *38*(3), 268–295. https://doi.org/10.1177/000765039903800303

Clark, W. C., & Dickson, N. M. (2003). Sustainability science: The emerging research program. *Proceedings of the National Academy of Sciences*, *100*(14), 8059.

Clarke, J., Corner, A., & Webster, R. (2018). Public engagement for a 1.5°C world: Shifting gear and scaling up. Retrieved from Climate Outreach website: https://climateoutreach.org/resources/public-engagement-1-5c-ipcc-sr15/

Cuesta-Valiño, P., Rodríguez, P. G., & Núñez-Barriopedro, E. (2019). The impact of corporate social responsibility on customer loyalty in hypermarkets: A new socially responsible strategy. *Corporate Social Responsibility and Environmental Management*, *26*(4), 761–769. https://doi.org/10.1002/csr.1718

Darnton, A. (2013). A review of the efra pro-environmental segmentation model. In Understanding & engaging audiences. Retrieved from AD Research & Analysis Ltd. for Defra website: https://docs.wixstatic.com/ugd/14619b_db8890f3154f44e4ac574c8855943405.pdf

Defra. (2016). UK's Carbon Footprint 1997 – 2015 (F. & R. A. (Defra) Department for Environment, Ed.). Retrieved from https://www.gov.uk/government/statistics/uks-carbon-footprint

Dentchev, N., Rauter, R., Jóhannsdóttir, L., Snihur, Y., Rosano, M., Baumgartner, R., … Jonker, J. (2018). Embracing the variety of sustainable business models: A prolific field of research and a future research agenda. *Journal of Cleaner Production*, *194*, 695–703. https://doi.org/10.1016/J.JCLEPRO.2018.05.156

Dietz, T., Gardner, G. T., Gilligan, J., Stern, P. C., & Vandenbergh, M. P. (2009). Household actions can provide a behavioral wedge to rapidly reduce US carbon emissions. *Proceedings of the National Academy of Sciences of the United States of America*, *106*(44), 18452–18456. https://doi.org/10.1073/pnas.0908738106

Druckman, A., & Jackson, T. (2009). The carbon footprint of UK households 1990-2004: A socio-economically disaggregated, quasi-multiregional input-output model. *Ecological Economics*, *68*(7), 2066–2077.

Dubois, G., Sovacool, B., Aall, C., Nilsson, M., Barbier, C., Herrmann, A., … Sauerborn, R. (2019). It starts at home? Climate policies targeting household consumption and behavioral decisions are key to low-carbon futures. *Energy Research & Social Science*, *52*, 144–158. https://doi.org/10.1016/j.erss.2019.02.001

Dyllick, T., & Hockerts, K. (2002). Beyond the business case for corporate sustainability. *Business Strategy and the Environment*, *11*(2), 130–141. https://doi.org/10.1002/bse.323

Elf, P., Gatersleben, B., & Christie, I. (2019). Facilitating positive spillover effects: New insights from a mixed-methods approach exploring factors enabling people to live more sustainable lifestyles. *Frontiers in Psychology*, *9*. https://doi.org/10.3389/fpsyg.2018.02699

Evans, S., Norell Bergendahl, M., Gregory, M., & Ryan, C. (2009). Towards a sustainable industrial system: Accelerating the contribution of education and research. Retrieved from https://www.ifm.eng.cam.ac.uk/uploads/Resources/Reports/industrial_sustainability_report.pdf

Evans, S., Vladimirova, D., Holgado, M., Van Fossen, K., Yang, M., Silva, E. A., & Barlow, C. Y. (2017). Business model innovation for sustainability: Towards a unified perspective for creation of sustainable business models. *Business Strategy and the Environment*, *26*(5), 597–608. https://doi.org/10.1002/bse.1939

Gatersleben, B., Murtagh, N., Cherry, M., & Watkins, M. (2019). Moral, wasteful, frugal, or thrifty? Identifying consumer identities to understand and manage pro-environmental behavior. *Environment and Behavior*, *51*(1), 24–49. https://doi.org/10.1177/0013916517733782

Gollwitzer, P. M., & Sheeran, P. (2006). Implementation intentions and goal achievement: A meta-analysis of effects and processes. In *Advances in experimental social psychology* (Vol. 38) (pp. 69–119). https://doi.org/10.1016/S0065-2601(06)38002-1

González-Benito, J., & González-Benito, Ó. (2006). A review of determinant factors of environmental proactivity. *Business Strategy and the Environment*, *15*(2), 87–102. https://doi.org/10.1002/bse.450

Grabs, J., Langen, N., Maschkowski, G., & Schäpke, N. (2016). Understanding role models for change: A multilevel analysis of success factors of grassroots initiatives for sustainable consumption. *Journal of Cleaner Production*, *134*, 98–111. https://doi.org/10.1016/j.jclepro.2015.10.061

Greve, H. R., Palmer, D., & Pozner, J. (2010). Organizations gone wild: The causes, processes, and consequences of organizational misconduct. *The Academy of Management Annals*, *4*(1), 53–107. https://doi.org/10.1080/19416521003654186

Hazen, B. T., Mollenkopf, D. A., & Wang, Y. (2017). Remanufacturing for the circular economy: An examination of consumer switching behavior. *Business Strategy and the Environment*, *26*(4), 451–464. https://doi.org/10.1002/bse.1929

Heikkurinen, P., Young, C. W., & Morgan, E. (2019). Business for sustainable change: Extending eco-efficiency and eco-sufficiency strategies to consumers. *Journal of Cleaner Production*, *218*, 656–664. https://doi.org/10.1016/j.jclepro.2019.02.053

Hertwich, E. G., & Peters, G. P. (2009). Carbon footprint of nations: A global, trade-linked analysis. *Environmental Science & Technology*, *43*(16), 6414. https://doi.org/10.1021/es803496a

Hinchliffe, S. (1996). Helping the earth begins at home: The social construction of socio-environmental responsibilities. *Global Environmental Change*, *6*(1), 53–62. https://doi.org/10.1016/0959-3780(95)00113-1

Hur, W.-M., Moon, T.-W., & Kim, H. (2020). When and how does customer engagement in CSR initiatives lead to greater CSR participation? The role of CSR credibility and customer–company identification. *Corporate Social Responsibility and Environmental Management*, *27*, 1878–1891. https://doi.org/10.1002/csr.1933

IPCC. (2018). Global warming of 1.5°C (V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P. R. Shukla, … T. Waterfield, Eds.). Retrieved from Intergovernmental Panel on Climate Change (World

Meteorological Organization) website: https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf

Isham, A., & Jackson, T. (2020). Living both well and sustainably? Possibilities and problems from across the psychological literature. Ecopsychology, manuscript.

Ivanova, D., Vita, G., Steen-Olsen, K., Stadler, K., Melo, P. C., Wood, R., & Hertwich, E. G. (2017). Mapping the carbon footprint of EU regions. *Environmental Research Letters*, *12*(5). https://doi.org/10.1088/1748-9326/aa6da9

Kaida, N., & Kaida, K. (2016). Pro-environmental behavior correlates with present and future subjective well-being. *Environment, Development and Sustainability*, *18*(1), 111–127.

Kollmuss, A., & Agyeman, J. (2002). Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, *8*(3), 239–260. https://doi.org/10.1080/13504620220145401

Kormos, C., & Gifford, R. (2014). The validity of self-report measures of proenvironmental behavior: A meta-analytic review. *Journal of Environmental Psychology*, *40*, 359–371. https://doi.org/10.1016/j.jenvp.2014.09.003

Lange, F., & Dewitte, S. (2019). Measuring pro-environmental behavior: Review and recommendations. *Journal of Environmental Psychology*, *63*, 92–100. https://doi.org/10.1016/j.jenvp.2019.04.009

Lozano, R. (2018). Sustainable business models: Providing a more holistic perspective. *Business Strategy and the Environment*, *27*(8), 1159–1166. https://doi.org/10.1002/bse.2059

Maki, A., Burns, R. J., Ha, L., & Rothman, A. J. (2016). Paying people to protect the environment: A meta-analysis of financial incentive interventions to promote proenvironmental behaviors. *Journal of Environmenal Psychology*, *47*, 242–255. https://doi.org/10.1016/j.jenvp.2016.07.006

Marchand, A., & Walker, S. (2008). Product development and responsible consumption: Designing alternatives for sustainable lifestyles. *Journal of Cleaner Production*, *16*, 1163–1169.

McGrath, R. G. (2010). Business models: A discovery driven approach. *Long Range Planning*, *43*(2), 247–261. https://doi.org/10.1016/j.lrp.2009.07.005

McKenzie-Mohr, D., Lee, N. R., Schultz, P. W., & Kotler, P. (2012). *Social marketing to protect the environment: What works*. London: SAGE Publications. https://doi.org/10.4135/9781483349466

Moore, H. E., & Boldero, J. (2017). Designing interventions that last: A classification of environmental behaviors in relation to the activities, costs, and effort involved for adoption and maintenance. *Frontiers in Psychology*, *8*. https://doi.org/10.3389/fpsyg.2017.01874

Mukonza, C., & Swarts, I. (2019). The influence of green marketing strategies on business performance and corporate image in the retail sector. *Business Strategy and the Environment*. https://doi.org/10.1002/bse.2401

Mullerat, R. (2009). *International corporate social responsibility*. Wolters Kluwer.

Osbaldiston, R., & Schott, J. P. (2012). Environmental sustainability and behavioral science: Meta-analysis of proenvironmental behavior experiments. *Environment and Behavior*, *44*(2), 257–299. https://doi.org/10.1177/0013916511402673

Peattie, K., & Peattie, S. (2009). Social marketing: A pathway to consumption reduction? *Journal of Business Research*, *62*, 260–268.

Pieroni, M. d. P., Marques, C. A. N., Moraes, R. N., Rozenfeld, H., & Ometto, A. R. (2017). PSS design process models: Are they sustainability-oriented? *Procedia CIRP*, *64*, 67–72. https://doi.org/10.1016/j.procir.2017.03.040

Poortinga, W., & Darnton, A. (2016). Segmenting for sustainability: The development of a sustainability segmentation model from a Welsh sample. *Journal of Environmental Psychology*, *45*, 221–232. https://doi.org/10.1016/j.jenvp.2016.01.009

Prochaska, J., & DiClemente, C. (1984). *The transtheoretical approach: Crossing traditionalboundaries of therapy*. Dow Jones-Irwin.

Searcy, C. (2016). Measuring enterprise sustainability. *Business Strategy and the Environment*, *25*(2), 120–133. https://doi.org/10.1002/bse.1861

Smith, M. (2019). Concern for the environment at record highs. Retrieved from https://yougov.co.uk/topics/politics/articles-reports/2019/06/05/concern-environment-record-highs

Smith, V., & Langford, P. (2009). Evaluating the impact of corporate social responsibility programs on consumers. *Journal of Management & Organization*, *15*(1), 97–109. https://doi.org/10.1017/S183336720000290X

Snyder, H., Witell, L., Gustafsson, A., Fombelle, P., & Kristensson, P. (2016). Identifying categories of service innovation: A review and synthesis of the literature. *Journal of Business Research*.. https://doi.org/10.1016/j.jbusres.2016.01.009

Spaargaren, G., & Martens, S. F. (2005). Globalisation and the role of citizen-consumersin environmental politics. In F. Wijen, K. Zoeteman, & J. Pieters (Eds.), *A handbook of globalisation and environmental policy* (pp. 211–247). Edward Elgar.

Staats, H., Harland, P., & Wilke, H. A. M. (2004). Effecting durable change: A team approach to improve environmental behavior in the household. *Environment and Behavior*, *36*(3), 341–367. https://doi.org/10.1177/0013916503260163

Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology*, *25*, 415–425.

Sullivan, R., & Gouldson, A. (2017). The governance of corporate responses to climate change: An international comparison. *Business Strategy and the Environment*, *26*(4), 413–425. https://doi.org/10.1002/bse.1925

Taylor, J., Vithayathil, J., & Yim, D. (2018). Are corporate social responsibility (CSR) initiatives such as sustainable development and environmental policies value enhancing or window dressing? *Corporate Social Responsibility and Environmental Management*, *25*(5), 971–980. https://doi.org/10.1002/csr.1513

Tetrault Sirsly, C.-A., & Lvina, E. (2016). From doing good to looking even better: The dynamics of CSR and reputation. *Business & Society*, *58*, 0007650315627996. https://doi.org/10.1177/0007650315627996

Truelove, H. B., Carrico, A. R., Weber, E. U., Raimi, K. T., & Vandenbergh, M. P. (2014). Positive and negative spillover of pro-environmental behavior: An integrative review and theoretical framework. *Global Environmental Change*, *29*, 127–138. https://doi.org/10.1016/j.gloenvcha.2014.09.004

Tukker, A. (2015). Product services for a resource-efficient and circular economy—A review. *Journal of Cleaner Production*, *97*, 76–91. https://doi.org/10.1016/j.jclepro.2013.11.049

UNEP. (2014). Integrated governance: A model of governance for sustainability. Retrieved from https://www.unepfi.org/publications/investment-publications/integrated-governance-a-new-model-of-governance-for-sustainability-2/

Vahdati, H., Mousavi, N., & Tajik, Z. M. (2015). The study of consumer perception on corporate social responsibility towards consumers attitude and purchase behavior. *Asian Economic and Financial Review*, *5*(5), 831–845.

Venhoeven, L. A., Bolderdijk, J. W., & Steg, L. (2013). Explaining the paradox: How pro-environmental behaviour can both Thwart and Foster well-being. *Sustainability*, *5*, 1372–1386.

Verfuerth, C., & Gregory-Smith, D. (2018). Spillover of pro-environmental behaviour. In V. K. Wells, D. Gregory-Smith, & D. Manika (Eds.), *Handbook of employee pro-environmental behaviour* (pp. 455–484). Edward Elgar Publishing.

Verfuerth, C., Jones, C. R., Gregory-Smith, D., & Oates, C. (2019). Understanding contextual spillover: Using identity process theory as a lens for analyzing behavioral responses to a workplace dietary choice

intervention. *Frontiers in Psychology*, *10*(345). https://doi.org/10.3389/fpsyg.2019.00345

Wolters, T. (2003). Transforming international product chains into channels of sustainable production: The imperative of sustainable chain management. *Greener Management International*, *43*.

Wynes, S., & Nicholas, K. A. (2017). The climate mitigation gap: education and government recommendations miss the most effective individual actions. *Environmental Research Letters*, *12*(7), 74024. https://doi.org/10.1088/1748-9326/aa7541

Young, C. W., Russell, S. V., Robinson, C. A., & Chintakayala, P. K. (2017). Sustainable retailing—Influencing consumer behaviour on food waste. *Business Strategy and the Environment*.

How to cite this article: Elf P, Isham A, Gatersleben B. Above and beyond? How businesses can drive sustainable development by promoting lasting pro-environmental behaviour change: An examination of the IKEA Live Lagom project. *Bus Strat Env*. 2021;30:1037–1050. https://doi.org/10.1002/bse.2668